California Regional Water Quality Control Board
San Francisco Bay Region

RESPONSE TO WRITTEN COMMENTS
on July 2011 Tentative Order for
East Bay Regional Parks District (EBRPD), Union Sanitary District (District), and East Bay Dischargers Association (EBDA); Hayward Shoreline Marsh
Hayward, Alameda County

The Regional Water Board received written comments on a tentative order distributed for public comment from the following parties:

1. US Environmental Protection Agency (USEPA), dated August 8, 2011
2. Union Sanitary District, dated August 8, 2011
3. Bay Area Clean Water Agencies (BACWA), dated August 8, 2011
4. Regional Water Board Staff-Initiated Revisions

This response to the above comments summarizes each comment in *italics* (often quoted and sometimes paraphrased for brevity) followed by the Regional Water Board staff response. For the full context and content of each comment, refer to the comment letters. Regional Water Board staff also initiated revisions to the tentative order. Revisions are shown in ~~strikeout~~ for deletions and <u>underline</u> for additions.

US ENVIRONMENTAL PROTECTION AGENCY

USEPA Comment 1.
Discharge Point E-l effluent limits for fecal coliform. *The 2006 permit specifies fecal coliform effluent limits for the inlet to Basin 1 of the Hayward Marsh treatment ponds, expressed as a 5-day log mean of 500 MPN/100 mL and a 5-day 90th percentile of 1,100 MPN/100 mL, with a weekly monitoring frequency [These same effluent limits are also used to protect the designated beneficial use of REC-1 in Lower San Francisco Bay, following initial dilution provided by the East Bay Dischargers Authority's common outfall]. The draft permit proposes slightly revised fecal coliform effluent limits. Concurrently, in a separate water quality standards action, the Regional Water Board is proposing to de-designate the water contact recreation (REC-l) beneficial use for Hayward Marsh (Ponds 3A and 3B). When this water quality standards amendment becomes effective for Clean Water Act purposes, the applicable water quality objectives for bacteria indicators in Hayward Marsh will be based on the protection of non-contact water recreation (REC-2).*

Current monitoring data for fecal coliform show that the quality of effluent discharged to Basin 1 is better than necessary to protect the REC-2 beneficial use. We recommend that the fecal coliform effluent limits in the 2006 permit, representing current performance, continue to apply in the reissued permit. This ensures that the current level of water quality protection achieved in Hayward

Marsh (Ponds 3A and 3B) remains at the level required by the State's antidegradation policy. Considering the marsh's unique environmental setting and presence of endangered species, we advocate that future permits should not allow backsliding from the current performance levels for fecal coliform discharged to Basin 1. Also, we recommend that performance based fecal coliform effluent limits in future permits be expressed with averaging periods and sampling frequencies that can be readily compared with applicable Basin Plan objectives for bacteria indicators.

Response to USEPA Comment 1.
We agree. The fecal coliform limit in the Revised Tentative Order reflects the status quo, without relaxation. The wording of the Revised Tentative Order differs, however, from both the previous permit and the original tentative order. The previous permit (Order No. 2006-0031) specified fecal coliform limits as follows:

> The effluent shall not exceed a five day log mean fecal coliform density of 500 MPN/100 mL and a ninetieth percentile value of 1,100 MPN/100 mL.

Unfortunately, a "five day log mean" is meaningless when only one sample is required per week. Moreover, the previous permit did not specify the number of samples nor sampling period upon which to base the ninetieth percentile. In our effort to be clearer and more specific in the tentative order, we misstated the actual current practice.

In practice, the Dischargers collect two fecal coliform samples each week. Each time, we evaluate compliance based on the geometric mean of the most recent five samples. We evaluate the ninetieth percentile as the second highest value out of the most recent eleven samples. The Revised Tentative Order reflects these practices.

We revised Section IV.B.2 as follows:

2. **Effluent Fecal Coliform Bacteria Limitations at Monitoring Location E-1:** Treated wastewater shall meet the following limits for bacteriological quality:

   a. 5-~~day~~sample geometric mean fecal coliform density of 500 MPN/100mL.

   b. 11-sample 90th percentile value of ~~the most recent ten samples of~~ 1,100 MPN/100mL.

We revised Attachment E, Table E-2, to require two fecal coliform samples per week at monitoring location E-1 instead of just one.

We revised Fact Sheet section IV.C.5 as follows:

5. **Fecal Coliform Bacteria**

   This Order retains the fecal coliform effluent limitations from the previous Order to protect non-contact recreation beneficial uses (REC-2). These effluent limitations (5-sample ~~day~~ geometric mean <500 MPN/100ml; ~~ten~~ 11-sample 90th percentile <1,100 MPN/100ml) are more stringent then the fecal coliform water quality objectives for non-contact water recreation contained in Basin Plan Table 3-1 (30-day mean <2,000 MPN/100ml; 30-day 90th percentile <4,000 MPN/100ml). Although the previous

permit did not specify that the 90th percentile limit is to be based on the most recent ~~ten~~ 11 samples, that is how the 90th percentile limit has been implemented for many years~~values are calculated in the 1995 *Justification for Fecal Coliform Effluent Limitation* report, discussed below, that justifies fecal coliform limits instead of total coliform limits for EBDA and Hayward Marsh~~. This Order clarifies the 90th percentile limit.

We revised Fact Sheet section VI.A as follows:

> .... Changes in marsh influent monitoring at Monitoring Location E-1 (defined in the MRP) are summarized as follows:
>
> - The MRP increases the fecal coliform monitoring frequency to twice weekly.
> - The MRP eliminates annual monitoring for 4,4'-DDD, heptachlor, and heptachlor epoxide because the data no longer show Reasonable Potential for these pollutants. ...

These performance-based limits are expressed with averaging periods and sampling frequencies essentially comparable to the water quality objectives. Based on twice-per-week sampling, the "five-sample geometric mean" represents a shorter period than the "30-day geometric mean" of the water quality objectives; therefore, the "five-sample geometric mean" is a more conservative measurement. The 11-sample 90th percentile corresponds to about 5.5 weeks, which is roughly comparable to the 30-day basis of the water quality objectives.

USEPA Comment 2.
Human health (organisms only) criteria protecting Estuarine Habitat designated use. *We note that the draft permit and fact sheet omit the application of human health (organisms only) criteria protecting the Estuarine Habitat (EST) beneficial use in the Hayward Marsh (Ponds 3A and 3B). Based on our telephone conversation of August 1, 2011, we have your assurance that this inadvertent omission will be corrected in the final permit. The final permit will incorporate a revised reasonable potential analysis and any WQBELs necessary to protect the EST beneficial use through the application of human health criteria, following procedures in sections 1.3 and 1.4 of the State Implementation Policy.*

Response to USEPA Comment 2.
We corrected the reasonable potential analysis, and found reasonable potential for three additional pollutants: benzo(a)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene. We revised the tentative order accordingly, including Fact Sheet Tables F-8, Reasonable Potential Analysis Summary, and F-9, WQBEL Calculations. We made the following additional revisions:

We revised Table 7, Water Quality-Based Effluent Limitations, as follows (including revisions to the ammonia limits in response to Union Sanitary District Comment 2):

Table 7. Water Quality-Based Effluent Limitations

Parameter	Units	Effluent Limitations	
		Average Monthly Effluent Limit (AMEL)	Maximum Daily Effluent Limit (MDEL)
Copper (1)	µg/L	12	20

Parameter	Units	Effluent Limitations	
		Average Monthly Effluent Limit (AMEL)	Maximum Daily Effluent Limit (MDEL)
Cyanide	µg/L	6.7	15
Nickel [1]	µg/L	20	27
Benzo(a)anthracene	µg/L	0.049	0.098
Benzo(b)fluoranthene	µg/L	0.049	0.098
Benzo(k)fluoranthene	µg/L	0.049	0.098
Total Ammonia	mg/L as Nitrogen	~~27~~34	~~66~~120

[1] Metals limitations are expressed as total recoverable metal.

