STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY ARNOLD SCHWARZENEGGER, Governor

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11/19/07 Public Hearing
Enclosed Bay/Estuaries-SQO
Deadline: 11/30/07 by 12 p.m.

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November 30, 2007

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

Re: Proposed Water Quality Control Plan for Enclosed Bays and Estuaries of California, Sediment Quality Objectives

Dear Ms. Townsend:

We appreciate the opportunity to comment on the proposed Water Quality Control Plan (Plan) for Enclosed Bays and Estuaries of California, Sediment Quality Objectives (SQO).

First, we commend the State Water Resource Control Board (SWRCB) and Science Team for the approach taken and the excellent work to date that has gone into developing SQOs for the enclosed bays and estuaries of California. We particularly support the project structure that the SWRCB used in the SQO development effort, which included enlisting national sediment quality experts as peer reviewers and advisors on the Scientific Steering Committee, and interacting with diverse stakeholder representatives on the Advisory Committee to provide ongoing feedback to the Science Team; this has led to a scientifically based policy framework for SQOs.

Our comments on the draft Staff Report and proposed Plan are intended to provide productive input on the scope and content of Phase 1 of the Sediment Quality Objective Program in California. The comments are organized into broad and specific comments that match the structure of the proposed Plan.

The Department strongly supports your efforts in developing sediment quality objectives. We hope these comments are helpful. If you have any questions, please call me at (916) 653-4446.

Sincerely,

G. SCOTT McGOWEN
Chief Environmental Engineer

Enclosure

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COMMENTS ON PROPOSED WATER QUALITY CONTROL PLAN FOR ENCLOSED BAYS AND ESTUARIES OF CALIFORNIA, SEDIMENT QUALITY OBJECTIVES

Broad Comments

1. Support for Good Science – The Department supports the SWRCB's science-based, data-driven approach for developing sediment quality objectives for California coastal embayments. We support the multiple line of evidence (MLOE) approach, which is advocated by the national expert panel that the SWRCB convened for the SQO development effort. We also support the steps the SWRCB has taken to validate individual tools and their integrated application using actual data and independent reviewers. We urge the SWRCB to follow the same approach in developing and validating tools for water quality evaluations in the estuaries of California.

2. Timeline for SQO Compliance – The SWRCB should clarify that definitive timelines to comply with the proposed SQOs are not possible, given the complexities and uncertainties inherent in the determination of causative factors for SQO violations. The SWRCB should include a statement in Section VII. Subsection F, Part 3 (page 26 of the Plan) indicating that compliance schedules will be determined on a case-by-case basis.

3. Impact on Dredging Program Requirements – The Department is involved in numerous dredging operations in San Francisco Bay and potentially at other locations throughout the state. We support language in the policy that avoids redundancy and/or inconsistencies between the proposed SQOs and existing regulatory requirements for dredging.

4. Impact of Policy on Areas of Special Biological Significance (ASBS) – The Department requests that SQOs be used for and supersede requirements related to sediment quality impacts including ASBS. Clarification should be provided in Section VII. Subsection B (page 21 of the Plan).

5. Implementation Responsibilities – Department roads and facilities typically account for less than five percent of the area of most watersheds. Because of this, we request that the policy clarify that the monitoring costs to support SQO policy implementation should bear a reasonable relationship to the level of contribution from various permitted sources and other potentially responsible parties. Additionally, we request that the Department's contribution for monitoring also bears a reasonable relationship to its known constituents. Relate to this: the Department has spent many years investigating what constituents do and do not come from Department roads and facilities via stormwater and we should only be held responsible for constituents listed in the minimum constituent list, shown as Table F-7 of Appendix F from the Department's new statewide Stormwater Management Plan (June 2007), which is copied as the last page to this comment letter. Currently, the overlap between the constituents identified in the Proposed Plan (Attachment A of the Proposed Plan) and the Department's minimum constituent list consists of: total organic carbon, cadmium, copper, lead, and zinc.

6. Impact on TMDLs – The proposed SQOs represent the best available science for sediment quality or sediment toxicity issues. Where water bodies have previously been designated on the SWRCB's 303(d) list as impaired due to sediment quality, the policy should mandate that existing listings be re-examined after completion of the Stressor Identification and Development of Site-Specific

Management Guidelines phases. For example, TMDLs based on impaired sediment quality should be modified to reflect the SQO approach established in the policy. Where TMDLs for impaired sediments have been adopted, the policy should direct Regional Boards to use the SQOs in the adaptive management of the TMDL implementation plans.

7. Prioritization of Future Actions – The policy should:
   a. Prioritize investigations (stressor identification, source assessment and management plans) using the proposed SQO condition categories, focusing early implementation resources on "Clearly impacted" sites. This clarification should be provided in Section VII. Subsection F of the Plan.
   b. Prioritize the level of effort to be expended in addressing "Clearly impacted", "Likely impacted" and "Possibly impacted" sites. This clarification should be provided in Section VII. Subsection F of the Plan.
   c. Treat "Possibly impacted" sites differently from water bodies that are determined to be "Clearly impacted" 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 the policy for "Possibly impacted" sites 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. This Clarification should be provided in Section VII. Subsection F.

