

MEETING SUMMARY

Water Quality Parameter Assessment Team

January 28, 1998

9:00 AM - 2:00 PM

The Resources Building

16th Floor, Room 1603

Sacramento, CA 95814

PAT Members: Larry J. McCollum for K.T. Shum, Lynda Smith, Tom Grovhoug, Brian Finlayson, Ted Roefs, G. Fred Lee, J.P. Cativiela, Stephen Murrill, Elaine Archibald, Bill Crooks, Chris Foe, Pat Dunn for Terri Barry

CALFED Team: Judy Heath, Sarah Holmgren, Tanya Matson, Dale Flowers, Ted Way

Others: Bill Taylor (MWD), Bryan Stuart (Dow AgroSciences)

Please note that the following summary provides an overview of the key topics discussed at the meeting. It is not meant as a verbatim transcript.

Introduction - Judy Heath (CALFED)

Judy began the meeting by asking all those present to introduce themselves. Then she explained the purpose of the meeting:

- To address issues not covered at the last PAT meeting on December 3, 1997. Due to time constraints on December 3, the PAT was unable to review scientific information and hear presentations from all individuals requesting the addition/deletion of a parameter of concern.
- To discuss water quality targets for the parameters of concern recommended by the PAT.

Overview of PAT Meeting Materials - Judy Heath (CALFED)

Judy briefly reviewed the purpose and content of the PAT Meeting Materials binders which were provided to each PAT member. The binders contain a compilation of information pertaining to PAT activities and will assist the PAT in its decision-making process. In addition, the binders provide a means to update information to ensure the PAT has the most current information on which to base its recommendations to the Water Quality Technical Group.

Section 1 includes background information on the PAT, including a *PAT Membership Directory* and *Draft PAT Functions*. The *Draft PAT Functions* were provided to the PAT previously, before and after the December 3 meeting, to provide an opportunity for review and comment. Section 2 contains a map and description of the CALFED Bay-Delta Program's study area. Section 3 contains a list of the current parameters of concern, *Draft Guidelines for Adding a*



Parameter of Concern and Draft Guidelines for Deleting a Parameter of Concern. Previously, these guidelines were combined into one document entitled *Guidelines for Adding/Deleting a Parameter of Concern.* In addition, a Request Form for Adding a Parameter of concern and a Request Form for Deleting a Parameter of Concern are also contained in Section 3. CALFED staff welcome the PAT's suggestions and comments on these draft documents. Section 4 contains information regarding water quality targets for parameters of concern, including the references used to date to develop targets, and a table listing the current parameters of concern and associated targets. Section 5 contains the *December 3, 1997 PAT Meeting Summary.* Summaries of all PAT meetings will be inserted into this section. Section 6 contains copies of written comments from individuals requesting the addition or deletion of a parameter of concern. Additional comments may be added to this section as necessary.

PAT Policy Development - Judy Heath (CALFED)

Judy began the discussion by reviewing some of the key issues raised by PAT members at the last PAT meeting on December 3. These issues included the current and future role of the PAT, the significance of adding to the Parameter of Concern list, and the establishment and use of water quality targets.

Judy explained that CALFED staff is in the process of developing a "White Paper" to address these and other issues. She mentioned that it may be determined the PAT should remain active throughout the CALFED process. In addition, other working groups may be formed during the implementation phase to address specific implementation issues.

Judy explained that the CALFED implementation phase may last 25 to 30 years. Resources will be dedicated and actions will be taken to address water quality problems associated with the Water Quality Program's parameters of concern. To date, water quality targets for parameters of concern have been based on officially established standards, objectives or criteria which were developed by regulatory agencies in the public arena.

Comments Made

- The PAT should have a role in prioritizing actions related to the CALFED water quality parameters of concern.
- The PAT should participate in CALFED implementation tasks involving the parameters of concern.
- There was discussion regarding the identification of parameters of concern and the derivation of water quality targets by the CALFED Water Quality Program. Some PAT members commented that only those parameters addressed by regulatory agencies should be included in the CALFED Water Quality Program. Other PAT members commented that the CALFED Water Quality Program should include parameters of concern not currently addressed by regulatory agencies and that available regulatory information should serve only as background information for the

CALFED Water Quality Program to use when identifying parameters of concern and water quality targets.

