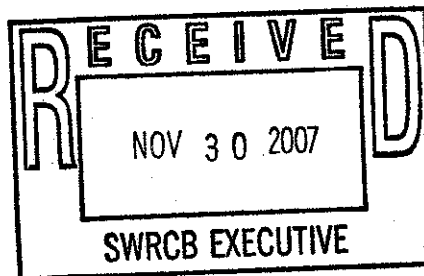




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November 30, 2007

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SUBJECT: "Comment Letter – Sediment Quality Objectives"

Tri-TAC and CASA hereby submit comments on the proposed Draft Phase 1 Sediment Quality Objectives (SQO) policy. As you know, Tri-TAC and CASA are organizations comprised of public agencies that treat wastewater in California. Together, our organizations represent most of the sewered population of the State and represent the agencies and their professional staffs that perform significant pollution control functions on a daily basis to protect the beneficial uses of the waters of the State.

We are grateful for the opportunity to provide comments on the draft policy. We wish to congratulate SWRCB staff and their Science Team on the development of the proposed Phase 1 Sediment Quality Objectives and implementation framework for toxic pollutants in California's enclosed bays and estuaries. Many in the United States have tried to tackle this difficult task, but few have been able to appropriately deal with the complexity and uncertainties associated with the regulation of sediment quality. We believe the scientific and policy approach that SWRCB has taken can lead to a rational regulatory program if the proposed principles and processes are adopted and properly implemented. Our comments are aimed at the clarification and refinement of those processes and the addition of policy statements to ensure that appropriate implementation is conducted.

With all that has been done to develop the policy to this point, however, the work is not yet done establishing a workable and efficient SQO

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program. A good foundation has been created to define and prioritize problems in bays, but additional work needs to be done (a) to test drive and adjust the new tools that have been developed, (b) to figure out how to establish the same system in estuaries, which will be equally or more difficult, and (c) to effectively implement the overall program to ensure that it is used properly and produces good solutions. Again, you will need to stay the course and provide resources, at a statewide level, to get this done.

Fundamental to the proposed SQO policy is the stepwise approach to SQO implementation, from the initial Multiple Line of Evidence (MLOE) assessments [which we strongly favor over single lines of evidence], to stressor identification, source assessment and management plan development, is essential. We see the SQO outcomes as analogous to toxicity results in ambient waters or in effluent. In each case, the initial result does not point to a management action. A series of steps are needed to get to that point. For SQOs, we first have to determine whether toxic pollutants are the cause – if so, which one or ones – and then proceed on to the management decisions. We understand that this takes time - but, by its very nature, the complicated work in this area will take time to complete. We strongly recommend that you resist temptations to short circuit the stepwise approach. The value of the information gained from this stepwise approach will be to inform management decisions. We favor starting with a manageable number of the biggest problems first to learn how to more quickly and effectively get through the steps.

We also wish to convey our appreciation and endorsement of the stakeholder process that the SWRCB has used in the development of the proposed SQO policy and framework. The process has provided opportunity for diverse stakeholder involvement, transparency in the development and evaluation of various scientific and policy approaches, and external oversight of complicated and difficult technical issues through the use of a national panel of sediment quality experts.

Regarding the policy itself, we support the fundamental approach to date to sediment quality objectives: the adoption of narrative sediment quality objectives that are then implemented through a Multiple Line of Evidence (MLOE) approach. The three lines of evidence that are essential to the proposed approach are (1) benthic community data, (2) sediment toxicity results and (3) sediment chemistry data. The use of these three lines of evidence, which reflect the potential for exposure to toxic pollutants and effects from that exposure, has been strongly supported by the national expert science panel. Conversely, the expert science panel has consistently warned the SWRCB that the use of either one or two lines of evidence in isolation will not yield scientifically supportable results.

A key to the proposed MLOE approach is the development, refinement and validation of testing procedures and numeric tools to be used in the implementation of the approach. The development of these tools has only been possible to date in coastal embayment of California where adequate data has been available. This tool development task, which is fundamental to the overall MLOE approach, has required ambient sediment quality data that has itself been validated and screened.

Due to a lack of adequate data, the proposed Phase 1 SQO policy has suggested an interim approach in California estuaries. That approach requires the use of three lines of evidence and requires the determination of effect for at least two lines to determine that a site is "Impacted". We have reservations regarding the application of this interim approach, given the lack of adequate information to properly establish tools and metrics for these evaluations. The development and interpretation of MLOE tools in estuaries is acknowledged by the Science Team and expert panel to be significantly more difficult than the work completed to date in coastal embayments. We strongly encourage the SWRCB to devote sufficient resources to expedite data collection and tool development in the Delta, northern San Francisco Bay and other estuaries in the state. This is particularly important because the determinations used to make these interim findings may lead to near-term management determinations.

