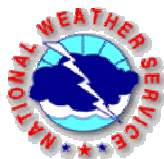


# WATER SUPPLY OUTLOOK



## CALIFORNIA AND NORTHERN NEVADA

**FEBRUARY  
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 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

February 1, 2002

A dry weather regime returned to California after a productive December. Precipitation was well below average throughout the state in January, ranging from 80 percent of average in the Klamath Basin to about 43 percent for the basins along the Sierra Nevada east slope. The seasonal average remains slightly above average for most basins in California and Nevada. However, the southeast desert in California as well as extreme southern Nevada remain much below average.

The water content of the snowpack for the Sierra Nevada is about 108 percent of the average for this date and 65 percent of the April 1st average. The Tahoe-Truckee basin snowpack is about 115 percent of the monthly average, while the Carson-Walker and the Humboldt basins stand at about 105 percent.

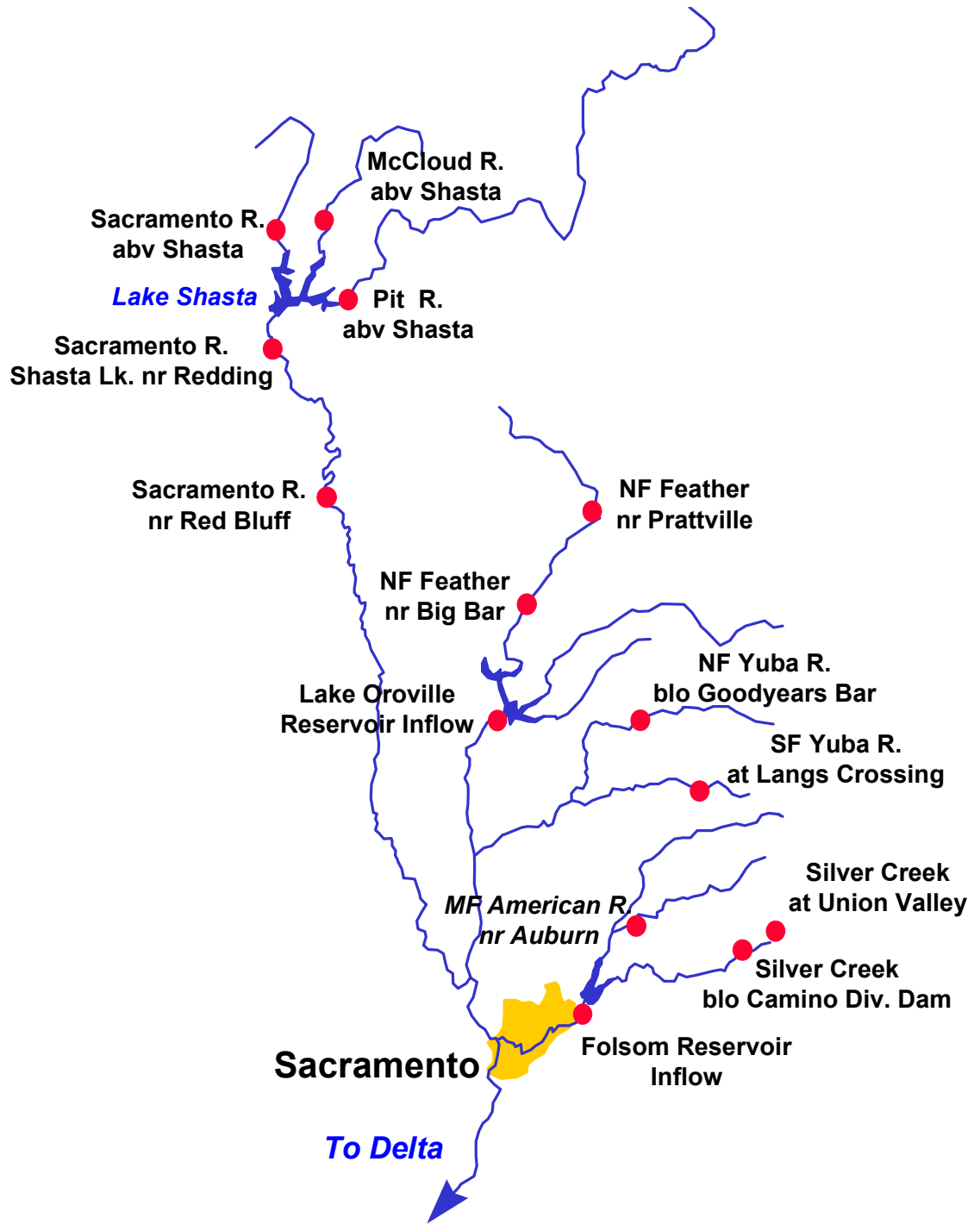
Runoff during January was 90 percent of average for California. This brings the seasonal average to 98 percent. It was only 30 percent at this time last year.

Storage in California's reservoirs are averaging 95 percent, representing 60 percent of capacity.

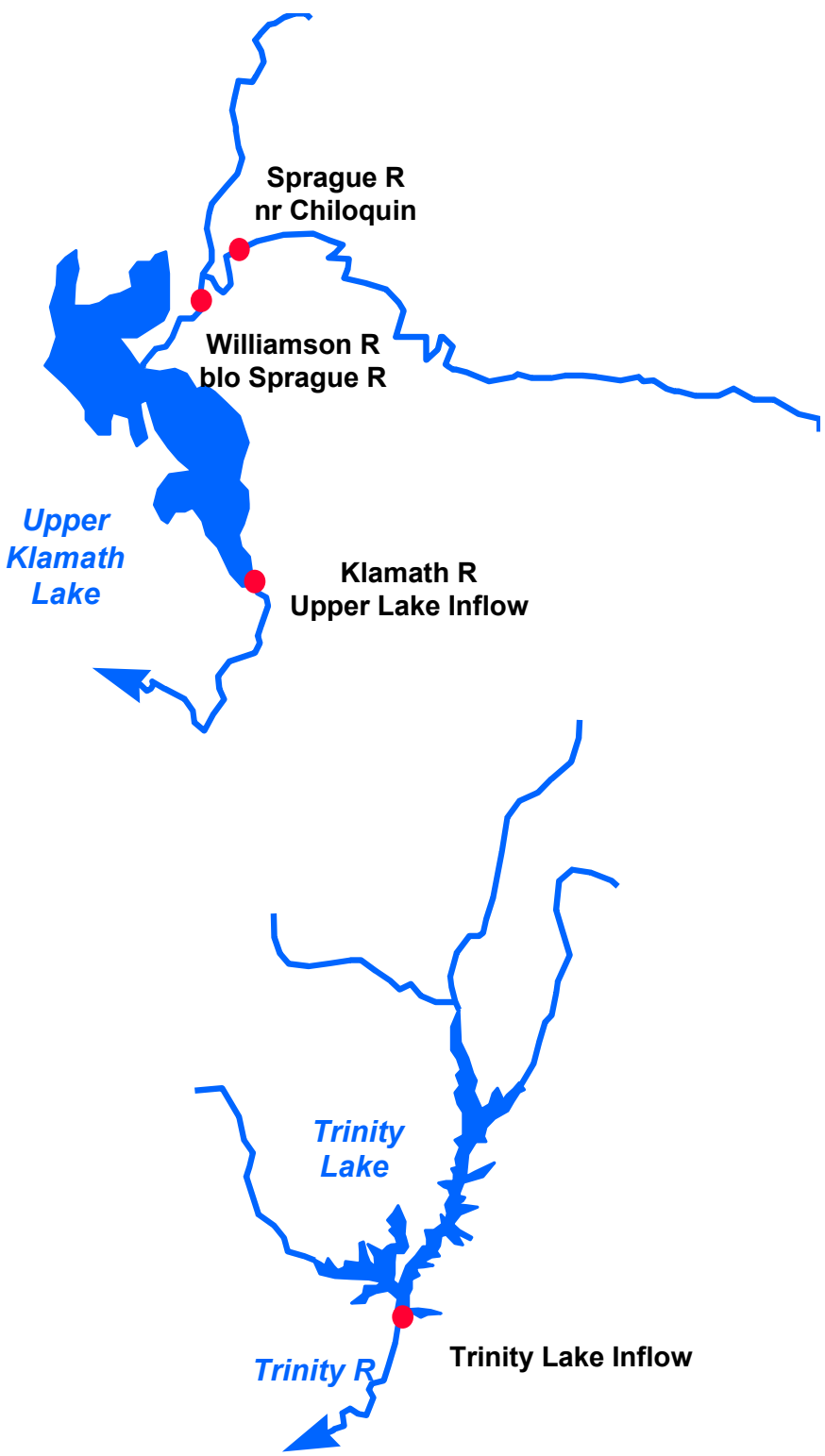
Runoff forecasts have been revised downward this month due to the dry January and the relatively dry weather conditions anticipated during the first half of February. The April through July runoff forecasts range from 108 percent of average in the Trinity basin to about 80 percent in the Kern River basin. Forecasts range from 85 to 94 percent of average for the east side Sierra Nevada basins and between 82 and 102 percent in the Humboldt basin.

