

Updates on DSM2 Pelagic Organism Decline (POD) and 2005 Historical Simulations

DSM2 Users Group
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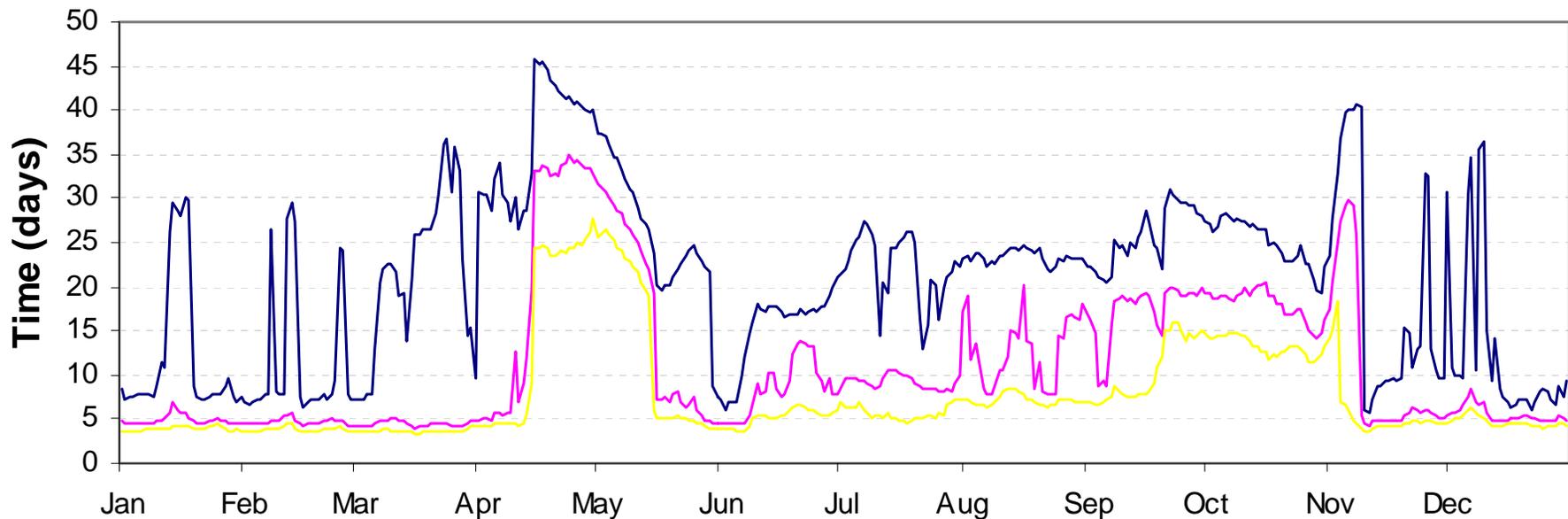
Expanded POD Studies

- Rerun 1990 – 2004
 - w/ Dispersion
 - Including Full Year (Jan. – Dec.)
 - Increased particles released to 2,000
- Will use 2005 Historical Simulation to Simulate 2005
- Will compare 2005 to 1990 – 2005 long-term averages and individual year averages

Example of Residence Time Plot

2003 Particle Residence Time for Vernalis Injection

— 75% of Particles — 50% of Particles — 25% of Particles



POD Deliverables

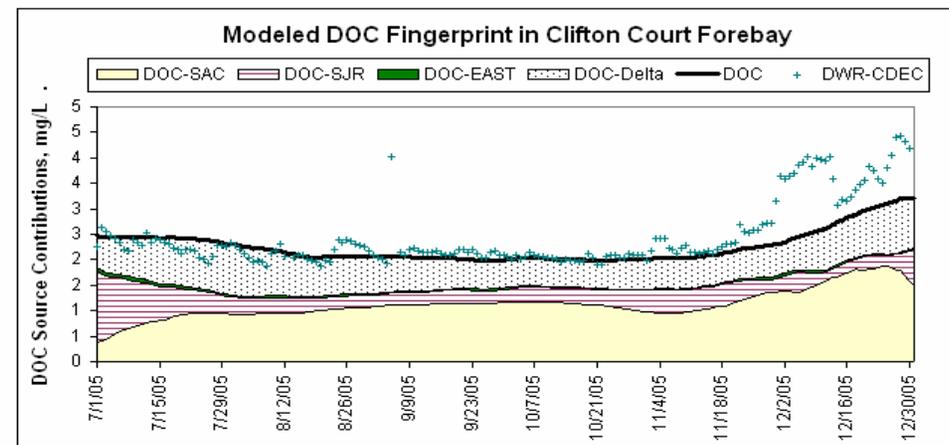
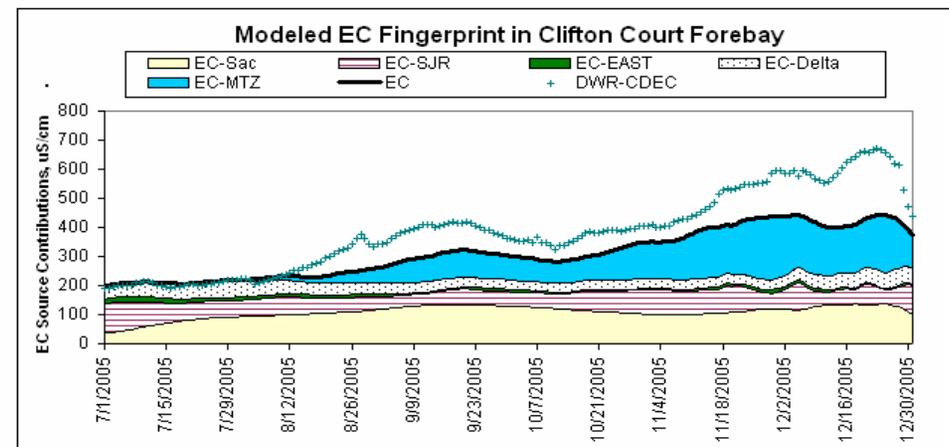
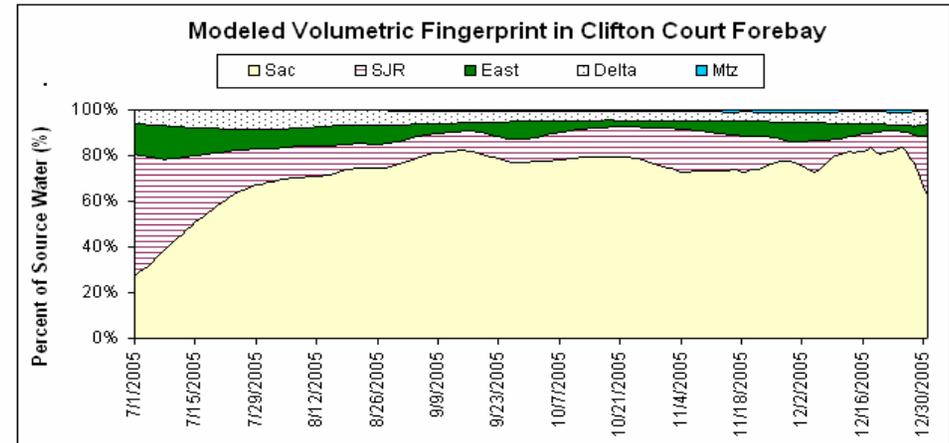
- Feb. 31: Jim Wilde will present a poster summarizing the methodology we've used to calculate Residence Time and Entrainment based on PTM at the annual CWEMF meeting (Asilomar).
- Mar. 2: I will be presenting the results of my revised POD work at the annual IEP workshop (Asilomar).

