Central Valley Drinking Water Policy Workshop
Meeting Notes
October 3, 2006

The Central Valley Regional Water Board is in the process of developing a Central Valley Drinking Water Policy. Many interested stakeholders, along with the Regional Water Board, have formed the Central Valley Drinking Water Policy Workgroup (Workgroup) to help Regional Water Board staff develop and implement a work plan for conducting technical studies necessary to develop a drinking water policy for the Central Valley. The Workgroup has embarked on many studies and there are more to follow.

The purpose of this workshop was to inform interested stakeholders on the accomplishments made towards development of the policy, coordination between other agencies and the next steps in the policy development process. The following presentations briefly outline technical studies completed or underway, procedures for creating and adopting a policy, and research, monitoring and modeling collaboration all in connection to the policy development.

Background

Karen Larsen, Regional Water Board lead staff on the Drinking Water Policy development, outlined the need for the Drinking Water Policy, basics of the Workgroup, policy development process, timeline for adoption, and public outreach.

Technical Studies Presentations given by:

Elaine Archibald, California Urban Water Agencies, presented progress made on the technical studies and the timeline for future studies. To date, the Workgroup has compiled available data and prioritized constituents of concern. Currently, the Workgoup is developing conceptual and spreadsheet models and identifying monitoring needs. Future tasks include conducting monitoring, updating the database, identifying water quality goals, refining loads, and evaluating control strategies.

Sujoy Roy, Tetra Tech, Inc., presented an overview of the organic carbon, nutrients, and pathogens conceptual models. The organic carbon and nutrients conceptual models are complete and the pathogen model is underway. The use of the conceptual models are to better understand the behavior of the constituents in the Central Valley and Delta, identify sources, assign loads to land uses, identify data gaps, and provide technical bases for future planning (i.e., monitoring and analytical modeling needs).

Sam Harader, California Bay-Delta Authority (CBDA), presented the status of the salinity conceptual model for the Delta and tributaries that is under development by CBDA. The conceptual model will factor in hydrology, water operations, hydrodynamics, and watershed sources.
The following questions were posed after the technical studies presentations. Associated answers are given.

Presenter	Question	Answer
Roy	How are the loads calculated by source?	By export rates. Non-point sources by land use export rates, For point sources, WWTPs were calculated per capita.
Roy	Conceptual models revealed a significant amount of organic carbon runoff from forested land. Were burn areas considered?	This is an area that was not looked into due to resource constraints.
Roy	The agricultural drains chosen (Harding Drain) to represent other ag drains in the San Joaquin Valley may not be appropriate due to the fact that there are also wastewater discharges to that drain. How do you propose to remedy?	Noted. With the amount of data compiled, this was the best we could do. One reason for choosing Harding Drain was that we had access to flow data. This issue was noted in the recommendations section of the conceptual models.
Roy	How will you recognize the ongoing research into the characterization of dissolved organic carbon (i.e., that some forms of DOC are more reactive than others)?	USGS studies were used in the conceptual models, but there are not a lot of references available.
All	Abandoned mines could potentially be reopened in the future, how would this affect the policy.	Abandoned mines tend to contribute heavy metals, which is not one of the priority constituents of concern.
Harader/Larsen	How will the Drinking Water Policy tie in with the Pelagic Organism Decline efforts?	In developing the policy, we will need to consider potential redirected impacts to other beneficial uses (i.e., reducing organic carbon from upstream sources may have detrimental effects on ecosystem function in the Delta).

Policy Development Panel

Betty Yee, Regional Water Board, presented on Basin Plan Amendments. The Sacramento/San Joaquin Watershed Basin Plan includes beneficial uses, water quality objectives, and implementation programs that are in effect for the watershed. Betty laid out the process, including studies and public meetings, and the timeline for amending the Basin Plan.

Lisa Holm, CBDA, presented on the synergy between the Drinking Water Policy and the CALFED Water Quality Program. Lisa explained the CALFED Water Quality Program goal and the history of the Drinking Water Policy's connection to the CALFED Record of Decision. The Policy and CALFED will relate Delta and tributary water quality to drinking water intake water quality, determine how intake water quality translates into

treated water quality and public health, and synthesize information for final assessment and performance measure development.

Karen Larsen, Regional Water Board, briefly presented on the policy issues to be addressed and the next steps. Policy issues include MUN beneficial use designation, policy adaptability, agency coordination for implementation, and economic factors.

The following questions were posed after the technical studies presentations. Associated answers are given.

Presenter	Question	Answer
Larsen	Data needs. Consider making NPDES data submittal electronic.	Noted. There are efforts underway to achieve this.
Larsen	How are you going to fill data gaps for OC from dischargers?	We have requested dischargers partner with us to collect additional samples.
Larsen	Have/will you consider economics for environmental justice?	Yes, this will need to be part of the consideration.
All	Legacy pollution issues vs. recent pollution issues. How will the policy address long- term erosion problems and cumulative effects?	These types of issues will be addressed in the implementation plan.
All	When categorizing OC from agriculture, need to consider type of crop.	Noted. We had a hard time trying to extrapolate agricultural discharge with the little data we had. We intend to use data collected under the Regional Water Board's Irrigated Lands Program to better characterize agricultural sources of organic carbon.
All	OC from forestry will be hard to assign to a single entity.	Noted. However, forestry has a significant loading of OC because the flow is so high. Forested lands also may not be a significant source below reservoirs.
Larsen	The policy may create new water quality objectives. Where would these apply?	We are evaluating the possibility of establishing site-specific water quality objectives for certain constituents of concern.
Harader	Diverting high quality water from the Delta may be contributing to the problem.	There is no doubt that water management and diversion play a role in Delta water quality. For this reason, the policy development needs to be elevated to the State Board so that water rights, which are outside the authority of the Regional Water Board, can be considered. Regional Board

		staff view the Central Valley Drinking Water Policy as the first step in the effort that will need to become a statewide policy to be most effective.

