

URGWOM Salinity Modeling

Advisory Committee Meeting

February 17, 2015

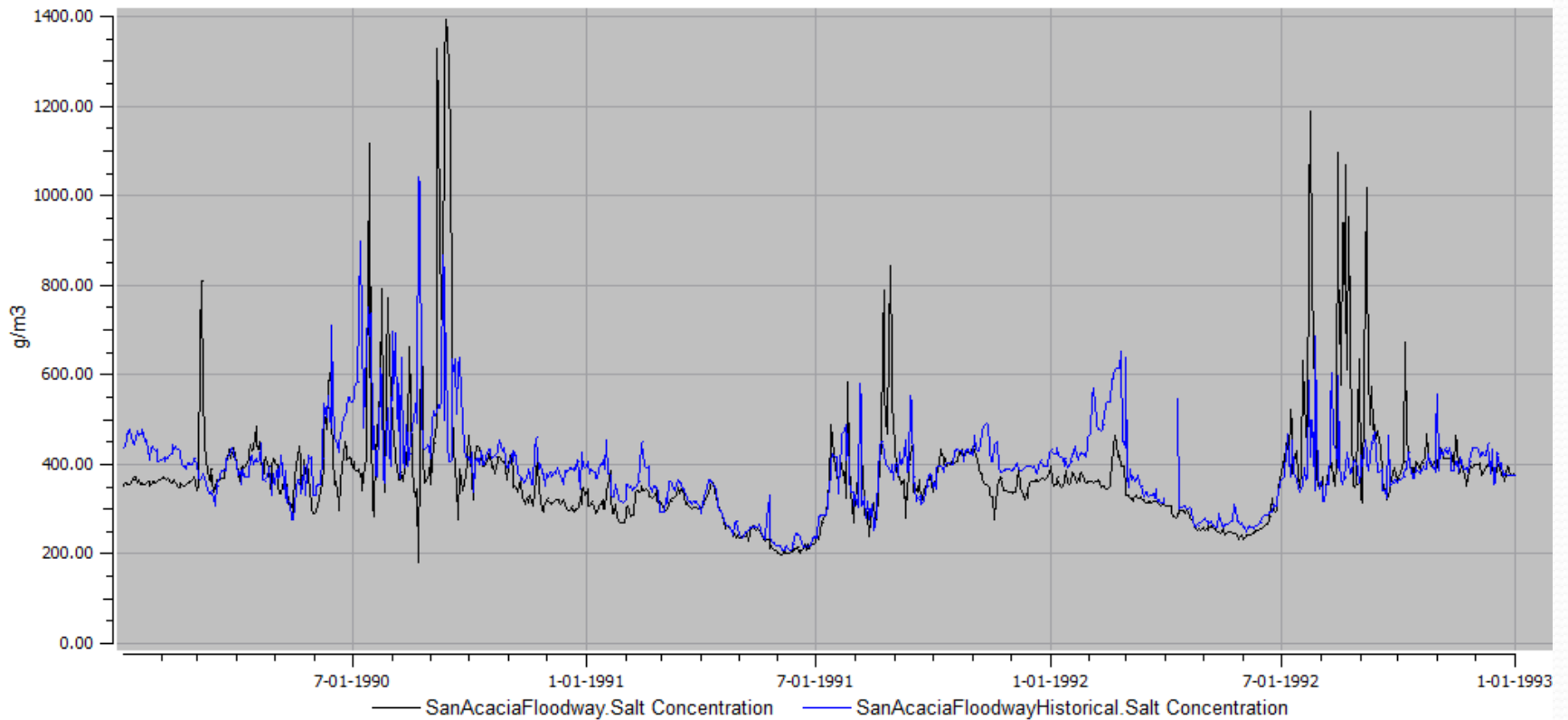
Background

- Five-Year Plan 2008
- Needs Survey completed 2008/2009
- Salinity Focus
- RiverWare modifications for modeling salinity
 - Most Surface-water functionality already present
 - Ground water salinity added
 - Interactions between groundwater and surface-water
- Test reach from Middle Valley

Test Modeling

- Original test model used old Middle Valley Model
 - Used simple constrained data
 - Testing of methods Completed
 - New RiverWare methods functioning correctly
- Salinity test reach with base of New Middle Valley Model.
 - Used real data compiled by Scott and Jessica
 - Sensitivity modeling with test model.
- Develop full Middle Valley salinity model