- Information developed by CALFED staff through research and studies regarding parameters of concern may be provided to regulatory agencies; however, the CALFED PAT should not be an advocate group in the regulatory stakeholder process.

Discussion of Requested Additions and Deletions to Parameters of Concern

Sarah Holmgren (CALFED Consultant Team) explained that two completed request forms to add or delete parameters had been received by the CALFED Water Quality Program to date. Inge Werner (Sierra Club) had completed a form requesting the addition of MTBE and Stephen Murrill (S.D. Murrill & Co.) had completed a request form requesting the deletion of carbofuran. In addition, the request for addition of ziram had been formally withdrawn.

Ms. Werner was unable to attend the meeting to discuss her request for addition of MTBE to the parameters of concern. In her absence, she asked that the PAT consider her request based on her completed request form. The PAT reviewed Ms. Werner's completed request form and discussed her request.

Comments Made

- It was mentioned that the USEPA had set detection limits for MTBE as $5\mu\text{g/L}$ not $0.2\mu\text{g/L}$ and that monitoring results in the Delta during summer months had shown no exceedances of the $5\mu\text{g/L}$ detection limit.
- Concern was raised regarding conflicting information from the USGS that MTBE is simultaneously very soluble in water and difficult to remove from water.
- It was mentioned that MTBE is found in groundwater and in fairly high concentrations in reservoirs at the end of certain recreational weekends, but not in the Delta. In addition, it was stated that there is not enough information at this time to define the extent to which MTBE may or may not be a problem. The SWRCB, ACWA, CUWA and others are presently researching MTBE. It was recommended that the PAT postpone making a recommendation until after reviewing the results of the research performed by these agencies and groups.
- It was stated that given the uncertainty associated with the impact of MTBE on the Delta, it may be a better candidate for the "potential parameters of concern" list.

PAT RECOMMENDATION

MTBE should be placed on the "potential parameters of concern" list pending results of research presently being performed by SWRCB, ACWA, CUWA and others.

After the MTBE discussion, Sarah Holmgren explained that the individuals who had requested the addition of MAHs, chlorine, oil/grease, dioxins, boat exhaust/gasoline byproducts, arsenic, PAHs and simazine were not present at the meeting and had not completed request forms. To ensure the PAT has adequate information on which to base its recommendations, these requested additions will be considered by the PAT at subsequent meetings, as information becomes available.

Comments Made

- If an individual requesting the addition or deletion of a parameter of concern does not attend the meeting or provide relevant information to the PAT, the request should be removed from the agenda until such information is provided.

PAT DECISION

The following process for submitting a request for adding or deleting a parameter of concern to the CALFED Water Quality Program will be used:

1. A formal written request will be made to the CALFED Bay-Delta Program.
2. Information and background on the parameter of concern relating to the *Draft Guidelines for Adding a Parameter of Concern* or *Draft Guidelines for Deleting a Parameter of Concern* and *Request Form for Adding a Parameter of Concern* or *Request Form for Deleting a Parameter of Concern* will be provided to the PAT.
3. The individual requesting the addition or deletion of a parameter of concern will attend a PAT meeting to discuss his/her information.
4. The request will not be included on the agenda until information regarding the addition or deletion is provided to the PAT or the person has agreed to make a presentation to the PAT.

Following this discussion, the PAT asked Mr. Murrill to discuss his request for deletion of carbofuran. He explained that the Central Valley Regional Water Quality Control Board had recently removed carbofuran from the 303(d) list for the Sacramento River. He stated that carbofuran remains on the 303(d) list for the Colusa Basin Drain because it slightly exceeds the performance goal in the Central Valley Regional Water Quality Control Board's Basin Plan. Mr. Murrill explained that removal of carbofuran from the 303(d) list for the Sacramento River indicates that carbofuran is a lower priority with regard to Delta impairments. In addition, he mentioned that carbofuran is being addressed through the Department of Pesticide Regulation Rice Pesticide Management Program.

