

SOLANO COUNTY WATER AGENCY



October 8, 1997

Mr. Rick Woodard
CALFED Bay-Delta Program
1416 Ninth Street, Suite 1155
Sacramento, CA 95814

**Subject: North Bay Aqueduct Contractors' Comments on the Draft
Water Quality Program Component Report**

Dear Rick:

The North Bay Aqueduct (NBA) Contractors have reviewed the Draft Water Quality Program Component Report. We understand that CALFED does not intend to revise and reissue the Water Quality Component Report but that information from this report will be incorporated into the draft reports on existing conditions and impact analysis. We offer the following comments on the Water Quality Component Report so that they can be considered in the development of future CALFED reports.

Executive Summary

Page ES-1 - There is a statement that the objective to provide good water quality for all beneficial uses will be achieved through development and implementation of the CALFED Water Quality Program. Although full implementation of the action strategies will likely result in improved water quality conditions in most of the Delta, we believe that water quality conditions in the Delta will be determined more by the preferred storage and conveyance alternative than by implementation of the action strategies.

Page E-4 - Pathogens should be included in the discussion of key drinking water contaminants of concern.

Figure E-1 and Figure 2-1 - From this figure, one could draw the conclusion that the Barker Slough Pumping Plant is outside of the area in which bromide and organic carbon are problematic. In fact, the organic carbon concentrations at the Barker Slough Pumping Plant routinely exceed the organic carbon concentrations found at the other Delta pumping plants.

Page E-7 - The following statement in the report should be rewritten:

“The strategies are recommended actions that will result in improvements to source water quality by reducing source loadings of parameters (e.g. mine drainage, agricultural drainage, urban and industrial runoff, and municipal and industrial wastewater treatment facilities); upgrading water treatment plants; or changing water management practices.”

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This statement implies that improvements to source water quality will result from upgrading water treatment plants. Water treatment plants will only be upgraded if source water quality conditions are not improved.

Section 2 - Background

Page 2-2 - The report is correct in stating that synthetic organic chemicals are found in fish tissues at levels that exceed standards for human consumption. These chemicals are also found in concentrations that may impair reproduction of the fish.

Page 2-2 - The discussion of mining does not contain any information on the beneficial use(s) that is (are) being impaired.

Section 3 - Parameters of Concern

This chapter contains many statements that should be referenced with supporting data or reports. For example, on page 3-5 the following statement is made with no supporting reference:

“Organic materials enter the water from the following sources in the Delta in decreasing order of amounts:

natural materials, vegetation, and organics soils;
agriculture, as vegetative organics in drainage;
urban runoff;
municipal and industrial wastewater discharges;
pesticides and herbicides.”

We are not aware of any studies that have adequately quantified the sources of organic materials to the Delta. In fact, the sources of organic material likely vary at each of the drinking water intakes in the Delta.

Table 3-1 - The second column heading should be “Drinking Water” rather than “Urban”.

Page 3-10 - The listing of sources of salt to the Delta needs to include upstream municipal and industrial wastewater discharges.

Table 3-4 - The target values for a number of water quality parameters of concern are considerably less protective of drinking water supplies than those recommended by the urban drinking water subgroup of the CALFED Parameter Assessment Team. The target levels found in Table 3-4 are also inconsistent with indicators of success contained in Section 7. For example:

- The PAT recommended no increase in nitrate levels and a decrease in phosphorus levels, whereas Table 3-4 sets a limit of 10 mg/L at drinking water intakes and does not mention phosphorus.
- The PAT recommended a pathogen target level of <100cyst/100L, whereas Table 3-4 states there is “no MCL standard.”
- The PAT recommended a 10 year average of <220 mg/L and a monthly average of 440 mg/L for total dissolved solids, whereas Table 3-4 contains a target of 500 mg/L for drinking water intakes.
- The PAT recommended a monthly median of 50 NTU for turbidity. The turbidity level of 0.5 to 1.0 NTU contained in Table 3-4 is a treatment technology requirement for treated drinking water supplies, and use of this value is not necessary for raw water supplies.