New Test Model Results

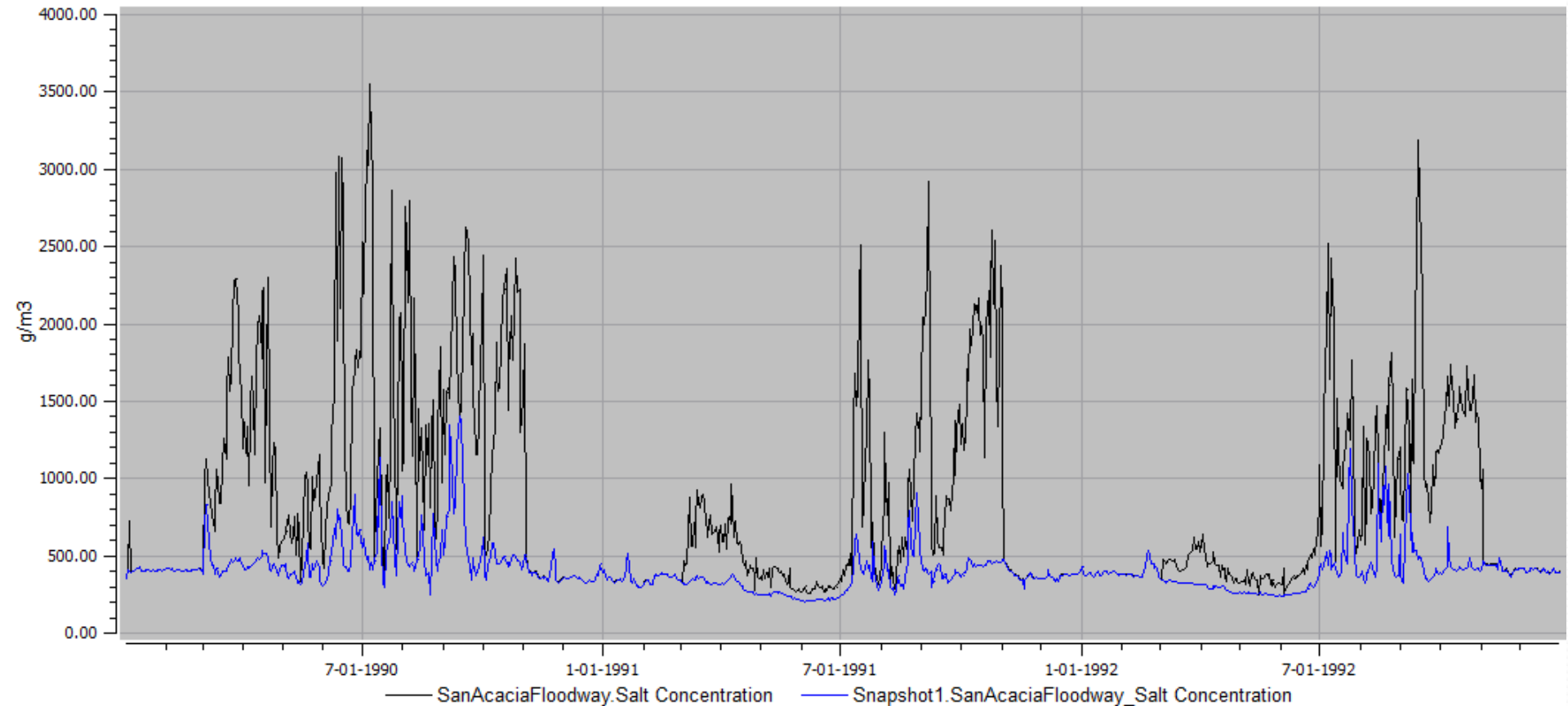


Sensitivity Analysis

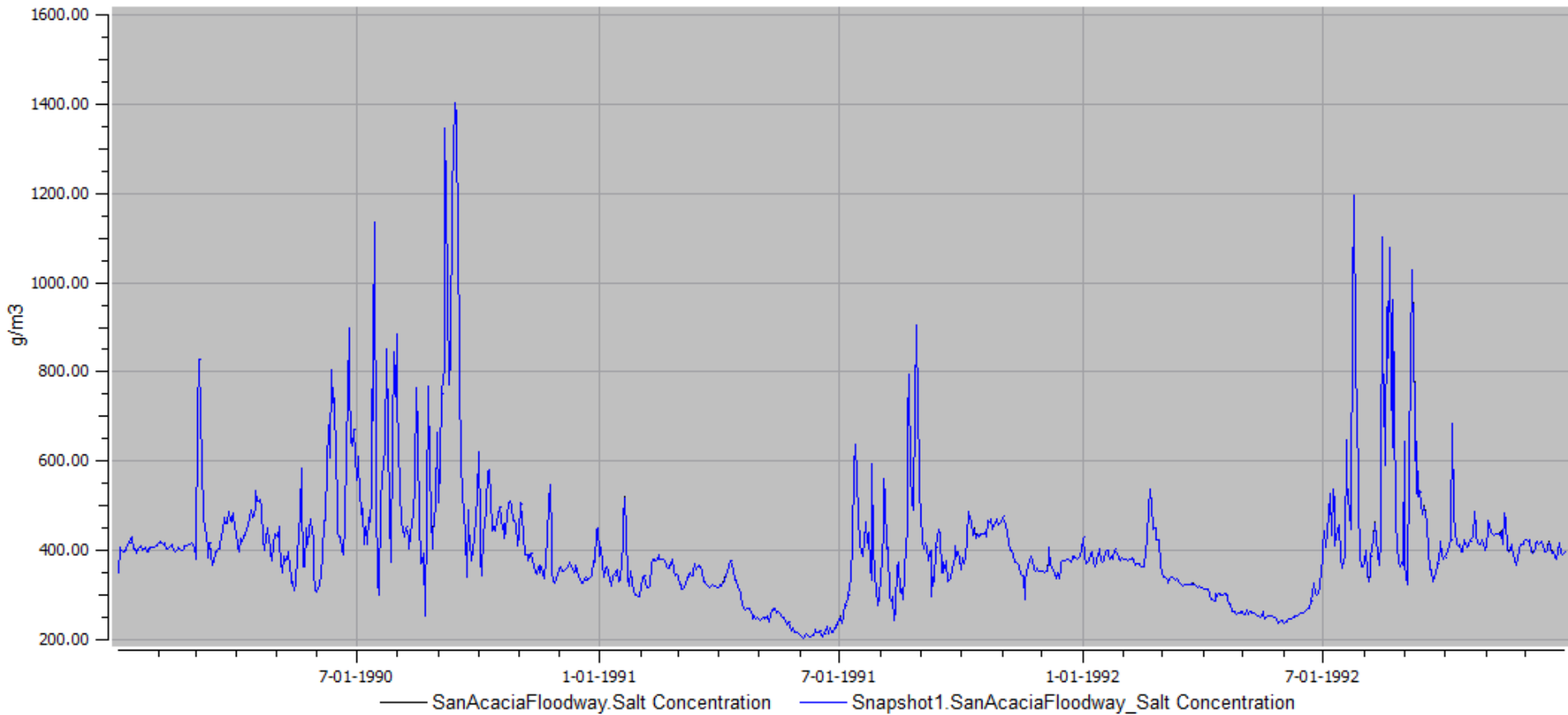
Sensitivity Analysis

- Goals - Test sensitivity of changes to each component of the model to changes in the river.
- Components tested
 - East and west canal inflow
 - East and west riverside drain
 - Rio Puerco inflow
 - Deep percolation

