



# California Regional Water Quality Control Board Central Valley Region



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**Sediment Quality Obj.**  
Deadline: 11/28/06 5pm

Song Her, Clerk to the Board  
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## CENTRAL VALLEY WATER BOARD COMMENTS ON THE AUGUST 17, 2006 CEQA SCOPING INFORMATIONAL DOCUMENT ON DEVELOPMENT OF SEDIMENT QUALITY OBJECTIVES FOR ENCLOSED BAYS AND ESTUARIES

The California Regional Water Quality Control Board, Central Valley Region (Central Valley Water Board) staff has reviewed the State Water Resources Control Board (State Water Board)'s August 17, 2006 CEQA scoping meeting informational document entitled Development of Sediment Quality Objectives for Enclosed Bays and Estuaries (Scoping Document). Central Valley Water Board staff's comments on the Scoping Document are below. Staff has included comments on the scope and content of the environmental information to be included in the environmental document, as well as suggestions for the content of the proposed policy. Some aspects of the approach outlined in the Scoping document would not apply to the Sacramento-San Joaquin Delta (Delta) during the current phase of this project. However, since the entire policy may eventually be applied to the Delta, these comments are directed at the entire policy.

### **Comment #1:** *Strengths of the proposed methodology*

The proposed approach presents a methodology that appears to work well for assessing sediment quality at the sites for which it was developed. The approach is based on sites in enclosed bays for which there are a great deal of sediment chemistry, toxicity and benthic invertebrate data available and where the relationships between pollutant levels to toxicity and benthic condition are relatively well understood. The proposed methodology is also useful in that it provides a relative ranking of sites based on levels of certainty and severity of exceedances of sediment quality objectives, as opposed to a simple pass/fail ranking.

### **Comment # 2:** *The proposed narrative aquatic life sediment quality objective may not provide adequate levels of protection for sensitive aquatic organisms.*

The proposed sediment quality objective for the protection of aquatic life reads:

"Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic communities in bays and estuaries of California."

The proposed aquatic life sediment quality objective would only protect aquatic life against impacts on the community level, and therefore would appear to provide a lower level of protection than required by the Water Code. Section 13303 of the Water Code states that SQOs must provide "adequate protection for the most sensitive aquatic organisms". The proposed objective would also provide a lower level of protection than the narrative toxicity objective in the Water Quality Control Plan for the Sacramento and San Joaquin River Basin (Basin Plan), which states:

"All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life".

If the proposed narrative objective were adopted, pore water in Delta sediments could have a lower level of protection from toxicity than the rest of the waters in the Central Valley Region.

A higher level of impact would be allowed if the level of protection were set at the community level as opposed to the organism level. Showing "toxicity to benthic communities" would be much more difficult than showing detrimental effects to any sediment associated aquatic life. Toxic effects could occur to organisms and species before such impacts were manifest at the community level.

CEQA Scoping Comment:

The scope of the environmental document should consider the potential adverse environmental impacts of setting the level of protection at the community level rather than protecting the most sensitive organisms. The alternatives that should be considered include an objective to protect benthic organisms and an objective to ensure sediments are free of toxic substances in concentrations that produce detrimental physiological responses.

Suggested Policy Changes:

The sediment quality objective for aquatic life should establish a level of protection consistent with the Basin Plan's narrative toxicity objective and protective of all species of sediment dwelling aquatic life, as required by the Water Code. Central Valley Water Board Staff suggests the following change to the proposed aquatic life sediment quality objective language:

"Pollutants in sediments shall not be present in quantities that, alone or in combination, are toxic to benthic organisms ~~communities~~ in bays and estuaries of California."

**Comment #3:** *Lack of flexibility in the proposed objectives and policy could limit State and Regional Water Boards' sediment quality protection efforts and effectiveness.*

The proposed aquatic life sediment quality objective states that it shall be "implemented using MLOE [multiple lines of evidence] as described in Section IV of this policy." The approach that the policy mandates would require a high level of proof of environmental harm, determined using a very specifically dictated (and therefore limited) and very expensive assessment procedure, before sediment at a site could be determined to be impacted by pollutants. The language in the current draft policy suggests the sediment quality assessment procedure is mandatory, and grants no exceptions for situations where other techniques might be more

appropriate. While the tools and methodologies may work well for the data available, our understanding of benthic sediment pollution impacts is evolving. Also, in the future, new or previously unidentified pollutants may be detected in benthic sediments. Flexibility is necessary to allow the Water Boards to make the most appropriate, effective and timely responses to new information about sediment pollution.