Historical Update

- 2005 DICU Updated on FTP site & Bulletin Board
- Two sets of simulations from 2000 thru 2005 ran (necessary due to current Jones Tract implementation)
- Hydrodynamics and water quality have been examined

Real-Time Data and Forecasting

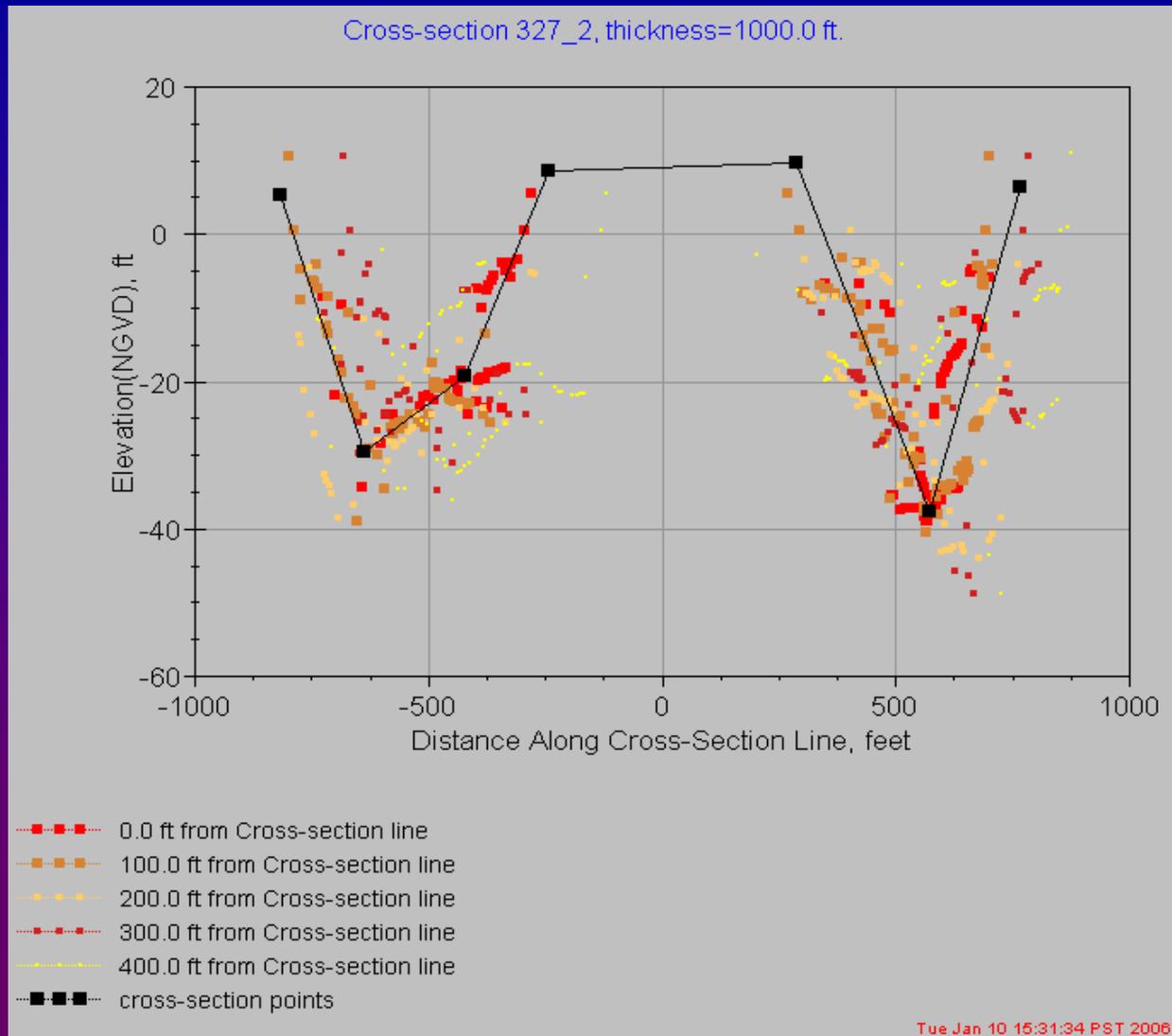
- Goal: once a month to provide WQ fingerprints to DWR's MWQI Program
- Key parameters are QA/QCed by MWQI staff (in the report)
- Data is not automatically reflected in CDEC or IEP