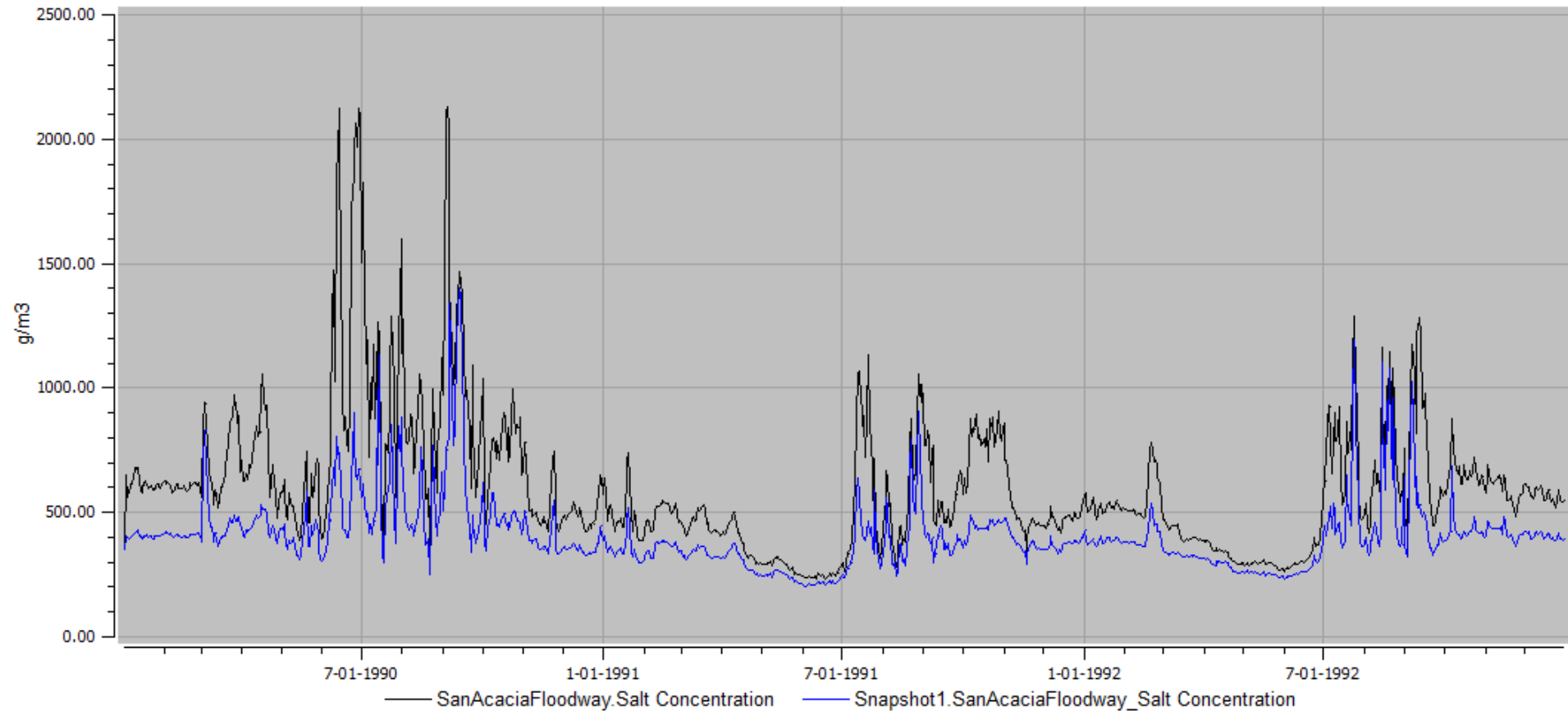
East side canal*1000



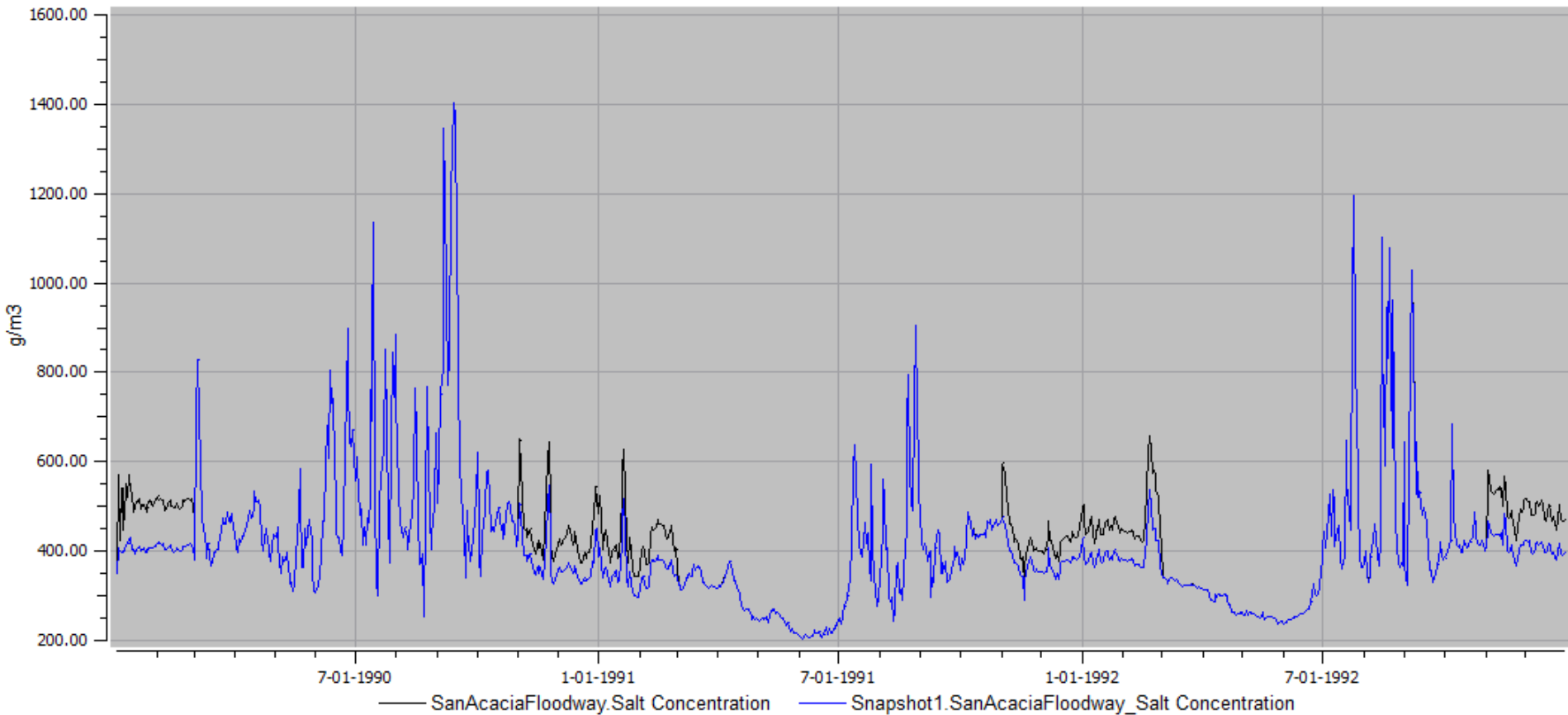
West side canal*1000



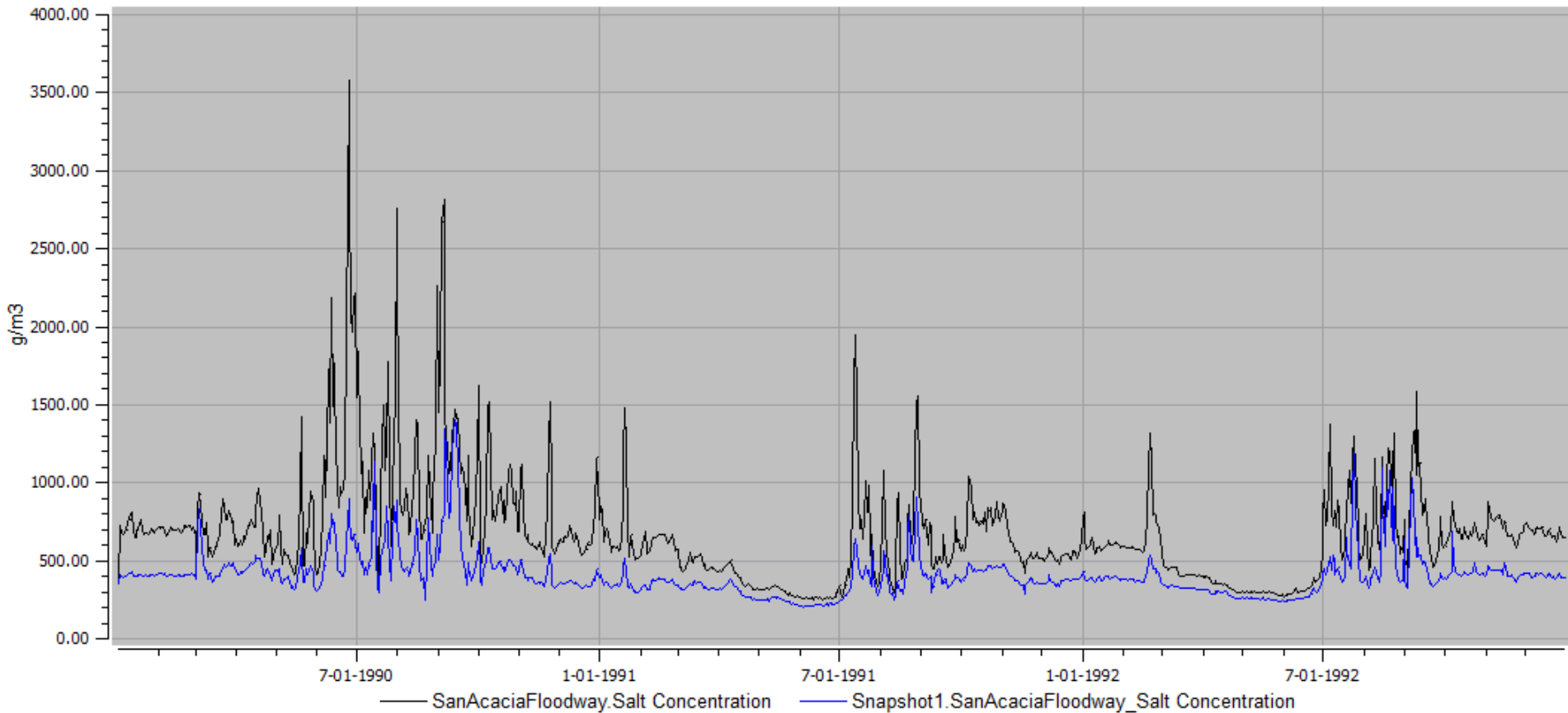
East river side drain*1000