**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<br>Prob<br>Vol<br>KAF | Most<br>Prob<br>Vol<br>%Nrml | Reas<br>Max<br>Vol<br>KAF | Reas<br>Min<br>Vol<br>KAF | 30<br>Year<br>Avg<br>KAF |
|---|---------|----------------------------|------------------------------|---------------------------|---------------------------|--------------------------|
| <b>COASTAL BASINS</b>                         |         |                            |                              |                           |                           |                          |
| Williamson River<br>Sprague, blo              | Mar-Sep | 495                        | 98                           | 645                       | 345                       | 505                      |
| Sprague River<br>Chiloquin, nr                | Mar-Sep | 290                        | 95                           | 415                       | 165                       | 305                      |
| Upper Klamath Falls River<br>Inflow           | Mar-Sep | 700                        | 98                           | 905                       | 495                       | 715                      |
| Trinity River<br>Clair Engle Inflow           | Apr-Jul | 685                        | 108                          | 990                       | 380                       | 635                      |
| <b>SACRAMENTO RIVER BASIN</b>                 |         |                            |                              |                           |                           |                          |
| <b>SACRAMENTO RIVER ABOVE BEND BRIDGE</b>     |         |                            |                              |                           |                           |                          |
| Pit River<br>Montgomery Creek, nr             | Apr-Jul | 1050                       | 98                           | 1340                      | 755                       | 1070                     |
| Mccloud River<br>Shasta Lake, abv             | Apr-Jul | 380                        | 103                          | 515                       | 245                       | 370                      |
| Sacramento River<br>Delta                     | Apr-Jul | 280                        | 97                           | 450                       | 111                       | 290                      |
| Shasta Lake, Redding, nr                      | Apr-Jul | 1750                       | 98                           | 2460                      | 1050                      | 1790                     |
| Bend Bridge, abv, Red Bluff                   | Apr-Jul | 2400                       | 98                           | 3450                      | 1350                      | 2440                     |
| <b>FEATHER RIVER ABOVE OROVILLE RESERVOIR</b> |         |                            |                              |                           |                           |                          |
| NF Feather River<br>Prattville, nr            | Apr-Jul | 330                        | 99                           | 500                       | 162                       | 333*                     |
| Big Bar                                       | Apr-Jul | 910                        | 95                           | 1400                      | 420                       | 962*                     |
| Feather River<br>Oroville Reservoir Inflow    | Apr-Jul | 1700                       | 97                           | 2580                      | 820                       | 1760                     |

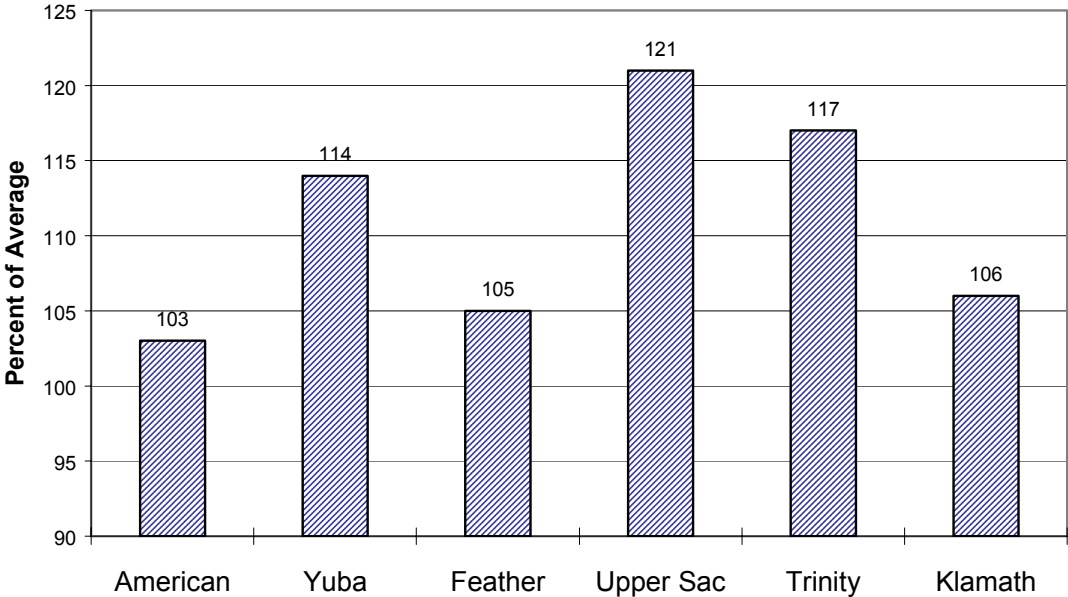
# Water Supply Forecasts

|  |         | Most<br>Prob<br>Vol<br>KAF | Most<br>Prob<br>Vol<br>%Nrml | Reas<br>Max<br>Vol<br>KAF | Reas<br>Min<br>Vol<br>KAF | 30<br>Year<br>Avg<br>KAF |
|--|---------|----------------------------|------------------------------|---------------------------|---------------------------|--------------------------|
| <b>Yuba River above Smartville</b>           |         |                            |                              |                           |                           |                          |
| North Yuba River<br>Goodyears Bar, blo       | Apr-Jul | 275                        | 101                          | 400                       | 152                       | 273*                     |
| South Yuba River<br>Langs Crossing           | Apr-Jul | 230                        | 102                          | 330                       | 128                       | 225*                     |
| Yuba River<br>Smartville, nr                 | Apr-Jul | 1000                       | 101                          | 1450                      | 545                       | 995                      |
| <b>American River above Folsom Reservoir</b> |         |                            |                              |                           |                           |                          |
| MF American River<br>Auburn, nr              | Apr-Jul | 475                        | 97                           | 730                       | 220                       | 490*                     |
| Silver Ck<br>Union Valley                    | Apr-Jul | 94                         | 96                           | 134                       | 54                        | 98*                      |
| Camino Dam, blo                              | Apr-Jul | 150                        | 95                           | 235                       | 64                        | 158*                     |
| American River<br>Folsom Reservoir Inflow    | Apr-Jul | 1190                       | 97                           | 1810                      | 570                       | 1230                     |

