SJR DO TMDL Technical Working Group Meeting
January 22, 2004
Meeting Notes – Draft I

Attending: Sharon Borglin (LBNL), Russ Brown (JSA), Maria Carranza (for P. Lehman/DWR), Carl Chen (Systech) Bill Fleenor (UCD), Mark Gowdy (RWQCB), Russ Grimes (SKS). Les Grober (RWQCB), Karl Jacobs (DWR), Bill Johnston (Modesto ID), Lisa Hunt (URS), Carol Kendall (USGS), Charlie Kratzer (USGS), G. Fred Lee, Gene Lee (USBR), Gary Litton (UOP), Barbara Marcotte (Bay Delta Authority), Lee Mao (USBR), Nate Martin (JSA), Lowell Ploss (SJRGA), Nigel Quinn (LBNL/USBR), Hari Rajbhandari (DWR), Mark Roberson (CBDA), Megan Robinson (JSA), Geoff Schladew (UCD), Will Stringfellow (Berkeley National Lab), Tom Trexler (JSA – draft notes), Erwin Van Nieuwenhuyse, Jim Wilde (DWR), Kevin Wolf (Jones and Stokes/draft notes), Jeanne Zolezzi (Herum Crabtree/SEWD) (Anyone missing

Via phone from HydroQual (John Gallagher, Andy Truman, Laurie DeRosa)

Next Meetings:
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Technical Working Group: February 27, 2004 December 12, 2003 (9 am – 4 pm), Location: To be announced

Data Management Working Group – Before Feb 27.
To be announced
Brown, Jacobs, and Stringfellow will set the meeting.
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Meeting Notes

A. Ongoing and Future Studies and Research Related to D.O. Issues.
1. Kevin will help Barbara create a spreadsheet that organizes existing and future research program by category and provides the following information:
funding/contracting status – funded/in field, funded/no contract, proposed
Lead investigator/researcher
Proponent/sponsor
Funder/funding source
Purpose
Geographic location

2. Ongoing and Future Studies include:

a. Work Assignments – Jones and Stokes
Pilot and Demonstration Aeration

Non-aeration alternatives
Implementation Plan -URS
Nitrification Studies (winter D.O. crashes) in DWSC – UOP

b. Upstream Studies – Drainage Authority
Monitoring Program – (mass balance of flow and algae)
Lander Ave to DWSC
River modeling –(to put together data) Systech
Isotope identification of load sources – USGS
Nutrients to algal growth and total organic carbon sources
Mossdale to Channel Point algal dynamics – UOP
Data management /Data Atlas– Karl and Russ Brown

c. River Modeling with Systech Model
Calibration of it and DSMII by Russ Brown (separate from Upstream Studies
Mark Gowdy will provide opportunities for others to participate in framing session

d. SWRCB Consolidated Grant Proposals (Spring 2003 – second round proposals)
Isotopes to trace nitrates causing blooms in DWSC – C. Kendall, USGS
Groundwater nitrate sources to SJR – C. Kratzer, USGS
Water quality monitoring for ag waiver compliance on eastside – SJRGA

e. Modeling
HydroQual
UCD/Stanford/USGS
DSMII
CALSIMII
SDIP Modeling
USBR Modeling of D.O. on Stanislaus

f. Other studies that could provide information useful to D.O. studies
Aquatic herbicides on eastside – SJRGA members
Grasslands selenium program – W. Stringfellow
Groundwater quantity from Westside – USGS
Wetland discharges – N. Quinn
Wildlife refuge Total Organic Carbon discharges – W. Stringfellow
Westside BMP implementation evaluation – W. Stringfellow and J. McGahan
Algal TOC studies in San Luis Drain – Grassland Basin Drainers
Completion of 2001 and 2000 Data Analysis – P. Lehman
Dairy management to reduce groundwater quality impacts – Thomas Harding
DWR DWSC troll sampling – S. Hayes

Integrated Water Quality Improvement Program (SDIP/Paul Marshall?)
Integrated Operations Framework and Forum ?
Could be sources of studies in the future.
Port of Stockton jet aerator related studies – Port of Stockton
Drinking Water Quality studies – Who? What?

g. Studies affecting Water Quality Objectives and Beneficial Uses
Radio tagging of adult salmon – DFG (Will this be done again)
Carbon in Central Delta – A. Jassby
Zooplankton in Central and South Delta – Who?

