

CALFED WQTG Metals

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via e-mail

To: marshall@water.ca.gov

Dear Paul:

I am following up on my brief discussions with you at the Cache Creek mercury meeting to indicate again that I am highly interested in the proper regulation of metals in the Delta and the Delta watershed. Please add my name as a member of the heavy metals group.

If you will check the CALFED files over the past year you will find that I had repeatedly raised questions about the technical validity of the CALFED WQTG's inclusion of heavy metals in the parameters of concern under conditions where it is being assumed that the exceedance of a water quality standard for a heavy metal represents a water quality use impairment for which CALFED (State of California public funds) should be spent to control. In the early 1980's I was part of the US EPA peer review panel that reviewed the approach that the agency adopted for developing water quality criteria. I also served on several of the US EPA's heavy metal criterion document peer review panels. Further I have conducted extensive research for over 30 years on the water quality significance of heavy metals such as cadmium, copper, zinc and lead. I can unequivocally state that it would be a serious mistake for CALFED WQTG to proceed with development of a remediation program for control of heavy metal input to the Delta and/or its tributaries without first reliably defining where real water quality use impairments associated with heavy metals are occurring that are of significance to Delta resources.

As discussed in my previous correspondence sent to Rick Woodard, Judy Heath, and Lester Snow over the past 16 months, the approach that should be followed in developing a credible, CALFED heavy metal control program for the potential toxic heavy metals is to:

- 1) Critically examine and define where heavy metals are the cause of water quality problems/use impairments in the Delta and its tributaries. A use impairment should be defined as heavy metals causing toxicity to aquatic life that significantly adversely alters the numbers, types and/or characteristics of desirable aquatic life;
- 2) Evaluate the water quality significance of the use impairments to the Delta resources;
- 3) For those situations where there is a clearly defined use impairment that affects Delta resources, formulate a heavy metal control program that focuses on the specific sources of the heavy metals that are toxic to aquatic life. Do not assume that this is any way related to the total

concentrations of the heavy metals or even their dissolved forms. A combination of toxicity tests and appropriately conducted TIE's should be used in a forensic study framework to define the sources of heavy metals that need to be controlled;

4) In those situations which will be the most common situation encountered where there is insufficient information to define where the heavy metals at a particular location are causing a real significant water quality use impairment, develop a credible investigative program to determine whether the suspected water quality use impairment is a real use impairment. The areas where this will likely be most important are the areas where there is an exceedance of a US EPA water quality criterion (state standard) for a heavy metal or group of heavy metals.

Since CALFED does not have sufficient funds to control all exceedances of water quality standards within the Delta and its watershed, it is essential that the funds available be used to control real significant water quality use impairments within the Delta or the Delta watershed that adversely impacts the beneficial uses of Delta resources.

This is the technically valid, cost effective approach for developing a CALFED funded remediation program for potentially toxic heavy metals. It is the approach that has been agreed to for the control of mercury by the Cache Creek mercury TMDL group.

If there are questions about this approach, please contact me.

G. Fred Lee

cc: Dr. Val Conner
Dr. Chris Foe
Dr. Tom Mumley
Rick Woodard
Dr. Bruce Macler
Joe Karkoski
J. Bruns
W. Jennings
Lester Snow

Reference as:"Lee, G.F., 'CALFED WQTG Metals,' letter to P. Marshall, Water Quality Control Board, Sacramento, CA, April (1998)."