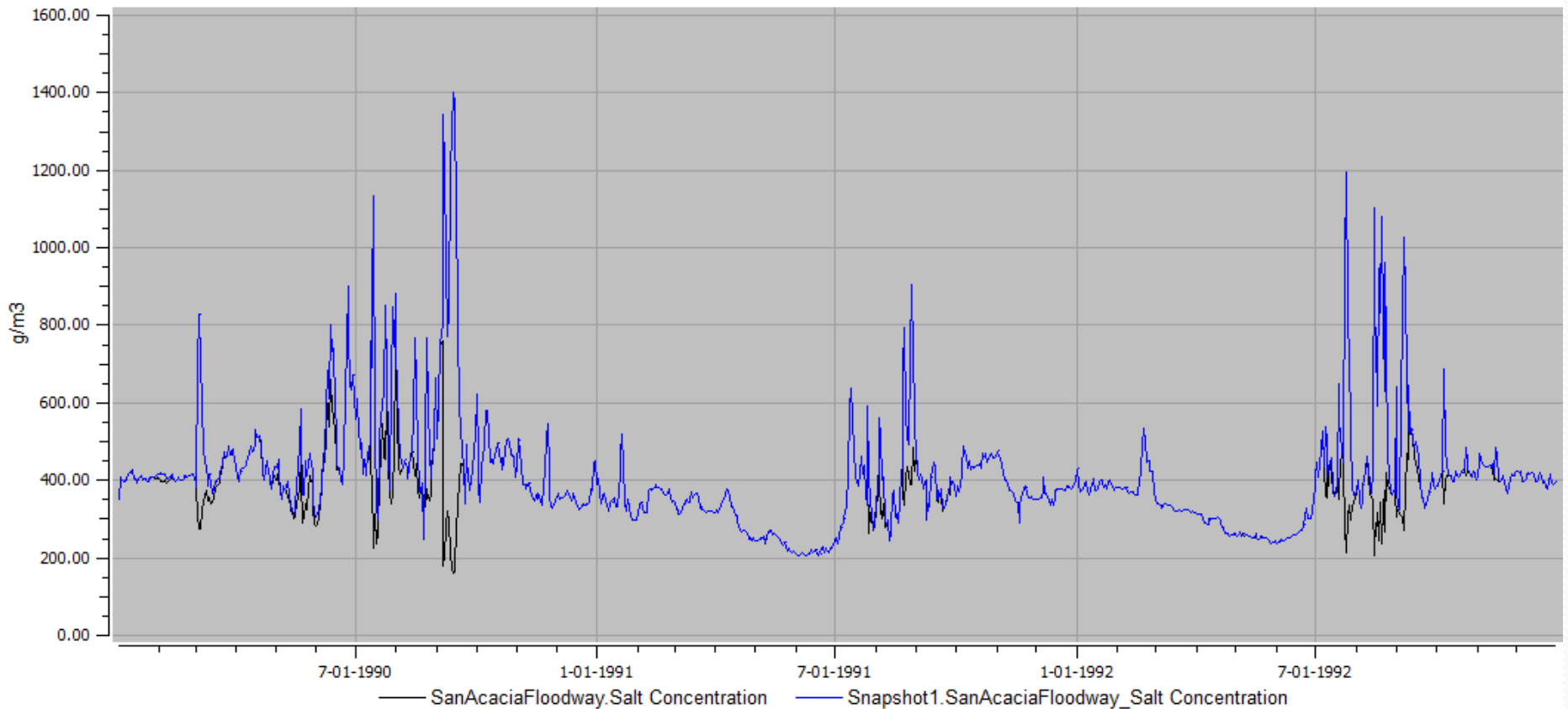
West river side drain*1000



Deep percolation * 5



Rio Puerco*0.1



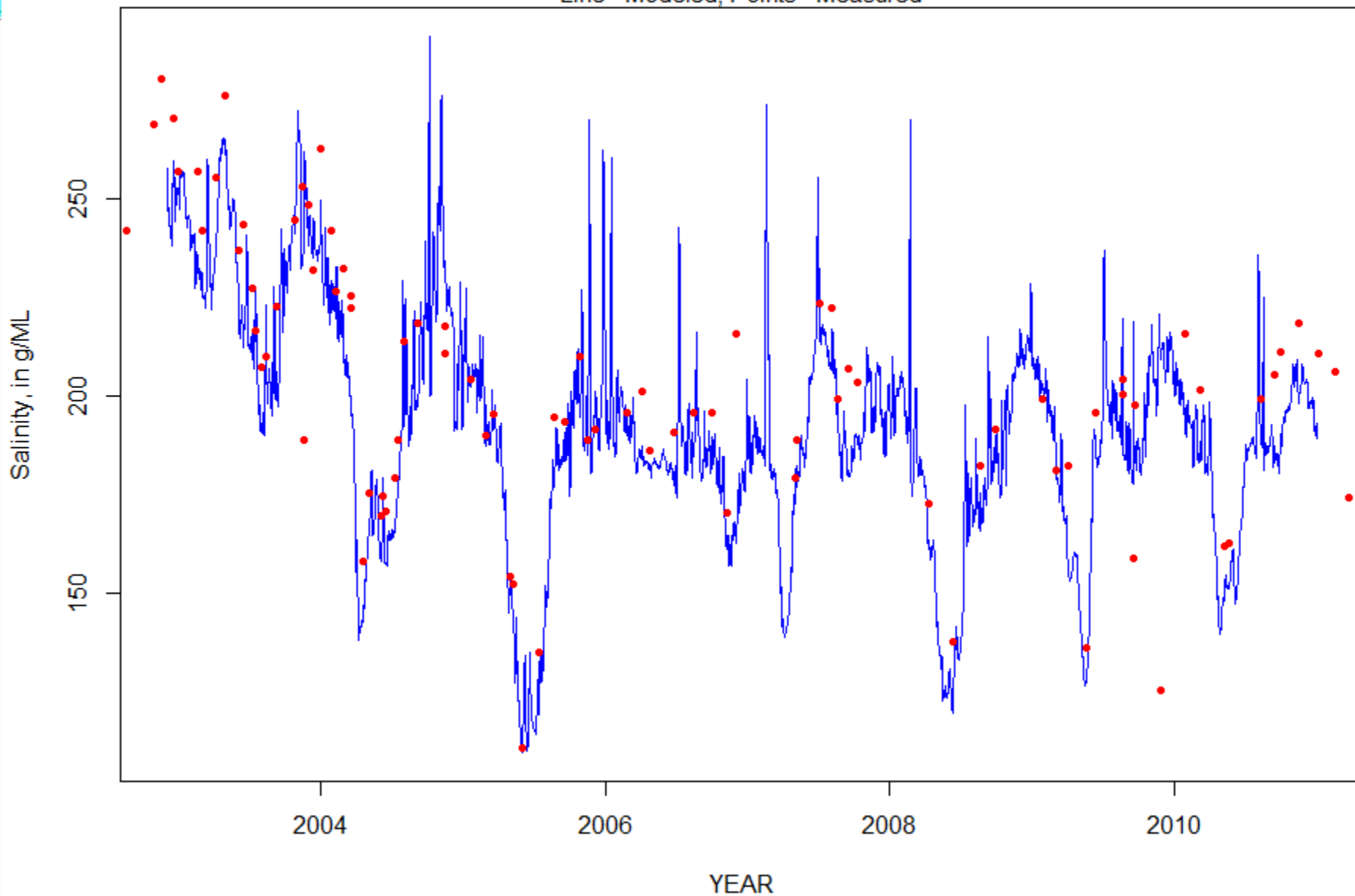
Full Middle Valley

Full Middle Valley

- Used new Middle Valley model
- Initial drain salinity same as river
- Surface-water inflows set constant
- Inputs set with analysis of data by Scott
- Limited data for comparison
- Initial model run results