B. Non-aeration Feasibility Studies

1. Goals.

a. "Best" and other qualitative words should be defined or not used.

b. Consider changing "improve" and "reduce" to "impact" and include those actions that could negatively impact D.O

2. Categories of Possible Implementation Actions

a. Industry/Point Source pollution as a category

b. Wetlands could be separate category

c. Light penetration could be a category

d. Implementation of other TMDLs and their impacts

e. Toxicants category for how pesticides affect Zooplankton and phytoplankton.

f. Herbivore grazing

g. Combinations of categories and alternatives

3. Criteria

a. Redo the criteria categories and time line. (Mark and Kevin will work on this and will include the information below.)

b. What is the definition of "full implementation? Consider changing it to just "implementation.

c. Take out the adjective "serious" and change word "unresolveable".

d. Include likelihood of being implemented.

e. Are there political or legislative barriers that would stop the alternative?

f. When does "stakeholder support" enter the evaluation process? Maybe after applications are made and the proposals' support by stakeholders will help determine this.

g. Include in the criteria both extreme drought conditions and weather events such as fall stormwater runoff events.

h. When should peer review take place?

4. Public participation

a. Involve the TWG and make this an open and transparent process.

b. Should there be a public workshop? What would be the workshop objectives? Maybe it should be part of the PSP public outreach process.

5. D.O. Criteria, Objectives and Beneficial Uses
a. There was strong support for this being a category for future studies as part of the Non Aeration Feasibility Studies or another program. The 5.0, and 6.0 standards can be reconsidered if the science supports this.
b. The aeration demonstration project is being designed to meet these standards. If the standards were less, they could be sized lower. In the meantime, this project and other D.O. related studies, models and projects should continue with the existing standards as the objective. An it is unlikely that the biological studies needed to support lowering the standards could be completed for 3-4 years. This can all come together for the Final BPA.
c. What should be the hypotheses/species categories for which research proposal parameters would be set in a PSP?

6. The Ecosystem Restoration Program Subcommittee should support having other projects evaluate their potential impact on D.O. For example, what would happen to D.O. conditions if areas such as wetlands help back their drainage for release at another time? The modeling can help with this. There might need to be additional research and monitoring associated with that project to assess its impacts to D.O. When the Non-Aeration Alternatives are clarified and prioritized for the PSP, these can provide the ERP Subcommittee, RWQCB and others with a matrix for what might impact downstream D.O. in non-D.O. projects and studies.

8. Process through PSP Application and Selection (B. Marcotte)
a. The ERP Science Committee is pursuing a two phase process. This summer they intend to release a PSP for projects that would monitor and evaluate past projects in relation to MSSP milestones. This fall they will begin another PSP for restoration and research projects. Both of these could be delayed by state budget and bond issues.

b. The ERP Science Panel thinks that the DO and other water quality issues should be included in one large ecosystem restoration PSP. How specific the guidelines will be for the DO component is unknown. The TWG could make a presentation at a future Science Board meeting.

c. If HydroQual or the UCD modelers end up needing more funds to do model runs and work that is outside of their present contract they can apply for an amendment to their contract.

C. Aeration Pilot and Demonstration Project
1. Tom Trexler gave an update. The background material and report (drafted in June but just recently finished because of the state budget problems) is out and available for

review. The background material includes aeration studies that JSA conducted for the City of Stockton in 2001. The material can be found on the website at: http://www.sjrtmdl.org/implementation/aeration/2004/index.htm

2. Everyone who is interested in the aeration projects should comment on these reports and on the recommendation to advance five pilot projects. Originally only three options were going to be studied but five can be advanced for the almost same price because the Port of Stockton will be studying the jet aerator and one of the pilot projects can evaluate two different versions of the same aerator.

