San Joaquin River Dissolved Oxygen TMDL Technical Working Group
DRAFT Meeting Notes for March 25, 2004

Attending: Russ Brown (JSA), Carl Chen (Systech), Randy Dahlgren (UCD), Mark Gowdy (RWQCB -chair), Russ Grimes (JSA), Lisa Hunt (URS), Karl Jacobs (DWR), Bill Johnston (Modesto ID), Carol Kendall (USGS), Charlie Kratzer (USGS(, G. Fred Lee (GFL Associates), Gene Lee (USBR), Peggy Lehman (DWR), Lee Mao (USBR), Barbara Marcotte (CBDA), Lowell Ploss (SJRGA), Hari Rajbhandari (DWR), Mark Roberson (CBDA), Tara Smith (DWR), Will Stringfellow (LBNL), Ernie Taylor (DWR - Fresno), Andrew Thuman (HydroQual by phone), Tom Trexler (JSA), Erwin Van Nieuwenhuyse (USBR), Kevin Wolf (JSA - notes) Anyone missing?

Next TWG Meeting:
May 20, 2004 all day. Location to be announced.

Action Items:
1. Kevin Wolf and Mark Roberson will make the changes as laid out in A4 -A6. The next drafts of the associated documents will be circulated via the sjr-tech-com list.

2. Kevin will circulate an explanation of and the URL of the new draft website and solicit feedback.
3. Andy Thuman with HydroQual will provide more information to the TWG before its next meeting in May. See C2.

4. Randy Dahlgren will provide the TWG with the analysis he is doing on wetland drainages and what loads come in and leave the ones he has been studying. This may be on the May 20 TWG agenda.
5. Will Stringfellow will let the TWG know if his proposal to study algal growth dynamics in the San Luis Canal will be accepted. He will provide information on the project and brief the TWG at a future meeting.

6. Karl Jacobs will work with Mark Gowdy to help craft a presentation on free database and technical tools that can be useful to D.O. related analytical issues. This may be on the May 20 TWG agenda.

7. The stakeholders involved in gaining an agreement on the lead agency and the funding of O and M for aeration in the DWSC will provide an update on their progress, likely at the April 22 Regional Board workshop.

A. Non-Aeration PSP (Proposal Solicitation Process)
1. At this time CBDA does not know how it will run the selection process for dissolved oxygen related grants that could tap into Prop. 13 designated funds. It will likely be part of the Ecosystem Restoration Program PSP

process. The first step is that the state needs to make bond funding available again. This is expected to be ready by the fall.

2. The Steering Committee could lobby CBDA for the process that they prefer. Over the last five years, all funds have gone through a directed action or other stakeholder developed process.

3. Given this lack of clear process on how non-aeration projects will be selected and funded, Task 7 of the CBDA funding is being used to evaluate all the alternatives that could help D.O. conditions against different criteria in order to provide applicants and grant reviewers with guidance on which proposals should be funded. Whether or not CBDA uses the criteria synthesis that develops from this effort, the results will be useful to applicants and as a means to summarize important information around the D.O. issues. Also, this process should:

a. Identify and evaluate the range of alternatives that could be used in developing the ultimate EIR/EIS for the Final Basin Plan and long-term implementation plan.

b. Identify data and research gaps that need to be filled in the coming years.

c. Provide information to guide future modeling efforts.

4. Mark Roberson reviewed the criteria flow chart and spreadsheet. The following comments were made:

a. More direction should be provided on why something would be rated a 5 vs a 3 or a1 in each of the criteria cells.

b. There should be a first cut on the alternatives so that early in the review process the alternatives that are not worth pursuing are screened out.
c. A guide to this process should be written to accompany the criteria documents and explain them to the layperson as well as the scientist helping with the review.

d. Early in the process of filling in the criteria grid, information from past studies should be identified. Science should guide the evaluation in the Knowledge to Linkage of D.O. Problem and Potential Benefits criteria categories.

e. Potential secondary effects should include evaluation on a broad basis.

f. In the Verifiable category, the reference to HydroQual should be

changed to include all modeling.
g. The Geographic Scope should help identify if an alternative (and associated studies) in one area can be transferable to other areas.

h. Identify what the CBDA will cover in terms of Regulatory issues in the PSP process. Some regulatory issues will be covered at the granting level and may not be appropriate to cover at the evaluation of Alternatives level.

i. The cost benefit ratio should not be on the demonstration or study level (this will be covered in the PSP process) but at the level of full-scale implementation.
j. Stakeholder support should identify local support or opposition as well as on an overall basis. The rating should clarify this.

5. The organization of the Alternatives and associated hypotheses was explained by Kevin. Discussion on this included:

a. It should be organized so that all the associated alternatives linked to a geographic area are sorted so that stakeholders from that geographic area can find what might their role be in the D.O. TMDL. Because the criteria matrix is in a spreadsheet, this can easily be done.

b. Some of the hypotheses are thought to be accepted truths and others are still in the hypothesis category. The truths should be identified, and maybe not labeled as hypotheses.
c. Airborne ammonia should be listed under the ammonia and nitrification category. Airborne nutrients should remain in the nutrients category.
d. N and P should be separated into different categories whenever appropriate as they may have very different criteria ratings on the appropriateness of taking action to reduce their loads.

e. It should be clarified that dairies are included with feedlots.

f. Algal loads in the San Joaquin River itself will be added to the list of Alternatives under Algal Growth by Location. The algal mass in the river grows and more arrives in the DWSC because of this.

