

San Joaquin River Dissolved Oxygen Total Maximum Daily Load Technical Working Group Meeting

Thursday, May 15, 2008
9:00 a.m. – 12:30 p.m.

Central Valley Regional Water Quality Control Board
11020 Sun Center Dr #200
Rancho Cordova, CA 95670

Meeting Minutes

Attendees

Name	Agency
Anderson, Geoffrey	Department of Water Resources
Brown, Russ	ICF Jones & Stokes
Brunell, Mark	University of the Pacific
Edmunds, Jody	URS
Gowdy, Mark	Central Valley Regional Water Quality Control Board
Grimes, Russ	ICF Jones & Stokes
Herr, Joel	Systech Water Resources
Hsu, Claire	US Bureau of Reclamation
Joab, Christine	Central Valley Regional Water Quality Control Board
Lee, Gene	US Bureau of Reclamation
Lee, G. Fred	G. Fred Lee & Associates
Litton, Gary	University of the Pacific
Mao, Lee	US Bureau of Reclamation
Mc Kinney, Mike	Central Valley Regional Water Quality Control Board
Menconi, Mary	California Department of Fish and Game

Montgomery, Amanda	Central Valley Regional Water Quality Control Board
Ploss, Lowell	San Joaquin River Groundwater Authority
Quinn, Nigel	LBNL/USBR
Rogers, Jennifer	ICF Jones & Stokes (note taker)
Simi, Jay	Central Valley Regional Water Quality Control Board
Stringfellow, Will	University of the Pacific
Wingfield, Jeff	Port of Stockton
Wilson, Danielle	ICF Jones & Stokes (Meeting facilitator)

Welcome and Introductions

Agenda Review

Updates

San Joaquin River Water Quality Management Group plan (Lowell Ploss)

Lowell Ploss, on behalf of the The San Joaquin River Water Quality Management Group, reported they are still working on the Westside Drainage plan, which addresses drainage in grassland and subsurface drainage areas in the lower San Joaquin River area in order to control selenium and salinity.

The group recently purchased another 3,000 acres of land they plan to use to supplement their current drainage system. Overall, Lowell reported a lot of progress has been made in the San Joaquin River with regard to salinity control, and except for during certain times during the year, there will be no more drainage into the San Luis Drain. Lowell also noted the draft MAA regarding salinity with the Bureau of Reclamation is currently available for public review and comment.

Stockton DWSC Demonstration Dissolved Oxygen Aeration Facility update (Bob Pedlar)

Bob Pedlar reported that DWR has addressed most regulatory concerns. A fisheries study was conducted by Bodega Bay Marine Laboratory using 500 salmon, which were placed in cages upstream/downstream and by the diffuser. They were exposed to aerated water for a five-day period. The next step is to conduct analysis on the tissue samples of the fish that were exposed to higher concentrations of dissolved oxygen. A five-day lab study exposed 100 juvenile salmon to elevated levels of dissolved oxygen, and based on preliminary results there was no observed stress due to elevated levels of oxygen on salmon. This study is being performed at the request of the National Marine Fisheries Service as a condition for operating the aerator.

Central Valley Regional Water Quality Control Board (CVRWQCB) update (Amanda Montgomery)

Amanda Montgomery shared with the TWG that Mark (Gowdy) is no longer with the CVRWQCB, although he will continue to contribute to the SJR DOTMDL. As the senior environmental scientist in charge of TMDLs in the San Joaquin River Watershed, Amanda introduced two new employees at the CVRWQCB. Christine Joab is the new DOTMDL staff lead and Jay Simi will be working on modeling aspects of the DOTMDL. Other than that, the CVRWQCB has been working with the Upstream Studies investigators as they get ready to release a report on upstream studies. The CVRWQCB has also been working with Mary Menconi at CALFED and Will Stringfellow at University of the Pacific to get another phase of studies started on tidal reach. The CVRWQCB would like to begin these efforts at the start of the new fiscal year in July, assuming the budget passes on time. The CVRWQCB has also commented on the USACE deepening of Deep Water Ship Channel EIS/R. The information from the DWSC EIR from Corps will be provided to ICF Jones & Stokes to be posted on the DOTMDL Web site.

Upstream Studies (Will Stringfellow)

The official end date of the Upstream Studies project is June 30, 2008. The final task reports are due this Friday (5/16) and they will be available by the end of next week. The draft reports have been posted and the team has already received comments from the public. There is a final project report due June 13. The draft will be posted and circulated on an email list for people to comment on. Task reports are very detailed, while the project report will be a summary of major findings and benefits. There may be project closure requirements, but they will not be technical in nature.

There will also be a final outreach meeting in Modesto on June 25 directed at landowners and water districts to give them information about project. The public outreach meeting on the 25th will start at 9:00am. The team would like to update the public about what has been achieved to date. There will be a WARMF training after the outreach meeting, but it will be organized independently of the current dissolved oxygen project. The idea with the WARMF model is to encourage people to start using it and also provide opportunities to work out the kinks.

USBR Summary of Management Agency Agreement (Lee Mao)

Lee reported he is currently working with the CVRWQCB staff on the Management Agency Agreement (MAA). There's currently a grant in the works for the drainage plan from the Bureau of Reclamation (BOR). USBR feels a good package has been developed. There is a public meeting next Tuesday regarding the draft MAA. Comments are being accepted now regarding the draft document, and at the public meeting. Lee encourages everyone to attend the meeting and leave comments.