Section 4 - Sources and Loadings of Parameters

Page 4-1 - The listing of sources of water quality parameters of concern in the Delta and its tributaries should also include timber harvesting, road construction, dairies and confined animal facilities.

Page 4-1 - Under the heading "Sources of Parameters" there is a discussion of mine drainage but there is no discussion of the other sources of parameters. Either the mine drainage discussion is out of place or the information on other sources of contaminants was inadvertently deleted from the report.

Page 4-2 - Loading of Parameters - This section should contain a discussion of each of the parameters, the sources, the loading calculations, the opinion of CALFED staff on the adequacy of the data used to estimate loads, and the opinion of CALFED staff on additional data needed to adequately characterize the loads. Although Section 3 of this report describes a number of on-going monitoring programs, it appears that the data used in the loading calculations were limited to a few sources. The Central Valley Regional Water Quality Control Board report on loading in 1985 is cited throughout the supporting appendix describing the loading calculations. Data from more recent and more extensive monitoring programs would provide a much better analysis of loads. For example, data should be used from the Sacramento Coordinated Monitoring Program, the urban runoff monitoring programs of major Central Valley cities, and wastewater effluent monitoring programs.

Page 4-4 - Background Loads - The report acknowledges the difficulties associated with not determining the background loads, particularly for trace elements, but then loads are presented with no footnote or explanation that acknowledges the problem.

Tables 4-1 through 4-10 - The columns in these tables should be consistent and should match the order in which data are presented in the corresponding figures. For example, all tables and figures should be ordered from upstream to downstream. A map showing the boundaries of the subwatersheds would be useful to readers of this report.

Table 4-1 - Bromide Loadings - Seawater is the major source of bromide to the Delta but the loading of bromide from seawater is not calculated. This table and corresponding figure imply that the San Joaquin Basin is the major source of bromide. In reality, much of the bromide loading from the San Joaquin Basin is due to recirculation of bromide in export water that is used in the San Joaquin Basin and then discharged back into the San Joaquin River. In Appendix C the formula for calculating annual loads is presented as follows:

$$\text{average daily load} \times \text{seconds per year} = \text{annual load}$$

The correct formula is:

$$\text{average daily load} \times \text{days per year} = \text{annual load}$$

Since the loading estimates presented in the main body of the report appear to be within an order of magnitude of the amount expected based on other sources, the formula was incorrectly typed in the report.

Table 4-2 - Cadmium Loading - The inconsistency between the basin emission loading calculation and the total loads from the individual sources is several orders of magnitude. The report should contain a discussion of why this occurs or point out that this difference casts doubt on the loading calculations. The municipal and industrial loads and the urban runoff loads for cadmium and other trace metals is based on data from 1985. Why did you select these data when there has been extensive testing of urban runoff for metals since about 1990 and there has been fairly extensive testing of metals in wastewater from the Sacramento Regional Wastewater Treatment Plant and possibly other wastewater treatment plants in recent years?

Table 4-6 - Selenium Loading - Loads of selenium from agricultural drainage in the San Joaquin Valley are not presented. The Grasslands Bypass Project has extensive information on concentrations and loads of selenium to the San Joaquin River. The data presented in the figure entitled "Selenium in the San Joaquin River Tributaries" for Salt/Mud Sloughs is outdated as a result of the Grasslands Bypass Project.

Table 4-8 - Total Dissolved Solids Loadings - Appendix C refers to the Study of Drinking Water Quality in Delta Tributaries prepared by California Urban Water Agencies as the source of the loadings for agricultural drainage and M&I wastewater. The numbers presented in Table 4-8 could not be derived by reviewing the loading analysis presented in the CUWA report. In addition, the footnote notations in this table do not correspond to the correct footnotes in Appendix C.