We revised Table E-5, Treatment Basins 2A and 2B Effluent Monitoring – Monitoring Locations C-2AE and C-2BE, as follows (including revisions to the copper, nickel, and cyanide monitoring frequencies in response to Union Sanitary District Comment 6):

Table E-5. Treatment Basins 2A and 2B Effluent Monitoring – Monitoring Locations C-2AE and C-2BE

Parameter	Units	Sample Type[1]	Minimum Sampling Frequency
pH	s.u.	G	1/Month
Total Ammonia (as N)	Mg/L	G	1/Month
Nitrate Nitrogen	Mg/L	G	1/Month
Salinity	ppt	G	1/Month
Chromium (VI), Total Recoverable	µg/L	C-24	1/5 Years
Copper, Total Recoverable	µg/L	C-24	1/~~Month~~Quarter
Nickel, Total Recoverable	µg/L	C-24	1/~~Month~~Quarter
Cyanide, Total Recoverable	µg/L	C-24	1/~~Month~~Quarter
Benzo(a)anthracene	µg/L	G	1/Year
Benzo(b)fluoranthene	µg/L	G	1/Year
Benzo(k)fluoranthene	µg/L	G	1/Year

We revised Fact Sheet section IV.D.3.d as follows:

d. Reasonable Potential Determination. The MECs, most stringent applicable water quality objectives, and background concentrations used in the RPA are presented in Table F-8 below, along with the RPA result (yes or no) for each pollutant analyzed. Reasonable Potential was not determined for all pollutants because WQC do not exist for all pollutants and monitoring data were unavailable for others. The RPA determined that copper, nickel, cyanide, benzo(a)anthracene, benzo(b)fluoranthene, benzo(k)fluoranthene, and ammonia demonstrate Reasonable Potential.

We added the following to Fact Sheet section IV.D.4.b:

(5) Benzo(a)anthracene

(a) Water Quality Objective. The most stringent water quality objective is the CTR human health objective (organisms only) of 0.049 µg/L.

(b) RPA Results. This Order establishes effluent limitations for benzo(a)anthracene because the MEC (0.14 µg/L) exceeds the most stringent water quality objective for this pollutant (0.049 µg/L), demonstrating Reasonable Potential by Trigger 1.

(c) Calculated WQBELs. WQBELs calculated using a default CV of 0.60 and no dilution credit are an AMEL of 0.049 µg/L and an MDEL of 0.098 µg/L.

(d) Feasibility of Compliance. Because effluent data are insufficient to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations is determined by directly comparing the maximum same-day average sample results from effluent points 2AE and 2BE (0.070 µg/L) to the AMEL (0.049 µg/L) and MDEL (0.098 µg/L). The maximum results exceed the AMEL; however, this is based on one estimated (DNQ) detection at 2AE, and one non-detect collected at 2BE on August 18, 2009. All other benzo(a)anthracene results were non-detect. A DNQ does not indicate non-compliance (SIP section 2.4.5), and the ML for this pollutant is 5 ug/L, two orders of magnitude above the AMEL and highest monthly average, and one order of magnitude above the MEC. Thus, the Dischargers are expected to be able to comply with the benzo(a)anthrachene WQBELs.

(e) Anti-backsliding. Anti-backsliding requirements are satisfied because the previous Order did not have WQBELs for benzo(a)anthracene.

(6) Benzo(b)fluoranthene

(a) Water Quality Objective. The most stringent water quality objective is the CTR human health objective (organisms only) of 0.049 µg/L.

(b) RPA Results. This Order establishes effluent limitations for benzo(b)fluoranthene because the MEC (0.078 µg/L) exceeds the most stringent water quality objective for this pollutant (0.049 µg/L), demonstrating Reasonable Potential by Trigger 1.

(c) Calculated WQBELs. WQBELs calculated using a default CV of 0.60 and no dilution credit are an AMEL of 0.049 µg/L and an MDEL of 0.098 µg/L.

(d) Feasibility of Compliance. Because effluent data are insufficient to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations is determined by directly comparing the maximum same-day average sample results from effluent points 2AE and 2BE (0.039 µg/L) to the AMEL (0.049 µg/L) and MDEL (0.098 µg/L). Thus, the Dischargers are expected to be able to comply with the benzo(b)fluoranthene WQBELs.

(e) Anti-backsliding. Anti-backsliding requirements are satisfied because the previous Order did not have WQBELs for benzo(b)fluoranthene.

(7) Benzo(k)fluoranthene

(a) Water Quality Objective. The most stringent water quality objective is the CTR human health objective (organisms only) of 0.049 µg/L.

(b) RPA Results. This Order establishes effluent limitations for benzo(k)fluoranthene because the MEC (0.071 µg/L) exceeds the most stringent water quality objective for this pollutant (0.049 µg/L), demonstrating Reasonable Potential by Trigger 1.

(c) Calculated WQBELs. WQBELs calculated using a default CV of 0.60 and no dilution credit are an AMEL of 0.049 µg/L and an MDEL of 0.098 µg/L.

(d) Feasibility of Compliance. Because effluent data are insufficient to determine the distribution of the effluent data set or to calculate a mean and standard deviation, feasibility to comply with effluent limitations is determined by directly comparing the maximum same-day average sample results from effluent points 2AE and 2BE (0.036 µg/L) to the AMEL (0.049 µg/L) and MDEL (0.098 µg/L). Thus, the Dischargers are expected to be able to comply with the benzo(k)fluoranthene WQBELs.

(e) Anti-backsliding. Anti-backsliding requirements are satisfied because the previous Order did not have WQBELs for benzo(k)fluoranthene.

We revised Fact Sheet section VI.C, Effluent Monitoring Requirements, as follows:

C. Effluent Monitoring Requirements

Effluent monitoring at Monitoring Locations C-2AE and C-2BE is necessary to evaluate long-term trends and performance of the marsh treatment system, and to determine compliance with WQBELs. The MRP retains most effluent monitoring requirements at Monitoring Locations C-2AE and C-2BE from the previous Order. The MRP eliminates total phosphorus monitoring; eliminates annual monitoring for 4,4'-DDD, heptachlor, and heptachlor epoxide; and eliminates mercury monitoring at these locations. The MRP adds monitoring for benzo(a)anthracene, benzo(b)fluoranthene, and benzo(k)fluoranthene, because this Order establishes new effluent limits for them. The rationales are the same as those stated in Fact Sheet Sections VI.A, above.

