

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**RESPONSE TO WRITTEN COMMENTS**

**ON THE REISSUANCE OF WASTE DISCHARGE REQUIREMENTS FOR:**

East Bay Regional Park District, Union Sanitary District, and East Bay Dischargers Authority  
Hayward Shoreline Marsh  
Hayward, Alameda County  
NPDES Permit No. CA0038636

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- I. State Water Resources Control Board – April 11, 2006**  
**II. East Bay Regional Park District, Union Sanitary District, and East Bay Dischargers Authority – April 13, 2006**  
**III. United States Environmental Protection Agency – April 18, 2006**
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*Note: The format of this staff response begins with a brief introduction of the party's comments, followed with staff's response. Interested persons should refer to the original letters to ascertain the full substance and context of each comment.*

**I. State Water Resources Control Board April 11, 2006**

Comment 1

*The State Water Resources Control Board (SWRCB) has concerns with regards to the fecal coliform effluent limitation established in the Tentative Order. The SWRCB points out that the limits appear to be carried over from the previous permit, and that the study used to justify those limits evaluated impacts from the East Bay Dischargers Authority (EBDA) and its member agencies' combined discharge to lower San Francisco Bay. The SWRCB point out that the conditions and dilution available in the immediate vicinity of the discharge point from Hayward Marsh to lower San Francisco Bay are different than where the study was conducted. For this reason, the State Board indicates that it would be appropriate for the NPDES Permit to include a confirmation study to document that the beneficial uses identified in the Basin Plan for lower San Francisco Bay (water contact recreation and shellfish harvesting) are protected.*

Response 1

We agree with the SWRCB comment, and we have included the following provision in the Tentative Order:

“Within 120 days of the effective date of this Order, the Dischargers shall submit a monitoring proposal (that includes portions of Hayward Marsh), and implementation schedule to confirm bacteriological levels in San Francisco Bay (near the discharge point from Hayward Marsh) are within Basin Plan objectives in Tables 3-1 and 3-2.”

Comment 2

*The SWRCB indicates that language in the Fact Sheet could be interpreted as dedesignating the beneficial uses of water contact recreation. It requests that the Fact Sheet clarify that the comment “..the receiving waters in the vicinity of the EBDA outfall are not used for water contact recreation” is a conclusion of the report, and that the Water Board is still protecting the beneficial uses of water contact recreation and shellfish harvesting with the effluent limitations contained in the Tentative Order. To address this concern, the SWRCB recommends some editorial changes to the Fact Sheet.*

Response 2

We revised the Tentative Order to clarify that the Dischargers must ensure that they are protecting the beneficial uses of water contact recreation and shellfish harvesting in lower San Francisco Bay.

**II. East Bay Regional Park District, Union Sanitary District, and East Bay Dischargers Authority (Dischargers) – April 13, 2006**

Comment 1

*The Dischargers requests that final limits for 4,4'-DDD, Heptachlor, and Heptachlor Epoxide be removed. To support this position, the Dischargers indicate that these legacy pesticides were not detected in Union Sanitary District's plant effluent, and that the EBMUD laboratory used aggressively low detection limits that may have increased the potential for anomalous results.*

Response 1

We are denying this request. This is because the SIP indicates that data should not be discarded unless there is evidence that a sample has been erroneously reported, is not representative of the effluent, or there are questionable quality control/quality assurance practices. In this case, we are unconvinced that the data provided is erroneous. However, should monitoring for these legacy pesticides over the next five years substantiate that they are not present (all data comes back as nondetect), final limits will be removed in the next permit. This would be consistent with State Water Resources Control Board Order WQO 2002-0011.

Comment 2

*The Dischargers request that if the Regional Water Board includes final limits for legacy pesticides that it express the final limits as interim limits because it is infeasible for the Dischargers to comply with final limits. Additionally, the Dischargers request that interim limits be set equal to the minimum levels in the SIP.*

Response 2

We modified the Tentative Order to grant this request. Interim limits will remain effective until May 17, 2010, which is maximum compliance schedule allowed by the SIP.

Comment 3

*The Dischargers request that the Tentative Order refer to the discharge as “reclaimed water” instead of “treated wastewater.” This is to recognize the environmental benefit associated with the project.*

Response 3

We modified the Tentative Order to include this request.