Questions regarding updates:

G. Fred Lee: I have a question. What are we (TWG) doing with respect to the regional board?

Amanda: We are currently reviewing upstream studies. We have new people on board to start working on this and we are starting to make progress. We're very proactive and will keep the ball rolling as quickly as possible, but right now, are trying to review where we're at currently.

Presentations

“San Luis Drain Shutoff Simulations and Link-Node Recalibration”, by Joel Herr and Katie van Werkhoven, Systech Water Resources

SUMMARY: WARMF was used to simulate the effect of the San Luis Drain shutoff which occurred in summer 2007. A comparison of simulations of the shutoff against a "do-nothing" scenario showed that the peak salt reduction was 1.2% and the phytoplankton reduction was 5%. Both reductions were temporary for the duration of the shutoff and were compensated by apparent increased load before the shutoff occurred. There was very little response of dissolved oxygen concentration in the Deep Water Ship Channel because of attenuation of the load reductions and because much of the load of oxygen consuming materials was diverted down the Old River.

Model validation simulations using the 2006 and 2007 water years showed error in predicting phytoplankton concentration which was traced to errors in the phytoplankton load of tributary inflows. Modifications to the Link-Node model were performed to improve the calibration of phytoplankton and dissolved oxygen concentration upstream of Channel Point while maintaining the dissolved oxygen calibration at Rough & Ready Island.

(See Power Point presentation)

Post presentation comments, questions and discussion

- It was noted that both the Old River model and Deep Water Ship Channel model can be incorporated into this Link Node model. The Link Node model can upload data that the group has been working on for the past 8 years apply it.
- It was noted through group discussion that model validation simulations using the 2006 and 2007 water years showed error in predicting phytoplankton concentration which was traced to errors in the phytoplankton load of tributary inflows.
- Is most of the data you have is daily mean data? What do you store in the model? We have time-of-day data and atlas data. Will (Stringfellow) can provide more grab sample data... any data can be incorporate it in this model.
- What about pesticides? These weren't taken into account in this study, but can be incorporated in the future and analyzed.

“Preliminary results from a 2-D hydrodynamic transport model for the lower San Joaquin River in support of the Task 8 Linkage study”, by Nigel Quinn, LBNL/USBR

SUMMARY: The 2-D hydrodynamic transport model appears capable of simulating complex hydrodynamics of the lower San Joaquin River and Deep Water Ship Channel under low and high flow conditions. Additionally, hydrodynamic dye trace animations reveal behaviors are not readily apparent from analysis of data. Furthermore, the existing model can be used to simulate algal growth, transport and decay, using sediment analog.

(See Power Point presentation)

Post presentation comments, questions and discussion

- This project was a team effort. I enjoy working with Gary (Litton) and Mark (Brunell). The concept going into this was working as a team. I have to compliment Gary; he did the heavy pushing and remained in good humor after not getting sleep. I can see using this with some of the new gates in the delta. It'd be a more dynamic boundary downstream.
- How will this related to WARMF? Are these dueling models? This is 2-D, as opposed to WARMF, which is 1-D. This is an incredibly detailed model. I see this model as complementing Joel's model, not rivaling it. The beauty of WARMF is that it runs really quickly, you can't do forecasting with this model.

"San Joaquin River Stockton flows and Rough and Ready Island Dissolved Oxygen concentrations", by Russ Brown

SUMMARY: This discussion presented the evaluation of the head of Old River flow diversion as a function of the San Joaquin River at Vernalis flow and the combined CVP and SWP export pumping. The seasonal patterns of flow and dissolved oxygen at Rough and Ready Island are also shown, indicating that the lowest dissolved oxygen often corresponds with periods of low Stockton Deep Water Ship Channel flow.

(See power point presentation)

Post presentation comments, questions and discussion

- It was noted that if there isn't flow at Vernalis, there won't be water in the Stockton Deep Water Ship Channel. This past summer (2007) is an example of a worst case scenario because all of the Vernalis flow went to Old River, not the San Joaquin River and that affected the dissolved oxygen.
- The group discussed the effect of Grant Line and South Delta Barriers affect the condition of the San Joaquin River flow at Stockton

Next Steps/Conclusions

- The group decided to hold a June DOTMDL TWG meeting and then take a summer hiatus until September 2008.
- Some members of the group stated their desire to have the dissolved oxygen data more available to the public utilizing resources available through the State and to encourage the water districts to be more involved. Additionally, it was voiced that data management and availability is one of the hardest things to do correctly, and currently some group members stated the data they've gathered for the DOTMDL projects could be managed and distributed more effectively.

- The point was made that the group needs more funding to be able to analyze the large amount of data they currently have and close the loop on this process. Mark Gowdy suggested the group think about “how the group will continue to use this DOTMDL forum as a tool”, which requires money.
- It was noted that NRC did a report on TMDL implementation, which may be helpful for the SJR DOTMDL group to look at for assistance in managing data.
- It was stated Upstream Studies efforts will move forward despite funding and policy obstacles.
- The group agreed to move forward with updating the DOTMDL TWG Web site as a means of disseminating information about their study efforts.
- Next meeting is June 19 at ICF Jones & Stokes.

End time 12:45 p.m.