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Comments on the Development of Sediment Quality Objectives for Enclosed Bays and Estuaries of California, CEQA Scoping Document

The Sanitation Districts of Los Angeles County (Districts) are grateful for the opportunity to provide comments on the development of Sediment Quality Objectives for Enclosed Bays and Estuaries of California as outlined in the CEQA scoping document dated August 17, 2006. By way of background, the Districts are a confederation of special districts that operate and maintain regional wastewater and solid waste management systems to provide sanitation services for approximately five million people who reside in 78 cities and unincorporated areas in Los Angeles County. The Districts own and operate five landfills and 11 wastewater treatment plants, including six water reclamation plants that discharge or intermittently discharge to the San Gabriel River or its tributaries and thus indirectly to the San Gabriel River estuary. The Districts support the State Board's efforts to maintain and improve the sediment quality in California's enclosed bays and estuaries and recognize that developing Sediment Quality Objectives is a difficult and scientifically complicated task. We would like to acknowledge the time and effort that the State Water Resources Control Board (SWRCB) staff and Science Team have devoted towards this project and commend their progress and effort towards the goal of developing scientifically defensible Sediment Quality Objectives (SQOs). We strongly support a framework based on current scientific understanding, realizing that continued research and data gathering are needed and that tools will likely be refined over time. We also commend the SWRCB staff for soliciting input from nationally recognized experts that make up the Scientific Steering Committee, the staff of the Regional Water Boards, and the diverse stakeholders that comprise the Advisory Committee.

Herein we provide comments on the CEQA Scoping Document as an opportunity to give productive feedback regarding Phase I in the development of Sediment Quality Objectives for Enclosed Bays and Estuaries in California.

Section 2.2, To What Waters Should the SQOs be Applied?

Although we support the staff recommendation of Alternative 3 and agree that to date there are not sufficient data to develop tools for estuaries, we are concerned about the use of "interim tools" in this habitat as currently discussed in the CEQA Scoping Document. As outlined in section 2.19, the interim tools described would not be applicable or scientifically defensible in an estuarine environment. They are also not consistent with the framework outlined for Direct Effects SQOs and are not supported by the Scientific Steering Committee (SSC). The strength of the proposed SQO program is that the interpretive tools provide multiple and mutually supporting lines of evidence forged from carefully vetted data sets collected from the habitats in which they are to be applied. The data necessary to develop such tools are currently unavailable for estuarine habitats within the state. Application of tools developed in other habitats or reliance on abbreviated evidence is arbitrary and scientifically indefensible. We request that the SWRCB not use such interim tools, and recommend that the SWRCB hold off until validated tools for estuaries in California can be established in Phase II of this process.

Section 2.10, What Lines of Evidence are Needed to Assess Sediment Quality?

As stated above, we strongly support the staff recommendation of Alternative 3, in which multiple lines of evidence (MLOE) are used. We also are impressed with the suite of tools that have been proposed for each MLOE and how they have been developed, evaluated, and validated from California data sets based on region and habitat. The extension of this scientifically sound approach to other habitats within the state (e.g., the Delta and other estuaries) in Phase II is necessary to achieve a consistent state-wide approach to assessing sediment quality.

Section 2.18, How Should the Data from Each Direct Effects LOE be Integrated?

We support Alternative 2, "Select an integration method that is based upon a transparent logic-based framework that has been evaluated for accuracy relative to experts and is supported by independent scientific peer review." This alternative will lead to a standardized approach to implementing SQOs statewide that is founded on good science.

Section 2.19, What are some of the Interim Tools that Could be Applied to the Delta and other Estuaries?

We strongly disagree with the SWRCB staff recommendation of Alternative 3. As stated previously, we encourage the SWRCB not to use such interim tools for the Delta and other estuaries of California during Phase I of the SQO development for the following reasons taken directly from the scoping document:

- a) "Only within southern California bays and most of San Francisco Bay was there enough data available to evaluate exposure and effects relationships."
- b) "Most estuaries including the Sacramento-San Joaquin Delta have not been monitored routinely to assess the impact of toxic pollutants to sediment dwelling organisms; therefore, very little combined effects and exposure data exists within these water bodies. Where data is available, it often consists of only one to three data points."
- c) "Clearly, the robust data set required to assess the relationship between exposure and biological effects to benthic communities are far too sparse for the development of assessment tools."