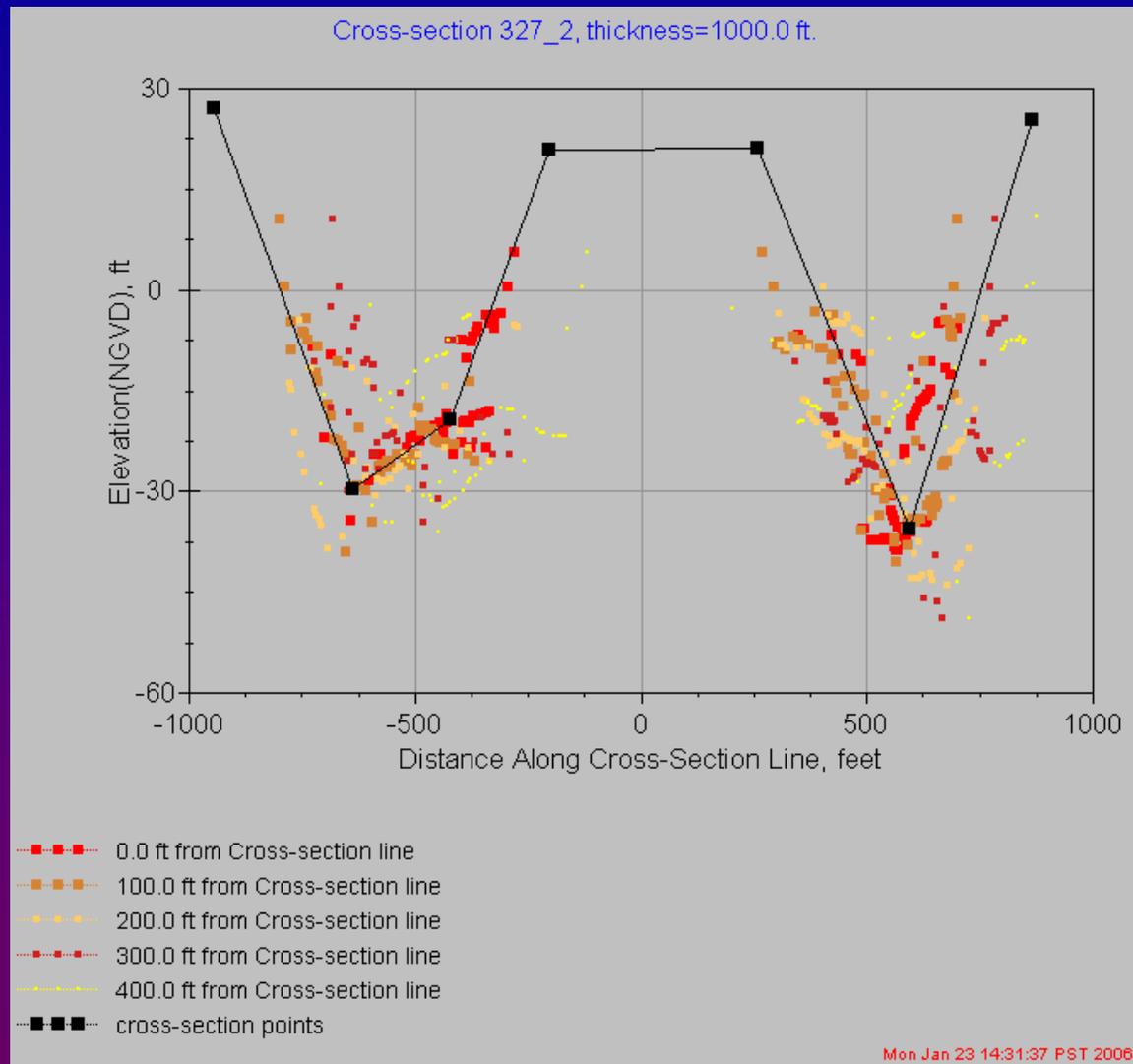
Dec. 31 / Jan. 1 Flood

- Heavy rain caused instabilities in DSM2's geometry at Potato Slough (Channel 327) and 14-Mile Slough (Channel 312)
- Cross-sections were reworked using CSDP