CEQA Scoping Comment:

The scope of the environmental document should include the potential adverse impacts of limiting the Water Boards to the prescribed methodology. For example, pollutants (e.g. pyrethroid pesticides) not identified in the method may cause benthic organism impacts. However, the proposed assessment procedure would predict a lower effect level for pollutants not identified in the chemical exposure indices, which might restrict Regional Water Board action. The scope should also include analysis of alternatives that allow the Water Boards to utilize other appropriate methods for assessing attainment of narrative objectives.

Suggested Policy Change:

The sediment quality objective language should be changed to allow more flexibility and retain the ability of the Water Boards to make determinations using the facts specific to the site and the most current science and information (as we do in implementing water quality objectives), instead of being bound to a prescribed assessment procedure. Central Valley Water Board Staff suggests the following change to the aquatic life sediment quality objective language:

“This narrative objective shall be implemented using all available lines of evidence. MLOE as described in Section V of this policy provides the preferred methodology for combining multiple lines of evidence. Scientific or technical justification must be provided by Regional Water Boards conducting assessments based on modifications to the preferred methodology or an alternative methodology.”

**Comment #4:** *The data requirements and level of proof required for determining potential impacts under the proposed methodology could place limitations on State and Regional Water Board’s sediment quality protection efforts and effectiveness.*

The proposed methodology would require showing the presence of chemical contamination, toxicity due to that chemical contamination, and impacts on benthic communities due to the chemical contamination before sediments at a site could be considered impacted. The proposed methodology was developed in a data-rich environment as a way to more accurately predict chemically-mediated sediment impairments. While many enclosed bays may have dischargers with enough funding to support the data requirements of this methodology, many enclosed bays and estuaries do not. The policy appears to require a demonstration of impacts on biological communities prior to action being taken. If this is the case, the policy would be under-protective, because in some cases environmental harm would have to occur before a determination of impacted sediments could be made.

The approach of using median scores or averages of the contaminant, toxicity, and community metrics could effectively “hide” early warning signs of environmental impacts. The proposed methodology would use the average of multiple toxicity tests to determine the overall rank in the toxicity line of evidence. High toxicity to one species could be “averaged out” with other

less sensitive species. This might not be consistent with the Water Code mandate that the sediment quality objectives for enclosed bays and estuaries should provide “adequate protection for the most sensitive aquatic organisms.”

For the community line of evidence, the median scores from four benthic invertebrate assessment methods are used to determine the overall score for the benthic response line of evidence. Therefore, indications of high levels of disturbance in one or more benthic response method results could be “averaged out” by less-sensitive benthic assessment methods.

The proposed methodology determines the overall score for the chemical exposure line of evidence using two metrics. A high concentration for a given chemical in the CCS method does not necessarily result in a high score, since the weighting and averaging with many other chemicals can lower the overall score. The California Pmax approach appears to focus only on the probability of a single chemical causing toxicity (although it is the highest probability) rather than assessing the cumulative probability of an impact. The average of the two metric's scores is then used to determine the final chemical exposure category. As with the toxicity and benthic community assessments, this has the potential to “average out” potentially toxic concentrations. It should also be noted that different scales are used for the two chemical metrics (CCS can be greater than 3 and Pmax can be as high as 1). Taking the average of the two metrics gives inherently greater weight to the CCS method.

#### CEQA Scoping Comment:

The scope of the environmental document should include the potential effects of high data requirements on the Water Boards' ability to assess and respond to pollution of benthic sediments in a timely manner, and the potential environmental effects of those limitations. The scope should also consider an alternative that calculates all indices in the proposal, but applies the metric that predicts the greatest potential effect to represent a given line of evidence.