6. Next Steps
a. Kevin and Mark will take these comments and write a new draft of the criteria and the flow chart as well as a draft guide to these documents.

b. Technical Working Group members will be recruited to help evaluate the first two criteria questions on all of the Alternatives. These will then be sent around to the TWG overall. The alternatives that pass through this initial review will then be put through the rest of the matrix. Volunteers from the TWG will be asked to help draft fill in the rest of the matrix

criteria for the priority alternatives.

B. Website
1. Kevin presented a short oral review of the new website. It uses metadata using open-source database software to drive the information in the website. Stakeholders can provide feedback on better ways to organize the "rooms" and "shelves" in the library for browsing. They should make sure the information about them and their organizations is correct in the database. They can add documents and resources to the library and build catalogs and collections of information that they need. This website is being designed for the thousands of documents and other material that will be developed over the next ten years.
2. The beta version of the new website can be found at http://www.watershedportals.org/san_joaquin/DOTMDL/. Feed back, suggestions for improvement and addition of more resources to the library are encouraged.

C. HydroQual Presentation
1. Andy Thuman (with Russ Brown's assistance) gave an update on their progress, asked for feedback on key issues and answered question. Some questions he asked the TWG included:

a. Is the size of the grid quadrants acceptable? Should they be smaller or larger?

b. Are the vertical grid sections acceptable at 8-10 foot intervals?
c. Should the lower end of French Camp Slough be included? The TWG supported this.
d. What water years should be used to calibrate the model? There was general agreement that 2000 and 2001 should be used initially because there is good data from both upstream of the DWSC and in the DWSC itself. USGS reminded participants that they have good data from the mid 1980s that could also be used.

2. Next steps.
a. HydroQual would like to include algal species composition by species groups in the model. Peggy Lehman said she is analyzing her data and can provide that. Randy Dahlgren said that one of his students is studying this issue and should be able to provide results over the summer. HydroQual will provide more direction on what level of information it needs on algal species diversity, abundance and distribution.

b. The TWG encouraged Andy to include more work on turbidity, not just Secchi Depth data. Sediment and suspended solids data should be included and ideally be a dynamic part of the model that can improve the calculations on the impact of phytoplankton levels.

3. HydroQual will provide more direction as to the areas in which they would like the TWG's help.

3 Timeline
a. Preliminary hydrodynamic model runs are expected to be available by the beginning of the summer.

b. HydroQual hopes to have the initial water quality runs available by the end of the summer.
c. HydroQual will be on the May 20 TWG meeting agenda.

D. Upstream Studies
1. The San Joaquin Valley Drainage Authority will soon sign the overall contract for the Upstream Studies. It will then sign sub-contracts with everyone else. June 1 is the optimistic date by which contracts will be signed and work can begin.

2. The overall contracts should attempt to link the work Karl Jacob's IEP project will do into the same process that the Drainage Authority is pursuing.

3. UC Davis (Dahlgren with support from USFWS) is continuing biweekly data collection that will help bridge the data gap that has been caused by the delay in the upstream studies. They are implementing YSI continuous monitoring devices for chlorophyll a at three locations along the river. Peggy Lehman's team used this device in 2003 with very positive results. The monitoring will allow a better estimate of algal growth rates along the river. Analysis of last year's data shows that Chl a is strongly predicted by water temperature. UCD's first report on this will be available this Spring. It should be circulated and available for the May 20 Technical Working Group meeting.
4. UCD is also pursuing studies on the impacts wetlands will have on nutrients, algal biomass and other factors. Are they nutrients sinks? Algal incubators?
5. Will Stringfellow announced that his group has a project proposal that may be funded. The study would evaluate algal growth in the San Luis Drain as means model simple systems for algal growth and monitoring techniques.

E. Data Management
1. Karl Jacobs with the IEP program briefed the working group on how data from the upstream studies is managed. There are regional databases, including one that will be developed as part of the upstream studies. There are main databases such as IEP and SWAMP. There are transactional databases that help keep the regional and the main databases coordinated.

The Bay Delta and Tributaries Project (http://www.bdat.ca.gov/) offers a significant advancement on how data can be found and retrieved.

2. Karl informed the TWG that there are other free, software programs that can help analyze data. Most of them will require training. Mark Gowdy will evaluate the time constraints for the May 20th meeting and potentially add up to an hour of time to have the TWG learn of the capabilities of the USGS programs, the Datamon software and possibly some other programs. If the TWG likes the products, they can set up training on how to use them effectively.

F. Aeration

1. Tom Trexler gave an update on the process. Three aeration devices are being evaluated - a U-tube, a Speece cone, and a bubble tube. The tests should be done and write-ups completed by June.

2. After the Pilot Tests are completed, the process will lead to a Directed Action or a PSP this fall. This will lead to a Demonstration project that will put the selected aeration device(s) into the DWSC in 2005.

3. In order to gain funding for the Demonstration Aeration project, it is expected that a commitment will need to be made by stakeholders identifying the lead agency and the funding sources for the annual Operation and Maintenance expenses. Some of the stakeholders have agreed on a letter of intent to fund O and M costs and hope to have it available for the RWQCB workshop on April 22. The lead agency issue has not been settled.

4. Where the aeration devices will be placed in the DWSC will affect the initial and long-term costs. For example, if the device is on Port property near electrical lines, it will be cheaper than if it must be situated miles away from infrastructure. Also, if more than one device is needed to meet the aeration requirements throughout the length and depth of the DWSC between Channel Point and Turner Cut, the O and M costs as well as the purchase and installation costs could increase substantially.