USEPA Comment 3.
Mixing zones and WQBELs [Water Quality-Based Effluent Limits] for total ammonia, nickel, copper, and cyanide. *According to the Basin Plan, shallow water dischargers such as Hayward Marsh are subject to Discharge Prohibition No.1, which protects beneficial uses in areas that receive very limited, if any, dilution. When an exception to this prohibition is granted by the Regional Water Board, the discharger must demonstrate that not only State Implementation Policy mixing zone conditions are achieved, but an aggressive pretreatment and source control program is in place after rigorous scrutiny of source control efforts and receiving water data by the Regional Water Board. When dilution is granted, the permit must include provisions requiring continuing source control efforts targeting the pollutant to which the exception applies.*

The receiving water body, Hayward Marsh (Ponds 3A and 3B), is an effluent-dominated receiving water that flushes only during the tidal cycle, with retention times on the order of a week or longer. The draft permit proposes mixing zones for total ammonia, nickel, copper, and cyanide based on the results of a mixing zone study by Union Sanitary District, dated 2010. Our review of this study suggests it is not thorough enough to support - over the life of the permit - the large mixing zones and corresponding passive mixing dilution credits proposed for this permit term. These mixing zones dominate and entirely encompass Hayward Marsh (Ponds 3A and 3B) and extend into Lower San Francisco Bay. In some cases, because acute and chronic mixing zones are identically sized, the resulting WQBELs are greater than acute aquatic life criteria within the regulatory mixing zones (i.e., total ammonia, copper, and cyanide).

The 2010 mixing zone study is cursory. More must be done by the Dischargers to describe and demonstrate the amount of dilution occurring at the conditions found to be most critical for effluent and receiving water mixing, and the manner by which diffusion and dispersion occur, in Hayward Marsh (Ponds 3A and 3B). Acute toxicity levels in Hayward Marsh (Ponds 3A and 3B) should be fully characterized, utilizing the advantages of the Test of Significant Toxicity approach (National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document, EPA 833-R-10-003, June 2010)*, to demonstrate that acutely toxic conditions do not occur as a result of regulatory mixing zones authorized by the permit. Receiving water concentrations for pollutants with authorized mixing zones should be well characterized within the marsh (Ponds 3A and 3B), and immediately downstream. Potential effects on endangered species and their habitats should be described and any adverse impacts that result from the discharge, eliminated. As discussed on August 1, we are requesting that you add: (1) a permit condition that requires the Dischargers to conduct, soon after permit reissuance, a comprehensive mixing zone study that addresses the shortcomings of the 2010 study; and (2) a permit reopener condition that anticipates the need for permit modification in response to the comprehensive study.*

In connection, we've noted that total ammonia concentrations being discharged from the Hayward Marsh treatment ponds are unusually variable (and sometimes quite high) for a well-operated secondary treatment plant effluent. As a result, we recommend that more be done to optimize existing operations and control ammonia levels at Alvarado Wastewater Treatment Plant. We note that such actions are not only required by Basin Plan provisions used by the Regional Water Board to authorize shallow-water dilution credits, but are necessary to ensure that the antidegradation standard is met in Hayward Marsh (Ponds 3A and 3B).

Response to USEPA Comment 3.

We agree that, to qualify for an exception to Basin Plan Prohibition 1, Basin Plan section 4.6.1.2 requires the Dischargers to undertake aggressive pretreatment and source control programs. Source identification and reduction are particularly appropriate for cyanide, copper, nickel, and ammonia because the tentative order grants mixing zones and dilution credits for these pollutants. The tentative order requires source control through implementation of a pollutant minimization program (Provision VI.C.3) and cyanide and copper action plans (Provisions VI.C.8 and VI.C.9). We revised the tentative order to explicitly require pretreatment and source control targeting ammonia and nickel by adding Provision VI.C.11, as follows:

11. Ammonia and Nickel Pre-treatment and Source Control

The Dischargers shall submit an inventory of potential sources of total ammonia and nickel to Hayward Marsh no later than October 1, 2012; and shall submit a plan acceptable to the Executive Officer for implementation of a program to reduce and control those sources no later than October 1, 2014. The Dischargers shall report annually on their progress in their Annual Self-Monitoring Report, commencing with that due on February 1, 2013.

We revised the Tentative Order to add Fact Sheet section VII.C.11 as follows:

11. Ammonia and Nickel Pre-treatment and Source Control

This provision is based on Basin Plan Section 4.6.1.2. It is necessary to ensure that the Dischargers undertake aggressive pretreatment and source control programs, particularly for copper, nickel, and ammonia, because this Order grants mixing zones and dilution credits for these pollutants.

We also agree that the mixing zone study should be improved. We revised the tentative order to require an improved mixing zone study for copper, nickel, and ammonia (the cyanide dilution credit is based on Basin Plan section 4.7.2.2 and is unrelated to the mixing zone study), adding Provision VI.C.10 as follows:

10. Mixing Zone Study

The Dischargers shall perform a mixing zone study according to the following tasks and schedule to confirm and refine the conclusions of the existing mixing zone studies (i.e., *2010 Amendment of Cyanide and Copper Salt Water Quality-Based Effluent Limits, Strategies for Compliance* [RMC, Inc., February 8, 2010] and *Estimation of Dilution for Hayward Marsh Discharge to San Francisco Bay* [LimnoTech, August 17, 2011]) that justify mixing zones and dilution credits for ammonia, copper, and nickel.

Table 10. Mixing Zone Study

Task	Compliance Date
1. Mixing Zone Study Plan The Dischargers shall submit a mixing zone study plan, acceptable to the Executive Officer, to justify mixing zones and dilution credits for total ammonia, copper, and nickel. The plan shall include a time schedule for completion and address the requirements of SIP section 1.4.2.2, Mixing Zone Conditions, and include steps to: a. Characterize receiving water concentrations of ammonia (total and un-ionized), copper, and nickel in both Hayward Marsh and greater San Francisco Bay. b. Evaluate pollutant dispersion and dilution at critical flows in both Hayward Marsh and greater San Francisco Bay (e.g., using tracers, dyes, modeling, or monitoring). c. Demonstrate compliance with SIP mixing zone requirements. The demonstration shall include, but not be limited to, characterizing acute toxicity within Hayward Marsh and demonstrating that the discharge does not cause acutely toxic conditions to aquatic life passing through the mixing zone (e.g., through acute toxicity	July 31, 2012

Task	Compliance Date
testing), and identifying potential adverse impacts on species listed under federal or State endangered species laws, or their habitat, and identifying measures to fully mitigate any such impacts. d. Select the smallest practicable mixing zone. For purposes of this task, if the Dischargers can feasibly comply with limits based on a particular mixing zone, then that mixing zone shall be considered practicable. Other factors may also affect practicability.	
2. Implement Mixing Zone Study Plan The Dischargers shall implement the mixing zone study plan, including any revisions the Executive Officer requires.	September 30, 2012
3. Submit Mixing Zone Study Report The Dischargers shall submit a Mixing Zone Study report, acceptable to the Executive Officer, that includes the results of the study described in the study plan and recommends mixing zones consistent with SIP requirements. The report shall describe any measures necessary to eliminate possible acute toxicity within the mixing zone and any adverse impacts to species listed under federal or State endangered species laws or their habitat.	August 31, 2013

We revised the tentative order to add Fact Sheet section VII.C.10 as follows:

10. Mixing Zone Study

This provision is based on SIP section 1.4.2.2. It is necessary to address comments received during the public comment period, and to confirm and refine the conclusions of the existing mixing zone studies (i.e., *2010 Amendment of Cyanide and Copper Salt Water Quality-Based Effluent Limits, Strategies for Compliance* [RMC, Inc., February 8, 2010] and *Estimation of Dilution for Hayward Marsh Discharge to San Francisco Bay* [LimnoTech, August 17, 2011]).