Comments Made

- The importance of the Colusa Basin Drain as an aquatic habitat was discussed. Some PAT members commented that the Colusa Basin Drain is not a critical habitat for endangered or threatened species. Other PAT members commented that salmon have been found in the Colusa Basin Drain and people fish (mainly for crayfish) there.

- Aquatic toxicity tests within the Colusa Basin Drain were also discussed. Some PAT members indicated that acute toxicity related to carbofuran had not been detected in the Colusa Basin Drain. Other PAT members mentioned that although acute toxicity has not been detected, in order to make a determination regarding toxicity, chronic toxicity tests were needed.
- It was suggested that recent data on carbofuran be provided to the PAT for review before the PAT makes a recommendation regarding the deletion of carbofuran.
- It was also suggested that a USFWS representative attend the next PAT meeting to discuss the deletion of carbofuran from the parameter of concern list.

PAT RECOMMENDATIONS

- (1) **Data on carbofuran should be provided to the PAT for review before the next PAT meeting.**
- (2) **The USFWS should be contacted regarding its opinion on carbofuran and invited to participate in the February 25 PAT meeting.**

Presentation on Nutrients in Drinking Water - Bill Taylor (Metropolitan Water District) Lynda Smith (Metropolitan Water District) introduced Mr. Taylor and explained that she asked him to present information to the PAT on the impacts of nutrients to drinking water quality in response to questions raised by the PAT at the December 3 meeting. Following is a summary of Mr. Taylor's presentation.

Nitrogen, phosphorus and silica (for diatoms) are the nutrients which drive most algal growth. Phosphorus, unlike nitrogen, does not have a gas phase, but there are numerous forms of phosphorus in an aquatic environment. To track changes in phosphorus loading to drinking water reservoirs, total phosphorus and some form of bioavailable phosphorus should be monitored. There are three broad components of total phosphorus (1) phosphorus associated with inorganic particulates, (2) organically bound phosphorus and (3) soluble reactive phosphorus including ortho phosphorus and some forms of organically bound phosphorus that are readily available to algae. Inorganic particulates often have large amounts of phosphorus adsorbed to them that is not readily available to algae. In these situations, high phosphorus concentrations do not necessarily translate into algal biomass. Nitrogen has a gas phase which makes it biologically available at all times to algae. Most algae that can fix atmospheric nitrogen are nuisance species. Forms of nitrogen which are monitored for potential algal growth include nitrate, nitrite, ammonia and total organic nitrogen. An important point regarding phosphorus and nitrogen is that both can be present in many different forms, some of which are readily available and some not.

In the State Water Project system, phosphorus, nitrogen and silica are the most important nutrients. Mr. Taylor indicated that most taste and odor problems are a direct result of blue-green algae growth. He gave some examples of production in Delta or in Delta water which included 106 tons of algae growth (Cladophora) in Etiwanda Reservoir in a four week period. The estimated costs incurred associated with this growth were \$17,000/day. In Clifton Court Forebay, the Department of Water Resources removes 32 cubic yards of algae growth/day.

Comments Made

- Nutrients are a problem that CALFED may or may not be able to solve. Monitoring for total phosphorus, nitrate, nitrite, ammonia, and organic nitrogen should be accomplished in order to gain more knowledge of nutrients.
- A database of information regarding nutrients should be created through monitoring for total phosphorus nitrate, nitrite, ammonia and organic nitrogen. This will aid in determining whether or not there is a potential problem.
- It is not clear what "nitrogen" on the parameters of concern list means. The nutrient list should be refined. The word nitrogen should be removed and replaced with the term "organic nitrogen".

PAT RECOMMENDATION

The term "nutrients" should be refined to include "soluble orthophosphate, total phosphorus, nitrate, nitrite, ammonia, and organic nitrogen". [Note: this recommendation was revised by the PAT later in the meeting, see page 7 of this meeting summary.]