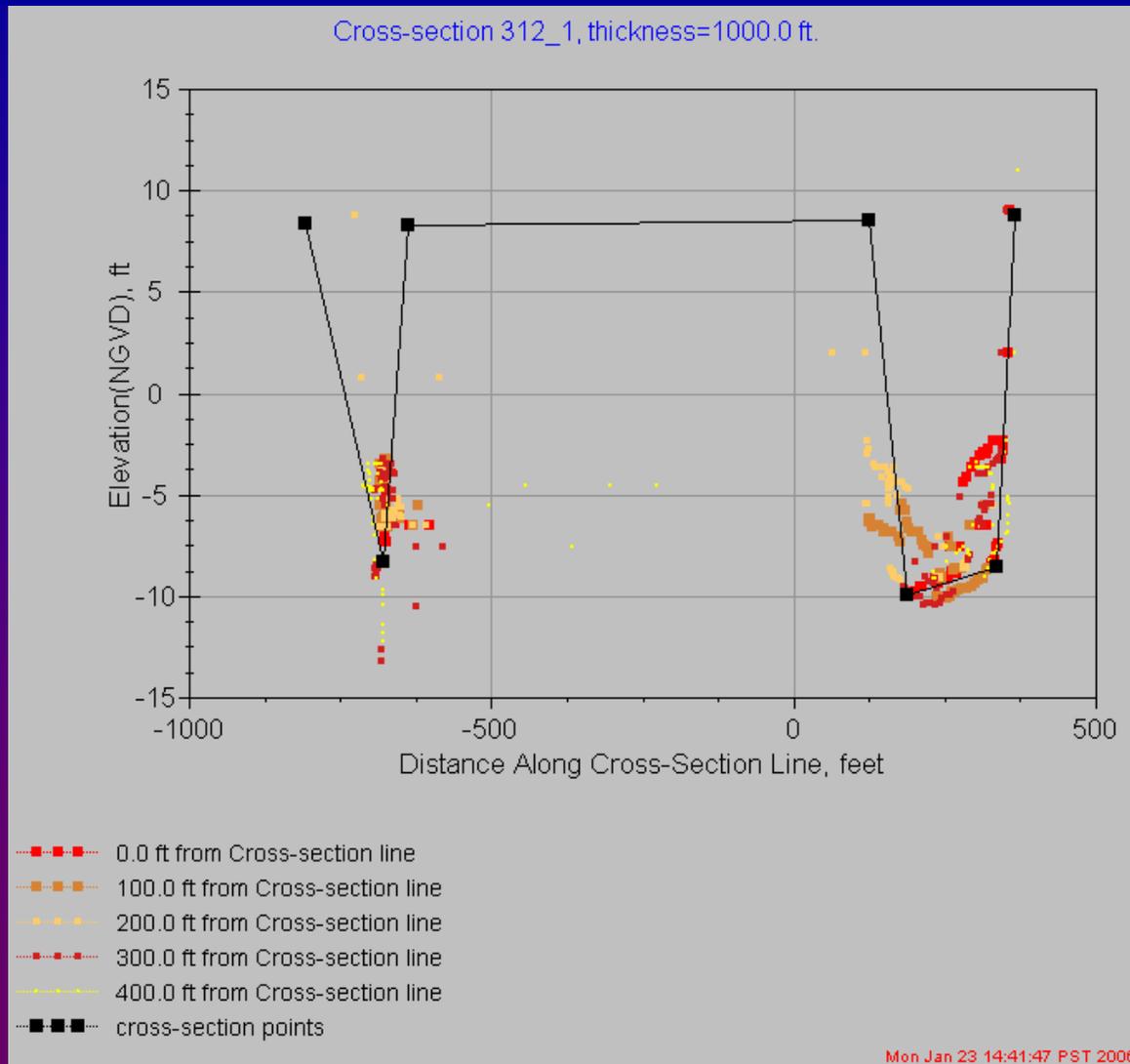
Original Potato Slough Geometry (Chan. 327)



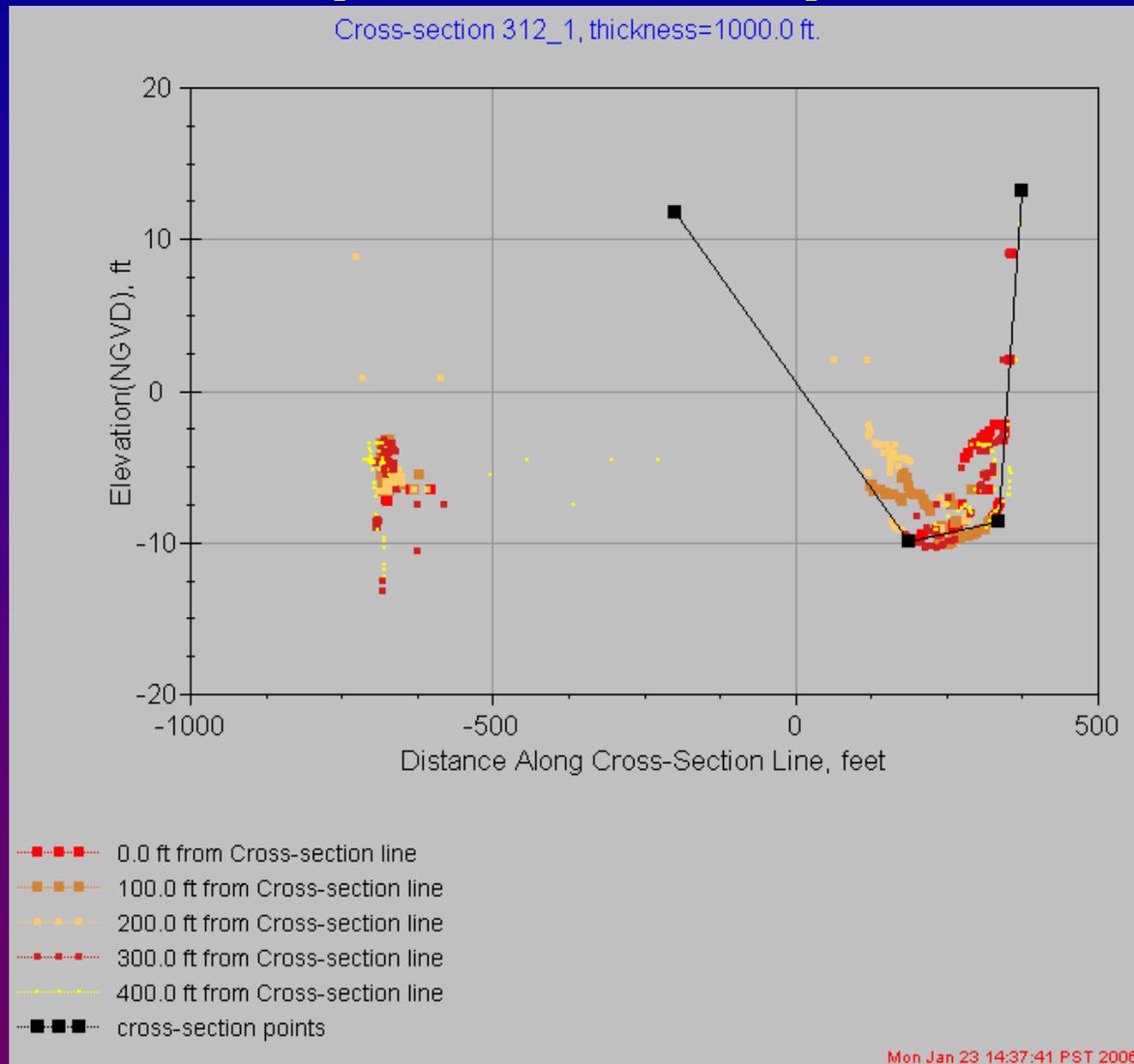
Modified Potato Slough (Chan 327)



