

Heal the Bay

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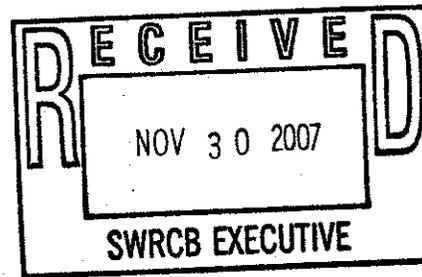
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November 30, 2007

Ms. Tam Doduc, Chair and Board Members
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Via Email: commentletters@waterboards.ca.gov



**Re: Comments on the Draft Water Quality Control Plan for Enclosed Bays and Estuaries;
Part 1 Sediment Quality**

Dear Chair Doduc and State Board Members:

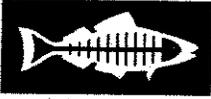
On behalf of Heal the Bay, we submit the following comments on the Draft Water Quality Control Plan for Enclosed Bays and Estuaries; Part 1 Sediment Quality ("SQO Plan" or "Plan").

Heal the Bay has been intimately involved in sediment issues for the last 15 years, including 10 years of participation on the Los Angeles Region Contaminated Sediment Task Force. As you may know, Heal the Bay resigned from the sediment quality objective ("SQO") stakeholder group after participating for six months. We made this decision largely because the vast majority of our comments were never addressed or taken seriously. Although we disengaged with the stakeholder group, Heal the Bay acknowledges the importance of developing technically-sound SQOs to differentiate between clean and impacted sediments. Thus, we have been involved in the process by attending and commenting at the State Board workshops and submitting written comments on draft reports. We appreciate the opportunity to provide these comments on the SQO Plan.

The stated purpose of the sediment quality objective development is to "...provide the State and Regional Water Quality Control Boards, stakeholders and interested parties with a technically robust mechanism to differentiate sediments impacted by toxic pollutants from those that are not consistently throughout the coastal regions." Staff Report at 1. Further, the California Water Code requires that SQOs be developed as part of a program to protect beneficial uses in bays and estuaries. After reviewing the SQO Plan, it is clear that these goals have not been met due to the technical approach taken by staff and the extremely limited application of the SQOs.

I. Technical Issues

There are several key elements in the technical approach taken by staff that do not adequately protect beneficial uses. Three of these issues are extremely problematic: limiting the applicability to the top 2 cm of sediment, selecting only one receptor, and requiring multiple lines of evidence to be integrated before sediment is deemed impacted. These issues are described in greater detail below. Also, other technical shortcomings are described in our November 28, 2006 letter to the State Board.



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Surficial Sediments

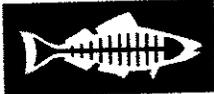
The SQO Plan designates the top 2 cm of sediments as the only sediments applicable to the SQOs. Staff reasons that "...the most direct exposure pathway for pollutants is through surficial sediments or the biologically active layer." Staff Report at 54. However, the Staff Report does not provide sufficient justification for limiting the scope to the top 2 cm of sediment. In fact, this decision appears extremely arbitrary and greatly limits the scope of the SQOs.

While it is true that the surficial sediments are the primary exposure pathway, limiting the scope to sediments in the top 2 cm is completely inappropriate. Examining just the very top layer of sediment does not give sufficient insight on the ecological health of the waterbody. Benthic species are known to inhabit much deeper sediments. Species such as ghost shrimp and spoon worms go down a meter or more into the sediments. When determining the appropriate thickness of a CAD cap for a pilot project in Los Angeles, the Los Angeles Region Contaminated Sediments Task Force found that bioturbation occurred several feet below the surface. Clearly, sediments that are buried below 2 cm can impact the benthic community. The SQO Plan states that the benthic community exposed to pollutants in sediment is the primary receptor, yet the benthic community is not fully protected with this limited scope. Also sediments can be dynamic and can move and be buried due to a single storm event. The State Board must consider deeper sediments, in order to understand the health of the water body.

Limiting the scope to the top 2 cm also creates an implementation problem. If the SQOs indicated that the top 2 cm are impaired, will a remediation effort only dredge the top 2 cm? Then will another monitoring event be conducted right away to make sure the next 2 cm meets the SQOs? Will the process go on and on? As a point of comparison, maintenance dredging projects typically remove at least the top meter of sediments and some of them remove 5 meters or more. Thus, the 2 cm designation is a huge logistical issue.

Receptors

Receptors are used to assess all the beneficial uses of a waterbody. Thus, the selection of appropriate receptors is vital to developing strong SQOs. In the SQO Plan, staff selects benthic communities exposed directly to pollutants in sediment as the sole receptor. (Apparently, a human health receptor will be considered in a later phase.) However, the benthic communities are only part of the picture. There are several important receptors that are absent from the SQO Plan. For instance, the SQOs completely ignore indirect receptors such as fish and wildlife. Exploring these indirect receptors in the development of SQOs is critical, as biomagnification can occur throughout the food chain. In other words, the benthic community could appear healthy, but other species may have been indirectly impacted. The impacts on fish and seabirds from DDT and PCB contaminated sediments off of Palos Verdes is a classic case of biomagnification with minor benthic community effects of much of the shelf. The Staff Report acknowledges this issue but does nothing to appropriately address these receptors. ("In these surficial sediments, the presence of pollutants has the greatest potential to affect valuable and sensitive receptors either through direct exposure or indirectly as the pollutants in surface sediments are transferred up the food chain to piscivorous fish and birds and finally humans.")