We revised Provision VI.C.1 to explicitly allow the Regional Water Board to reopen the permit if appropriate in response to the Mixing Zone Study described in the new Provision VI.C.10, above.

1. Reopener Provisions

The Regional Water Board may modify or reopen this Order prior to its expiration date in any of the following circumstances as allowed by law:

a. If present or future investigations … .

b. If new or revised water quality objectives … .

c. If translator or other water quality studies (e.g., the Mixing Zone Study required by Provision VI.C.10) provide a basis for determining that permit conditions should be modified. …

Union Sanitary District

District Comment 1.
The District requests clarification in the description of uses of the Marsh. *The District requests ... the following revision to the description of uses of the Marsh; it is important that there is no confusion about the fact that the Marsh is not open to the public.*

> ***Section II.B.1, Facility Description (second paragraph)***
> *Additionally, the area around Hayward Marsh ~~offers many educational opportunities for local schools and residents, and has considerable value as a wetland restoration demonstration site for local, national, and international scientists, academics, engineers, and other professionals~~ provides important research opportunities related to the use of recycled water in wetlands restoration and management.*

Response to District Comment 1.
We revised the tentative order as requested.

District Comment 2.
The District requests that the ammonia effluent limits be revised to address the results of a more realistic compliance feasibility analysis approach. *The TO [Tentative Order] indicates that compliance with the proposed ammonia effluent limits will be feasible because an analysis of the averages of sample results collected at monitoring locations 2AE and 2BE shows that the 95th percentile of this data set (26 mg/L) is below the proposed average monthly effluent limit (AMEL) (27 mg/L) and the 99th percentile of the data set (30 mg/L) is less than the proposed maximum daily effluent limit (66 mg/L). However, several of these averages and a number of individual samples exceed the proposed AMEL....*

The proposed ammonia limits were calculated using data collected from May 2006 through August 2010.... it is common for concentrations to be clustered seasonally, making compliance through averaging unreliable. For these reasons, the District does not agree that the 95th percentile comparison adequately ensures compliance feasibility, and urges the Regional Water Board to consider using a value greater than the maximum effluent concentration for this purpose instead. The maximum averaged concentration shown is 32.6 mg/L and the maximum individual concentration is 48 mg/L.

Reductions in ammonia concentrations in Marsh influent ([Alvarado Wastewater Treatment] Plant effluent) rely primarily on nitrification. This process is quite effective in warmer months, but cannot be relied on in the colder months. The Hayward Marsh was not designed for nitrification, and concentrations measured at 2AE and 2BE are highly variable and mostly not within the District's control.

Ammonia concentrations at 2AE and 2BE have also been increasing in recent years. In response, District staff has begun to investigate sources and options for control strategies. These investigations have so far offered several possible explanations for the increasing concentrations.

Since January 2007, effluent flows have decreased while ammonia concentrations have risen. To a certain extent, the reduced flows associated with water conservation will result in concurrent increases in concentrations of common domestic pollutants, such as ammonia. This phenomenon is believed to be typical of many Bay Area POTWs experiencing water conservation-related flow reductions.

District staff believes that the increases in ammonia concentrations are also related in part to industrial discharges. For example, a new photovoltaic design and manufacturing facility (for solar panels) was built in the service area, beginning production in April 2007. A step in the manufacturing process requires the use of ammonia. As production has increased since start-up, so too have ammonia concentrations in plant effluent and at monitoring locations 2AE and 2BE. This facility is permitted under the District's pretreatment program. However, local limits have not been developed for ammonia, since it has not historically been a pollutant of concern. A study conducted prior to issuance of this facility's permit indicated that ammonia concentrations associated with the discharge would not inhibit or upset the treatment process, there has been no numeric ammonia limit for the Hayward Marsh, and there was no other reason to disallow this discharge at that time. Additional increases in ammonia contributions are expected from industries such as this one that have already been permitted but are not at full production capacity. The District understands that controlling these industrial sources may be accomplished through the pretreatment program. However, this process could take several years, as it would likely include the development of new local limits, revisions to the District's sewer use ordinance, and allowing time for the industries to implement the new requirements.

Given the high variability and recent trend, it would be more realistic to judge compliance feasibility based on the maximum concentration measured in the individual samples collected at 2AE and 2BE (48 mg/L), indicating the need for an AMEL of 49 mg/L....

These limits would require a dilution credit of D=50. This overall dilution of the effluent would be achieved within approximately 93 meters of the shoreline [Estimation of Dilution for Hayward Marsh Discharge to San Francisco Bay, *LimnoTech, August 2, 2011*]. *However, it is very important to note that the model used to determine overall dilution factors did not consider decay of ammonia in the environment, meaning that effective dilution for ammonia will be much greater than that predicted by this model. For example, ammonia concentrations measured just outside the Marsh (at [monitoring point] E-3) are much lower than the values that would be predicted based on the overall dilution factor alone. In fact, un-ionized ammonia concentrations measured at E-3 have consistently been significantly lower than the Basin Plan's water quality objectives....*

The mixing zone corresponding to an overall dilution factor of 50, although larger than the mixing zone described in the TO, is still limited to an extremely small fraction of the San Francisco Bay. For this reason, the increase in size of the mixing zone is not expected to change the analysis of the conditions in State Implementation Plan (SIP) section 1.4.2.2.A and 1.4.2.2.B, as explained in section IV.D.4 in the Fact Sheet.

Given the uncertainties and timeframe related to identifying and controlling sources of ammonia, if effluent limits cannot be revised sufficiently to ensure compliance attainability, District staff request that a compliance schedule and performance-based interim limit be included in the permit. The

Basin Plan allows for the option of including a compliance schedule when it will not be immediately feasible for the discharger to meet effluent limits based on a new water quality standard. This is the first time that the Basin Plan's un-ionized ammonia water quality objectives have been used to determine reasonable potential and calculate effluent limits for the Hayward Marsh and the first time they have been applied to the effluent from discharge points 2AE and 2BE. In the previous permit, the ammonia objectives were simply applied as receiving water limits with compliance determined at discharge point E-3, and full compliance was achieved. Further, a reasonable potential analysis based on these ammonia objectives conducted according to the methods described in US EPA's Technical Support Document for Water Quality-Based Toxics Control indicates that reasonable potential would not have been triggered if the objectives were to have been applied at the established location (E-3).