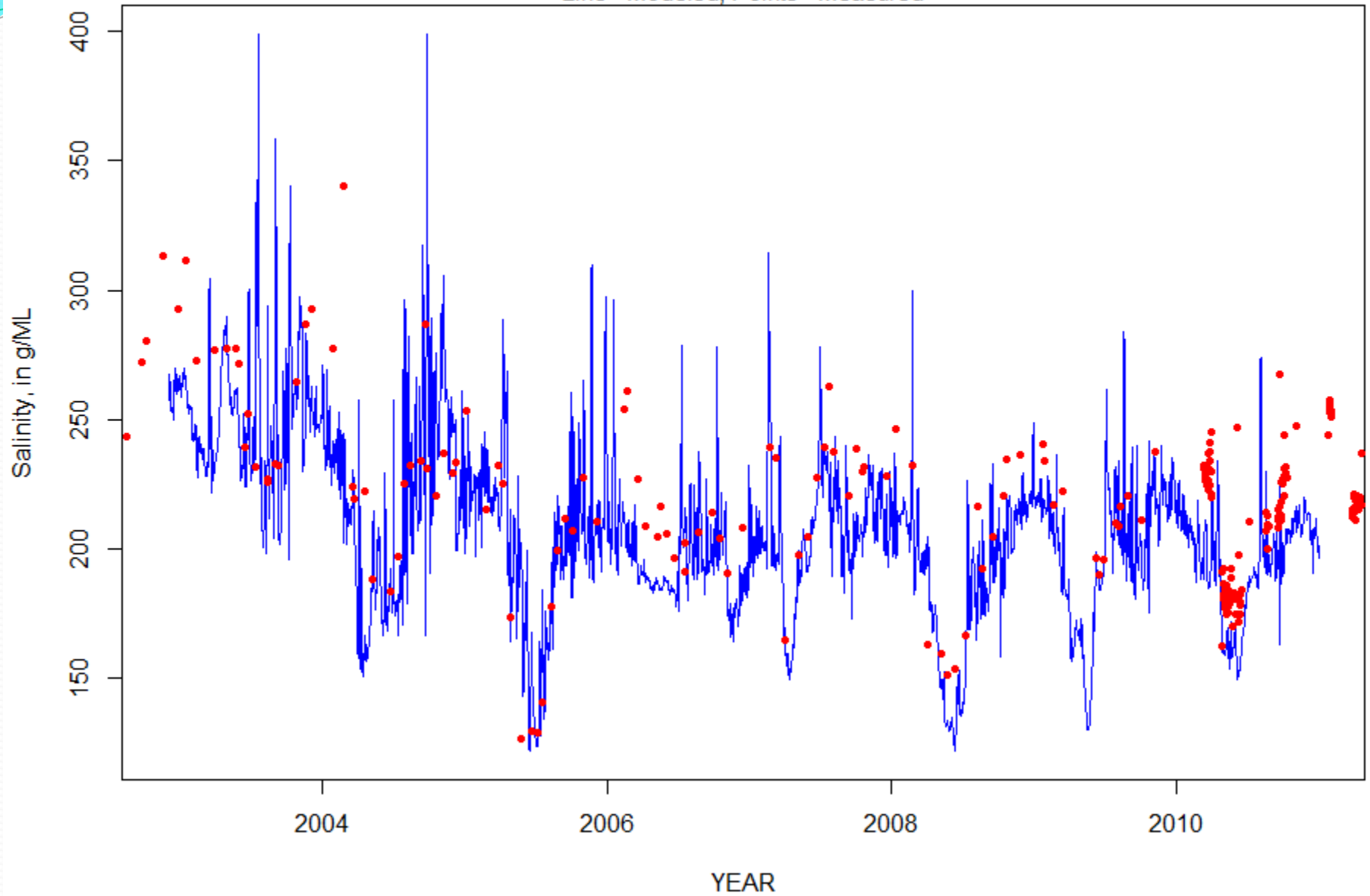
Rio Grande at San Felipe - Salinity

Line - Modeled, Points - Measured



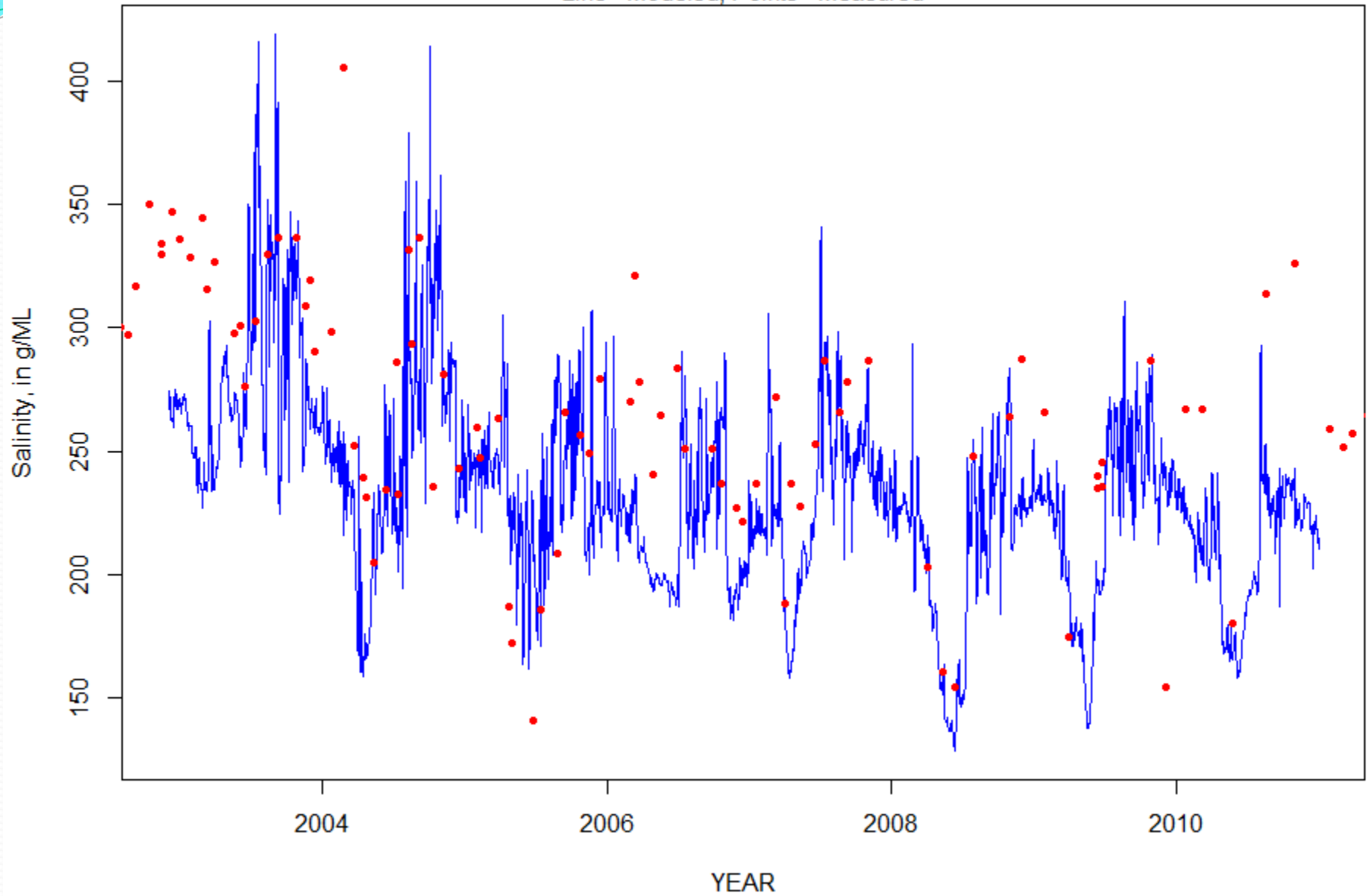
Rio Grande at Central - Salinity

Line - Modeled, Points - Measured



