

Meeting Minutes
CALFED Water Quality Technical Group Meeting
February 14, 1997

Attendees: Russell Grimes, Brian Finlayson, Walter Ward, Tom Maurer, K.T. Shum, Jerry Troyan, Ken Cawley, Ed Ballman, Phil Wendt, Gail Louis, Kathy Russick, Joseph C. McGahan, Jim Beck, Bob Berger, Manucher Alemi, Wayne Verrill, G. Fred Lee, Perri Standish-Lee, Charlie Kratzer, Peter Standish-Lee, Nigel Quinn, Jeanette R. Thomas, Bill Crooks, Bill Alsop, Raymond Tom, Rich Breuer, Elain Archibald, Tom Grovhoug, John Winther, Fawzi Karajeh, Jerry Boles, Gerald Bowes, Peter Mangarella, Kevin Donhoff, Mary Meays, J. Duncan, Van Nieuwenhiyze, Jennifer Ryder, Larry J. McCollum, Roger Reynolds, David A. Jones, Linda Mercurio, Stephen Murrill, Russ Brown, Jerry Bruns

CALFED Staff: Rick Woodard, Judy Heath, Ron Ott, Carol Howe, Sarah Holmgren, John Dickey, John Gaston, Dale Flowers, Curt Schmutte, Dick Daniel, Greg Young, and Stein Buer

Rick Woodard began the meeting with introductions of the CALFED water quality team and meeting attendees. Next, Rick explained that the objectives of the meeting were to update the group on the status of the CALFED Water Quality Program and to explain linkages between CALFED's five components: water quality, levees and channels, water use efficiency, ecosystem restoration, and storage and conveyance.

Status of the CALFED Water Quality Program

Rick briefly reviewed the status of the CALFED Water Quality Program by mentioning the list of parameters of concern, target ranges for parameters of concern, and compilation of comments to date. He explained that the list of parameters of concern was developed by the three water quality subteams: agriculture, urban, and ecosystem. He also explained that the target ranges for the parameters of concern were being used as "tools" in the programmatic EIR/EIS process and were not intended to alter the roles of any regulatory agencies. Rick indicated that CALFED is continually accumulating comments and responding to them as appropriate. Rick mentioned that completion of the CALFED programmatic EIR/EIS is scheduled for November, 1998.

Projects

Rick discussed the water quality projects that have been compiled to date and reminded the group that due to legal constraints no projects that are dependent on the CALFED EIR/EIS process can be considered for early implementation. He mentioned that all projects received will be considered for implementation, but those received prior to January 8, 1997, will receive priority. At that point, he drew the group's attention to the meeting handout packet where a list of projects could be found. He indicated that any additions or corrections to the list should be directed to Carol Howe of the CALFED Consultant Team. Also, Carol should be contacted for copies of the template to be used when submitting projects.

Rick mentioned that in the meeting packet was a list of potential project selection criteria. He asked the meeting participants to review these criteria and send their suggestions or comments to him by the end of February. He also asked that anyone interested in participating in a project technical review committee notify him by the end of the month, preferably sooner.

Questions or comments for CALFED consideration in relation to projects included:

- Who would do the technical review?
- Is CALFED willing to fund studies to determine which actions are cost-effective and feasible?
- Where do we decide which projects are most important to address from an ecosystem perspective?
- What are the funding sources for projects?

Rick stated that a process for technical review of water quality projects would be proposed at the April 1 meeting.

Following the discussion of potential projects, the meeting turned to a general discussion of the CALFED Water Quality Program. Members expressed their concerns and ideas for improving the CALFED Water Quality Program including:

- Defining criteria for funding projects. For example, funding water quality studies to better define the problem before embarking upon costly construction projects.
- Technically reviewing parameters of concern and other group findings by forming a technical review committee.
- Developing a comprehensive document to reach closure on issues discussed at the meetings.
- Identifying funding sources for projects.

Rick next announced that the Water Quality Program is interested in forming a Parameter Assessment Team (details in meeting packet). WOTG members who are interested in participating should fax Rick Woodard by the end of February. Carol Howe said that the team will be helping to determine how numerical water quality criteria should be applied to impact analysis, and to identify what water quality parameters can and can't be modeled and evaluated based on the data and models available.