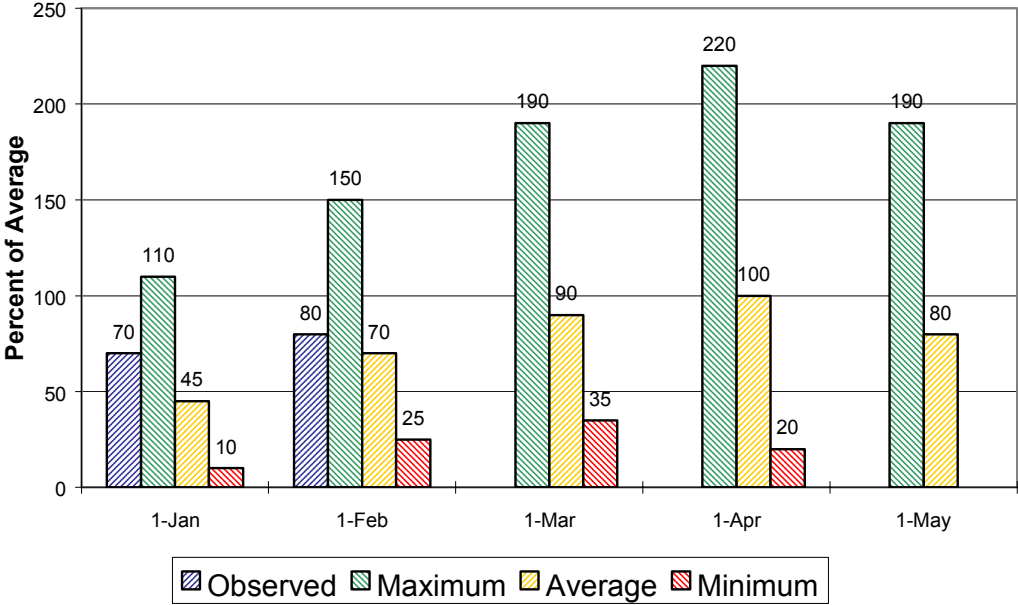
**\*30 Year Averages for 1971-2000 are incomplete. Those forecast points with an asterisk have incomplete averages, so 1961-1990 averages are listed. The new averages will be incorporated into this report when the complete data sets become available.**

# Sacramento/Trinity/Klamath River Basins

## Seasonal Basin Precipitation October 1 to Date



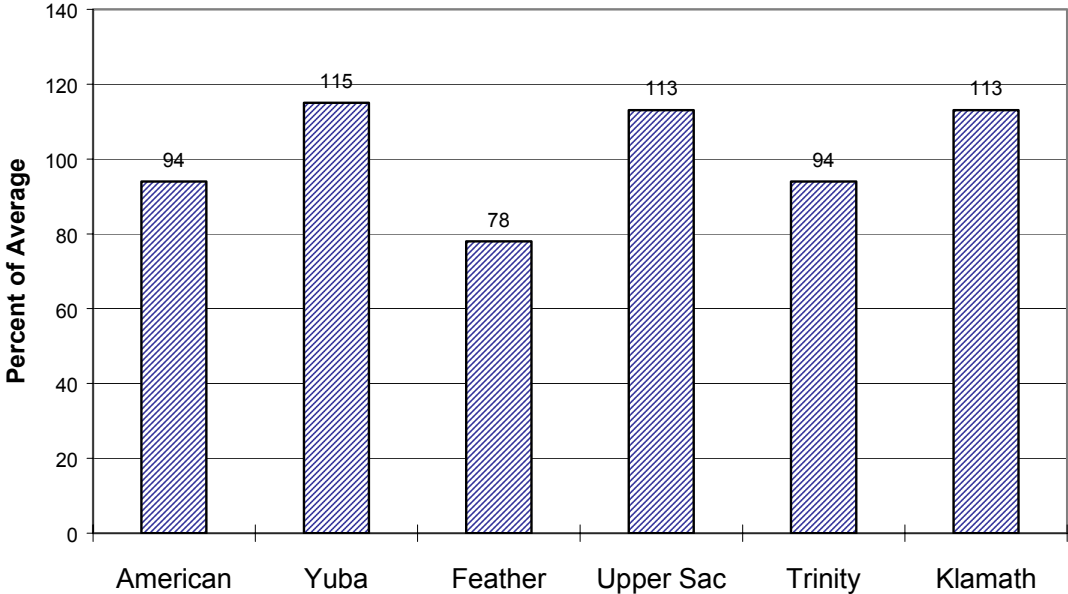
## Seasonal Basin Snowpack Water Content in % of April 1 Average



