



# Bay Area Clean Water Agencies

Leading the Way to Protect Our Bay

A Joint Powers Public Agency

P.O. Box 24055, MS 702

Oakland, California 94623

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Jeanine Townsend  
Acting Clerk to the Board  
Executive Office  
State Water Resources Control Board  
PO Box 100  
Sacramento, CA 95812-0100

[commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

**Subject Line: "Comment Letter – Sediment Quality Objectives"**

The Bay Area Clean Water Agencies (BACWA) appreciate the opportunity to provide written comments on this important policy document. BACWA provided oral testimony at the SWRCB workshop on the proposed policy on November 16, 2007.

As stated at the workshop, BACWA would like to commend your staff on its technical approach to the task of developing SQOs and on the transparent process that has been employed. We strongly support the way your staff and its Science Team has worked with the Scientific Steering Committee and the stakeholder Advisory committee through this process. We believe this has led to a strong draft policy. We believe the scientific and policy approach the SWRCB has taken can lead to a rational regulatory program if the proposed principles and processes are adopted and properly implemented. We also wish to convey our appreciation and endorsement of the 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.

BACWA wishes to indicate its strong support for the Multiple Line of Evidence (MLOE) approach to implementing the narrative SQOs for direct effects. We believe the science strongly indicates that the MLOE approach, coupled with **stressor identification**, is the only viable way to deal with the complicated issue of assessing whether toxic pollutants are impacting sediment quality. 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.

BACWA also supports the proposed use of the proposed SQOs in NPDES permits as receiving water limitations. We believe this is an appropriate approach coupled with the need to perform stressor identification and source assessment steps as a precursor to more definitive action. We endorse the proposed policy to use the stressor identification **and** source assessment steps to determine whether a discharge is causing or contributing to an SQO violation.

BACWA also is very much in favor of the proposed implementation of SQO monitoring at a regional level – this particularly makes sense in San Francisco Bay where the existing Regional Monitoring Program is in place and can be used to implement the needed data collection and follow-up studies.

We would like to emphasize the without the stepwise approach to applying the SQOs, with the stressor identification and the source assessment; we will not be able to measure the outcome of our management actions. This ability to measure is critical to the success of the program, and our shared success in water quality improvements.

### **Major Comments on Draft Policy**

Our comments are aimed at the clarification and refinement of the policy language and the addition of policy statements to ensure that appropriate implementation is conducted.

1. The Policy should explicitly state that the initial emphasis under the program will be on those sites in bays where the SQOs indicate a “Clearly Impacted” condition – we believe this approach will lead to appropriate actions as soon as possible at the sites that most need action and will inform later work on stressor identification and cleanup plans at sites with lesser evidence of impact.
2. The preliminary assessment for SF Bay using a limited data set from 2000 indicates many areas to be in the “Possibly Impacted” category. We will need to develop an effective approach to deal with **stressor identification** at these “Possibly Impacted” sites. As the first step, we need to resolve any questions that the SQO tools are indeed valid for SF Bay, including particularly the applicability of the sediment toxicity test organisms. Your staff and the Scientific Steering Committee acknowledge that stressor identification will be most difficult at these sites where the indication of impact is most uncertain.
3. SWRCB needs to provide adequate time and resources for tool development and validation in the northern portions of San Francisco Bay and in the Delta. The tools developed for the bays are not appropriate the estuaries. 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. Given the greater complexity of the estuarine sites, it should be expected

that equal or greater resources will be needed to develop tools of similar quality in these areas.

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. This is particularly important because the determinations used to make these interim findings may lead to near-term management determinations.

4. 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 (e.g. 180 days) in the policy for completion of a draft work plan for the causation/stressor identification/management studies for those sites listed in these three categories after the 303(d) listing has been approved. 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 support 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 sediment sites listed as "Possibly Impacted" should first be the subject of additional follow-up monitoring using the three lines of evidence to confirm the initial SQO outcomes. It is evident that these sites will 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 policy language that directly recognizes the difficulties in determining causation or stressors for sites classified as "Possibly Impacted" and that would limit the study effort for stressor identification to an initial and a subsequent attempt. This should be stated to satisfy study requirements until a next round of routine SQO monitoring is performed.

#### **Detailed Comments on Draft Policy**

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

Section VI. 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 (Hyaella 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 *Hyaella* 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 VI., 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 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, BACWA appreciates the opportunity to comment on the draft policy and looks forward to working with your staff to resolve final policy and language and to move forward to the development of procedures for implementation of the policy.

Sincerely,

A handwritten signature in black ink, appearing to read "Michelle Pla". The signature is fluid and cursive, with a long horizontal stroke at the end.

Michelle Pla  
Executive Director

Cc: BACWA Board of Directors  
Bruce Wolfe, EO Region 2 Water Board