



**CALIFORNIA WATER PLAN UPDATE 2009  
SCENARIO ANALYSIS TECHNICAL APPROACH  
SWAN MEETING  
JUNE 19, 2008**

## **WATER QUALITY**

### **Description**

Water quality state is a determinant of its ability to satisfy a range of services, including municipal and agricultural water supplies, biological requirements, taste and odor, aesthetics, and recreation. For the Sacramento and San Joaquin models, in-stream water quality and Delta salinity standards are of interest.

### **Representation in WEAP system**

In-stream water quality analysis capabilities include:

- Simple mixing and conservative behavior or first-order decay
- Built-in BOD, temperature, and DO models
- Can be linked to US EPA river and stream water quality model, Qual2K
- Can call DLLs to calculate water quality using user-defined routines

Treatment of Delta salinity standards:

- WEAP model utilizes G-mod (regression model) to model Delta outflow requirements to meet salinity standards

### **Sources of data**

- Temperature time-series (CDEC, USGS)
- Other water quality datasets(?)
- Data embedded in CalSim-II salt balance model for Vernalis flow requirements

### **Outstanding issues**

- Data and external models used to treat in-stream water quality standards
- Use of fixed concentrations and complete mixing from contributing sources for water quality at Vernalis
- Use of ANN instead G-mod for modeling Delta salinity standards