Water Quality Target Recommendations - Judy Heath (CALFED)

Judy explained that the purpose of this portion of the meeting was for the PAT to develop recommended water quality targets for the parameters of concern that the team had recommended for addition at the December 3 and January 28 PAT meetings. A handout of existing water quality criteria was provided to the PAT for reference in developing recommended water quality targets.

Comments Made

- There are various beneficial uses impacted by nutrients; therefore, it is not recommended that numerical targets be set.
- The nutrients listed as water quality parameters of concern are not necessarily water quality problems. The algae growth resulting from concentrations of these nutrients is a water quality problem.
- In the *Compilation of Existing Water Quality Criteria for Proposed Parameters of Concern*, in the "nitrogen" row, under the Central Valley RWQCB Basin Plan column, the first bulleted narrative criterion seems appropriate for all the nutrients. It addresses concentrations that cause nuisances or adversely affect beneficial uses.

- The parameters of concern should be listed by beneficial use. Such a listing would assist in separating what interests are involved with the parameter as well as prioritization of parameters of concern.
- Discussion occurred regarding ammonia as a nutrient and a toxicant. Ammonia as a toxicant is currently included as total ammonia in the CALFED Water Quality Targets for Parameters of Concern table. The table should be revised to express ammonia as “unionized ammonia” and water quality targets should be based on unionized ammonia values. As one of the many substances included as a nutrient, ammonia should be expressed as “ammonia.”

PAT RECOMMENDATIONS

- (1) The term “nutrients” should be further refined to include “total phosphorus, soluble reactive phosphorus, nitrate, nitrite, ammonia and organic nitrogen”.
- (2) Because the term “nutrients” encompasses several substances it should be placed in its own category.
- (3) The water quality target for nutrients should be the following:
“Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affected beneficial uses. Waters shall not contain chemical constituents that adversely affect beneficial uses”.
- (4) A footnote indicating all the beneficial uses of water should be noted next to the narrative target for nutrients.
- (5) Ammonia, as a toxicant, should be expressed as “unionized ammonia” and targets for unionized ammonia should be reflected in the table of water quality targets.
- (6) Parameters of concern should be categorized by beneficial use impairment.

Recommendations to the Water Quality Technical Group - Judy Heath (CALFED)

Judy Heath confirmed that the following PAT recommendations would be provided to the Water Quality Technical Group at its next meeting on February 25, 1998.

- (1) MTBE should be added to the “potential parameter of concern” list pending research results from other groups.
- (2) The term “nutrients” should be refined to include “total phosphorus, soluble reactive phosphorus, nitrate, nitrite, ammonia and organic nitrogen.”
- (3) Because the term “nutrients” refers to several substances, it should be placed in its own category.
- (4) The water quality narrative target for nutrients should be “Water shall not contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affected beneficial uses. Waters shall not contain chemical constituents that adversely affect beneficial uses”.
- (5) A footnote indicating “all the beneficial uses of water” should be noted next to the narrative target for nutrients.

- (6) Ammonia, as a toxicant, should be expressed as “unionized ammonia” and water quality targets for unionized ammonia should be used.
- (6) Parameters of concern should be categorized by beneficial use impairment.
- (7) Data on carbofuran should be provided to the PAT for review before the next PAT meeting.
- (8) The USFWS should be contacted regarding its opinion on carbofuran and invited to participate in the February 25 PAT meeting.

Comments Made

- On the first page of the *December 3 Meeting Summary*, item (2) states that “the problem must have an impact within the study area of the legal Delta.” Some PAT members expressed concern that the term “legal Delta” was too restrictive. A recommendation was made to change the language to “CALFED study area” or “CALFED geographic scope.”

Wrap-up - Judy Heath (CALFED)

Judy thanked the Parameter Assessment Team members for their voluntary participation in the CALFED Water Quality Program. Pursuant to the team’s recommendation, CALFED staff will review the membership of the PAT to ensure all appropriate interests are represented. If gaps in representation are found, individuals who may represent those interests will be asked to join the PAT. In addition, a draft “white paper” will be developed to address the PAT’s recommendations regarding the functions of the PAT and the process for making a request to the PAT. The “white paper” will be provided to the PAT for review and comment.