The District respectfully requests ... revisions to the TO to address the concerns described above...:

Response to District Comment 2.
We revised the tentative order to include less stringent ammonia limits, but more stringent limits than the Dischargers requested. We agree that the seasonal variation in effluent ammonia concentrations makes the 95th percentile an inaccurate measure of the feasibility to comply, and that a higher concentration should be used. We do not agree, however, that the highest single sample result from an individual discharge location (48 mg/L at 2AE) should be used because compliance will continue to be evaluated using the average concentration of both discharge locations (2AE and 2BE). The Revised Tentative Order assesses compliance feasibility, therefore, based on the highest average of the two discharge points (33 mg/L). As a result, it now reflects a dilution factor corresponding to a mixing zone extending about 80 meters into San Francisco Bay, about the same as described in the Revised Tentative Order.

The Dischargers propose a less stringent ammonia limit based on a mixing zone much larger than the one described in the tentative order. They wish to accommodate increased ammonia loadings primarily from industrial sources (we see little evidence that the increases result from significant water conservation). We do not agree that a less stringent ammonia limit is appropriate simply to accommodate increased ammonia loadings from industrial sources. Because mixing zones must be as small as practicable, and because ammonia is readily controllable through pretreatment, the mixing zone size should not be increased to accommodate the industrial discharges. The Dischargers should instead engage in source control, and they are already bound to comply with pretreatment requirements (see Response to USEPA Comment 3). The more stringent limit in the Revised Tentative Order is necessary because, if the Order were to allow the less stringent ammonia effluent limits, the local limits the Dischargers would place on their industrial sources would be correspondingly less stringent, and could even be deemed unnecessary.

The tentative order cannot include a compliance schedule because State Water Board Resolution No. 2008-0025, "Policy For Compliance Schedules in National Pollutant Discharge Elimination System Permits," does not allow one. This policy supersedes the Basin Plan's compliance schedule provisions. A compliance schedule is not allowed because the tentative order would not implement a new, revised, or newly interpreted water quality objective. The Basin Plan's un-ionized ammonia objective has been in place for years. Although the tentative order implements the objective differently than in the past, it does not revise or reinterpret the objective itself. If the Dischargers

cannot comply with the new ammonia limits, enforcement options could be considered, such as a cease and desist order.

We disagree with the notion that there would be no reasonable potential for ammonia to cause or contribute to exceedances of water quality standards if the analysis were based on USEPA's *Technical Support Document for Water Quality-based Toxics Control*. This conclusion is based on receiving water data collected at monitoring location E-3, which is as far or farther offshore than the edge of the proposed mixing zone. The Dischargers suggest that since water quality standards are met at monitoring location E-3, at the edge of the proposed mixing zone, there is no reasonable potential and therefore no reason to impose effluent limits. Although the *Technical Support Document for Water Quality-based Toxics Control* does allow consideration of dilution when assessing reasonable potential, we believe doing so in this case would put the cart before the horse. Doing so would be equivalent to applying the ammonia water quality objectives at monitoring location E-3, but not closer to shore or inside the receiving water basins.

We revised the ammonia limits in the tentative order by selecting the smallest mixing zone corresponding to a dilution credit that results in limits less than the maximum average concentration reported (33 mg/L). Based on LimnoTech's August 17, 2011, technical memorandum, this mixing zone extends 80 meters offshore and corresponds to a dilution credit of D = 35. This distance is essentially the same as the 77 meters evaluated in the original tentative order. Since ammonia does not persist in the environment, dilution corresponding to D = 35 likely occurs far closer to shore.

We revised tentative order Table 7 as shown in our response to USEPA Comment 2, revising the AMEL from 27 to 34 mg/L, and the MDEL from 66 to 120 mg/L.

We revised Fact Sheet section IV.D.4.a.(2) as follows:

> .... On February 8, 2010, the Dischargers submitted *2010 Amendment of Cyanide and Copper Salt Water Quality-Based Effluent Limits, Strategies for Compliance*; this was amended by the August 17, 2011, technical memorandum *Estimation of Dilution for Hayward Marsh Discharge to San Francisco Bay* (hereinafter collectively the Mixing Zone Study). It evaluated mixing and dilution of effluent discharges to Hayward Marsh as they flow through the marsh and out to Lower San Francisco Bay. The Mixing Zone Study concluded that a dilution of 2:1 (two parts total effluent plus ambient receiving water to one part effluent) is achieved within 7 meters from shore, and a dilution of ~~30~~ 36:1 (D = ~~29~~ 35) is achieved within ~~77~~ 80 meters from shore. The larger mixing zone, corresponding to ~~30~~ 36:1 dilution and extending throughout marsh basins 3A and 3B to a distance ~~77~~ 80 meters from shore, meets all SIP section 1.4.2.2.A and 1.4.2.2.B requirements, as discussed below. Therefore, smaller mixing zones also meet these SIP requirements.
>
> In accordance with SIP section 1.4.2.2.A, a mixing zone extending out to ~~77~~ 80 meters from shore does not: …
>
> In accordance with SIP section 1.4.2.2.B, a mixing zone extending to ~~77~~ 80 meters from shore protects beneficial uses and complies with all regulatory requirements. …

- **Ammonia.** Based on ~~a statistical analysis of~~ ammonia effluent data collected from June 2006 through August 2010 (and averaging concentrations between Discharge Point Nos. 2AE and 2BE), a dilution ratio of ~~20~~ 36:1 (D = ~~19~~ 35) is sufficient for the Dischargers to comply with the resulting ammonia limits because the ~~95th percentile of the effluent data (26 mg/L) is less than the AMEL of 27 mg/L and the 99th percentile of the effluent data (30 mg./L) is less than the MDEL of 66 mg/L (see section IV.C.4.b(4) of this Fact Sheet).~~ AMEL is slightly higher than the highest monthly average ammonia concentration discharged since May 2006 of 33 mg/L. This maximum average effluent concentration is used to evaluate compliance feasibility in lieu of statistical methods because effluent ammonia concentrations are not random. They vary seasonally, tending to be higher during cold-weather months and lower during warm-weather months. Based on Figure 6 of the Mixing Zone Study, a dilution of ~~20~~ 36:1 is achieved approximately ~~62~~ 80 meters from shore. Therefore, this Order establishes an ammonia mixing zone extending about ~~62~~ 80 meters from shore.

We revised Fact Sheet section IV.D.4.b.(4)(c) as follows:

(c) Ammonia WQBELs. Basin Plan section 4.5.5.2 indicates that WQBELs for toxic pollutants are to be calculated according to the SIP methodology. Basin Plan section 3.3.20 refers to ammonia as a toxic pollutant; therefore, it is consistent with the Basin Plan to use the SIP methodology to establish ammonia effluent limitations. WQBELs calculated according to SIP procedures with a CV of 0.89 and a dilution ratio of ~~20~~ 36:1 (D = ~~19~~ 35) are an AMEL of ~~27~~ 34 mg/L and an MDEL of ~~66~~ 120 mg/L ... .

We also revised Table F-9 to show the updated ammonia WQBEL calculations.

