

G. Fred Lee & Associates

27298 E. El Macero Dr.
El Macero, California 95618-1005
Tel. (530) 753-9630 • Fax (530) 753-9956
e-mail: gfredlee@aol.com
web site: <http://www.gfredlee.com>

December 15, 2006

Julie Roth, Executive Director
DSCSOC

Julie,

At the December 13 LEHR Superfund site RPM meeting, C. Judal presented a discussion in which UCD attempts to show that DSCSOC had made an incorrect assessment of the unreliable approach that UCD had used in its Ecological Risk Assessment regarding sediment quality evaluation. A copy of the PowerPoint slide in question is presented below:

Sediment Values in Putah Creek Risk Assessment

- Multiple lines of evidence were evaluated:
 - Water and sediment concentrations evaluated to toxicity benchmarks
 - Comparison of sample results from points along reach of creek upstream, adjacent, and downstream of site. Results were used as screening values along with other measures to evaluate site-specific potential risk.
 - Aquatic toxicity bioassays
 - Benthic community indices
 - Modeling to wildlife
 - Historical information including land use and construction details of this artificial creek channel with steep sides that limits ecosystem development
- Evaluation of all these metrics in relation to the assessment endpoints selected for Putah Creek (i.e. protection and maintenance of freshwater sediment-associated community structure & function under conditions of chronic exposure) resulted in recommendation for no further action.
- Evaluation that was conducted is consistent with the approach Dr. Lee outlines in his memo as proposed by Sediment quality objectives steering committee and RWQCB
- Pass-fail, bright line regulatory limits were not used as stand-alone criteria

As I discussed at the time of C. Judal's presentation, UCD staff (and, for that matter, any consultants who were involved in the preparation of this slide) are making a significant error when they claim as presented in the last line, "Pass-fail, bright line regulatory limits were not used as stand-alone criteria." This slide, and this statement in particular, demonstrates a significant deficiency in UCD's understanding of sediment quality and water column water quality evaluation issues.

At the meeting, C. Judal stated that this slide was prepared in response to DSCSOC's October email to the RPMs regarding the SWRCB's completion of the first phase of its sediment quality objectives development. As was pointed out in DSCSOC's discussion of these issues, the SWRCB staff (which included independent review by an expert panel), after a several-year, several-million-dollar investigation, has confirmed again what has been known since the 1970s, that the total concentrations of chemical contaminants in sediments is an unreliable approach for assessing potential toxicity or impact on aquatic life. This makes cooccurrence-based sediment quality guidelines unreliable in conducting an Ecological Risk Assessment for the LEHR Superfund site.

Contrary to the statement made in UCD's PowerPoint slide, UCD did, in fact, use bright line pass-fail cooccurrence-based so-called "sediment quality guidelines" as stand-alone values in evaluating sediment quality in its Ecological Risk Assessment. With respect to the other items listed in this slide, they do not address this issue. Individuals knowledgeable in sediment quality and water quality understand that aquatic toxicity bioassays of the water column provide no information on sediment quality or sediment toxicity. No sediment toxicity tests have been conducted on Putah Creek sediments as part of the LEHR site investigation. As I indicated, in order to reliably assess sediment toxicity, it is necessary to conduct a sediment toxicity test.

As I have discussed in my comments on the Ecological Risk Assessment, the upstream-downstream studies conducted on Putah Creek water column are grossly deficient in reliably characterizing Putah Creek water quality as impacted by UCD's wastewater discharges, which includes LEHR wastes and stormwater runoff from LEHR. Further, they provide no information on sediment quality issues.

The statement, "Evaluation that was conducted is consistent with the approach Dr. Lee outlines in his memo as proposed by Sediment quality objectives steering committee and RWQCB," is a gross misrepresentation of the SWRCB's sediment quality objectives development approach and my discussion of it. Those who prepared this slide should have taken the time (and now should take the time) necessary to critically review and understand the results of the SWRCB sediment quality objectives development so that they do not continue to make significant technical errors and misrepresentation of the quality of the work that has been done in UCD's Ecological Risk Assessment.

I suggest that you pass this on to the RPMs.

Fred