Questions in relation to this team included:

- How will the Parameter Assessment Team modeling link with the DWR modeling?
Answer: We need DWR, PAT and Bay-Delta modeling to be coordinated. Will need to interface with other groups. Stakeholders have taken the lead with some modeling so CALFED needs to coordinate with them.

Status of Other CALFED Programs

Dick Daniel provided a brief overview of the status of the CALFED Ecosystem Restoration Program. He indicated that although the problems in the Delta were the primary focus of the ecosystem restoration program, upstream tributaries would need to be considered in order to address problems in the Delta. The Ecosystem Restoration Program is in the process of writing an Ecosystem Restoration Program Plan (ERPP) which will focus on habitat and ecosystem issues instead of individual species. The ERPP will include adaptive management so that the program can be adapted over time based on available data.

Greg Young provided a brief overview of the status of the CALFED Water Use Efficiency Program. He explained that the Water Use Efficiency Program is different from other CALFED programs, because it is a policy program, not a technical program. He identified the program's objectives and components. Elements of the program include: physical efficiency, economic efficiency, urban water use efficiency, water recycling, water transfers, agricultural water use efficiency, and assurance mechanisms.

Curt Schmutte provided a brief overview of the status of the CALFED Levees and Channels Program. He explained that there are approximately 1100 miles of levees in the Delta that are included within the program. Approximately 200 miles are federal levees, the remaining 900 miles are nonfederal levees. Issues associated with the program include: maintenance of levees around Delta islands that are below sea level, location of the salinity gradient in the Delta, subsidence control, and reuse of dredge materials for levee construction.

Stein Buer provided a brief overview of the status of the CALFED Storage and Conveyance Program. He explained that the complexity of the water distribution system in the Delta makes it difficult to characterize storage and conveyance issues. Currently, the program is conducting an inventory of storage and conveyance facilities. Approximately 100 facilities have been identified and the costs of facilities are being equated using cost indices. Components of the program include a physical inventory of facility locations, environmental screening, and system modeling. Stein indicated that the most important link to storage and conveyance is water quality due to seawater intrusion and runoff.

Linkages between Water Quality and other CALFED Programs

Carol Howe, of the Water Quality team, quickly reviewed the main topic areas of the water quality, water use efficiency, ecosystem restoration, levee and channel and storage and conveyance groups (See linkages section of meeting packet)

Wetlands Linkage Exercise

Carol explained wetlands in relationship to water quality. She stated that wetlands can be created and/or utilized for treatment of mine drainage, wastewater discharges, urban and industrial runoff and agricultural drainage. As a treatment method wetlands can be beneficial in the removal of nutrients, pesticides, metals and other parameters of concern. There are, however, potential risks

with their use including bioaccumulation, toxicity to wildlife, degradation of groundwater, and breakdown of pesticides into more toxic by-products. Water quality actions that might include wetlands as a treatment alternative could be located throughout the Central Valley and Bay-Delta area.

Dick Daniels explained that the ecosystem restoration program is interested primarily in tidal wetlands which occur on the Sacramento River as far north as the City of Sacramento. Large scale managed wetlands are not the focus of restoration efforts in the Delta. Wetlands that reduce temperatures and parameters of concern in the Delta would serve the goals of the water quality and ecosystem restoration programs. Dick talked about wetland possibilities for the Colusa Basin Drain and the Yolo Bypass. He mentioned that the Colusa Basin Drain contributed pesticides, herbicides and thermal inputs to the Sacramento River. The Yolo Bypass used to be part of the Sacramento River floodplain. The Ecosystem Restoration Group would like to reestablish flows there year-round. A concern with this is the mercury that is draining into the Bypass from Cache Creek. Dick stated that Kesterson-like problems will always be part of any consideration of wetlands restoration, use or development.

Greg Young explained linkages between the water use efficiency and water quality programs. He indicated that increased wetland area may lead to increased water use, and less water instream for other uses. He stated that source control (conservation of water) would reduce the load/flow to wetlands decreasing the land areas needed.

Curt Schmutte explained the linkages between the levees and channels and water quality programs. There are possibilities for floodplain reestablishment along the San Joaquin River for both flood control and habitat enhancement. Wetlands creation in the Delta would involve setting back levees which would increase the conveyance capacity of channels and increase habitat. Wetlands would also decrease the flow rate through the Delta and increase residence time of water. Curt discussed wetlands as a method of decreasing subsidence on Delta Islands. He said that the islands subside 2-3 inches every year due to carbon oxidation in peat soils. If the islands were flooded periodically the carbon oxidation would be reduced and hence, subsidence may be reduced or even reversed.