District Comment 3.
The District requests that the fecal coliform effluent limits be revised for consistency with Basin Plan water quality objectives for REC-2. *During the current permit term and with Regional Water Board concurrence, the District invested significant resources in the development of a Use Attainability Analysis to clarify that the appropriate bacteria water quality objectives for the Marsh are those included in the Basin Plan Table 3-1 for the protection of the non-water contact recreation beneficial use (REC-2). These objectives are a monthly log mean of 2,000 MPN/100 ml and a monthly 90th percentile of 4,000 MPN/100 ml.*

The TO includes proposed fecal coliform limits of a 5-day geometric mean of 500 MPN/100 ml and a 90th percentile of 1,100 MPN/100 ml. These limits are unnecessarily stringent and it is not clear why they are being retained even though new information is available that was not available when these limits were established. Lower bacteria limits will result in more chlorine used for disinfection. Chlorine is a known toxic chemical both for the people handling it and for transportation risks. As a result, its use should be reduced whenever possible. …

If the previous limits must be retained, the District requests that their definitions be revised [to better reflect current practice].

Response to District Comment 3.
We revised the tentative order to more accurately reflect the existing requirement, without backsliding (see Response to USEPA Comment 1). We do not agree that backsliding from current disinfection performance is necessary or appropriate. In this case, backsliding cannot be justified based on "new information," as the comment suggests. Clean Water Act section 402(o)(2) allows backsliding based on new information only when there is a net reduction in pollutant loads to the receiving water.

The proposed Basin Plan amendment updating Hayward Marsh beneficial uses was never intended to allow backsliding. Its purpose was to address the unattainable REC-1 (human water contact recreation) beneficial use for the Marsh. If the Basin Plan amendment were not to remove the REC-1 designation for Hayward Marsh, considerably more stringent bacteria limits would be required than those in the existing permit and Revised Tentative Order. Moreover, USEPA's support for the Basin Plan amendment is contingent upon the amendment complying with antidegradation requirements. Degradation cannot occur if the tentative order does not permit backsliding.

District Comment 4.
The District requests that the Regional Water Board revise the Surface Receiving Water Limitations section to be consistent with the goals of Hayward Marsh. *Hayward Marsh was designed and constructed to use reclaimed wastewater for the purposes of providing brackish marsh habitat. …*

However, the natural conditions supported in marsh habitats can vary greatly from that of open water bodies such as the San Francisco Bay. While anaerobic conditions often prevail in wetland ecosystems, they are rare in larger water bodies. Influences of the biota, sediment chemistry, and minimal wave action often have a much greater impact on wetlands due to the smaller water volume that naturally exists. These influences can have significant impacts on pH and dissolved oxygen, which in turn influence other parameters such as sulfide and ammonia. As a result, water quality objectives for these parameters that are applicable to the Bay are not appropriate for the Marsh.

In addition, applying these receiving water limits to Basins 3A and 3B is somewhat illogical. For example, the pH limits are based on deviations from "normal ambient levels." It is not clear how normal ambient levels would be defined as anything other than any of those values obtained through regular monitoring, as the Marsh is functioning as designed and constructed, and those Basins would not exist in their current state without the discharge. How would compliance with these limits be determined?

.... The current NPDES permit, Order No. R2-2006-0031, indicates that compliance with the numeric receiving water objectives limits is to be measured at E-3 [outside the receiving water ponds, in greater San Francisco Bay]. Moving the compliance points for these numeric limits to 3A and 3B [inside the receiving water ponds] is both contrary to the goals of the Marsh and threatens the District with the possibility of having to contest unfair and illogical allegations of permit violations in the future.

As indicated in Chapter 3 of the Basin Plan, the water quality objectives on which the proposed receiving water limitations are based were established to support the overall goal of water quality

regulation, which is to protect and maintain thriving aquatic ecosystems. Because the Hayward Marsh was designed and continues to be successfully operated to create and maintain a thriving marsh habitat, this goal is already achieved, without the need for implementing these receiving water limitations in Basins 3A and 3B.

… the District suggests that these objectives either be removed entirely, or be consistent with the existing permit in which they are applied to monitoring location E-3 instead of 3A and 3B.

Response to District Comment 4:
We disagree. The premise of this comment is that, because the receiving water basins are unique by nature and design, and are now considered to be "thriving" waters, they must therefore be exempt from water quality standards. However, Basin Plan section 3.3 unambiguously states, "The following objectives apply to all surface waters within the region, except the Pacific Ocean," and the receiving water limits in Provision V of the Revised Tentative Order directly implement these objectives. The previous permit erred in imposing receiving water limits as if some Basin Plan objectives apply only to the open waters of San Francisco Bay.

We agree that marsh habitat conditions can and do vary from those of open waters. However, the language of the receiving water limits ensures that the Dischargers will not be held responsible for conditions beyond their control, stating "The discharge of waste shall not *cause* [emphasis added] the following limits to be exceeded … ." If water quality objectives were exceeded due to natural causes, as opposed to the discharge of waste, then there would be no violation of the receiving water limits. The Regional Water Board will use its discretion in evaluating compliance with the receiving water limits. If monitoring data suggest that the limits could be exceeded, the Dischargers may consider a number of ways to demonstrate that their discharge is not a cause, not the least of which would be using their past receiving water and effluent monitoring data.

To clarify that Basin Plan water quality objectives apply to all receiving waters, including both the Hayward Marsh receiving water basins and the open waters of San Francisco Bay, we revised section V.A.1 of the Tentative Order to apply the receiving water limits at Monitoring Location E-3 (open waters) in addition to Monitoring Locations C-3A and C-3B (receiving water ponds), as follows:

V. ~~Surface~~ Receiving Water Limitations

A. Hayward Marsh Receiving Waters ~~Basins 3A and 3B~~

1. The discharge of waste shall not cause the following limits to be exceeded in Hayward Marsh ~~R~~receiving ~~W~~waters ~~Basins 3A and 3B~~ within one foot of the water surface (as measured at Monitoring Locations C-3A, ~~and~~ C-3B, and E-3):

District Comment 5.
The District requests that the Effluent Characterization Study and Report requirements be edited for clarity and consistency with associated monitoring requirements. *The District requests that the routine and annual reporting requirements be removed from [Tentative Order Provision VI.C.2.a.(2)(a)]. These requirements are not applicable because the associated monitoring is to be conducted once within 12 months of the due date for application for reissuance. Several additional revisions are requested for clarity.*

Response to District Comment 5.
We agree, partly, and we revised the tentative order.

The "routine reporting" provision is intended to apply only when data are collected for priority pollutants not subject to effluent limitations. Monitoring for these pollutants is only required once, within 12 months of the due date for the application for permit reissuance, but could conceivably occur over different months for different pollutants. We maintain that reporting within 30 days that data have been collected and whether any data are near or above water quality objectives is reasonable and useful. It alerts the Regional Water Board as to the existence of the data and should prompt the Dischargers to respond to increased concentrations in a timely manner (see USEPA Comment 2 for an example of the Dischargers remaining unaware of such data). Since the data need only be collected once within 12 months of submitting the application for permit reissuance, we agree that annual reporting is unnecessary. Submitting a final report with the application for permit reissuance is sufficient.

In addition, rather than deleting the reference to required remedial measures in the Fact Sheet as requested, we instead revised the tentative order to add a requirement to take remedial measures when necessary. This requirement may be satisfied through the Pollutant Minimization Program required in Provision VI.C.3.