Comment 4

*The Dischargers request that footnote (1)(b) to Table 4 be amended to allow maximum daily effluent limitations to be met as a four-day average. The Dischargers point out that effluent limits were developed using water quality objectives and criteria that are based on a 4-day exposure, and therefore, effluent limits should be allowed to be met using an average of effluent data collected over four days.*

Response 4

We are denying this request because it is inconsistent with the SIP. The methodology in the SIP requires both average monthly and maximum daily limitations to ensure that water quality is protected. Averaging samples over a four-day period is inconsistent with the statistical methodology used to calculate final limits. For example, the maximum daily effluent limit in the Tentative Order for copper is 5.1 µg/L, while the chronic water quality objective is 3.7 µg/L. As such, averaging samples over four days to meet a maximum daily limit of 5.1 µg/L will not be protective of the chronic objective of 3.7 µg/L since Hayward Marsh is a shallow water discharge, and no dilution is allowed for this pollutant, which can be toxic to aquatic organisms.

Comment 5

*The Dischargers request that footnote (5) to Table 4 be amended to indicate that the minimum level for copper is 10 µg/L. This is because the Dischargers’ laboratory uses inductively coupled plasma to analyze samples for copper which, according to Table 2c in Appendix 4 of the SIP, has an associated ML of 10.*

Response 5

We are denying this request. The Dischargers will need to switch laboratories or instruct its laboratory to use an analytical method that has an associated ML of 2 or less. This will be necessary to document compliance with final copper limits (2.9 µg/L average monthly and 5.1 µg/L maximum daily) that will become effective on May 18, 2010, if a site-specific objective has not been developed for this pollutant.

Comment 6

*The Dischargers request that the Regional Water Board Standard Provisions incorporate modifications to recognize that written reports will be submitted as described in the Self-Monitoring Reports. Specifically, for Provision A.2 the Dischargers request that the following language be added and struck out. **“The modifications to the Standard Provisions include the following:***

***F.4 Revise the first paragraph to read “Written reports shall be filed regularly for each calendar month (unless specified otherwise) and filed no later than the fifteenth day of the following month as described under IX.B. Self Monitoring Reports (SMRs).”***

Response 6

We modified the Tentative Order to grant this request.

Comment 7

*The Dischargers request that the Water Board amend Provision 12 to remove the requirement to reduce pollutant concentrations for copper, mercury, nickel, and cyanide if the SSOs and TMDLs are not adopted by July 1, 2009. The Dischargers explain that the scientific work on the SSOs and TMDLs is complete, and that these efforts show the basis is technically sound. Additionally, the Dischargers indicate that they should not be held accountable if the SSOs and/or TMDLs do not overcome the political hurdles that remain.*

Response 7

We are denying this request. Since the Tentative Order grants compliance schedules and interim limitations for mercury, cyanide, copper, and nickel that end within the effective date of this permit, we are required by Section 2.2.1 of the SIP to establish interim requirements and dates to ensure that these limits are met. While we believe that a TMDL will address mercury, and that SSOs will address copper, nickel, and cyanide, the permit must have an alternative mechanism for how limits are met for these pollutants should the TMDL and/or SSOs remain unadopted.

Comment 8

*The Dischargers request that the Water Board modify Attachment C to more accurately reflect the current sampling locations. Specifically, the Dischargers request that the Water Board update the sampling locations for C-3A and C-3B.*

Response 8

We modified the Tentative Order to grant this request.

Comment 9

*The Dischargers request that the Modifications to Part A also include clarifying language regarding when receiving water samples are collected. The Dischargers explain that it is impractical to collect samples during lower slack water period at E-3 because water levels are very low at this point in the tidal cycle. For this reason, the Dischargers request that Paragraph C.4b be revised to read:*

***“Receiving water samples shall be collected during higher slack water period. Samples shall be collected within the discharge plume and down current of the discharge point so as to be representative, unless otherwise stipulated.”***

Response 9

We modified the Tentative Order to grant this request.