As stated in the CEQA Scoping document, there is currently a lack of data and understanding of the relationship between sediment chemistry, toxicity, and benthic ecology in the estuarine habitats of

California. Without this knowledge, an accurate assessment for sediment quality cannot be made. Therefore we request that the state postpone this action until appropriate tools can be developed.

It is important to note that the combination of sediment chemistry and toxicity tools proposed as an interim assessment model for the Delta in section 2.19 of the CEQA Scoping document are derived from embayments. Tools developed for embayments are not applicable to estuarine environments such as the Delta and thus are inappropriate to use in the implementation of enforceable objectives. The CEQA document states that "...there may be little or no correlation between organism response in embayments to that in estuaries." The reality is that, at this time, appropriate tools for all three lines of evidence are missing for the Delta and other estuaries, not just the benthic community tool as implied by the SWRCB staff's recommendation of Alternative 3. Choosing this alternative would likely waste valuable and limited agency resources that should be focused on the Phase II effort to collect the data necessary to development of a full set of validated tools.

Alternative 3 also undermines the proposed MLOE framework developed for California Bays where a scientifically compelling argument has been made for integrating three lines of evidence that consider both exposure and effects. Both the Science Team and the SSC have made strong arguments, on numerous occasions, for the need for all three lines of evidence to assure an accurate assessment for sediment quality. This approach is consistent with the state of scientific knowledge regarding chemical pollutants in sediments and with USEPA guidance and strategy for assessing sediment contamination in surface waters¹. The use of two lines of evidence as an assessment tool has been clearly demonstrated as inaccurate in defining sediment quality. Needless to say, the SSC has voiced even less confidence in a single line of evidence. For this reason, we also do not support Alternative 2: "Propose the use of a single LOE for delta waters". Both Alternative 2 and 3 abandon the scientific approach that the SWRCB staff and Science Team have diligently followed in Phase I of SQO development.

We strongly recommend the state adopt Alternative 1: "Do not propose any tools for implementing the narrative SQOs until data is collected in Phase II, and the technical team has the time to develop appropriate tools".

¹ For instance: EPA-823-R-04-007. The Incidence and Severity of Sediment Contamination in Surface Waters

"The ideal assessment methodology would be based on matched data sets of multiple types of sediment quality measures to take advantage of the strengths of each measurement type and to minimize their collective weaknesses".

"Studies have shown that overall, an integration of several methods using the weight of evidence is the most desirable approach for assessing the effects of contaminants associated with sediment...monitoring and development of sediment management programs should be planned and implemented to support weight-of-evidence assessments."

EPA-905-B02-001-B A Guidance Manual to Support the Assessment of Contaminated Sediments in Freshwater Ecosystems
Volume III Great Lakes National Program Office

"Sediment chemistry, sediment toxicity, and benthic community data can be used together in a sediment quality triad assessment to establish a weight-of-evidence linking contaminated sediments to adverse effects on sediment-dwelling organisms. The integration of multiple tools using a weight-of-evidence approach has the potential to substantially reduce uncertainty associated with risk assessment of contaminated sediment and thereby improve management decisions."

EPA-823-R-98-001 EPA's Contaminated Sediments Management Strategy April 1998

"EPA has developed a "weight-of-evidence" approach based on sediment chemistry and biological effects data for evaluating sites described in the inventory. The weight-of-evidence approach underwent peer review and was received favorably. OST plans to use this approach to identify sites in the inventory where contaminated sediment may be associated with probable adverse effects to human health or aquatic life"

Section 2.20, Should Interim Tools Sunset in SQO Plan?

Notwithstanding our comments above, if interim tools were employed for the Delta during Phase I, the Districts would support the sunset provision and favor more scientifically defensible tools to be developed/implemented in Phase II.

Section 2.21, How Could the SQOs be Applied?

This section is missing the discussion and selection of alternatives.

Section 2.22, How Should an Exceedance of an SQO be defined?

The Districts conditionally support the staff recommendation of Alternative 2, with the provision that this alternative be more clearly defined. As currently written, it is not clear if Alternative 2 refers to an exceedance being determined at a water body level or what the proposed methodology would be for integrating results from multiple sampling sites to determine the extent and magnitude of an impact. How an exceedance of the SQO is defined is a critical question and currently needs further explanation before we can offer comprehensive comments. Regardless, we do not support Alternative 1.

