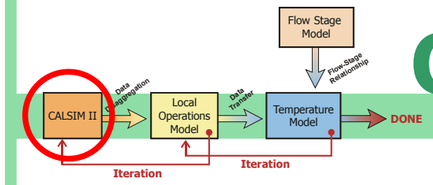


Operations Modeling – Sensitivity Analysis Series

Sensitivity Analysis allows a special interest to explore ranges of potential system responses to controlled changes in operating conditions derived from the Benchmark Studies or a separate source of information

Scenario Number: 13

Scenario Objective:

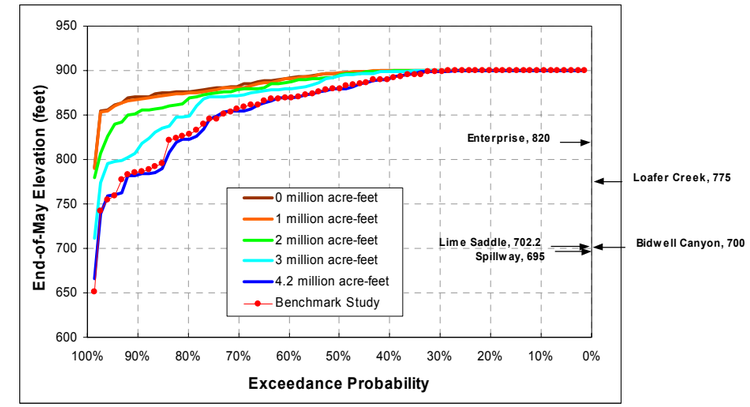
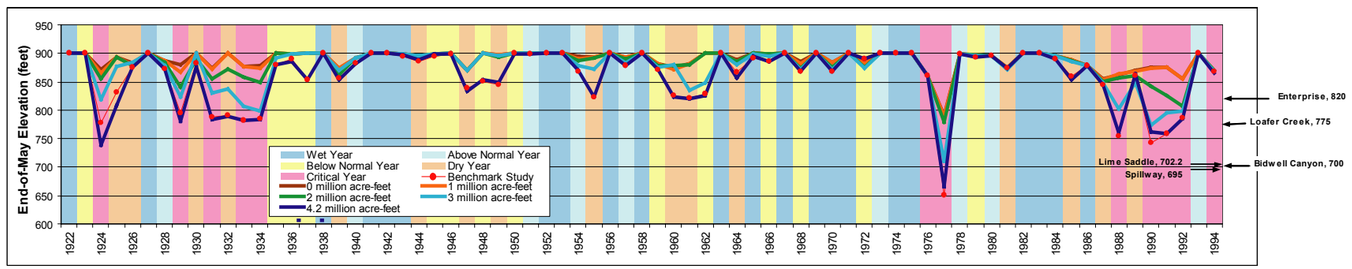
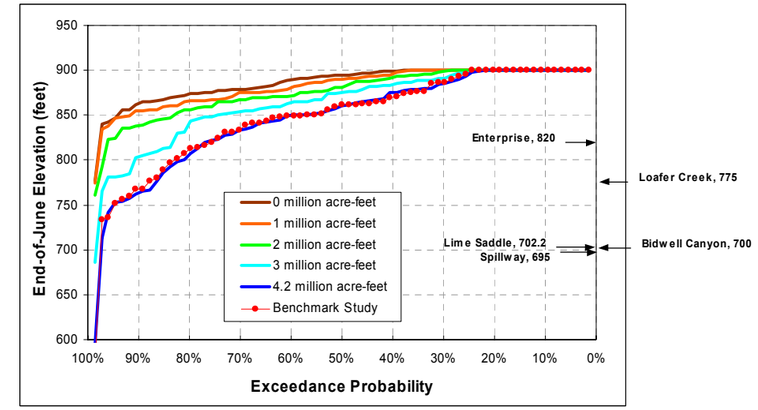
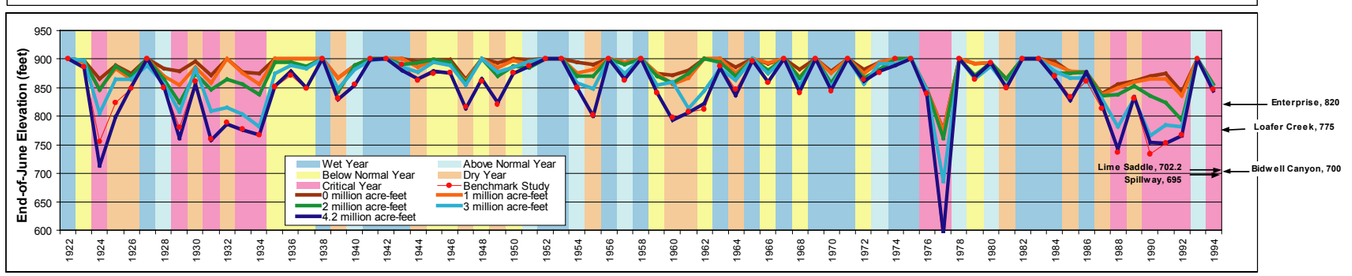
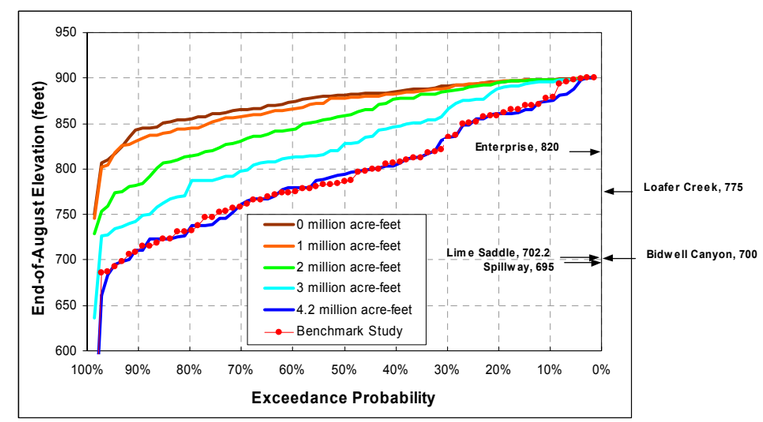
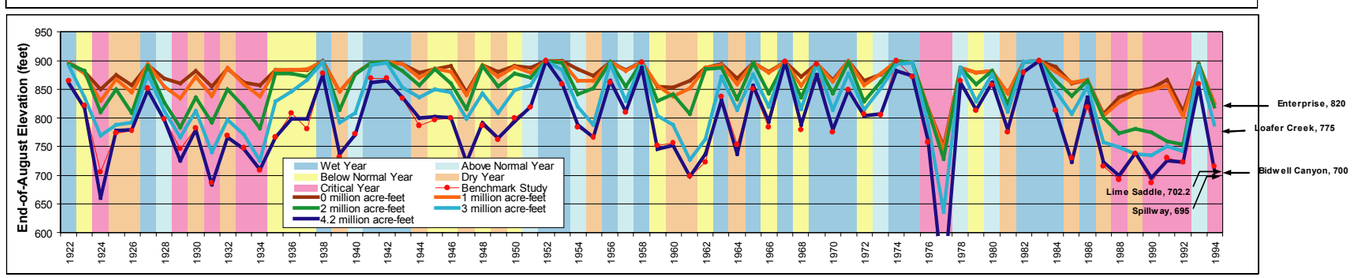
Understand the sensitivity of Lake Oroville water levels to various demands from the State Water Project (SWP) contractors.

Model Used:

- **CALSIM II**

Approach

- **All assumptions for the 2001 Level of Development Benchmark Study were used, except demands on the SWP**
- **SWP demands were fixed at 0, 1, 2, 3, and 4.2 million acre-feet per year (full Table A allotment is 4.2 million acre-feet per year)**
- **The Benchmark Study assumes a variable demand close to 4.2 million acre-feet per year with adjustments for regional wetness (which means less if it is really wet and other sources of water are plentiful and cheaper than SWP supply)**
- **Potential effects on other water users and resources were not evaluated**

Findings:

- **Greater demands on the SWP generally results in lower water levels in Lake Oroville**
- **Elevation of Lake Oroville is more sensitive to level of SWP demand in drought periods**
- **Using CALSIMII results and a 73 year synthetic hydrology, there would be a 75% chance that all boat ramps are usable at the end of June in any given year with a full Table A allotment**
- **Simulated elevations of Lake Oroville for full Table A allotment are similar to those of the Benchmark Study**