3. Other studies will be needed in the DWSC to understand O2 demand and how aeration will meet the demand. Comments should be made on what studies are missing. If they aren't part of the aeration pilot project program, they should be funded through another process. Some examples include:

a. Will the aeration demonstration project be able to evaluate effectiveness at meeting the O2 demand under low and intermediate flow conditions through the different seasons? Might some of these additional studies be met through the HydroQual and UCD modeling efforts?

b. Will it be able to anticipate low D.O. events and produce enough aeration to prevent the event from occurring? If the operators of the aerators wait for low D.O. conditions to register in the DWSC, violations will already have occurred.

D. HydroQual Model

1. Kevin will get the slides from Russ Brown's presentation on the HydroQual model and place them on the website .

2. The main purpose of the HydroQual model is to help assess management alternatives for solving the D.O. problem in the DWSC. It will be able to evaluate load and flow alternatives, though there are a limited number of modeling runs that are funded with this grant. (Note: If there are important runs to generate for which there isn't the funding, HydroQual can seek an amendment to their contract. Support from the TWG will help.)

3. Kevin will set up a web folder will be set up for the HydroQual modeling information.

4. As part of the HydroQual contract, Russ Brown will develop a Data Atlas that will provide everyone with Excel spreadsheets of data so that all have equal access to the underlying information that will be used in the model. He and Karl Jacobs will make a presentation at the next TWG meeting on how this Data Atlas will link into the IEP work that has been developing over the last few years and which will be part of the Upstream Studies program.

5. The HydroQual model should be prepared for the new data that will come in with the upstream studies. This includes knowing the new monitoring sites that will be set up this coming year. It helps the modelers decide on the geographic boundaries of each compartment/cell in the model. The model will be used on 2000-2002 data but will be set up so that if funding is available, it can be run with 2003 and 2004 data.

6. Questions about the HydroQual modeling can be sent to the modelers. All of their addresses will soon be posted in the folder on the website . In the meantime, Russ Brown is reachable at (916) 737-3000, rbrown@jsanet.com.

E UCD-Stanford-USGS Model of the DWSC and Central and South Delta.

1. Bill Fleenor of UCD provided information about where the modelers are in advancing this 3-D model of the DWSC and parts of the Central and South Delta. He can reached at wefleenor@ucdavis.edu (530-752-1011) . The other leads for the project include Peter Smith with USGS and Steve Monosmith with Stanford.

2. This model will start from a clean slate and, unlike the HydroQual model, not use the DSMII model as the base.

3. The new model will be able to tap real time metering data into the model. This includes installing newer, better sensors and data profilers through the water column. The modeling team planned on doing three month long field studies but have learned that the ships coming through the Channel will interfere with the data gathering. The team is reorganizing the effort to conduct the studies on 3-8 day timelines between ship movements. The plan is still to conduct these studies in fall, winter and spring.

4. As part of the modeling studies, Pete Smith will over see tracer studies (using rhodamine and ?) that will help determine vertical and longitudinal mixing.

5. At this time, the modelers have not determined the extent of the downstream boundary for the model. The upstream boundary is Channel Point. They are open for suggestions.

6. They will also evaluate the sediment bottom surface exchanges and impacts on D.O.

7. A smaller part of their contract allows them to look into the secondary impacts of different load and flow conditions in the DWSC on the waterways of the South and Central Delta.

F. Data Control and Access

1. The modeling teams will meet with the Upstream Study team and interested TWG members to work out the common language, standards, definitions and other parameters for their collective work. They also want to participate in the developing the mechanisms for uniting the distribution of the data that they need and that they produce. Karl Jacobs,

Russ Brown and Will Stringfellow will call the meeting before Feb. 27 and post the agenda to the sjr-tech-com listserv.

2. The data management team should develop templates for data entry and retrieval so that new data sets are usable by all if changes are made, the users of the data can be notified.

3. Carl Chen and Nigel Quinn will soon publish a whitepaper on these data issues. It will be posted to the listserv.