Original 14-Mile Slough (Chan 312)



Modified 14-Mile Slough (Chan 312)

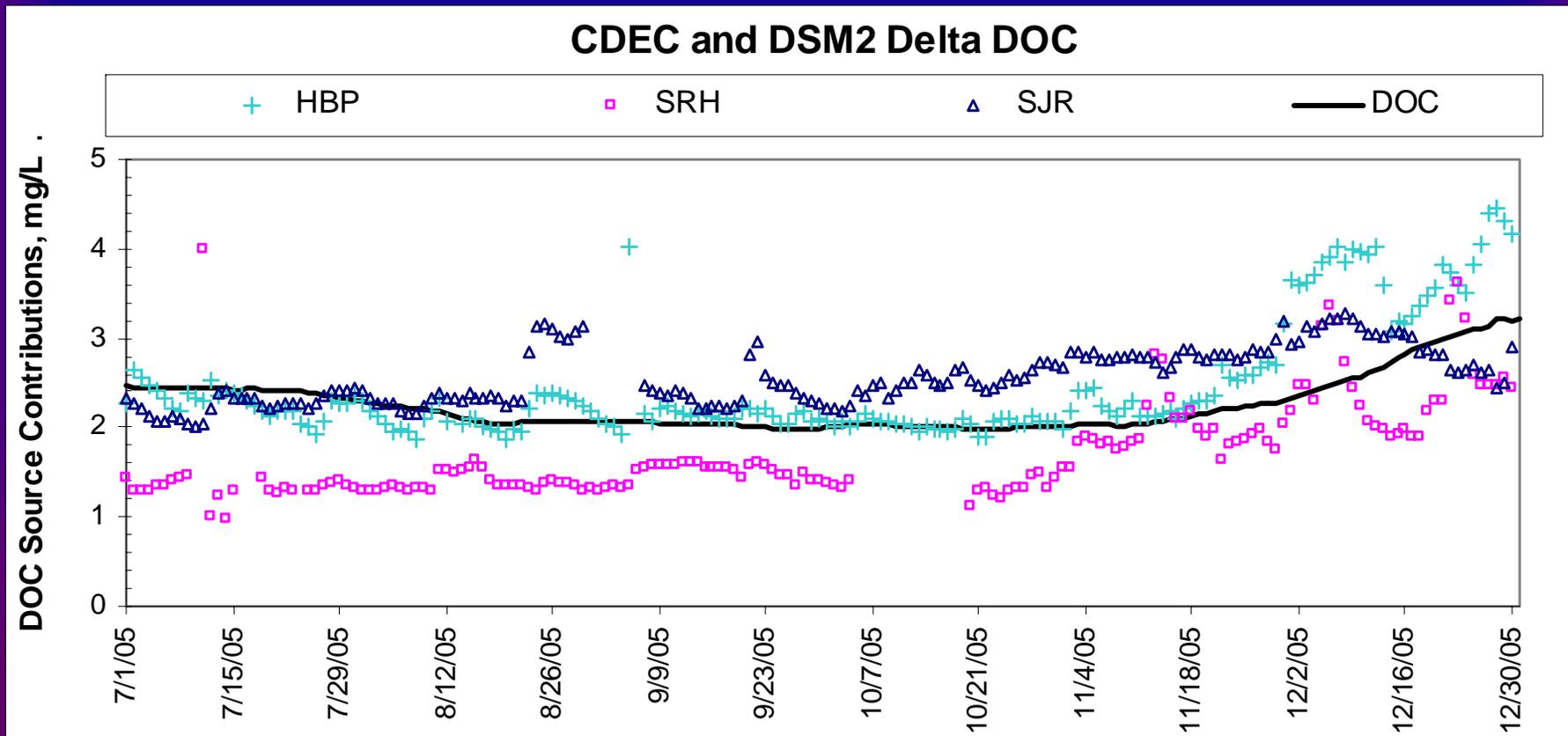


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DOC Sources

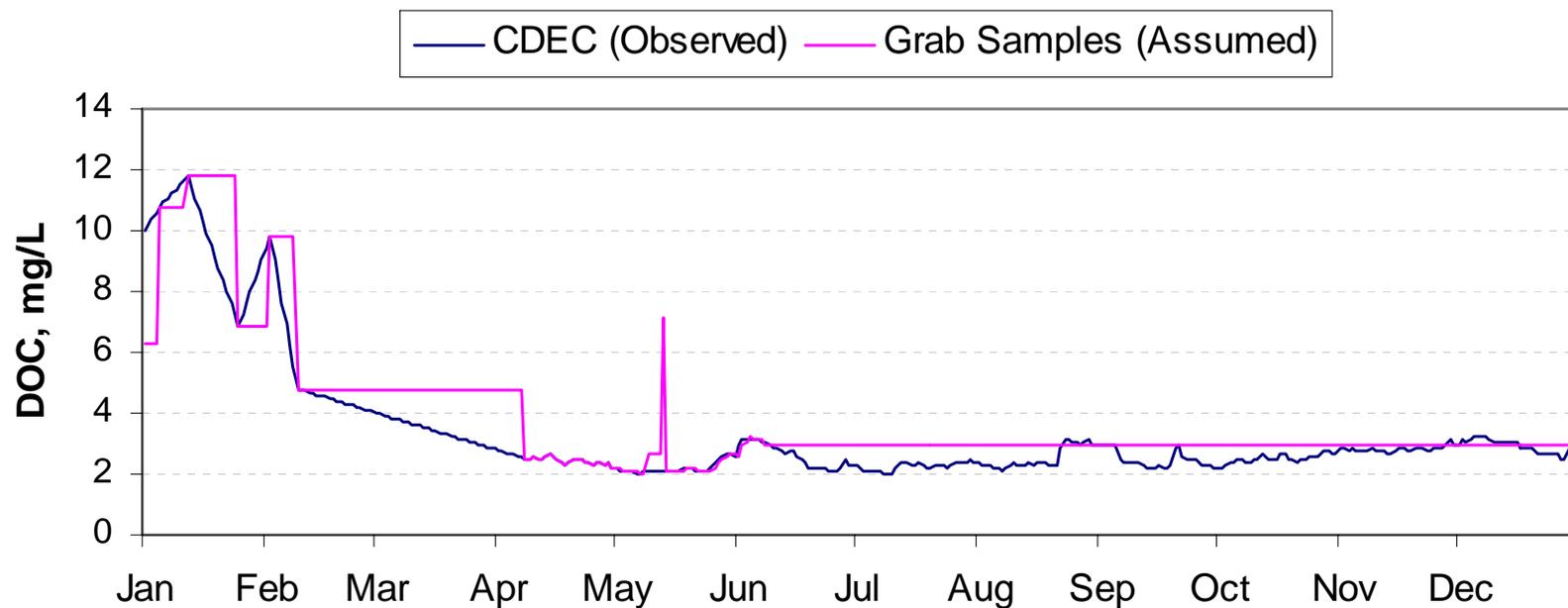
- Significance of in Delta DOC Sources
- Sensitivity of Clifton Court DOC to SJR DOC accuracy