We revised tentative order Provision VI.C.2.a as follows:

a. Effluent Characterization Study and Report—Discharge Points 2AE and 2BE

(1) Study Elements

The Dischargers shall continue to characterize and evaluate discharge from the following discharge points to verify that the "no" or "cannot determine" reasonable potential analysis conclusions of this Order remain valid and to inform the next permit reissuance. The Discharger shall collect representative samples of the discharges as set forth below, with locations as defined in the MRP (Attachment E):

Discharge Point	Monitoring Station	Frequency
2AE	C-2AE	1/5 years within 12 months of the due date for application for reissuance
2BE	C-2BE	1/5 years within 12 months of the due date for application for reissuance

The samples shall be analyzed for the priority pollutants listed in Table C of the Regional Standard Provisions (Attachment G), except for those priority pollutants with effluent limitations where the MRP already requires monitoring. Compliance with this requirement shall be achieved in accordance with the specifications of Regional Standard Provisions (Attachment G) sections III.A.1 and III.A.2.

The Dischargers shall evaluate ~~on an annual basis~~ if concentrations of any of these priority pollutants increase over past performance. The Dischargers shall investigate the

cause of ~~any~~ such increase. The investigation may include, but need not be limited to, an increase in monitoring frequency, monitoring of internal process streams, and monitoring of influent sources. The Discharger shall establish remedial measures addressing any increase resulting in Reasonable Potential to cause or contribute to an excursion above applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Dischargers' Pollutant Minimization Program, described in Provision VI.C.3.

(2) Reporting Requirements

(a) Routine Reporting

The Dischargers shall, within 30 days of receipt of analytical results, report in the transmittal letter for the appropriate monthly self-monitoring report the following:

i. Indication that a sample or samples for this characterization study was or were collected; and

ii.. Identification of ~~any and all~~ priority pollutants detected above or within one order of magnitude of their applicable water quality criteria (see Fact Sheet [Attachment F] Table F-8, Reasonable Potential Analysis Summary for the criteria), together with the detected concentrations of those pollutants.

(b) ~~Annual Reporting~~

~~The Dischargers shall provide a summary of the annual data evaluation and source investigation in the annual self-monitoring report.~~

~~(c)~~ Final Report

The Dischargers shall submit a final report that presents the priority pollutant data collected as part of this study and summarizes the data evaluation and any source investigation and remedial measures undertaken ~~all these data~~ to the Regional Water Board no later than 180 days prior to the Order expiration date. The final report shall be submitted with the application for permit reissuance.

We revised Fact Sheet section VII.C.2(d) as follows:

a. Effluent Characterization Study. This Order does not include effluent limitations for priority pollutants that do not demonstrate Reasonable Potential, but this provision requires the Dischargers to continue monitoring for these pollutants as described in the Regional Standard Provisions (Attachment G) and as specified in the MRP (Attachment E). If concentrations of these constituents increase significantly, the Dischargers are required to investigate the source of the increases and establish remedial measures if the increases result in Reasonable Potential to cause or contribute to an excursion above the applicable water quality objectives. This requirement may be satisfied through identification of the constituent as a "pollutant of concern" in the Dischargers' Pollutant Minimization Program,

described in Provision VI.C.3 of the Order. This provision is based on SIP sections 2.3 (Monitoring Requirements) and 2.4 (Reporting Requirements).

District Comment 6.
The District requests that monitoring frequencies for copper, nickel and cyanide be retained from the current permit. *The District requests that the Regional Water Board retain quarterly monitoring of copper, nickel, and cyanide … . The District has been monitoring for these pollutants consistently over several permit terms, and, given that there were no exceedances of limits for these constituents in the last permit term, District staff believes that continuing this monitoring quarterly will provide sufficient data to adequately characterize water quality and identify trends. Increasing the monitoring threefold for three constituents would significantly raise monitoring costs.*

Response to District Comment 6.
We agree. We revised the tentative order (Table E-5) as shown in our response to USEPA Comment 2, to retain the current quarterly monitoring frequencies for copper, nickel, and cyanide.

District Comment 7.
The District requests that monitoring requirements at locations CR and CR-B be retained from the current permit. *The District requests that the Regional Water Board remove nitrate nitrogen, total phosphorus, temperature, salinity, ammonia, copper, cyanide, nickel, and standard observations requirements from Table E-9 as consistent with the current permit. It is not clear why these parameters have been added, and the Fact Sheet does not explain why these additions are necessary. Increasing the receiving water monitoring requirements from three constituents to twelve constituents on a monthly basis would significantly increase the District's monitoring costs. The District also contributes to the Regional Monitoring Program, which ensures that these additional parameters are monitored regularly throughout the Bay.*

Table E-9. Lower San Francisco Bay Monitoring – Monitoring Locations CR and C-R-B

Parameter	Units	Sample Type(1)	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	G	1/Month
	% Saturation	G	1/Month
Sulfides(2)	mg/L	G	1/Month
pH	s.u.	G	1/Month
~~Nitrate Nitrogen~~	~~mg/L~~	~~G~~	~~1/Month~~
~~Temperature~~	~~°C~~	~~G~~	~~1/Month~~
~~Salinity~~	~~ppt~~	~~G~~	~~1/Month~~
~~Ammonia~~	~~mg/L~~	~~G~~	~~1/Month~~
~~Copper~~	~~ug/L~~	~~G~~	~~1/Month~~
~~Cyanide~~	~~ug/L~~	~~G~~	~~1/Month~~
~~Nickel~~	~~ug/L~~	~~G~~	~~1/Month~~
~~Standard Observations~~	~~–~~	~~–~~	~~1/Week~~

Response to District Comment 7.
We agree. We revised Table E-9 as requested.

District Comment 8.
Revisions to Page 3 – Receiving Water Basins. *The District requests that the phrase "to Hayward Marsh receiving water basins" be removed because the Plant only discharges directly to the Treatment Basins 1, 2A, and 2B, from which flow is then directed into the brackish water Basins 3A and 3B. The current language seems to incorrectly indicate that reclaimed wastewater from the Plant is discharged directly into Basins 3A and 3B. Additionally, the District requests that the word "all" is removed from the third sentence in the facility description because not all facilities are regulated under said permit.*

Response to District Comment 8.
We revised tentative order Finding II.A as follows:

A. Background. ... The Dischargers submitted a Report of Waste Discharge, dated November 10, 2010, and applied for an NPDES permit reissuance to discharge reclaimed wastewater from the Alvarado Wastewater Treatment Plant (Plant) ~~and Hayward Marsh treatment basins~~ to the Hayward Marsh receiving water basins after passing through the Hayward Marsh treatment basins. ....

We revised tentative order Finding II.B.1 as follows:

1. **Facility Description.** Union Sanitary District owns and operates the Alvarado Wastewater Treatment Plant (Plant) in Union City. ... Most of its treated effluent is transported to an EBDA deepwater outfall … . That discharge and ~~all~~ associated facilities are regulated under NPDES Permit No. CA0037869 (currently in Order No. R2-2006-0053).