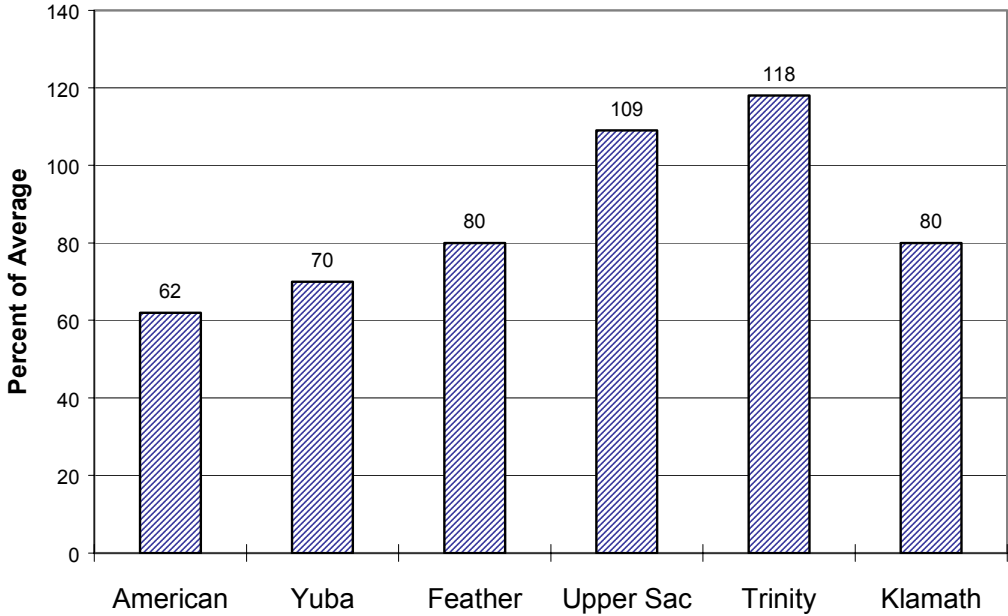


# Sacramento/Trinity/Klamath River Basins

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



## Seasonal Basin Runoff October 1 to Date



# San Joaquin Basin



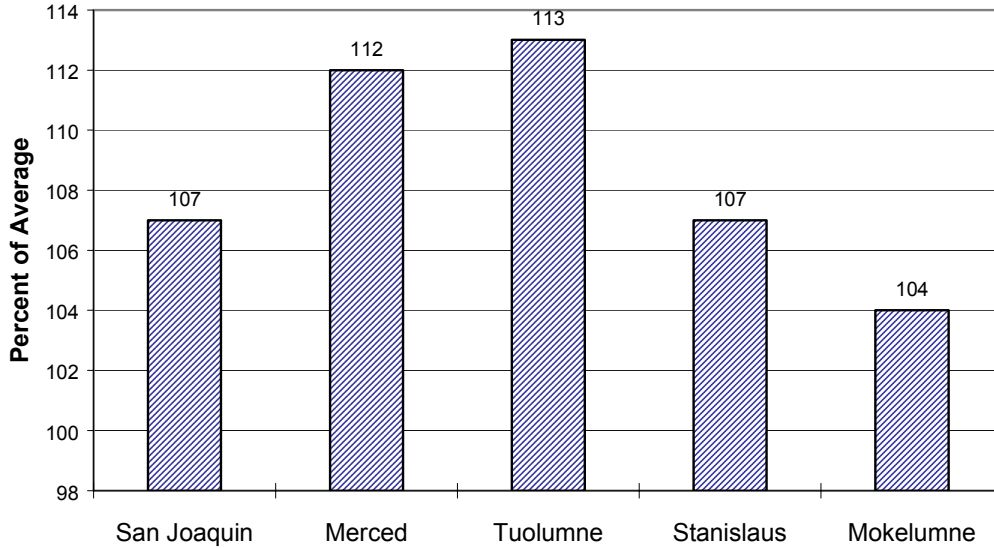
# Water Supply Forecasts

|                                 |         |      |     | Most<br>Prob<br>Vol<br>KAF | Most<br>Prob<br>Vol<br>%Nrml | Reas<br>Max<br>Vol<br>KAF | Reas<br>Min<br>Vol<br>KAF | 30<br>Year<br>Avg<br>KAF |
|---------------------------------|---------|------|-----|----------------------------|------------------------------|---------------------------|---------------------------|--------------------------|
| <b>SF San Joaquin River</b>     |         |      |     |                            |                              |                           |                           |                          |
| Hooper Ck, blo, Florence Lake   | Apr-Jul | 170  | 89  | 250                        | 88                           | 192*                      |                           |                          |
| <b>San Joaquin River</b>        |         |      |     |                            |                              |                           |                           |                          |
| Millerton Lk                    | Apr-Jul | 1200 | 94  | 1720                       | 680                          | 1270                      |                           |                          |
| <b>Merced River</b>             |         |      |     |                            |                              |                           |                           |                          |
| Pohono Bridge, at, Yosemite     | Apr-Jul | 360  | 100 | 520                        | 200                          | 360*                      |                           |                          |
| Merced Falls, blo               | Apr-Jul | 615  | 95  | 945                        | 315                          | 645                       |                           |                          |
| <b>Tuolumne River</b>           |         |      |     |                            |                              |                           |                           |                          |
| Hetch Hetchy, nr                | Apr-Jul | 600  | 101 | 810                        | 390                          | 596*                      |                           |                          |
| La Grange, nr                   | Apr-Jul | 1210 | 98  | 1680                       | 735                          | 1230                      |                           |                          |
| <b>MF Stanislaus River</b>      |         |      |     |                            |                              |                           |                           |                          |
| Beardsley Dam, blo              | Apr-Jul | 305  | 95  | 450                        | 158                          | 320*                      |                           |                          |
| <b>Stanislaus River</b>         |         |      |     |                            |                              |                           |                           |                          |
| Goodwin Dam, blo, Knights Ferry | Apr-Jul | 660  | 95  | 990                        | 320                          | 695                       |                           |                          |
| <b>NF Mokelumne River</b>       |         |      |     |                            |                              |                           |                           |                          |
| West Point                      | Apr-Jul | 415  | 100 | 620                        | 210                          | 416*                      |                           |                          |
| <b>Mokelumne River</b>          |         |      |     |                            |                              |                           |                           |                          |
| Mokelumne Hill                  | Apr-Jul | 460  | 100 | 670                        | 250                          | 460                       |                           |                          |
| <b>Cosumnes River</b>           |         |      |     |                            |                              |                           |                           |                          |
| Michigan Bar                    | Apr-Jul | 125  | 102 | 245                        | 65                           | 123                       |                           |                          |

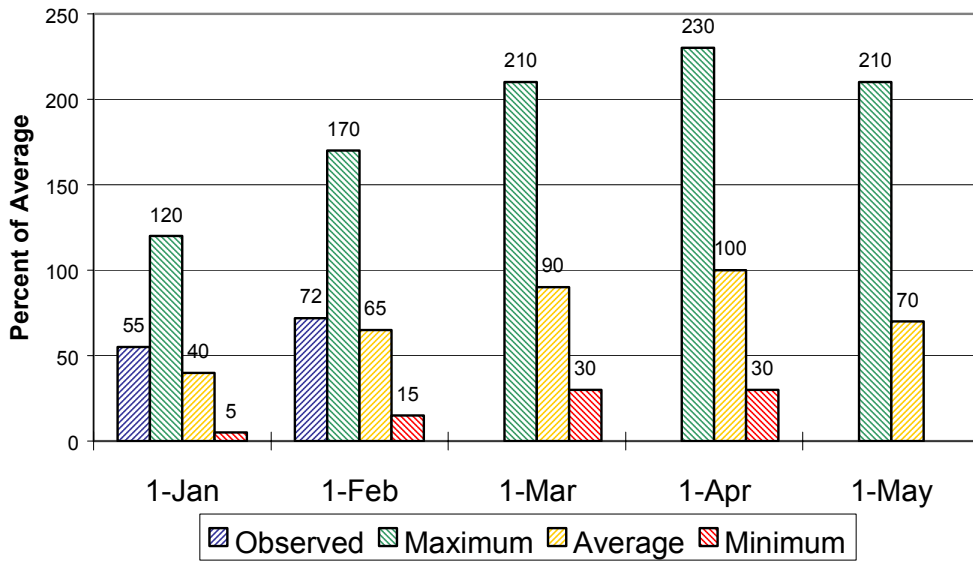
**\*30 Year Averages for 1971-2000 are incomplete. Those forecast points with an asterisk have incomplete averages, so 1961-1990 averages are listed. The new averages will be incorporated into this report when the complete data sets become available.**

# San Joaquin Basin

## Seasonal Basin Precipitation October 1 to Date



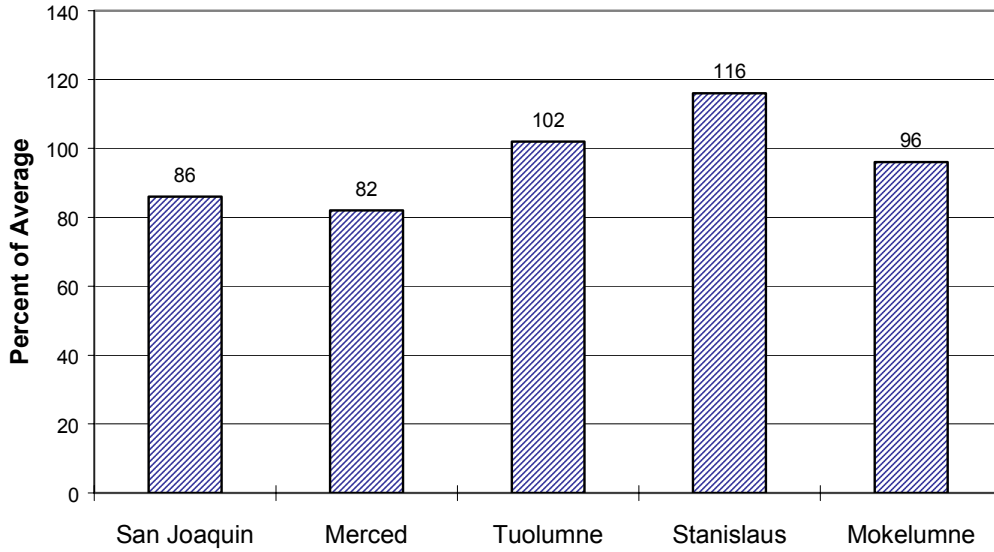
## Seasonal Basin Snowpack Water Content in % of April 1 Average