Comment 10

*The Dischargers request that total phosphorus monitoring requirement be linked to satisfying the requirement within Provision 9, the Marsh Management Plan, and that this modification be reflected within the Monitoring Reporting Program as well as the Fact Sheet. The Dischargers request this modification because phosphorus monitoring should be linked to satisfying the requirement within element d of Provision C.9, which requires an analysis on the use of vegetation to reduce algal growth, and will examine the feasibility of removing the most limiting nutrient (nitrogen or phosphorus). The Dischargers request that the Water Board add a footnote to tables E-2, E-4, E-5, E-6, and E-7 that states: “Total Phosphorus monitoring will be conducted for one year only, for use in the studies to be conducted under Provision C.9, for development of the Marsh Management Plan.”*

Response 10

We modified the Tentative Order to indicate that “Total Phosphorus monitoring shall be conducted for one year from the effective date of this Order.”

Comment 11

*The Dischargers request that the rationale for Monitoring and Reporting Requirements of the Fact Sheet be modified to recognize that total phosphorus monitoring will be conducted to satisfy the requirements of Provision C.9.*

Response 11

We are denying this request, as monitoring for a number of parameters, including nitrogen, will be needed to satisfy Provision C.9. We see no reason to single out phosphorus monitoring.

Comment 12

*The Dischargers request that the Water Board delete the footnote for Table 4 included in the Table of Contents on page 4.*

Response 12

We modified the Tentative Order to include this correction.

Comment 13

*The Dischargers request that the Water Board make the following modification to Provision C.5 to be consistent with the Napa Sanitation District Permit, and to recognize that Union Sanitary District has an existing Pollution Prevention Plan.*

*“The Dischargers shall ~~conduct~~, in a manner acceptable to the Executive Officer, continue to improve its’ Pollution Prevention ~~Minimization~~ Program to reduce pollutant loadings of copper, mercury, nickel, and cyanide to the treatment plant and therefore to receiving waters.”*

Response 13

We are denying this request. This is because in order to be consistent with the SIP we must require that that a Dischargers conduct Pollution Minimization for pollutants where we grant compliance schedules. Additionally, the language included in the Tentative Order is consistent with other permits adopted by the Board.

Comment 14

*The Dischargers request that the Water Board revise Provision 5.b to be consistent with the EBDA permit.*

*“The Discharger shall submit an annual report, acceptable to the Executive Officer, no later than ~~March 1 of each year~~ February 28 or August 30<sup>th</sup> of each calendar year. **For annual reports due February 28**, the annual report shall cover January through December of the proceeding year. **For annual reports due August 30<sup>th</sup>**, the annual report shall cover July of the preceding year through June of the current year. Annual reports shall include the following information:”*

Response 14

We are denying this request. Provision 5b refers specifically to the annual report regarding the Dischargers’ Pollution Minimization Program. Our standard permit language requires that we receive these reports by no later than March 1 of each year. We intend to revise the EBDA NPDES Permit accordingly when we reissue it later this year.

Comment 15

*The Dischargers request that Provision 9 be revised to refer to “Sewer System Management Plan” instead of “Sanitary Sewer Management Plan.” This revision is to be consistent with the Draft Statewide General Waste Discharge Requirements for Wastewater Collection System Agencies.*

Response 15

We modified the Tentative Order to grant this request.

Comment 16

*The Dischargers request minor modifications to Provision 9 to recognize that there may be some uncertainty in determining why unionized ammonia concentrations decreased, and salinity levels increased in Hayward Marsh. Specifically, the Dischargers request the following:*

- a) documentation of past marsh management activities to try to determine why unionized ammonia concentrations decreased significantly in Basins 3A and 3B between 2000 and 2005.*
- b) an explanation for significant increase in salinity in Basins 3A and 3B between 2000 and 2005 (e.g., documentation of tidal gate operation), if known.*

Response 16

We are denying this request. This is because the editorial changes proposed appear to reduce the Water Board's expectations for this technical submittal.

Comment 17

*The Dischargers request that the column header "Monitoring Location Description" in Table E-1 reference Attachment C so that the reader can readily identify monitoring station locations.*

Response 17

We modified the Tentative Order to include this reference.

Comment 18

*The Dischargers indicate that the units for copper, mercury, nickel, and cyanide in Tables E-2 and E-5 of the Self-Monitoring Program should be changed from mg/L to µg/L.*

Response 18

We modified the Tentative Order to include this correction. Additionally, we changed the units for 4,4'-DDD, Heptachlor, and Heptachlor Epoxide from mg/L to µg/L.

