

Issues

- ◆ Poor representation of water use in the Sacramento Valley means that Calsim II cannot be used with a high degree of confidence to provide absolute values of water supply reliability
- ◆ Coarse spatial resolution of the model makes Calsim II of limited value for the analysis of local projects

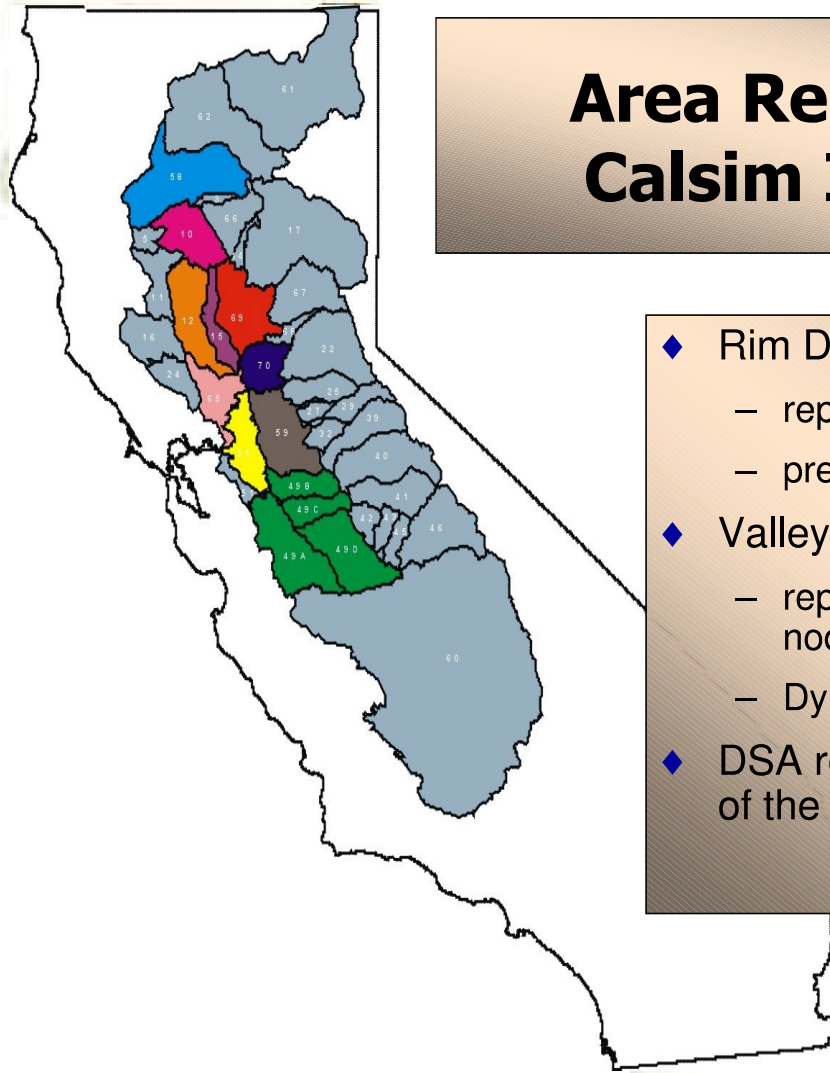
CALSIM II Sacramento River Basin Hydrology Enhancements

- ◆ Current Representation
 - overview
 - demands
 - water supplies
- ◆ Problems
- ◆ Solutions
- ◆ Work completed
- ◆ Possible effects to CALSIM simulation
- ◆ Future direction

Historical Perspective

- ◆ Methods developed in late 1950's early 1960's
- ◆ Focus was on water supply
 - Mainly South of Delta Water supply
- ◆ Very large areas aggregated
- ◆ Methods, spatial resolution, and much of the data are still the same