# San Joaquin Basin

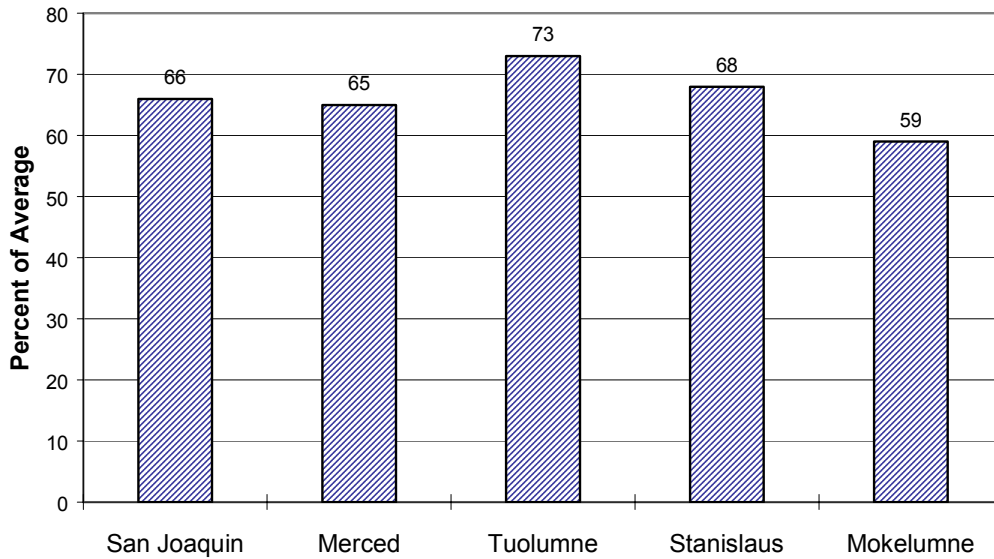
## Basin Reservoir Storage

Contents of Major Reservoirs in % of Average

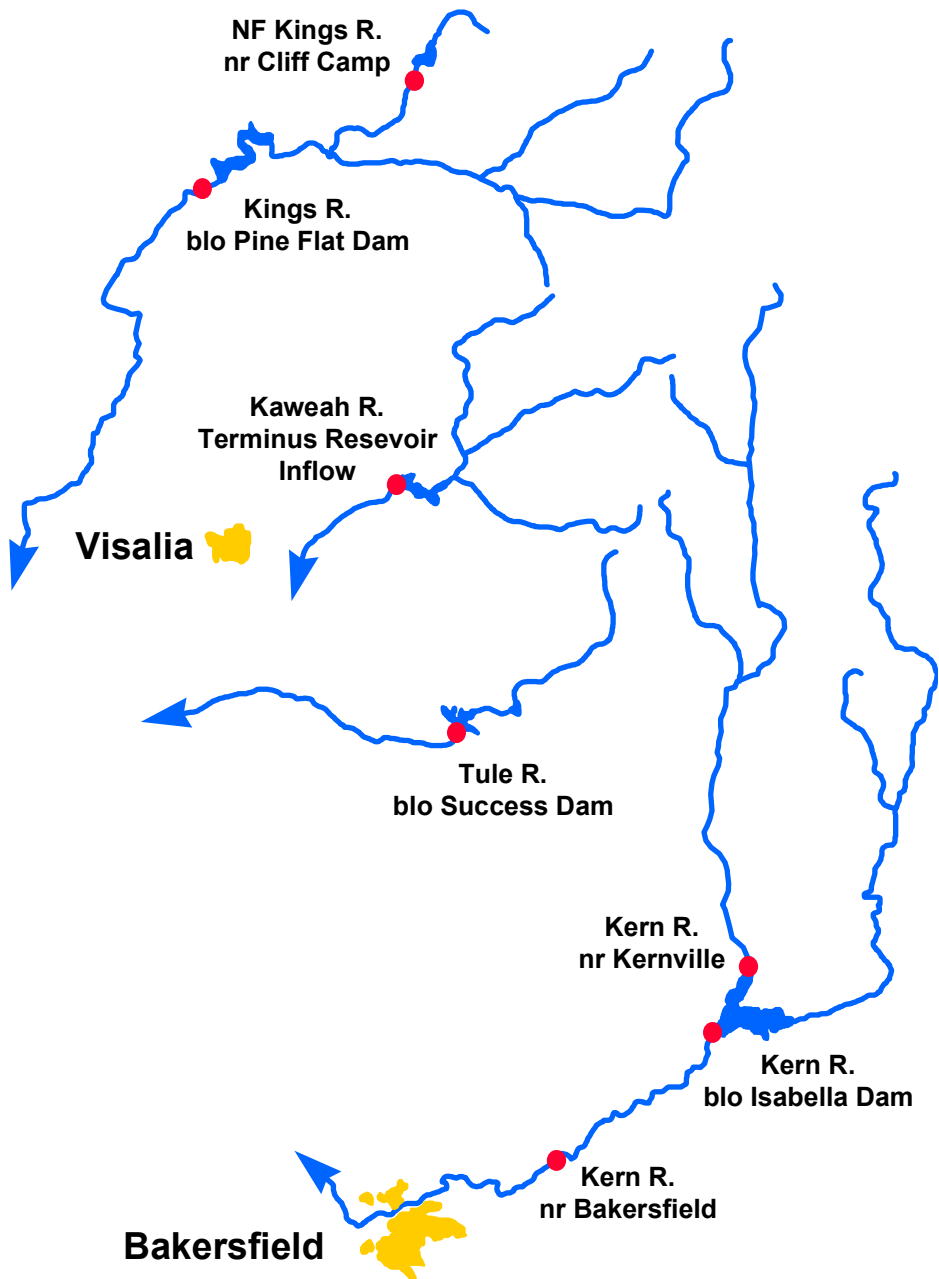


## Season Basin Runoff

October 1 to Date



# Tulare Basin



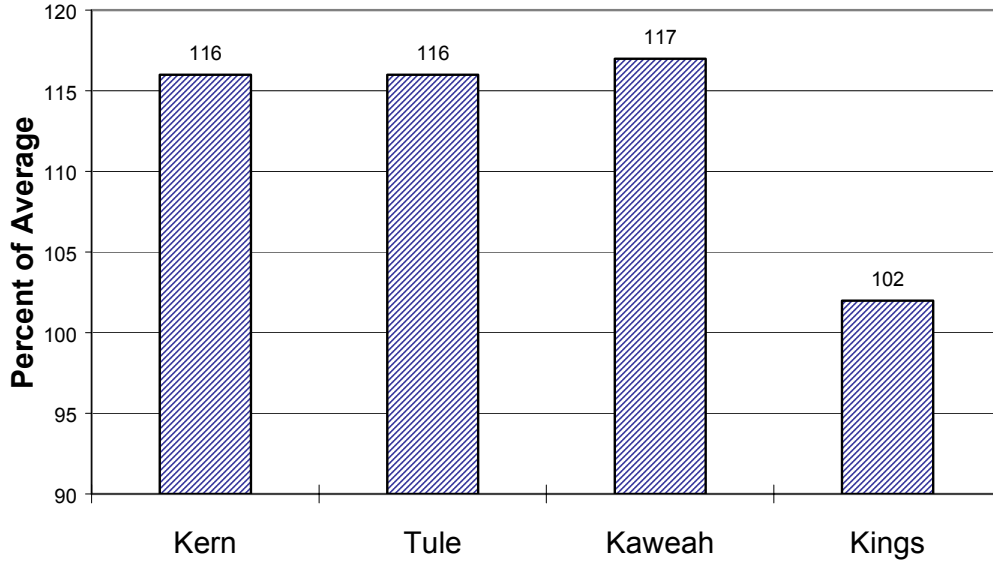
# Water Supply Forecasts

|                       |         | Most<br>Prob<br>Vol<br>KAF | Most<br>Prob<br>Vol<br>%Nrml | Reas<br>Max<br>Vol<br>KAF | Reas<br>Min<br>Vol<br>KAF | 30<br>Year<br>Avg<br>KAF |
|-----------------------|---------|----------------------------|------------------------------|---------------------------|---------------------------|--------------------------|
| <b>Kern River</b>     |         |                            |                              |                           |                           |                          |
| Kernville, nr         | Apr-Jul | 325                        | 82                           | 515                       | 136                       | 398*                     |
| Isabella Dam, blo     | Apr-Jul | 385                        | 80                           | 650                       | 118                       | 480                      |
| Bakersfield, nr       | Apr-Jul | 400                        | 82                           | 685                       | 200                       | 490                      |
| <b>Tule River</b>     |         |                            |                              |                           |                           |                          |
| Success Dam           | Apr-Jul | 57                         | 86                           | 104                       | 25                        | 66                       |
| <b>Kaweah River</b>   |         |                            |                              |                           |                           |                          |
| Terminus Dam          | Apr-Jul | 265                        | 91                           | 410                       | 130                       | 290                      |
| <b>NF Kings River</b> |         |                            |                              |                           |                           |                          |
| Cliff Camp, nr        | Apr-Jul | 230                        | 96                           | 345                       | 115                       | 240*                     |
| <b>Kings River</b>    |         |                            |                              |                           |                           |                          |
| Pine Flat Dam, blo    | Apr-Jul | 1200                       | 96                           | 1740                      | 660                       | 1250                     |