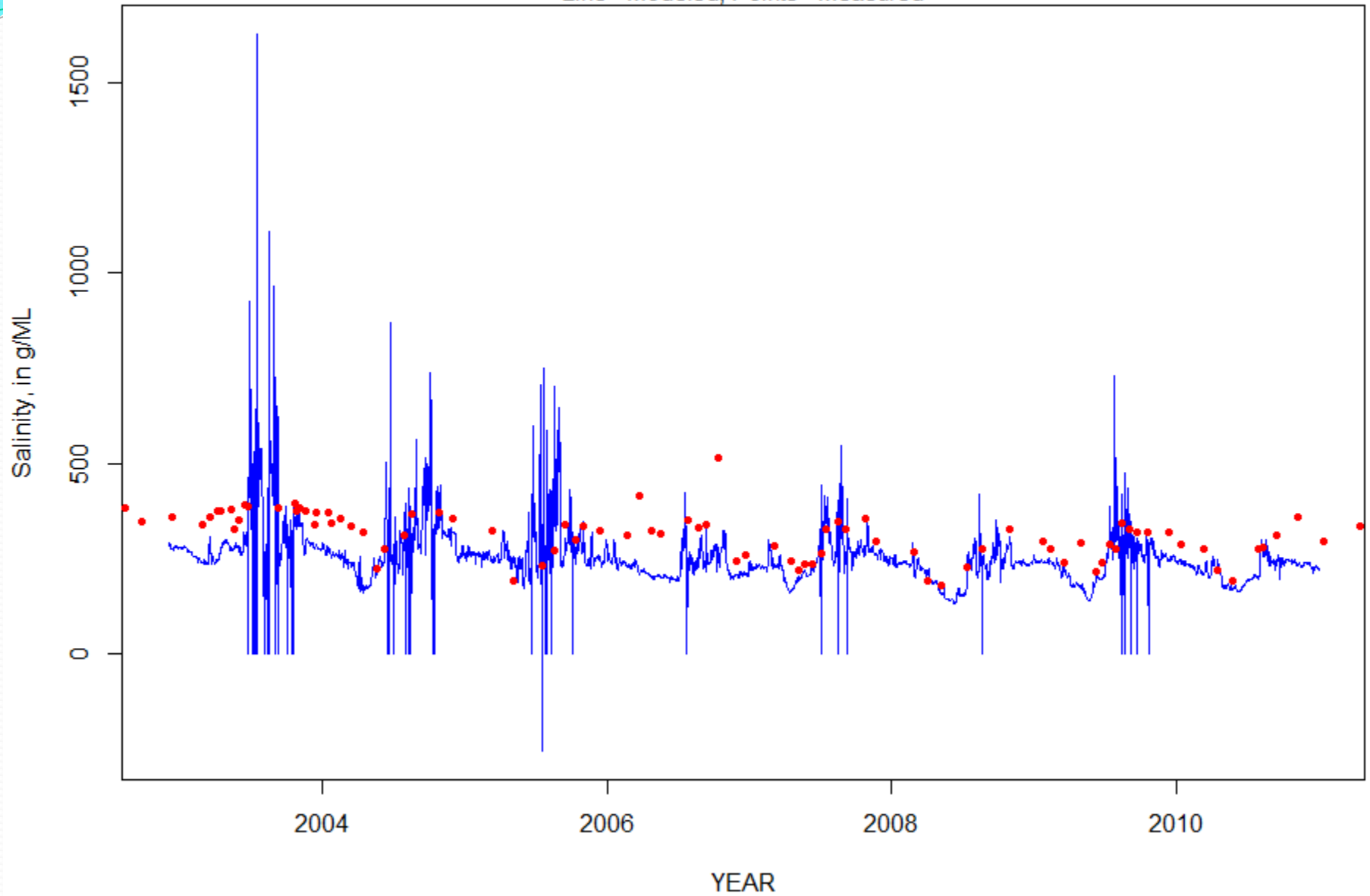
Rio Grande at Isleta - Salinity

Line - Modeled, Points - Measured



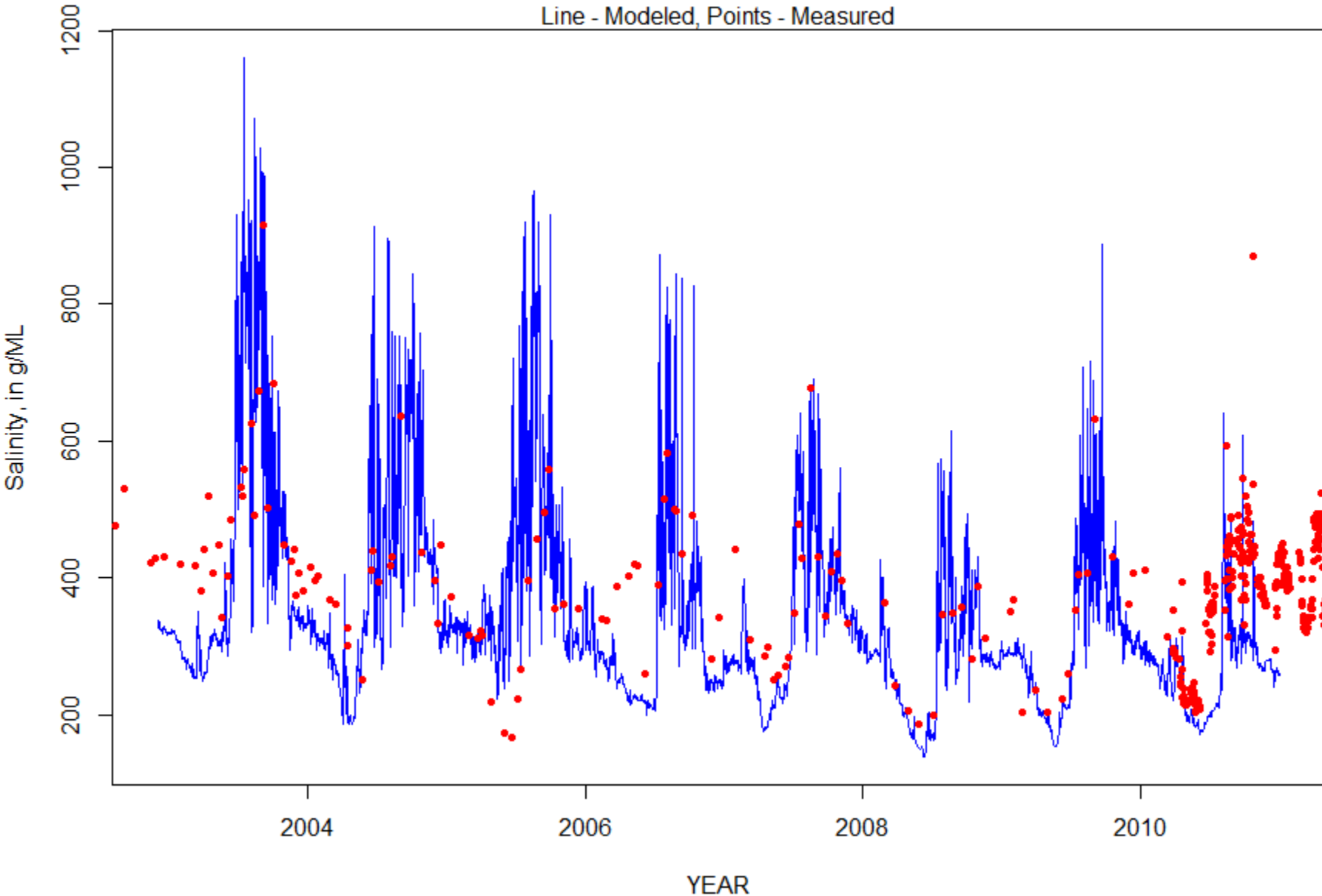
Rio Grande at Bernardo - Salinity

Line - Modeled, Points - Measured



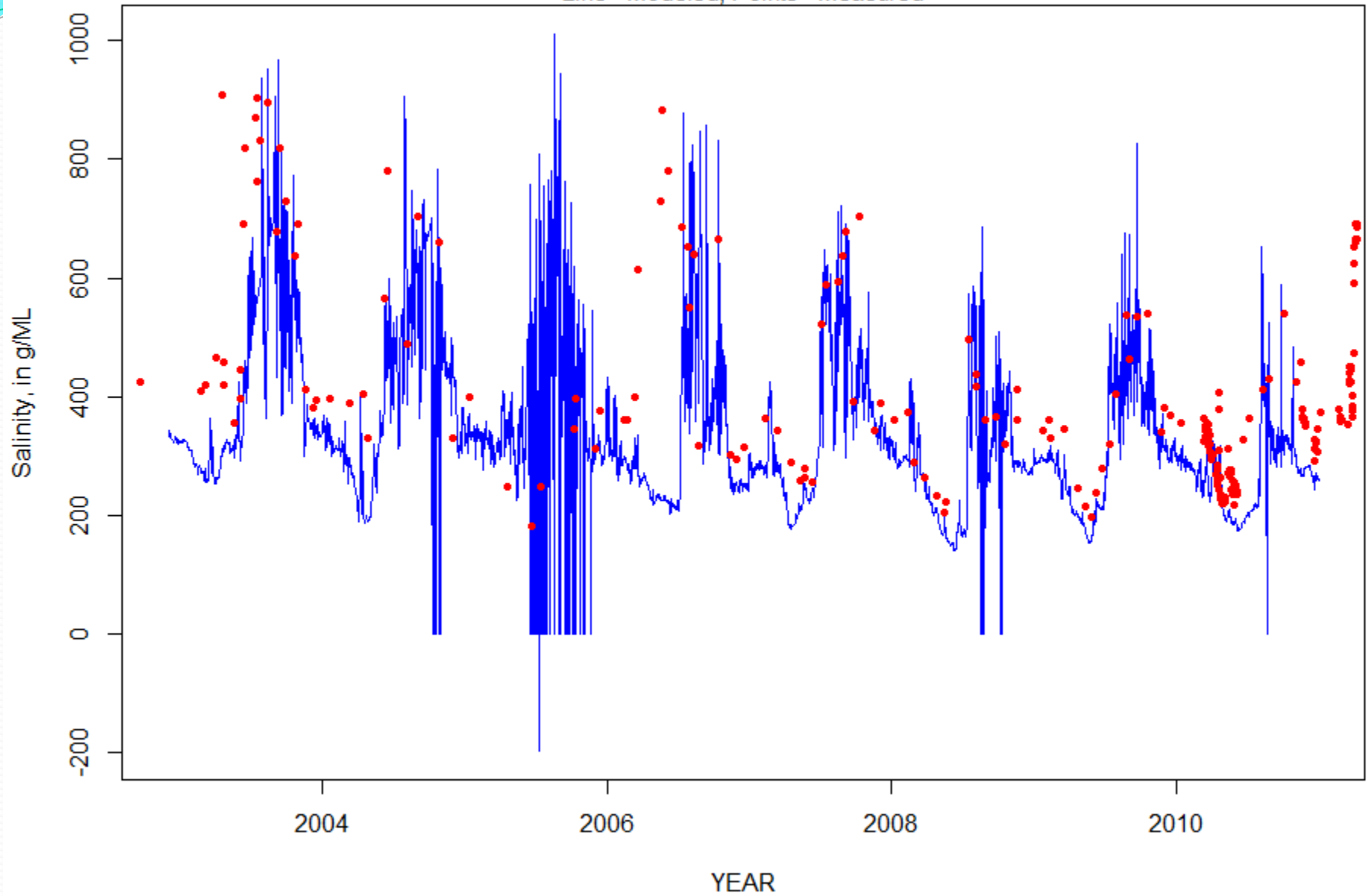
Rio Grande at San Acacia - Salinity

Line - Modeled, Points - Measured



Rio Grande at San Marcial - Salinity

Line - Modeled, Points - Measured



Rio Grande at SanMarcialFCC - Salinity

Line - Modeled, Points - Measured