Comment 19

*The Dischargers request that the due date for monthly self-monitoring reports "shall be ~~no later than 30 days after~~ on the 1<sup>st</sup> day of the second month following the end of each calendar month." The Dischargers indicate that this change is to be consistent with the current permit, and language in a December 2, 2003, letter from the Regional Water Board.*

Response 19

We are denying this request. This is because our new direction is to require submittal of self-monitoring reports as indicated in the Tentative Order.

Comment 20

*The Dischargers request that Reasonable Potential Analysis Table in the Fact Sheet use a qualifier as "<" for nondetects.*

Response 20

We modified the Tentative Order to include this correction.

Comment 21

*The Dischargers request that the following language be deleted from the Fact Sheet since it is duplicative of previous findings and the rationale supportive of those findings.*

~~*As indicated earlier in the Fact Sheet, the derivation of net environmental benefit associated with this project is from the creation of wetlands in Basins 3A and 3B. The remaining portions of the marsh are used for treatment. As such, the compliance point*~~

~~for toxic pollutants (Table F-7) is at the point where treated wastewater is routed from treatment wetlands to waters of the State (i.e., from Basins 2A and 2B to Basin 3A).~~

~~Earlier in the Fact Sheet, the compliance point for conventional pollutants (Table F-6) is indicated as at the point where treated wastewater enters the marsh system (Basin 1), with the exception of chlorine residual which is evaluated after Basin 1. The reason that compliance for these pollutants is evaluated before marsh treatment is to ensure that Union Sanitary District is providing Hayward Marsh with adequately treated wastewater.~~

#### Response 21

We are denying this request. This is because we believe the above language is important for explaining the reason for different sampling points in Hayward Marsh for toxic and conventional pollutants. While the Dischargers indicate that the language is duplicative, we could not find anywhere in the Fact Sheet that contextualized the reason behind different sampling locations for different pollutants.

#### Comment 22

*The Dischargers request that the Water Board define the acronym “MRP” on page 41 of the Fact Sheet.*

#### Response 22

We modified the Tentative Order to include this correction.

### **III. United States Environmental Protection Agency – April 18, 2006**

#### Comment 1

*The U.S. EPA points out that its main concern is that the fecal coliform limitations do not appear to meet Basin Plan water quality objectives for protecting beneficial uses, as required by the Clean Water Act. At a minimum, EPA requests that the permit and fact sheet explain how the proposed limitations meet the water quality objectives associated with the designated uses for receiving waters. Additionally, EPA recommends a monitoring program to determine the ambient conditions for indicator organisms, including E-coli and enterococcus both within the Marsh and the Bay. EPA indicates that it considers Table 4-2 of the Basin Plan to be an implementation provision for the Water Board’s NPDES program, and that it does not consider the Table 4-2 Total Coliform numbers to be water quality objectives. EPA explains that NPDES Permits must contain water quality based effluent limits that meet the objectives in tables 3-1 and 3-2. While the draft Fact Sheet addresses the exemption to Table 4-2, EPA points out that it does not discuss how the water quality objectives in Tables 3-1 and 3-2 will be met through the proposed limits in the Tentative Order. It indicates that the proposed limit of a five-day log mean fecal coliform density of 500 MPN/ 100 mL, and a ninetieth percentile value of 1,100 MPN/ 100 mL are substantially higher than fecal coliform objectives in Table 3-1 associated with water contact recreation and shellfish harvesting.*



*To comply with Clean Water Act requirements, effluent limits in the permit must meet existing water quality objectives in established receiving waters. EPA indicates that if the Water Board wishes to change the beneficial uses designated under the Clean Water Act, or to develop site-specific objectives, the Water Board may do so only in accordance with 40 CFR 131.10, and that such revisions would not be effective for Clean Water Act purposes until approved by EPA..*

#### Response 1

We expect that the effluent limits contained in the Tentative Order will meet Basin Plan objectives near the discharge point from Hayward Marsh to San Francisco Bay. This is because Union Sanitary District disinfects treated wastewater to a level (median not greater than 500 MPN/100 mL) where further treatment in its constructed wetland should be sufficient to ensure that human sources of bacteria are below Basin Plan objectives for water contact recreation and shellfish harvesting. According to *Wastewater Engineering* by Metcalf & Eddy, natural systems are capable of removing almost all major and minor constituents in wastewater, including microorganisms. Specifically, *Wastewater Engineering* states: “natural treatment systems are capable of reducing microorganism concentrations by several orders of magnitude but, in general, do not provide sufficient removal to eliminate the need for disinfection where bacterial limits are placed on the system effluent.” In this case, disinfection to a level of 500 MPN/100 mL coupled with several orders of reduction in the Dischargers’ constructed wetland should reduce human sources of fecal coliform to levels below the most stringent Basin Plan objective.