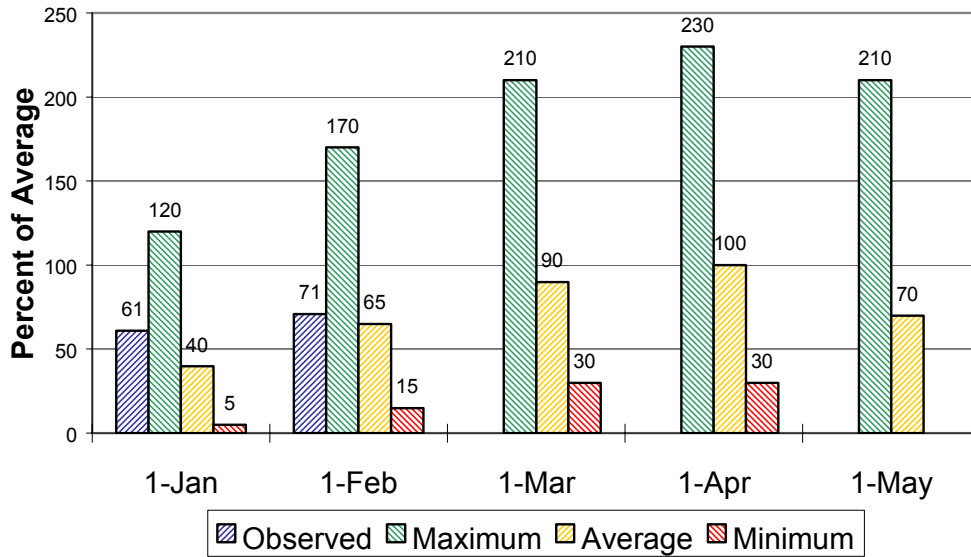
**\*30 Year Averages for 1971-2000 are incomplete. Those forecast points with an asterisk have incomplete averages, so 1961-1990 averages are listed. The new averages will be incorporated into this report when the complete data sets become available.**

# Tulare Lake Basin

## Seasonal Precipitation October 1 to Date



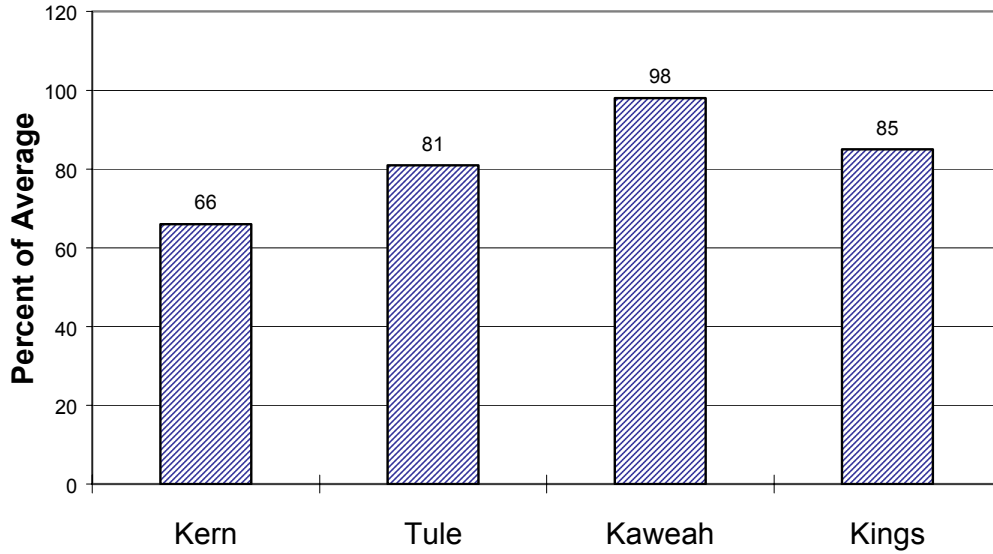
## Seasonal Basin Snowpack Water Content in % of April 1 Average