Comparing CDEC and DSM2 Delta DOC

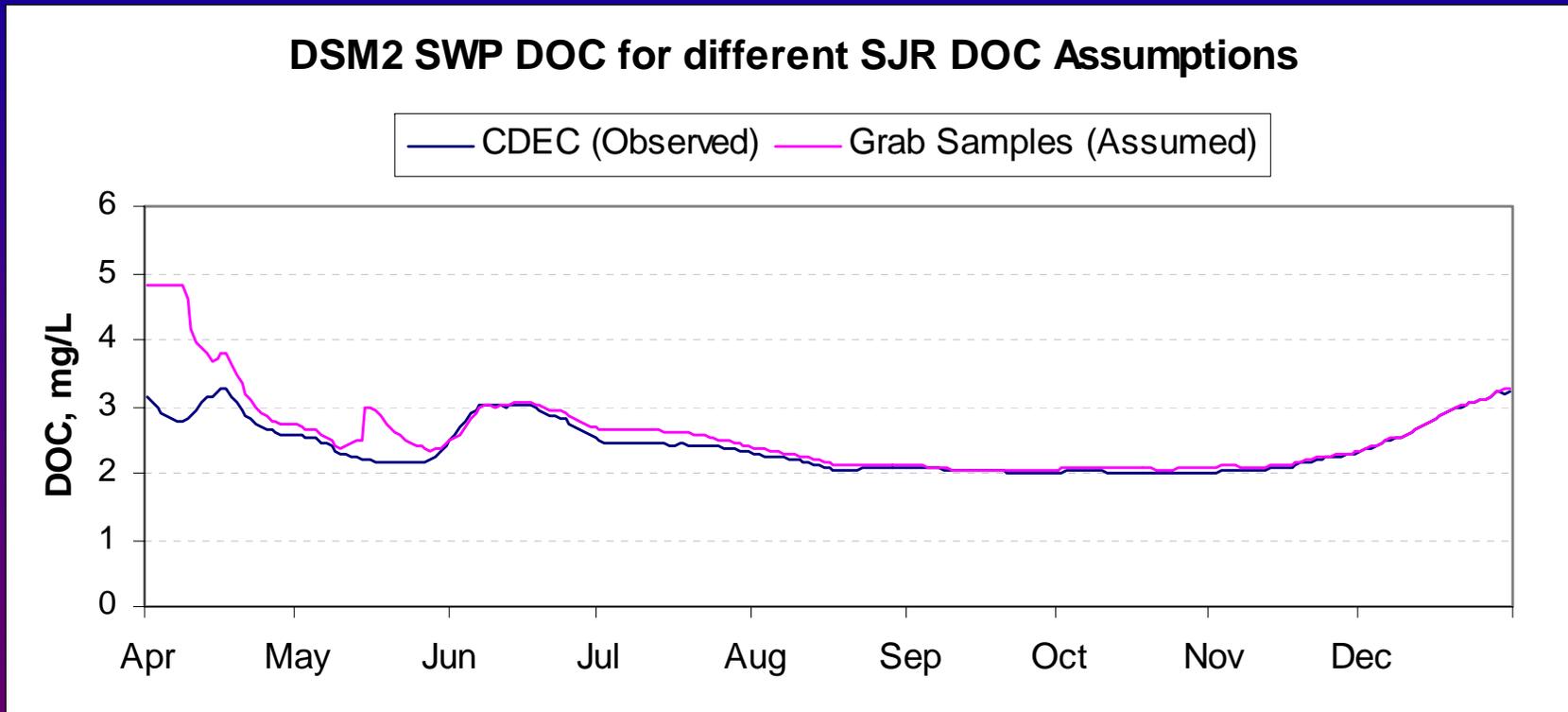


Differences in SJR DOC Boundary Values

San Joaquin River at Vernalis DOC Boundary Condition