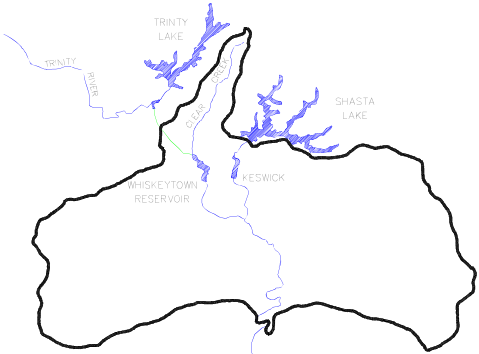
Area Represented by CalSim II Hydrology



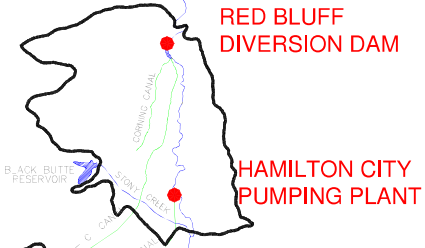
- ◆ Rim DSAs (in gray)
 - represented indirectly
 - preprocessed inflow to CalSim II
- ◆ Valley floor DSAs (in color)
 - represented directly by series of nodes and arcs
 - Dynamically simulated
- ◆ DSA represents spatial resolution of the model