Regarding the implementation provisions of the proposed SQO policy, we support the application of SQOs as Receiving Water Limitations in NPDES permits. This approach is a rational approach given the absence of causation information resulting from the initial test results that are determined in the SQO evaluation process. We advocate that the determination of whether a permitted source will cause or contribute to the violation of a sediment quality receiving water limitation should be made after the stressor identification studies are completed and toxic pollutants identified in those studies are linked to the permitted source through a source assessment evaluation.

We support the stepwise approach to stressor identification, target development and management actions that are prescribed in the policy. The proposed approach is analogous to the whole effluent toxicity approach that is currently applied in NPDES permits as described in the SIP. Under that approach, initial tests results lead to causation studies (i.e., Toxicity Identification Evaluations, which then lead to Toxicity Reduction Evaluations where responsible toxicants are identified). We have specific comments that seek to clarify the steps and to ensure that Regional Board's will follow those steps in implementation of the policy.

We also have specific comments regarding the steps to be taken in response to a determination that sediments in a water body are "Possibly Impacted", "Likely Impacted" or "Clearly Impacted". We support the imposition of a reasonable deadline of 180 days in the policy for completion of a draft work plan for the causation/stressor

identification/management studies for those sites listed in the "Clearly Impacted" categories. Further, we recommend a tiered response, wherein sites listed as Clearly Impacted would receive first priority in terms of resource commitment and initiation of follow-up studies; sites classified as "Likely Impacted" would be second priority. For sites listed in these two categories, we recommend that the policy establish a deadline for completion of the studies in the approved work plan within two (2) to three (3) years of approval of that plan by the Regional Board.

We agree with proposed policy language that water bodies that are listed as "Possibly Impacted" should be treated differently from water bodies that are determined to be "Clearly" or "Likely Impacted". We believe that sediments listed as "Possibly Impacted" have the greatest uncertainty in terms of impacts and will be the most difficult to evaluate to determine causative factors and management solutions. We request the addition of policy language that would specifically acknowledge the difficulties in determining causation or stressors for sites classified as "Possibly Impacted" and the likelihood that such studies may be inconclusive. Further, we request that, for "Possibly Impacted" sites, the policy lays out a finite approach consisting of (1) monitoring to confirm the SQO determination, (2) an initial stressor identification study and, (3) in the event of an inconclusive outcome of that study, either a one-time augmentation to that study or a suspension of further stressor identification studies pending the results of future routine SQO monitoring.

Detailed Comments

The following specific comments are referenced to Sections and pages of the proposed policy.

Section V.I. Integration and Interpretation of MLOE, Subsection 4.b. Relationship to the Aquatic Life – Benthic Community Protection Narrative Objective

The policy should be revised to state that Regional Boards "shall designate" (rather than "may designate") the category "Possibly impacted" as meeting the protective condition until studies demonstrate that measures of effects and exposure are not responding to toxic exposures in sediment and other causes of the observed responses are known to exist in a given water body.

Section V.J. Application of Aquatic Life – Benthic Protection to Other Bays and Estuaries

The use of the CA LRM tool and metrics in estuaries should be validated prior to its use in the interpretation and implementation of SQOs.

Additionally, the need exists to validate *the appropriateness of the selected sediment toxicity tests (Hyalella and Eohaustorius)* in San Francisco Bay and the Sacramento-San Joaquin Delta. Historic issues have existed regarding the grain size and other characteristics of San Francisco Bay sediments that may affect the toxicity test results for these species. If the validity of these test species is confirmed, the use of the threshold values listed in Table 13 for *Hyalella* and *Eohaustorius* test result interpretation must also be validated for use in estuaries.

Section V.J. Table 13 [page 19] and 14 [page 20]

We support the use of measures that indicate clear evidence of impact that is the intent of these tables. However, we request additional information to demonstrate that the use of reference ranges or intervals for chemical concentrations and benthic community data are proper thresholds of high exposure or high disturbance.

Section VII.F. Stressor Identification

Exceedance of the direct effects SQO indicates that pollutants are a "likely cause", but does not demonstrate conclusively that pollutants are the stressor driving an impact determination. The language of the policy should be modified to clarify this point.

Also, the policy needs to address the case where stressors cannot be determined. It is anticipated that this will be the case where the MLOE analysis indicates low level impacts to sediments, e.g., "Possibly Impacted" determinations. It is recommended that the policy state that, where stressors cannot be identified and toxic pollutants cannot be ruled out, that additional sediment monitoring shall be performed to confirm the initial SQO determination. A revised work plan should then be developed and implemented to make a final attempt at stressor identification. Completion of that work should satisfy follow-up study requirements.

Section V.I. Table 11

We are supportive of the "Inconclusive" determination, with the provision that follow-up studies be performed to address the specific facts for the sites in question. As an alternative, we are supportive of a reclassification of the three "Inconclusive" cases to the "Likely unimpacted" category.