In order to confirm that the fecal coliform limitations contained in the Tentative Order are protective of beneficial uses in San Francisco Bay, the Order has been modified to require a study that confirms that bacteria are below the Basin Plan objectives where Hayward Marsh discharges to San Francisco Bay (see Response 1 to the State Water Resources Control Board comment 1).

Another aspect of USEPA’s comment is that it appears to suggest that water contact recreation and shellfish harvesting are applicable to Basins 3A and 3B of Hayward Marsh, and therefore, the Tentative Order must document how the bacteriological criteria in Tables 3-1 and 3-2 are met within these basins. We disagree. This is because (a) the Dischargers have effectively limited public access to Hayward Marsh, and (b) the Basin Plan allows for the beneficial uses of wetlands to be determined site-specifically, as needed.

On public access to Hayward Marsh, there is a fence that surrounds nearly all of Hayward Marsh. The fenced areas also include signs that alert the public to the use of recycled wastewater. In other areas, the public would need to traverse channels and moats to reach areas that receive recycled wastewater. There is only one exception and that is the discharge channel from Hayward Marsh to the Bay. To address potential public access in this area, we are modifying Provision C.10 of the Tentative Order to require that the Dischargers post additional signs.

Equally important, the Basin Plan does not identify beneficial uses for Hayward Marsh, which is surrounded by moats, and not contiguous with other wetlands. Specifically, the Basin Plan states: “Because of the large number of small and non-contiguous wetlands, it will probably not be practical to delineate and specify beneficial uses of every wetland area. Therefore, beneficial uses may be determined site-specifically, as needed.” In this case, the Water Board does not believe that, at this time, it is appropriate to include water-contact recreation and shellfish harvesting as beneficial uses when the Basin Plan allows these to be determined site-specifically, as needed, and there is no documentation that such uses occur. Accordingly, we have modified the Tentative Order to describe the restrictions to public access that would prevent use of Basins 3A and 3B for water contact recreation and shellfish harvesting. In order to designate beneficial uses for Basins 3A and 3B of Hayward Marsh, we have modified the Tentative Order to include the following provision:

“To support a future Basin Plan amendment designating beneficial uses of Basins 3A and 3B of Hayward Marsh, the Dischargers shall:

Task	Due Date
Summarize all information available on the uses of Basins 3A and 3B	November 1, 2006
In conjunction with input from Water Board staff, submit additional information that will enable the Water Board to conduct a use attainability analysis for Basins 3A and 3B	November 1, 2007”

Comment 2

*In section VI.B.2 of the draft permit there is a discussion of alternate limits for cyanide based on the draft cyanide site-specific objective. EPA recommends that the Water Board check with its legal council to determine whether the language is appropriate. Additionally, EPA points out that the numbers in the draft permit may need to be presented with a caveat because there is no assurance that the final SSO will contain the numbers presented in the draft permit.*

Response 2

To address this comment, we modified section VI.B.2 Alternative Cyanide Effluent Limitation to include reference to the Fact Sheet that summarized the assumptions used in calculating the alternative limits. So if these assumptions should change during the SSO adoption process, the alternate limits would not take effect. Additionally, the cyanide SSO would likely require pollution minimization measures. As such, the permit has also been revised to require the Dischargers to implement these measures as a condition of receiving the alternative cyanide limits.

Comment 3

*Regarding compliance schedules, USEPA recommends adding “whichever is sooner” to end of both sentences in footnote (2) to Table 4 (Section B).*

Response 3

We modified the Tentative Order to include this addition.

Comment 4

*USEPA recommends adding the following sentence to Attachment E (MRP), paragraph I.B., prior to the last sentence of the paragraph. “Equivalent methods must be more sensitive than those specified in 40 CFR 136, must be specified in the permit, and must be approved for use by the Executive Officer, following consultation with the State Water Quality Control Board’s Quality Assurance Program.”*

Response 4

We modified the Tentative Order to include this addition.