DWR Sub-Basins

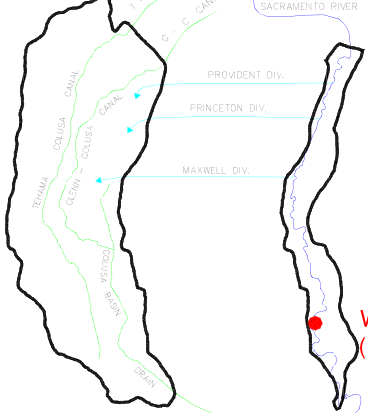
DA 58



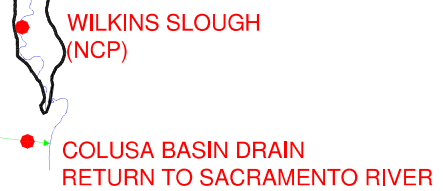
DA 10



DA 12



DA 15

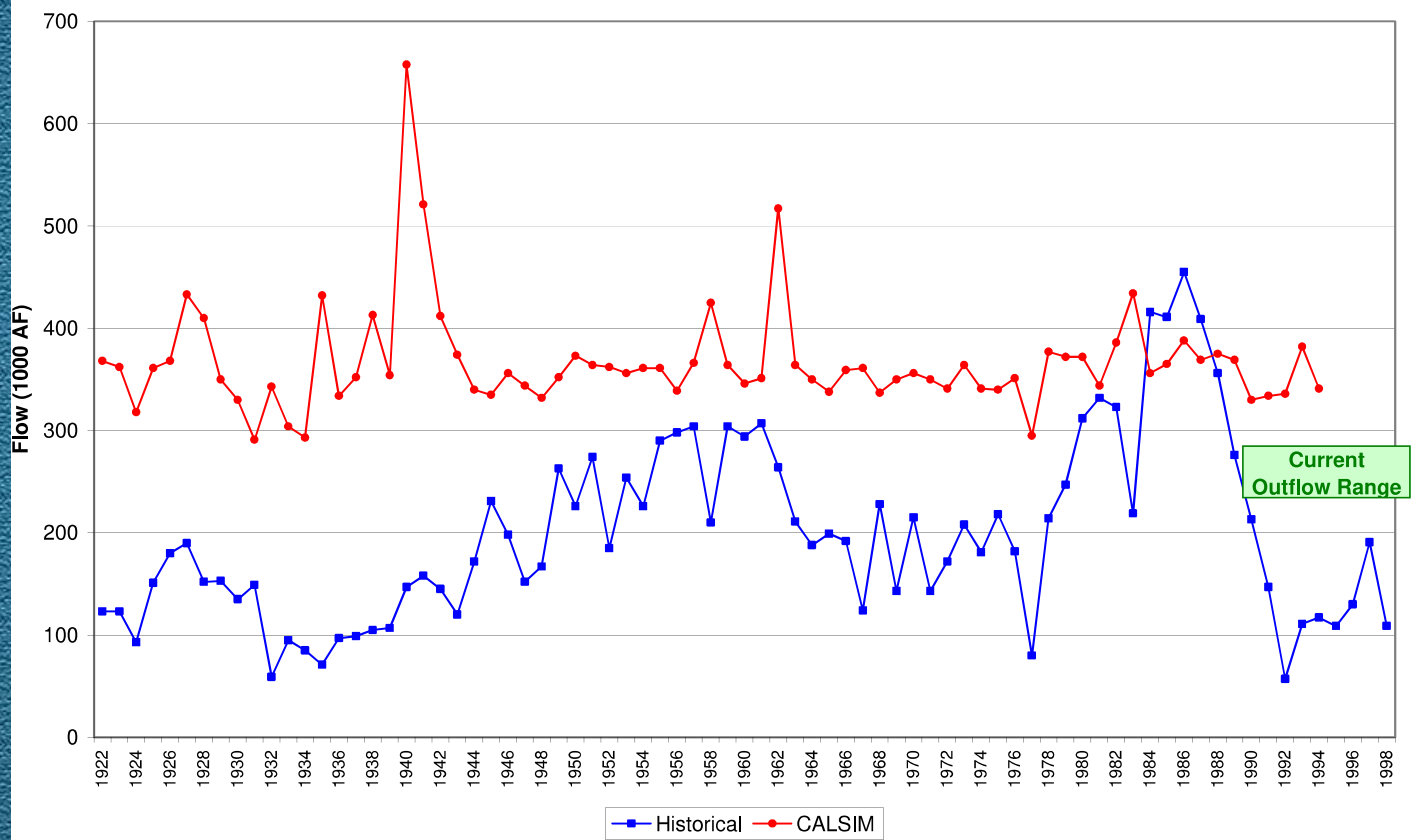


Basin Efficiency (%)

Based on 1966 – 1970 Historical Data

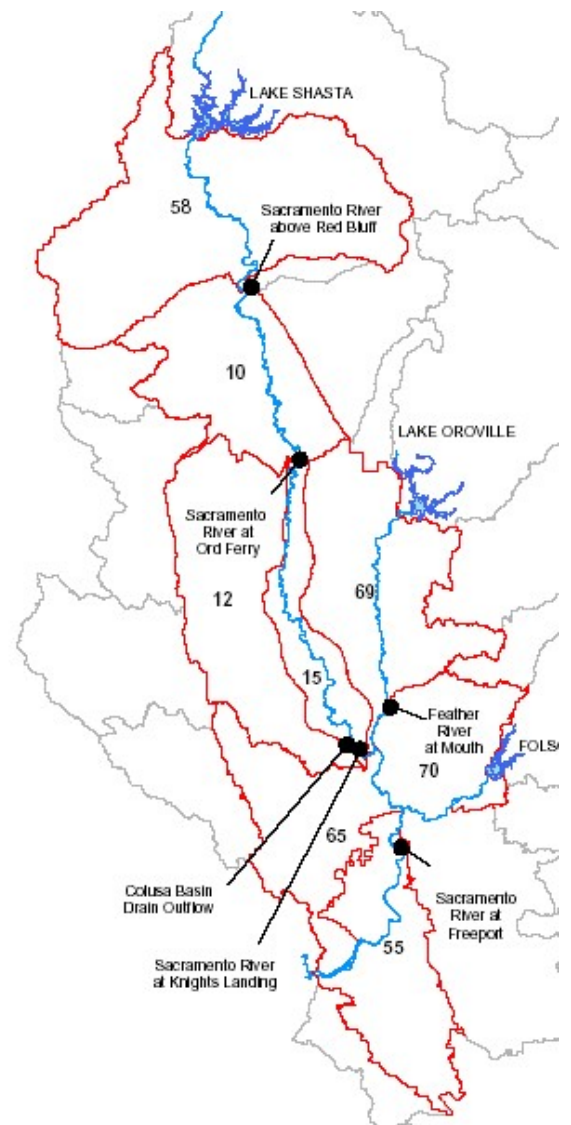
DSA	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
58	65	65	65	65	65	65	65	65	65	65	65	65
10	70	70	70	70	70	70	70	70	70	70	70	70
15	70	70	70	70	70	70	79	65	75	78	65	35
12	70	70	70	70	70	70	79	65	75	78	65	35
69	40	70	70	70	70	70	70	65	75	80	75	30

Colusa Basin Drain Outflow April - October Total Flow



Local Water Supplies

- ◆ Time series of inflows to each of the seven Valley floor DSAs
- ◆ Calculated as closure term in hydrologic mass balance on each DSA
- ◆ Represents direct runoff from precipitation
- ◆ Includes all error terms



Hydrologic Mass Balance

- ◆ Historical Water Supply from mass balance
- ◆ Projected Water Supply = Historical Water Supply + Rainfall-Runoff Adjustment
- ◆ Contain errors in mass balance