Note: Appendix D, High Priority Bay Protections Sites (as noted in the table of contents of the Staff Report), was not available during the review period, and additional comments may be directed to the SRWCB after its issuance.

8. Relationship of SQO to the BPTCP Program – The Department requests that the SWRCB address the relationship between these SQOs and the BPTCP program.

Comments Specific to Proposed Plan

Proposed Plan, Section V. Subsection I. Integration and Interpretation of MLOE, Part 4.b. Relationship to the Aquatic Life – Benthic Community Protection Narrative Objective (page 17)
We recommend revising the policy to state that Regional Boards "shall designate" rather then "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.

Proposed Plan, Section V. Subsection J. Application of Aquatic Life – Benthic Community Protection to Other Bays and Estuaries (page 17ff)

SWRCB should fund the development of tools and tests for estuaries equivalent to those developed for Bays. In particular, several tools and tests should be verified for accuracy and appropriatencss for use in estuaries before interpreting and implementing SQOs, including:

- CA LRM tool and metrics;
- Selected sediment toxicity tests *(Hyalella* and *Eohaustorius)* in San Francisco Bay and the Sacramento-San Joaquin Delta;
- Threshold values, such as those listed in Table 13 for *Hyalella* and *Eohaustorius*, and test result interpretations.

Proposed Plan, Section VII. Subsection F. Stressor Identification (page 24ff)

a. The policy language should be modified to clarify that exceedance of the direct effects SQO indicates that pollutants are a "likely cause", but does not demonstrate conclusively that pollutants are the primary stressor driving an impact determination.
b. It is recommended that the policy state that, where stressors cannot be identified and toxic pollutants cannot be ruled out, additional sediment monitoring shall be performed to confirm the initial SQO determination. A revised work plan should be developed and implemented as a last resort to identifying stressors and follow-up study requirements.

Proposed Plan, Attachment B [pages 32 and 33]

We support the "Inconclusive" assessment, with the provision that follow-up studies be performed to address the specific facts for the sites in question. As an alternative, we also support reclassifying of the three "Inconclusive" assessments to the "Likely unimpacted" category.

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

a. The process for approving additional sediment toxicity test types and protocols should be specified in greater detail.
b. The methodology for determining values to be used in Table 4 must be screened and validated before interpreting narrative objectives.
c. The technical documentation for the values provided in Table 4 should be referenced.

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

Rounding up will lead to a conservative estimate of violations of the SQO. Rounding up 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".

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

The comments made to *Proposed Plan, Section V. Subsection F., Part 5. – Integration of Sediment Toxicity Categories [page 11]* also apply here.

Proposed Plan, Section V. Subsection H. Sediment Chemistry, Part 3. – Integration of Sediment Chemistry Categories [page 15]
The comments made to *Proposed Plan, Section V. Subsection F., Part 5. – Integration of Sediment Toxicity Categories [page 11]* also apply here.

Proposed Plan, Section VII. Subsection C. Exceedance of Receiving Water Limit (pages 21 and 22)
The policy text should indicate that the stations analyzed to determine compliance with a receiving water limitation must be strongly linked to the discharge in question, e.g., located along a discharge gradient immediately near a discharge.

Likewise, the policy should state that determining when a discharge is causing or contributing to an SQO, exceedance must only be made after completed stressor identification studies conclusively link the specific toxic pollutant found in the discharge to the SQO exceedance.

Proposed Plan, Section VII. Subsection F. Stressor Identification, Part 3.d. – Multiple Sources [page 27]
It is recommended that the Plan more clearly require that, before a RWQCB obligate permitted dischargers to perform or implement additional efforts to address the SQO exceedance, causative pollutants must be identified and linked to the sources in question.

Appendix C – Direct Effects Station Assessment, Example Calculation
The policy or guidance should clarify how situations such as those shown in the example calculation would be addressed in implementing follow-up studies and management actions. In the example, the sediment was listed as "Possibly impacted" by 'rounding up' of the chemistry result. If the result were 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 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 scored "Low Exposure" or less.

Minimum List of Constituents Constituent/Parameter	Units	Reporting Limit
Conventional		
Conductivity	µmhos/cm	+/-1
Total Organic Carbon (TOC)	mg/L	1
Hardness as $CaCO_3$	mg/L	2
pH (lab measurement)	pH units	+/- 0.1
Total Suspended Solids (TSS)	mg/L	1
Turbidity	NTU	0.5
Nutrients		
Nitrate + Nitrite as Nitrogen (NO_3-N)	mg/L	0.1
Total Kjeldahl Nitrogen (TKN)	mg/L	0.1
Total Phosphorus	mg/L	0.03
Dissolved Ortho-Phosphate	mg/L	0.03
Metals (total recoverable and dissolved)		
Cadmium (Cd)	µg/L	0.2
Copper (Cu)	µg/L	1
Lead (Pb)	µg/L	1
Zinc (Zn)	µg/L	5
Nickel (Ni)	µg/L	1.0
Pesticides and Herbicides		
Chlorpyrifos	µg/L	0.05
Diazinon	µg/L	0.05

From Table F-7 of Appendix F of the Department's new Storm Water Management Plan [June 2007]