Central Valley Salinity Management Plan

Matthew McCarthy, Regional Water Board, presented the Central Valley Salinity Management Plan development. Project goals include the assessment of salinity impacts, including water quality and socioeconomic, and development of an appropriate response. Recommendations that came from a workshop held in January 2006 include convening a salinity policy group, joint State and Regional Water Board workshop, facilitated meetings, economic study, and a salinity conference.

Research, Monitoring and Monitoring Collaboration

Jim Wilde, DWR, gave a brief presentation on Delta water quality fingerprinting, known as the Delta Simulation Model (DSM)2. DSM2 incorporates two basics: DSM2-hydro provides Delta-wide flows, stage and velocities, and DSM2-qual estimates volumetric fingerprints-fixed and equivalent boundary source concentrations and constituent fingerprints-actual boundary source concentrations. Jim provided a few historical volumetric fingerprints to show how DSM2 works. The drinking water policy monitoring data will be added to DSM2.

Rob Atwill with UC Davis presented BMPs to reduce microbial contamination from rangeland and irrigated pastures. Vegetation buffer mats, with a prescribed concentration of fecal matter, are tested to determine the amount of fecal matter runoff during storm events.

Anthony O'Geen, UC Davis, presented a project on developing and testing rangeland BMPs that account for temporal and spatial variability of transport of DOC and nutrients.

Carol Kendall, USGS, presented isotopic and chemical mass balance approach to characterize and differentiate sources of organic matter and nutrients from difference land uses in the San Joaquin River

Charlie Kratzer, USGS, presented quantifying the amount of groundwater accretions to the lower San Joaquin River and its nitrate and organic carbon concentrations. Isotopic and optical characteristics of the groundwater will be compared to various source waters to identify the sources of nitrate in the groundwater.

Brian Pellerin, USGS, presented quantifying and understanding how organic material produced in the Willow Slough watershed is transformed into DOC and exported and what practical measures may be used to reduce that export to protect drinking water.

Will Stringfellow, UOP, presented on a project focused on monitoring existing water quality at San Luis National Wildlife Refuge and how it impacts on drinking water.

Presenter	**Question**	**Answer**
Wilde	Is there any validation process for the fingerprinting, since it could be used for decision-making?	Currently, DWR has no validation process for DSM2 at this time.
Atwill	How much and what type of fecal matter are applied to the buffer mats?	Approximately 1 kg of lab condensed cow manure is applied per mat.
Atwill	What type of maintenance is needed for the mat vegetation?	Grass must be maintained at a certain length. If the grass gets too long then the mats become less effective and if the grass dies then mats could contribute to OC.
Atwill	Are you tracking the amount of rainfall to determine the efficacy of the buffer mats?	Yes. There are two rain stations; one at the top and one at the bottom of the experiment site.

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Attendees:

Polly Lowery, CVRWQCB	Sam Harader, CBDA
Cindy Messer, DWR	Matthew McCarthy, CVRWQCB
Brian Laurensen, Larry Walker Associates	Jeanie Hinds, Turlock Irrigation District
Forrest Vaughan, Orica Watercare	Peter Hermes, UC Davis
Carolyn Yale, USEPA	Kathy Russick, Sacramento River
Karen Schwim, USEPA	Watershed Program
Carl Lischeske, DHS	Keith Conarroe, City of Manteca
Frances Brewster, Santa Clara Valley	David Cory, San Joaquin River Exchange
Water District	Contractors
Kathy Goforth, USEPA	Charlie Kratzer, USGS
Debra Liebersbach, Turlock Irrigation	Margie Lopez-Read, CVRWQCB
District	Carol Atkins, DFG
Elaine Archibald, California Urban Water	Scott Seyfried, LFR, Inc.
Agencies	Vicki Fry, Sacramento Regional County
Barbara Mariotte, California Bay Delta	Sanitation District
Authority	Rich Mills, SWRCB
Tina Lunt, Northern California Water	Dan Otis, DWR
Association	Brian Campbell, East Bay Municipal
Patricia Fernandez, CBDA	Utilities District
Darcy Jones, CBDA	Staci Heaton, Regional Council of Rural
Roger Fujii, USGS	Counties
Leah Orloff, Contra Costa Water District	Michelle Pingel, Colusa Indian Community
Lynda Smith, Metropolitan Water District	Council
Lisa Holm, CBDA	John Ungvarsky, USEPA
Rob Atwill, UC Davis	Bill Busath, City of Sacramento
Sujoy Roy, Tetra Tech, Inc.	Ryan Bonea, Sutter County RCD
Jim Wilde, DWR	Belinda Arthurs, City of West Sacramento
Linda Dorn, SRCSD	Michael Niemi, Modesto Irrigation District
Mike Zanoli, DWR	James Cornelius, Sutter County RCD
Dean Messer, DWR	Jim Atherston, So San Joaquin Irrigation
Rick Lonie, DWR	District
Brianne Noble, DWR	Leah Wills, Plumas County RCD
Gene Lee, Bureau of Reclamation	