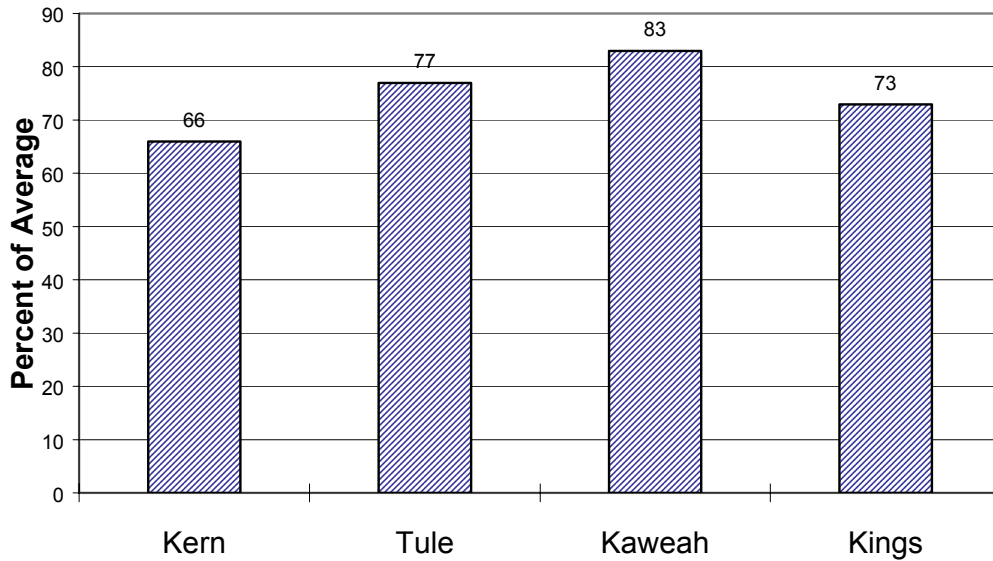


# Tulare Lake Basin

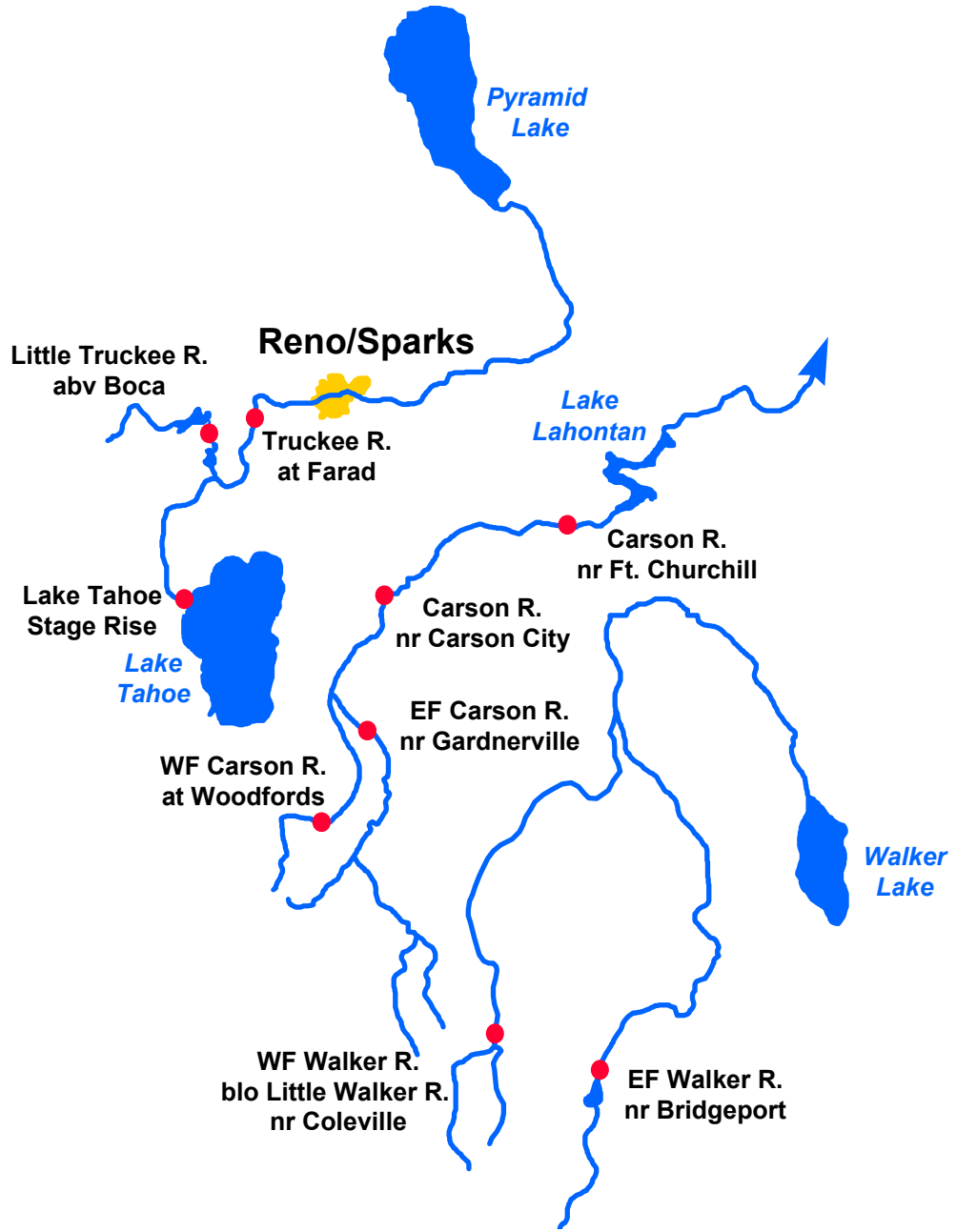
## Basin Reservoir Storage Contents of Major Reservoirs in % of Average



## Seasonal Basin Runoff October 1 to Date



# East Side Sierra Nevada Basins

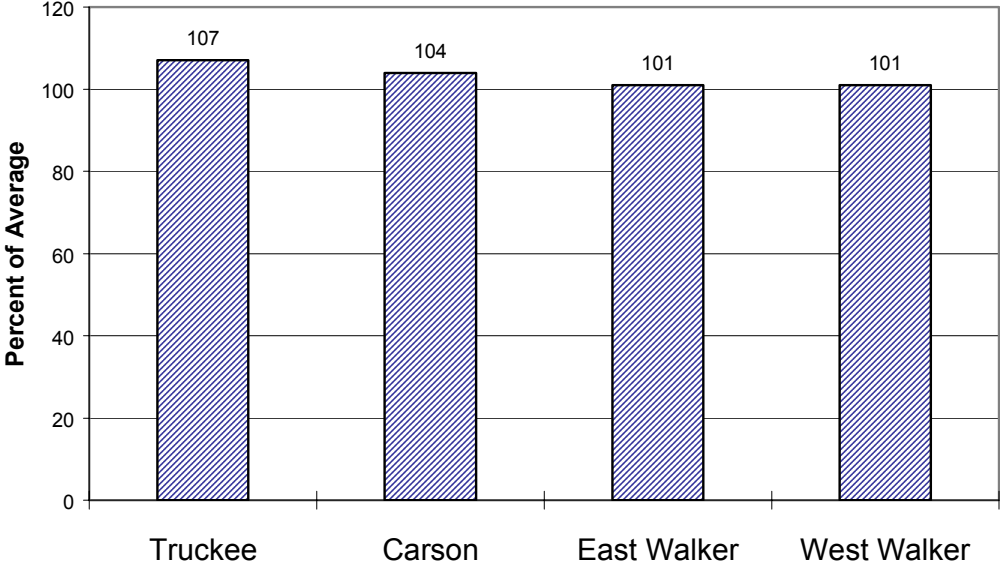


# Water Supply Forecasts

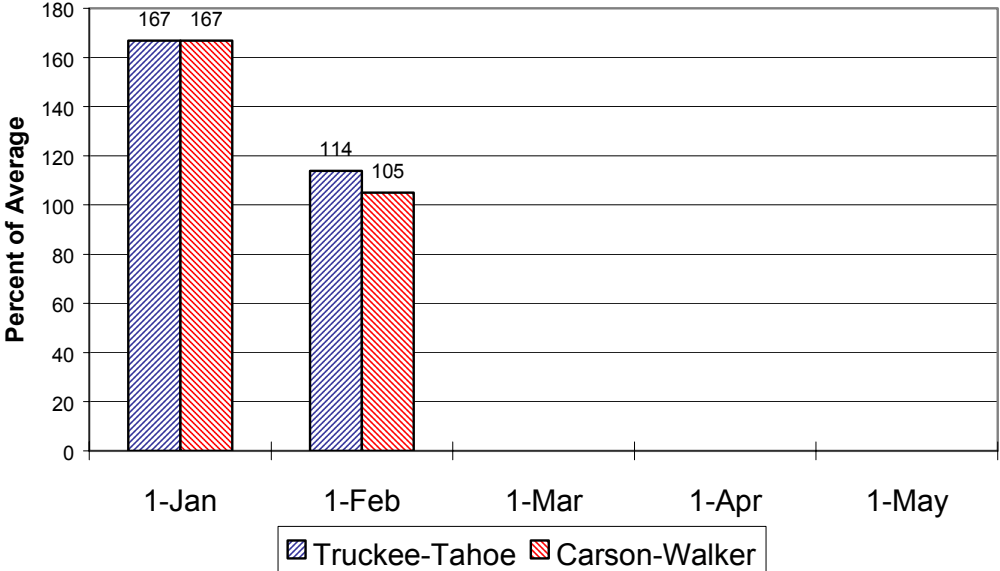
|                            |          | Most<br>Prob<br>Vol<br>KAF | Most<br>Prob<br>Vol<br>%Nrml | Reas<br>Max<br>Vol<br>KAF | Reas<br>Min<br>Vol<br>KAF | 30<br>Year<br>Avg<br>KAF |
|----------------------------|----------|----------------------------|------------------------------|---------------------------|---------------------------|--------------------------|
| <b>Truckee River</b>       |          |                            |                              |                           |                           |                          |
| Truckee River              |          |                            |                              |                           |                           |                          |
| Lake Tahoe Stage Rise      | Apr-High | 1.3                        | 94                           | 2.0                       | 0.6                       | 1.4                      |
| Farad                      | Apr-Jul  | 270                        | 90                           | 400                       | 141                       | 300                      |
| <b>Carson River</b>        |          |                            |                              |                           |                           |                          |
| EF Carson River            |          |                            |                              |                           |                           |                          |
| Gardnerville, nr           | Apr-Jul  | 165                        | 87                           | 240                       | 88                        | 189                      |
| WF Carson River            |          |                            |                              |                           |                           |                          |
| Woodfords                  | Apr-Jul  | 50                         | 89                           | 73                        | 27                        | 56                       |
| Carson River               |          |                            |                              |                           |                           |                          |
| Carson City, nr            | Apr-Jul  | 162                        | 86                           | 270                       | 55                        | 188                      |
| Fort Churchill, nr         | Apr-Jul  | 152                        | 85                           | 260                       | 43                        | 178                      |
| <b>Walker River</b>        |          |                            |                              |                           |                           |                          |
| East Walker River          |          |                            |                              |                           |                           |                          |
| Bridgeport, nr             | Apr-Aug  | 58                         | 87                           | 100                       | 15.5                      | 67                       |
| West Walker River          |          |                            |                              |                           |                           |                          |
| Ltl Walker, blo, Coleville | Apr-Jul  | 147                        | 94                           | 220                       | 62                        | 156                      |