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Staff Report at 54.) Completing an ecological risk assessment at each monitoring location, as is suggested in the Staff Report, is impractical and calls into question the merit of the SQOs themselves. Thus, the State Board must address indirect receptors in the development of technically-sound SQOs.

Multiple Lines of Evidence

The SQO Plan relies on the integration of three lines of evidence to determine sediment impairment. The multiple lines of evidence approach is an ineffective way to determine if sediments are contaminated and impaired. Multiple lines of evidence are not always needed to identify that there is a problem that requires a response. This is especially true for toxicity. Toxicity tests act as the "safety net" for water quality and sediment quality monitoring because monitoring programs do not test for all constituents that can cause receiving water or sediment toxicity. The goal should be that all three tests are "clean." Further, the steps proposed to integrate the lines of evidence and determine impairment is extremely complex and subjective. The individual lines of evidence should be considered on their own merit.

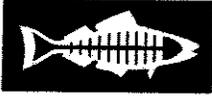
Also if monitoring data for all three tests are unavailable, the SQOs should still allow for a sediment assessment. Consider the hypothetical situation where multiple bioassays demonstrate toxicity, but there is no chemistry and limited community data. Under the multiple lines of evidence approach no assessment could be conducted, yet impact is likely. Of note, benthic community monitoring is rarely performed in potential hotspot areas except where there is a POTW NPDES Permit.

A margin of safety acts as a "safety net" in the event that incorrect assumptions were made or unknowns exist in the development process. The California Water Code defines SQO as "that level of a constituent in sediment which is established with an **adequate margin of safety**, for the reasonable protection of the beneficial uses of water or the prevention of nuisance." Emphasis added. Despite this explicit statutory requirement, the technical shortcomings in the approach as described above are not adequately protective of beneficial uses. Further, the SQO Plan describes no additional measures (explicit or implicit) to incorporate a margin of safety.

II. Application/Implementation Issues

The application of the proposed SQOs is unclear, and the SQO Plan provides little to no guidance to regional boards on how to implement the SQO Plan. Four applications of the SQOs are vaguely described in the SQO Plan: sediment cleanup actions, dredged materials assessment, impairment assessment, and NPDES permit development. However, there is not enough detail provided in the document to understand how implementation of the SQOs will occur. As written, the Plan will be difficult for the public to understand and utilize and difficult for agency staff and board members to translate into decisions.

The section (only a paragraph) on sediment cleanup actions maintains that SQOs in combination with a risk assessment would be necessary to determine the degradation of benthic communities. In other words, the SQOs on their own merit are not helpful. Further, the Staff Report states that



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the SQO Plan will not specifically address the application of SQOs to sediment cleanup actions and the Regional Board has the discretion to apply the SQOs to cleanup actions. If the regional boards can do what they want, how will consistency among regions be achieved? Further if a Regional Board were to employ the SQOs for cleanup determination, how would they determine what cleanup target to use? The proposed system makes it extremely difficult for an agency to utilize the SQOs for cleanup actions. Thus as written, the SQOs are not a "robust mechanism" to evaluate sediments for cleanup actions.

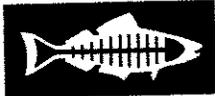
Another category of application outlined in the Staff Report is using the SQOs for dredged materials. However, the Plan only refers back to the California Water Code. Therefore, what value are the SQOs for assessing dredged material? Also, it is unclear how the SQOs would apply to any dredging situation, given that SQOs only apply to the top 2 cm. As stated in the SQO Plan, the SQOs do not apply to maintenance dredging projects. In our view, maintenance dredging projects have the biggest need for the SQOs. Most of the sediment analysis in California is part of the maintenance dredging regulatory process. Currently the Regional Board assesses numerous projects on a case by case basis. This is a huge waste of time that has led to inconsistencies throughout the state. We are extremely disappointed that maintenance dredging is not in the scope of the SQOs.

Next, the staff report states that SQOs would apply in 303(d) listing decisions. However, the staff report does not clearly state how this will be done. It simply refers back to the Listing Policy with no mention of how this evaluation will occur. Further, once impairment is determined, how will the regional boards be able to calculate an appropriate TMDL waste load allocation? The SQO Plan provides no guidance on these important implementation factors. Even if the regional boards determine that the sediment is impaired, they are provided no implementation direction.

Finally, the Staff Report states that the SQOs can be used as receiving water limits in NPDES permits. Further, it maintains that a stressor analysis can be completed to support TMDL development or remediation goals. This is equated to the Toxicity Identification Evaluation ("TIE") process currently used to assess the sources of water quality impairment. Arguably, the TIE process has not worked well for water quality so a similar approach for sediments is inappropriate. What happens if the discharger is unable to identify the source of toxicity? This occurs routinely in the TIE process. Does the Board recommend any further action? Does nothing happen? The SQO Plan does not provide any guidance for how this stressor will be completed and how a determination will be made to include receiving water limits for sediment.

III. Conclusion

Clearly, there is a great need in California for technically-sound sediment quality objectives. SQOs are extremely important to protect aquatic life and human health, streamline the regulatory process and standardize contaminated sediment regulation and management across all regions. The SQO Plan does not meet these goals. The approach taken in developing the SQO Plan is too complicated and is not fully protective of aquatic life. Further, the application of the SQOs is extremely limited. While we recognize that great time and effort has been spent by your staff on



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this draft, it is vital that these flaws are addressed before the SQO Plan is adopted. We urge the State Board to take strong leadership on this critical issue.

If you have any questions or would like to discuss any of these comments, please feel free to contact us at (310) 451-1500. Thank you for your consideration of these comments.

Sincerely,

Kirsten James, MESM
Water Quality Director

Mark Gold, D. Env.
President