### Introduction

Assessment of recent input and extractive biological populations in the San Francisco Estuary is positively related to freshwater flow (Crookston et al., 1999). These populations are sensitive to changes in water flow because water flow impacts salinity and the resulting habitat conditions. Examining this relationship is critical in order to predict potential relocations underlying the existence of both freshwater flow. This paper investigates the relationship between the Delta outflow and the salinity in the coastal ocean. The primary goal is to use this relationship to explain seasonal changes in the location of the 2 psu isohaline line within the bay.

### Calculation of X2 for 1994 and 1997 Simulation Periods

In the TRIM model, X2 calculations take into account three data methods during each year long periods each spanning a large range of flow conditions. The two shown X2 calculation from observed data using the density regression. It calculated from a producible density-averaged salinity profiles from the TRIM simulation, and X2 calculated from the USGS RMP salinity data and data collected by the USGS. The TRIM model used the Jassby regression relationship to calculate the predicted density-averaged salinity. The 2 psu isohaline line was then used to calculate X2.

### Analysis of X2 from TRIM Simulations

The Jassby regression relationship between Delta outflow and X2 is a simple functional form for calculating X2 from observations. For a given Delta outflow, X2 is calculated as

\[ X2 = a + b \times Q \]

where Q is Delta outflow.

### Conclusions

The TRIM model accurately predicts salinity data in Suisun Bay over the entire range of Delta outflow from 0 to 100,000 cfs. In particular, the predicted salinity observations at 0.986 and 0.982 cfs are well correlated with the observed salinity data. The X2 values are consistent with theoretical predictions for salinity intrusion into the bay. The Jassby regression relationship is no longer used for its sensitivity, but remains as a useful tool for interpreting the results.