Stein Buer explained the linkages between the storage and conveyance and water quality programs. Wetlands creation in the Delta would decrease the flow rate through the Delta and increase the residence time of water. Slower flow rates would impact storage and conveyance facilities while increased residence times would affect water quality.

Some questions raised or comments made for CALFED consideration in relation to wetland linkages included:

- How does TOC in the Delta compare with other areas of the country? There was discussion of the fact that it differs depending on local conditions, whether hydrophobic or hydrophilic, dissolved or particulate.
- Is there good/bad TOC?
(Depends on form and if it is available, if bioavailable as food for organisms it may be good; whereas if it forms disinfection by-products in drinking water, it can be bad.)

- How long can wetlands be used?
(Depends on flow, loading and design)
- If wastewater is used, is there an identifiable half life?
(Depends on a variety of local conditions.)
- Should considering using wetlands in Colusa Basin Drain to stop sediment input to Sacramento River.
- Should consider using wetlands for agriculture when there are no pesticides or metals issues so can take advantage of nutrient recycling.
- Might reuse dredge material for wetlands creation and levee construction.
- In other locations (Colorado) treatment of mine drainage in wetlands has created a hazardous waste site.
- Can wetlands be rehabilitated to remove contaminants?
- Wetlands can also release contaminants during high flows. Notes possible mercury problems.
- Can mercury concentrations be reduced in Cache Creek watershed to reduce toxicity?
- Questions use of wetlands as a treatment for mine drainage. Metals are concentrated in wetlands.
- Favors Colusa Basin drain wetlands for pesticide removal from the Sacramento River.
- What about reusing dredge spoil for wetlands development in the Delta? Could sediments from the bay be treated to remove contaminants?
- Need to consider bromide levels in sediment.
- Pilot studies are needed to characterize sediment.
- DWR has done work to look at sediment. Can sediment traps be constructed to catch the larger grained material and allow finer grains to go to the bay? Fine grained sediments usually have higher concentrations of pollutants.
- What about smaller wetlands to act as source control for smaller areas?

Carol summed up the discussion by stating that, through this discussion three potential types of wetlands were identified: treatment only, treatment as a polishing step with ecosystem/habitat use, and ecosystem/habitat only.

Timed-Release Linkage Exercise

Carol explained that from a water quality perspective, the timing of flows from agricultural drainage, urban runoff, wastewater, and mines might be controlled to better match the assimilative capacity of streams. The water quality group has a collection of actions that envision timed-release - primarily in relation to salinity. Some risks associated with timed-release include concentration of parameters of concern in storage facilities. A general discussion ensued about storage of agricultural drainage in the soil versus impoundments.

Dick explained that from an ecosystem perspective timed release of drainage to coincide with higher water flows would improve water quality and potentially have less ecosystem impacts.

Greg explained that from a water use efficiency perspective timed release of drainage relates to both water quality and water use efficiency because it effects water quality and quantity. Depending on

when drainage is released, the water may be reused for other purposes. However, timing of drainage releases is also a water quality issue because drainage may contain concentrated pollutants.

Curt explained that from a levees and channels perspective, timed release would increase flows at certain times of the year.

Stein explained that from a storage and conveyance perspective timed release would require coordination between storage and conveyance facilities and water quality officials to ensure that drainage water be released when sufficient dilution water is available. It may also require holding dilution water for a period of time until it is needed to dilute drainage water.

Some questions raised or comments made for CALFED consideration in relation to timed release included:

- Farms in West San Joaquin have a considerable amount of subsurface storage. Why do they need more time? Can they better manage releases?
(Some flexibility exists. There are seasonal opportunities for timed release of subsurface agricultural flows.)
- Would help if we could quantify the drainage we're talking about and the timing of dilution flows.
- How much flow is needed to do any good?
- Would help to focus on one parameter at a time.

Carol then asked the participants if they had any suggestions on what they thought would have enhanced the format and content of the meeting. Comments on the meeting format included:

- The attendees would have benefited from more basic pre-preparation concerning agricultural drainage.
- Information on the quantities and chemical characteristics of the expected drain flows would have been helpful.
- A typical case study would have been good for facilitating understanding.