Section V.F. Sediment Toxicity, Subsection 4 – Use of Supplemental Toxicity Tests
[page 10]

The process for approval of additional sediment toxicity test types and protocols should be specified in greater detail. The methodology for determination of values to be used in Table 4 must be screened and validated prior to use in interpretation of narrative objectives. The technical documentation for the values provided in Table 4 should be referenced.

Section V.F. Subsection 5 – Integration of Sediment Toxicity Categories [page 11]

The stipulation that values shall be rounded up to the next higher response category will lead to a conservative estimate of violations of the SQO. Where such rounding up occurs, it should be tracked and taken into account in causation studies and in the establishment of sediment management requirements. It should also be considered as part of the 303(d) listing determination. This is particularly important where "rounding up" causes a site to be classified as "Possibly impacted".

Section V.G. Benthic Community Condition, Subsection 4 – Integration of Benthic Community Categories [page 12]

The stipulation that where a median value falls between categories, it shall be rounded up to the next higher effect category, will lead to conservative outcomes regarding violations of the SQO. Where such rounding up occurs, it should be taken into account in causation studies and sediment management requirements. It should also be considered as part of the 303(d) listing determination. This is particularly important where "rounding up" causes a site to be classified as "Possibly impacted".

Section V.H. Sediment Chemistry, Subsection 3 – Integration of Sediment Chemistry Categories [page 15]

The stipulation that average values shall be rounded up to the next higher exposure response category will lead to conservative predictions of violations of the SQO. Where such rounding up occurs, it should be tracked and taken into account in causation studies. It should also be considered as part of the 303(d) listing determination. This is particularly important where "rounding up" causes a site to be classified as "Possibly impacted".

Section VII. C. Exceedance of Receiving Water Limit

The policy text should indicate that the stations included in an analysis to determine compliance with a receiving water limitation must be strongly linked to the discharge in question, e.g., located along a discharge gradient in the immediate vicinity of a discharge.

Likewise, the policy should state that the determination that a discharge is causing or contributing to an SQO exceedance must only be made after completion of stressor identification studies that link specific toxic pollutants in a discharge to the SQO exceedance.

Section VII.F. Stressor Identification, Subsection 3d – Multiple Sources

Clarify that the directive to Regional Board's to require dischargers to take all reasonable and necessary steps to address the SQO exceedance is predicated on the outcome of the confirmation and pollutant identification steps wherein causative pollutants have been identified and linked to the sources in question.

Section VII.G. Development of Site-specific Management Guidelines

We recommend deletion of the sentence that starts with "Although this relationship is not always easy...". We also recommend deletion of the approaches outlined in (b) and (c) as not being applicable to direct effects impacts.

Attachment B. Station Assessment Category Resulting from Each Possible MLOE Combination

Several of the outcomes of the 64 combinations of MLOE station assessments appear to be overly conservative. We request that the following specific station assessments be re-examined.

- No. 24: Consider ranking as "Likely unimpacted"
- No. 26: Consider ranking as "Likely unimpacted"
- No. 27: Consider ranking as "Possibly Impacted"
- No. 30: Consider ranking as "Likely unimpacted"
- No. 42: Consider ranking as "Possibly Impacted"
- No. 59: Consider ranking as "Likely Impacted"

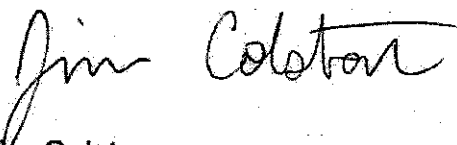
Appendix C – Direct Effects Station Assessment, Example Calculation

The example provided highlights the effect of rounding up. In the example provided, the sediment in question was listed as "Possibly Impacted" as a result of the "rounding up" of the chemistry result. If the result was rounded down, the result would have been a low exposure to chemicals, and the category in the LOE combination table would have changed from No. 38 to No. 22, "Likely Unimpacted".

The example provided also demonstrates the sensitivity of the approach to an individual test result. In this case, a single elevated concentration for mercury led to a result of "Moderate Exposure" in the California Logistic Regression Model (CA LRM). All other individual chemical results in the CA LRM were at a score of "Low Exposure", or less. The score for the sediment sample using the Chemical Score Index (CSI) led to a finding of "Low Exposure". As noted above, due to the rounding up approach, the CA LRM result ultimately led to a finding of "Possibly Impacted".

The policy or guidance should clarify how situations such as those shown in the example calculation should be addressed in the implementation of follow-up studies and management actions.

Again, Tri-TAC and CASA appreciate this opportunity to provide comments on this important policy document. Please let us know if we can help in the formulation of suggested language or can answer any questions regarding the above comments.



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Chair, Tri-TAC

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