Differences in Clifton Court DOC for different SJR DOC Boundary Values



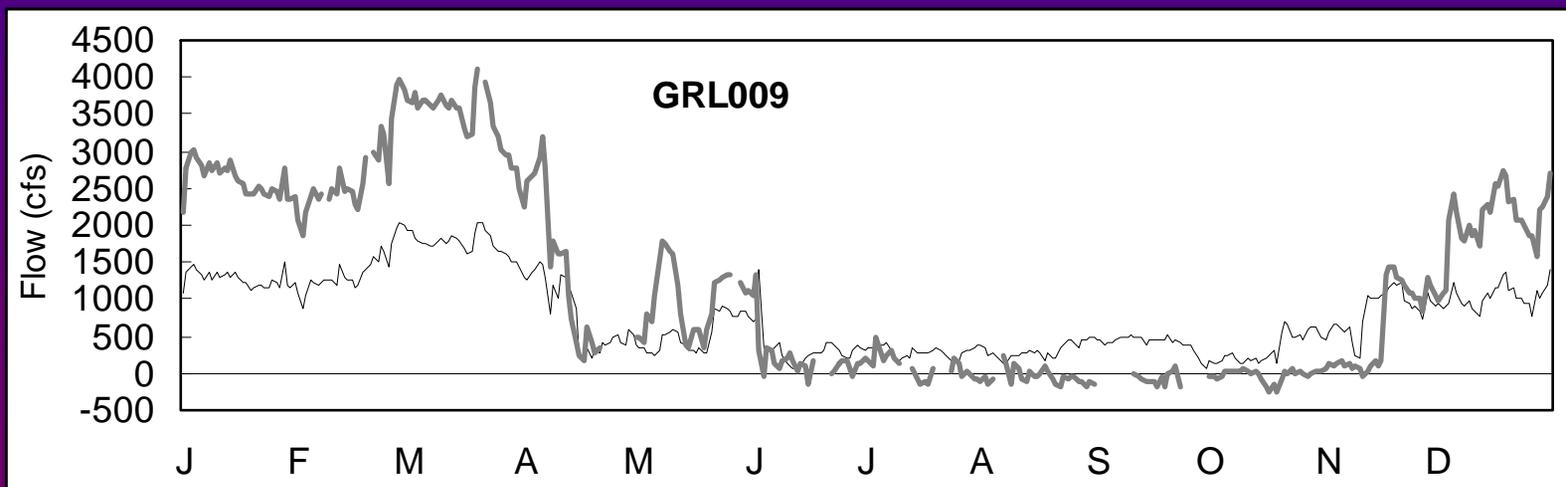
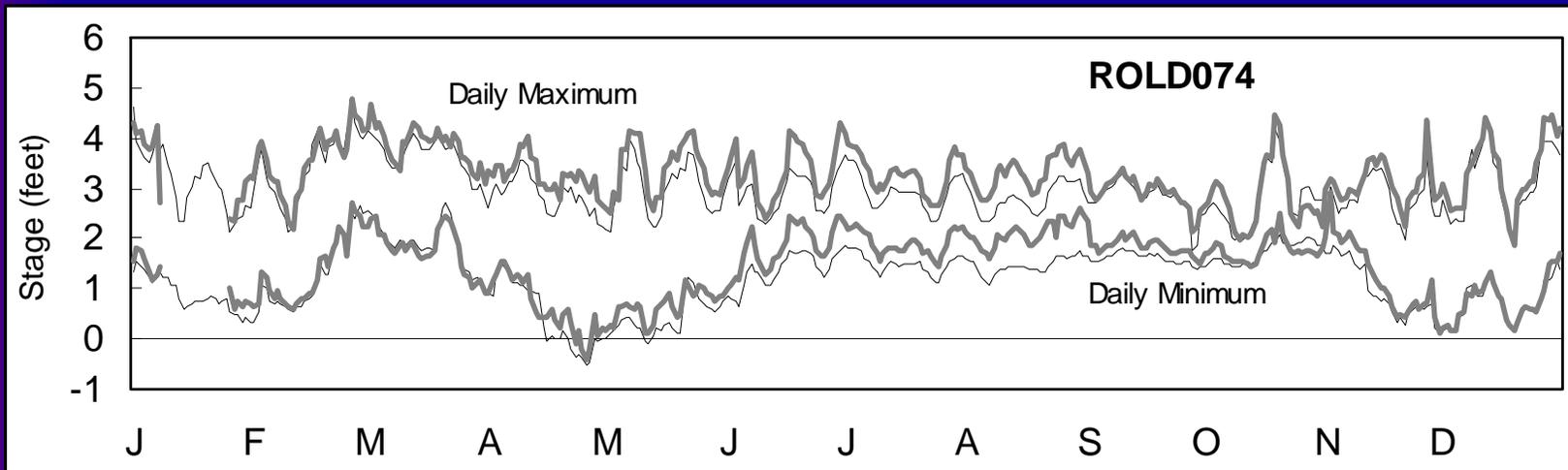
Historical Deliverables