#### Suggested Policy Change:

There should be provisions in the methodology for dealing with limited data availability and encouraging collection of more data. The three lines of evidence provide useful information and should be considered and used when available and feasible. However, not all three lines of evidence should be required for a site to be considered impacted. The presence of very high chemical concentrations or high levels of toxicity alone would provide direct measures of sediment quality, and indicate impacted sediments. In addition, some dischargers may find it more cost effective to clean up sediments than to invest in expensive studies of ecological effects. The policy should be: 1) applicable to situations with limited data availability, 2) contain incentives for implementation of practices for reducing sediment pollution, and 3) provide for further data collection through conservative assumptions in lieu of missing lines of evidence.

The method for evaluating the individual lines of evidence should be changed so that sensitivities to severe effects are retained, instead of being averaged out with other tests.

#### Specifically:

- The toxicity score should be considered high if there are high levels of toxicity to a single species.

- The chemistry score should be considered high if there are potentially toxic concentrations of a particular pollutant or pollutant group.
- The benthic score should be sensitive to indications of benthic invertebrate impacts from any one of the benthic metrics.

**Comment #5:** *Determination of exceedances and responses*

Of the six station level assessment categories, only the unimpacted and likely unimpacted categories would represent conditions that are clearly protective of aquatic life from direct toxic effects. Depending on how the station level assessments are combined, the same is likely true for the waterbody assessments, so waterbodies categorized as possibly impacted and above should likely be considered in exceedance of the sediment quality objective.

The proposed policy describes a series of sequential focused studies to respond to exceedances of the aquatic life narrative sediment quality objective. While these focused studies could provide useful information, in some cases they could add unnecessary delay and expense before getting to cleanup actions.

CEQA Scoping Comment:

The scope of the environmental document should consider the environmental impacts of choosing a high threshold of evidence prior to taking action, since delays in cleanup action could result in greater the potential area and magnitude of impacts, and greater costs for remediation.

Suggested Policy Change:

When the station level assessments are combined, waterbodies categorized as “possibly impacted” and above should be considered to exceed the sediment quality objectives. Some further investigation should be required for the likely unimpacted category. For waterbodies where there is an exceedance of sediment quality objectives, the policy should be to move towards cleanup as quickly as possible, instead of requiring additional studies in every case.

**Comment #6:** *The human health sediment quality objectives and implementation policy need more analysis.*

Under Human Health sections of the policy, the specific policies being referenced are not cited or analyzed.

CEQA Scoping Comment:

The scope of the environmental document should include a clear expression and thorough analysis of the human health water quality objective and related policy language.

**Comment #7:** *Nonpoint source and indirect discharges should bear some responsibility for the monitoring of sediment quality in the Delta.*

In the Delta, a significant portion of the sediment pollution may originate from point and nonpoint sources that discharge both directly and indirectly to the Delta. If only the direct point source dischargers are made responsible for the monitoring requirements, an appropriate level of monitoring in the Delta may not occur, since there are over 140 Delta Waterways, which collectively are over 1000 miles long.

CEQA Scoping Comment:

The scope of the environmental document should include an analysis of the monitoring costs for assessing sediment quality and potential available revenues for monitoring. Alternatives to be considered should include requiring all direct and indirect dischargers to the Delta to fund monitoring, and some sort of gradation of monitoring requirements, such as including direct dischargers to the Delta plus indirect dischargers that are known sediment sources.

Suggested Policy Change:

The monitoring requirements of the policy should apply to all dischargers with significant potential to impact sediment quality, including nonpoint source and indirect dischargers, not just direct point source discharges.

***Comment #8:*** *The Estuarine Habitat beneficial use is not fully represented by the benthic community target receptor.*

The policy states that the proposed aquatic life objective will be protective of the estuarine habitat beneficial use. The estuarine habitat beneficial use includes fish, shellfish and wildlife. Wildlife may not be fully protected by protecting the benthic community due to bioaccumulation of contaminants. Therefore the proposed objective would not be fully protective of the estuarine habitat beneficial use.

Suggested Policy change:

The policy and environmental documents should clarify that an objective and program of implementation that protects wildlife from bioaccumulation will be needed to fully protect the Estuarine Habitat beneficial use.

If you have any questions about these comments, please feel free to contact Danny McClure at (916) 464-4751 or [dmmclure@waterboards.ca.gov](mailto:dmmclure@waterboards.ca.gov) or Joe Karkoski at (916) 464-4668 or [jkarkoski@waterboards.ca.gov](mailto:jkarkoski@waterboards.ca.gov).

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