Contacts and Deadlines for Submitting Information to the CALFED Water Quality Team

Additions or updates to the project list (in meeting packet)

Contact: Carol Howe
Deadline: February 28, 1997
Method: FAX 916 924 9102
916 921 3509
Montgomery-Watson
777 Campus Common Road, Suite 250
Sacramento, CA 95825

Suggestion or comments on criteria for selection of early implementation projects (in meeting packet)

Contact: Rick Woodard
Deadline: February 28, 1997
Method: FAX 916 654 9780, or mail
CALFED Bay-Delta Program
1416 9th Street
Room 1148
Sacramento, CA 95814

Interest in participating in a project technical review committee

Contact: Rick Woodard
Deadline: February 28, 1997
Method: FAX 916 654 9780, or mail
CALFED Bay-Delta Program
1416 9th Street
Room 1148
Sacramento, CA 95814

Interest in participating on the Parameter Assessment Team

Contact: Rick Woodard
Deadline: February 28, 1997
Method: FAX 916 654 9780, or mail
CALFED Bay-Delta Program
1416 9th Street
Room 1148
Sacramento, CA 95814

Contacts and Deadlines for Obtaining Information from the Water Quality Team

Copies of the template to be used when submitting projects

Contact: Carol Howe
Deadline: February 28, 1997
Method: FAX 916 924 9102
916 921 3509
Montgomery-Watson
777 Campus Common Road, Suite 250
Sacramento, CA 95825

Interesting Web Addresses:

- <http://wwwcalfed.water.ca.gov/> CALFED Bay-Delta Program Home Page
- <http://wwwdwr.water.ca.gov/> Department of Water Resources
- <http://wwwiep.water.ca.gov/> Interagency Ecological Program Home Page
- <http://www.swrcb.ca.gov/> State Water Resources Control Board Home Page
- <http://water.wr.usgs.gov/> Water Resources Division, U.S. Geological Survey

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Attendance List

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Last Name	First Name	Organization
Alemi	Manucher	California Department of Water Resources
Alsop	William	Chem Risk
Archibald	Elaine	Archibald & Wallberg Consultants
Ballman	Ed	Environmental Water Resources
Beck	James	Kern County Water Agency
Berger	Robert	East Bay Municipal Utility District
Boles	Jerry	Department of Water Resources
Bowes	Gerald	State Water Resources Control Board
Breuer	Rich	Department of Water Resources
Brown	Russ	Jones & Stokes
Bruns	Jerry	Central Valley Regional Water Quality Board
Cawley	Ken	Regional Council of Rural Counties
Crooks	William	
Daniel	Dick	CALFED Bay-Delta Program
Donhoff	Kevin	Metropolitan Water District of Southern California
Duncan	Jeanne	
Finlayson	Brian	California Dept. of Fish & Game
Gaston	John	CH2MHill
Grimes	Russ	U.S. Bureau of Reclamation
Grovhoug	Tom	Sacramento River Watershed Program
Jones	Dave	Bureau of Engineering, Dept. Public Works
Karajeh	Fawzi	Department of Water Resources
Kratzer	Charlie	U.S. Geological Survey
Lee	G.	G. Fred Lee & Associates
Louis	Gail	US Environmental Protection Agency
Mangarella	Peter	Woodward-Clyde
Maurer	Tom	US Fish and Wildlife Service
McCallum	Larry	Contra Costa Water District
McGahan	Joseph	Summers Engineering, Inc.
Meays	Mary	Sierra Club
Mercurio	Linda	Mining Remedial Recovery Company
Murrill	Stephen	S.D. Murrill & Co.
Quinn	Nigel	US Bureau of Reclamation/LBNL
Russick	Kathleen	Brown and Caldwell
Ryder	Jennifer	Fox FMC Corporation
Schmutte	Curt	California Department of Water Resources
Shum	KT	Contra Costa Water District
Standish-Lee	Peter	CALFED Bay-Delta Program
Standish-Lee	Perri	Standish-Lee Consultants
Thomas	Jeanette	Stockton East Water District
Tom	Raymond	California Department of Water Resources
Troyan	Jerry	Sacramento Regional County Sanitation District
Verrill	Wayne	Department of Water Resources
Ward	Walter	Modesto Irrigation District
Wendt	Phil	California Department of Water Resources

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Winther	John	Delta Wetlands