- Hydrodynamic summary will be included in the annual South Delta Temporaries Barrier report
- Water Quality Fingerprints and some discussions in the MWQI RTDF Reports
- Residence Time / POD work will make use of the 2005 update
- Files will be uploaded to FTP site and announced via the Bulletin Board (where we can discuss the results)

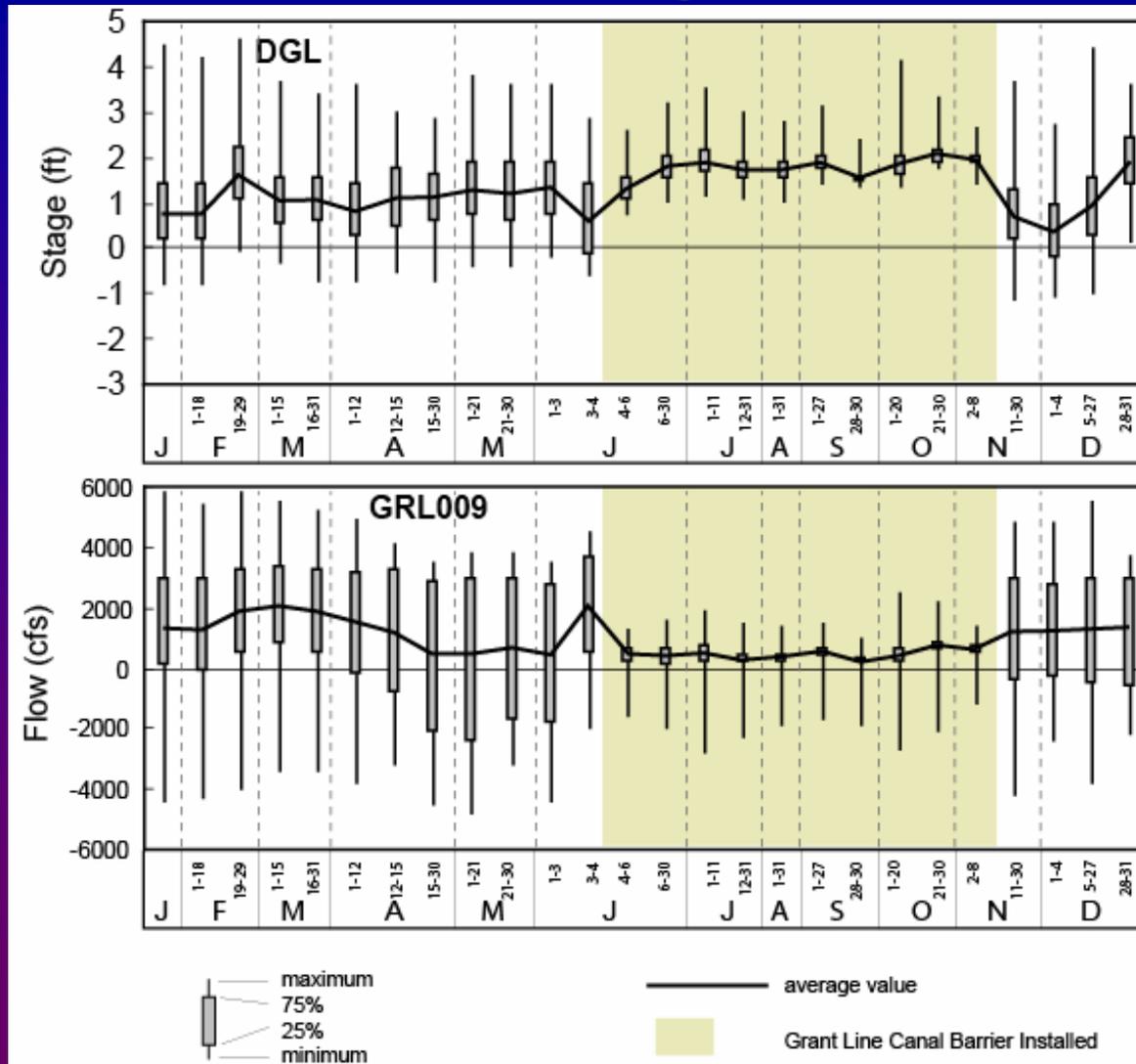
Previous South Delta Temporary Barriers Reports

- 2002 – 2004 Available at:
<http://baydeltaoffice.water.ca.gov/modeling/deltamodeling/dsm2studies.cfm>
- These are typically released by the Bay-Delta Office as part of the Temporary Barriers Project in the late Spring

2004 Updated Validations



Example of Modeled Distribution of Stage



Example of Period Flow Patterns