We recommend that SQO exceedance be determined at a site-specific water-body spatial scale and that a statistically meaningful sampling plan be developed for each water body using a sampling design tool such as Visual Sampling Plan (VSP)² or equivalent. These sampling design aids account for site-specific conditions and would provide a standardized methodology for developing monitoring programs to assess the SQO within a water body. They also help optimize the number of samples needed to assess an area of interest, providing efficient monitoring designs.

Section 2.24, Could the SQOs be Applied within NPDES Permits?

The Districts are conditionally supportive of SQOs being applied within NPDES permits as receiving water limits only.

As stated in the CEQA Scoping document, there are several factors that prevent reliable methods for the derivation of chemical-specific effluent limits for sediments. The inability to simply derive chemical-specific effluent limits in this complex setting underlies the MLOE approach taken by the SWRCB in developing SQOs. It is clear that chemical-specific effluent limits can only be determined by means of follow-on investigation of an SQO exceedance to determine the identity and source(s) of the causative agent(s) and the linkage between effluent and sediment concentrations. In addition, the Districts request that receiving water limits not be imposed on an NPDES permittee on the condition that the discharger is participating in a regional coalition to conduct an SQO monitoring and follow-up investigations.

Section 2.25, Should the Plan Include Follow-up Actions for Permittees when an Exceedance Occurs?

We appreciate that the SWRCB staff acknowledges that the Direct Effects tools presented in the SQO framework do not provide a mechanism for stressor identification or a linkage analysis to determine the source(s) of an impact. We support the need for such tools and request that more specific information be

² VSP is a publicly available software tool sponsored by the US Department of Energy, US Environmental Protection Agency, and the US Department of Defense. See the following websites:

<http://mccweb.agri.cmu.ac.th/Download/panomsak/apssnet/IEMSS2004/Proceeding/pdf/volatility/pulsvisu.pdf>

http://www.frtr.gov/decisionsupport/DST_Tools/VSP.htm

<http://dgo.pnl.gov/vsp/document.htm>

included in the policy on how stressor identification and linkage analysis would be accomplished in this process. An adaptive approach, implementing measures that reflect the best available scientific information, will be beneficial in addressing these issues.

Preliminary Draft Plan, Section V. C. Bullet 2, Water Bodies

Again, we are not in favor of the described modified framework for Direct Effects in areas/habitats that do not currently have all three lines of evidence fully developed. Use of such modified frameworks undermines the scientific integrity that has been built into the SQO MLOE approach.

Preliminary Draft Plan, Section V. H. Table 3.6, Logistic regression parameters for the California Pmax approach.

In situations where chemicals are measured as non-detect, please explain what number would be used in this chart to make such a calculation?

Preliminary Draft Plan, Section V. J., Missing Benthic LOE.

As stated previously in our comments on Sections 2.2 and 2.19, we do not support the use of only two lines of evidence as outlined in this section. This proposal is not scientifically defensible and undermines the foundation for the MLOE framework initially proposed for Direct Effects. The accuracy of a sediment evaluation based only on chemistry and toxicity is not quantified and thus arbitrary. Notwithstanding this objection, if the SWRCB proceeds without a full set of habitat-specific and validated tools, we propose that Table 3.10 be significantly modified to substitute any finding of "Clearly impacted, Likely impacted, and Possibly impacted" with an evaluation of "Inconclusive". A finding of "Inconclusive" would lead to further, more focused investigation of the site, including collection of benthic data. This approach will lead to a more accurate interim assessment and provide needed data towards the development of validated indices for those areas missing benthic index tools.

Preliminary Draft Plan, Section V. K., Exceedances and Listings.

Policy language surrounding SQO exceedances and subsequent listings is missing from the CEQA Scoping document. The Districts request that such language be added with a clear framework provided for how exceedances and listings would be determined.

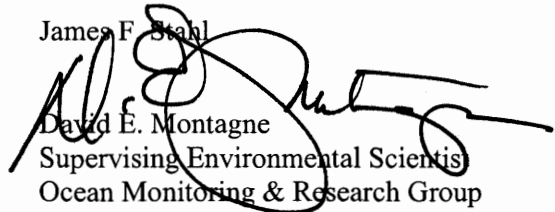
Preliminary Draft Plan, Section VII. Program of Implementation, Receiving Water Limits.

Please refer to our comments made on Section 2.24 regarding receiving water limits.

The Districts thank you for your careful consideration of these comments. If you have any questions concerning this letter, please contact Dave Montagne at (562) 908-4288, extension 2805.

Very truly yours,

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cc: Chris Beegan, SWRCB