# East Side Sierra Nevada Basins

## Seasonal Basin Precipitation October 1 to Date



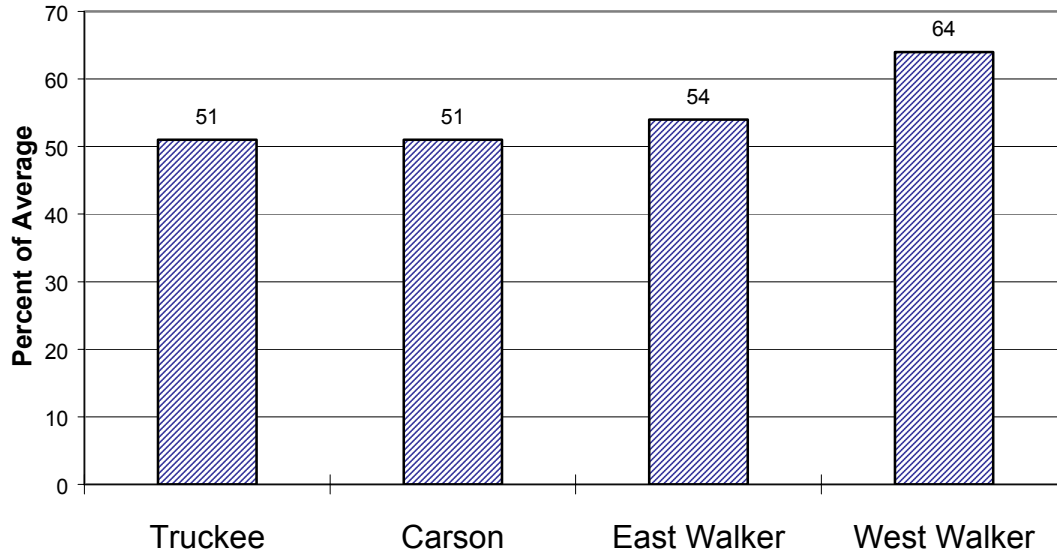
## Basin Snowpack % of Average SWE to Date



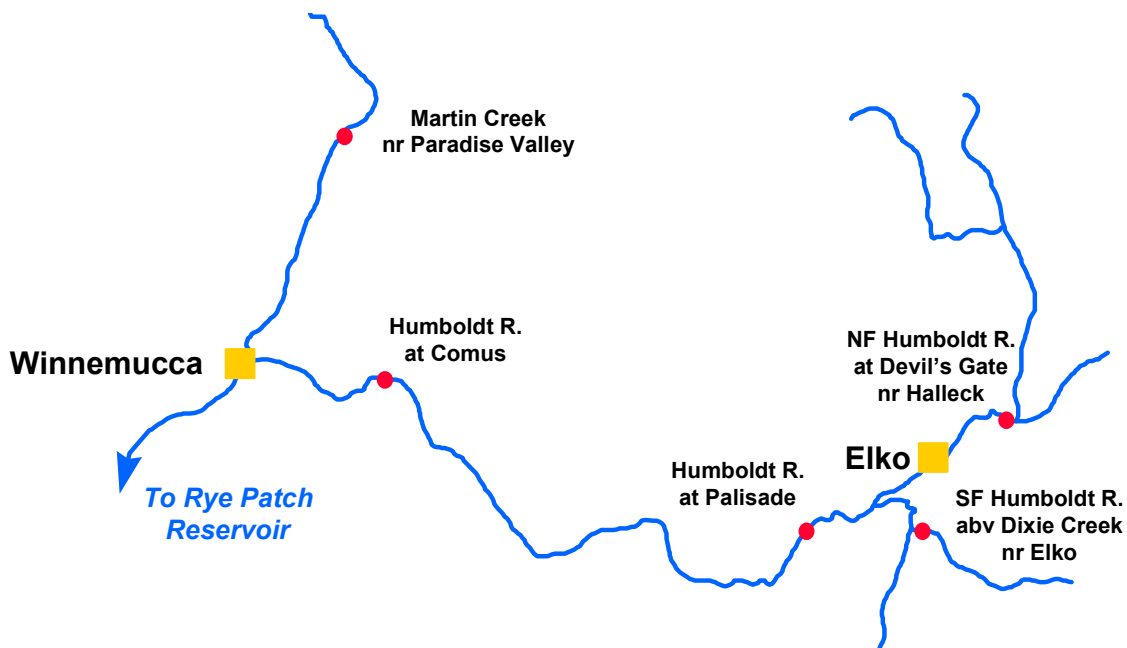
# East Side Sierra Nevada Basins

## Seasonal Basin Runoff

October 1 to Date



# Humboldt River Basin



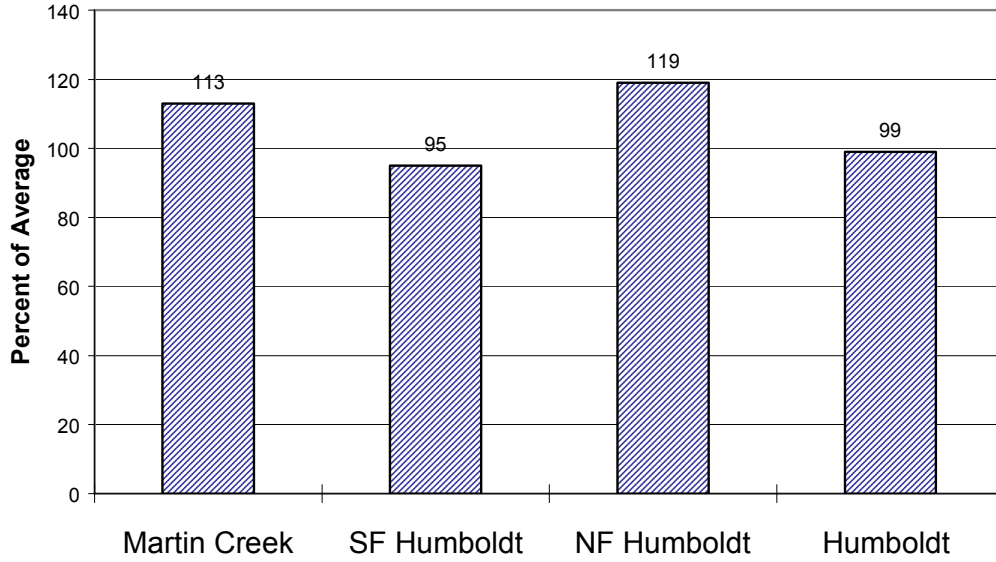
## Water Supply Forecasts

|                              |         | Most Prob Vol KAF | Most Prob Vol %Nrml | Reas Max Vol KAF | Reas Min Vol KAF | 30 Year Avg KAF |
|------------------------------|---------|-------------------|---------------------|------------------|------------------|-----------------|
| <b>NF Humboldt River</b>     |         |                   |                     |                  |                  |                 |
| Devils Gate, at, Halleck, nr | Apr-Jul | 31                | 91                  | 51               | 11.3             | 34*             |
| <b>SF Humboldt River</b>     |         |                   |                     |                  |                  |                 |
| Dixie Ck, abv, Elko, nr      | Apr-Jul | 68                | 89                  | 100              | 36               | 76              |
| <b>Humboldt River</b>        |         |                   |                     |                  |                  |                 |
| Palisade                     | Apr-Jul | 220               | 88                  | 385              | 57               | 250             |
| Comus                        | Apr-Jul | 185               | 82                  | 350              | 50               | 225             |
| <b>Martin Ck</b>             |         |                   |                     |                  |                  |                 |
| Paradise Valley, nr          | Apr-Jul | 19                | 102                 | 29               | 9.5              | 18.7            |

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# Humboldt River Basin

## Seasonal Basin Precipitation October 1 to Date



## Basin Snowpack % of Average SWE to Date