District Comment 9.
Revisions to Pages 4, 5, and F-7 – Rare and Endangered Species. … *The District requests that the descriptions of species protected by [the Rare and Endangered Species (RARE)] beneficial use be revised for accuracy … .*

Response to District Comment 9.
We agree. We revised tentative order Finding II.B.1 as follows:

> … It is also a refuge for nesting shorebirds and waterfowl, including the Forster's tern, Caspian tern, black skimmer, the federally threatened ~~W~~western snowy plover, and the California least tern, a federal and State endangered species. …

We revised tentative order Finding II.H as follows:

> … the Basin Plan amendment will remove the water contact recreation beneficial use designation from Hayward Marsh and add the preservation of rare and endangered species beneficial use (~~rare and endangered~~ species found on Hayward Marsh include ~~W~~ the threatened western snowy plover and the endangered California least tern). …

We revised the Fact Sheet section III.C.1 as follows:

> … the Basin Plan amendment will remove the water contact recreation beneficial use designation from Hayward Marsh and add the preservation of rare and endangered species beneficial use (~~rare and endangered~~ species found on Hayward Marsh include ~~Forster's tern, Caspian tern, black skimmers, W~~ the threatened western snowy plover~~,~~ and the endangered California least tern). …

District Comment 10.
Revision to Page 15 - Pollutant Minimization Program Submittals for Pollutants with Effluent Limitations. *The District requests that the [Provision VI.C.3.d] language regarding appropriate cost-effective control measures be revised … consistent with the 2006 permit.*

Response to District Comment 10.
We disagree. The existing language calls for implementation of control measures. We retained this language because we believe it is important to do more than simply develop them, as the District proposes.

District Comment 11.
Revisions to Page E-7 – Monitoring Location E-3 Requirements. *The District requests that the Regional Water Board add the phrase "all applicable" to the standard observations requirement for consistency with Tables E-2, E-3, and E-4 in the TO.*

Response to District Comment 11.
We revised Table E-8 as follows:

> All Applicable Standard Observations

District Comment 12.
Revisions to Page F-10 – Environmental Benefits. *The District would like to provide some suggested revisions to Fact Sheet Section IV.B. Shallow Water Discharge and Basin Plan Discharge Prohibition 1 to ensure that the information is accurate and up-to-date. …*

Response to District Comment 12.
We revised Fact Sheet sections IV.B.2 and IV.B.4 as follows:

2. The marsh is a refuge for nesting shorebirds and waterfowl, and provides important nesting habitat for over 25 species of birds with active nests. This represents a substantial regional nesting population for waterfowl and shorebirds and at one time ~~also~~ represented~~s~~ one of the largest colonies of nesting snowy egrets and black-crowned night herons in Lower San Francisco Bay. …

4. The California least tern, a federal and State endangered species, has nested successfully on an island within the marsh complex since ~~in~~ 1990. ... The habitat area was created with the assistance of more than 3,200 ~~2,000~~ volunteers who donated over 13,500 ~~6,000~~ hours of volunteer service. During the 2010 nesting season, there were 53 nests, which produced 91 chicks and approximately 75 fledglings ~~spring of 2005, eight pairs of California least terns~~

~~attempted to nest on the enhanced nesting area and several more pairs were observed prospecting for nest sites~~. ...

District Comment 13.
Revisions to Page F-16 – BACWA. *The District requests that the Regional Water Board remove "several" and add "municipal wastewater" to clarify the discussion about the Bay Area Clean Water Agencies … .*

Response to District Comment 13.
We revised Fact Sheet section IV.D.3.c as follows:

> ... On May 15, 2003, a group of ~~several~~ San Francisco Bay Region municipal wastewater dischargers known as the Bay Area Clean Water Agencies submitted a collaborative receiving water study entitled, *San Francisco Bay Ambient Water Monitoring Interim Report* (2003). ...

Bay Area Clean Water Agencies

BACWA Comment 1.
BACWA supports the Union Sanitary District's request that the routine and annual reporting requirements in the TO [Tentative Order] be removed because they are unnecessary and redundant in this context. This comment … articulates BACWA's questions and concerns about those reporting requirements in the event that the Regional Water Board intends to incorporate them into future permits. These new requirements would increase the already substantial reporting burden on Bay Area POTWs without providing information or data that are not already available … .

… BACWA understands TO Provision VI.C.2.a.(2)(a) (Routine Reporting) to require all permittees to report, in their monthly transmittal letters, all priority pollutant analysis results that are above and/or within one order of magnitude of the applicable water quality objective (WQO). BACWA members recognize the value in reviewing these data, but object to the administrative burden of transmitting potentially considerable amounts of information in the transmittal letters. BACWA requests that the Regional Water Board revise standard permit reporting requirements in the following ways:

1) ***Allow agencies the option of reporting priority pollutant results in either their monthly transmittal letter or to eSMR [electronic Self Monitoring Reports].*** *BACWA supports the inclusion in NPDES permits of two reporting options … . Under the first option, permittees could enter priority pollutant results directly into the eSMR system where they would be available to the Regional Water Board and others. Under the second option, permittees who chose not to enter the results into eSMR would identify, in their transmittal letter, the results of any priority pollutant analyses that are above and/or within one order of magnitude of the applicable WQO. … The distinction is that the agency is able to select the option that is least burdensome considering its circumstances. …*

BACWA understands that one of the reasons to require reporting in the transmittal letter is to ensure that permittees conduct a timely review of their analytical results. In practice, however, many (if not all) agencies review the data upon receipt. Additionally, other permit requirements ensure that these data are reviewed and responded to in a punctual way. …

2) ***Clarify that these provisions do not apply to priority pollutants for which the permittee has effluent limits.*** *Many permittees have numeric limits for priority pollutants such as copper and cyanide. These results … must be reported to eSMR and, therefore, the option being requested does not apply. BACWA requests that the standard reporting language be modified to clarify this point for agencies that elect to report priority pollutant analyses in their transmittal letters.*

Response to BACWA Comment 1.
We revised the tentative order in our Response to District Comment 5. As revised, the tentative order more clearly indicates that Provision VI.C.2.a.(2)(a) only applies to priority pollutants not otherwise subject to effluent limitations. However, we did *not* revise the tentative order to allow the Dischargers the option of reporting these priority pollutant results in either their monthly transmittal letter or eSMRs.

With each permit reissuance, we analyze whether priority pollutants in the discharge have Reasonable Potential to cause or contribute to exceedances of water quality objectives. The intent of Provision VI.C.2.a.(2)(a) is to have the Dischargers verify that the "No Reasonable Potential" or "Cannot Determine Reasonable Potential" conclusions of this Order remain valid. Simply providing data in eSMRs cannot serve this purpose because it provides only raw data without analysis. We prefer to have this information in transmittal letters because it forces dischargers to evaluate their data. We want dischargers to identify and respond to significant increases in pollutant discharges before applying for permit reissuance (see USEPA Comment 2 for an example of the Dischargers remaining unaware of such data). This requirement is not intended to duplicate other requirements that dischargers review the quality of their data on a timely basis.

For many dischargers in our region, this requirement is not new. Regional Water Board staff modified the Monitoring and Reporting Programs for many dischargers several months ago by means of March 10 and May 25, 2011, letters. The changes generally reduce the reporting burden of entering priority pollutant data into eSMRs.

REGIONAL WATER BOARD STAFF-INITIATED REVISIONS

Revision 1.
We noted an error in our calculations of the ammonia water quality-based effluent limit based on the chronic toxicity criterion. We used a number of samples per month, N = 4; we should have used N=30, the maximum daily sampling frequency in a month, since the averaging period for the ammonia chronic criterion is longer than 30 days (the Basin Plan water quality objective is based on an annual median). We corrected this error.