Table 4-9 - Total Organic Carbon Loading - Appendix C refers to the CUWA report and says that agricultural drainage for the Sacramento Valley was calculated based on the loadings from Mud and Salt sloughs. This is totally inappropriate because Mud and Salt sloughs are in the San Joaquin Basin, not the Sacramento Basin. The CUWA report presents loadings for the Sacramento Basin based on Colusa Basin Drain and Sacramento Slough. These two agricultural drains represent about 80% of the total agricultural drainage to the Sacramento River. Using the appropriate data from the CUWA report, the correct estimate of TOC loading from the lower Sacramento Basin would be around 15 to 18 million lbs/year; not the 7.7 million lbs/year presented in the report. Similar miscalculations of organic carbon loading are made for the other sources in the watersheds. Appendix C, footnote b (page C-16) also states that the CUWA report (Figure 4-1) shows that 4.75% of the organic carbon load in the Sacramento River is from agriculture. This is incorrect. The figure shows that the contribution from Colusa Basin Drain and Sacramento Slough ranges from 8 to 15%, depending upon the type of year and season. Appendix C, footnote d (page C-17) states that the CUWA report shows that 61.5% of the organic carbon load in the San Joaquin watershed is from agriculture. The CUWA report actually shows that about 43% of the load is from Mud and Salt sloughs. This same footnote refers to a monitoring program conducted by the Department of Pesticide Regulation between 1991 and 1993, although no data are presented. The DPR study did not include organic carbon monitoring.

Section 5 - Water Quality Problem Areas

The discussion of water quality problem areas is extremely cursory and weak. There are many references available from the State and Regional Boards and other sources that contain detailed descriptions of the many water quality problems in the Central Valley and the Delta. A fairly comprehensive reference is the Sanitary Survey of the State Water Project prepared for the State Water Contractors. Although the 303(d) list is a good starting point, there are many water quality problems that are not identified from that list (e.g. pathogens, organic carbon).

Page 5-1 - The heading refers to Agricultural Drinking Water Targets. "Drinking" needs to be eliminated from this heading.

Page 5-2 - The upper and lower Sacramento Basin are defined differently in this section than in the previous section. For example, in Section 4 Upper Sacramento Basin was defined as upstream of the dams whereas in Section 5 it is defined as Shasta Dam to Red Bluff. There should be consistency between the sections to avoid confusion.

Page 5-2 - The text attributing water quality problems to various sources differs greatly from the material presented in Appendix D. In the text, many of the water quality problems are attributed to urban runoff, whereas in Appendix D mercury is attributed to mines and most pesticide problems are attributed to agriculture.

Section 6 - Existing Programs

Page 6-1 - The text refers to a document possibly being available in spring 1997. The status of this document should be updated.

Page 6-3 - The Central Valley Regional Water Quality Control Board has not established an Inland Surface Waters Plan, as stated in the text. The State Water Resources Control Board is responsible for developing and implementing the Inland Surface Waters Plan.

Page 6-3 - The text refers to a list of municipalities interviewed about their discharges. No list is provided in the document.

Page 6-4 - The section on pathogens should discuss *Cryptosporidium* and *Giardia* and mention that municipal dischargers are not currently required to monitor for these pathogens.

Page 6-5 - The Grasslands Bypass Project should be included in the list of on-going programs.

Section 7 - Action Strategies

We are pleased to see that many of the comments of the NBA Contractors and the Ag/Urban Policy Group were incorporated into this document.

Appendix C

Many of the comments on Appendix C are presented in the comments on Section 4 of the report. The copy of Appendix C reviewed by the NBA Contractors was missing pages C-3 to C-6, C-11 to C-13, C-18 to C-33, and C-35 to C-38.

We appreciate the opportunity to provide comments to CALFED on the Draft Component Report and hope that our comments will be useful during preparation of subsequent Water Quality Program reports. Please call me at (707) 451-2904 if you have any questions on our comments.

Sincerely,



David B. Okita,
General Manager

cc: NBA Water Quality Committee
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