

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

**RESPONSE TO WRITTEN COMMENTS**

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

U.S. Fish & Wildlife Service and California Department of Fish & Game  
South San Francisco Bay Low Salinity Salt Ponds  
Alameda, Santa Clara, and San Mateo Counties

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- I. Cargill Incorporated February 24, 2004 Comments and Response**  
**II. City of San Jose February 27, 2004 Comments and Response**  
**III. California Department of Fish and Game February 27, 2004 Comments and Response**  
**IV. Save the Bay February 27, 2004 Comments and Response**  
**V. Santa Clara Valley Water District February 27, 2004 Comments and Response**  
**VI. U.S. Fish and Wildlife Service February 27, 2004 Comments and Response**

*Note: The format of this staff response begins with a brief introduction of the party's comments, followed by each comment with staff's response. Interested persons should refer to the original letters to ascertain the full substance and context of each comment.*

**I. Cargill Incorporated February 24, 2004 Comments and Response**

Comment 1

*Provision D.1. Cargill requests that we clarify the effective date for prohibitions and limitations in the Tentative Order by rewording Provision D.1 as follows: "The Discharger shall comply with all sections of this Order beginning on March 17, 2004, provided, however that the prohibitions and limitations herein shall not be applicable to any particular pond system until such time of the initial discharge from such pond system."*

Response 1

We revised Provision D.1 of the Tentative Order to clarify that Discharge Prohibition A.1 and Discharge Limitation B.4 are not effective for each pond system until after those systems have completed the initial release of pond waters.

Comment 2

*Prohibition A.1. To further clarify its first comment, Cargill requests that Prohibition A.1 be revised as follows: "After the initial discharge from such ponds under this Order, intake from waters of the State into the following ponds between December 1 and April 30<sup>th</sup> is prohibited."*

Response 2

We modified the Tentative Order to clarify that Discharge Prohibition A.1 does not become effective until after the initial release of surface waters from the pond system for which such ponds will intake water.

## **II. City of San Jose February 27, 2004 Comments and Response**

### Comment 1

*This comment relates to the potential for exceedances of nickel and copper triggers in the South Bay. The City of San Jose indicates that when the Water Board developed site-specific objectives for nickel and copper for the bay south of Dumbarton Bridge, it required the development of dissolved copper and nickel concentration trigger values. If these triggers are exceeded, the City of San Jose is required to perform additional investigations, and implement additional source control programs, unless it can demonstrate that copper or nickel concentrations are due to factors beyond its control. For this reason, the City of San Jose requests that the permit include adequate monitoring in order for the City to make this determination.*

### Response 1

While we do not believe that the initial release of pond waters will cause trigger values for copper or nickel to be exceeded in the South Bay, we acknowledge the City's comment. Modeling results from the Agencies indicate that far-field salinity increases, and therefore, metals increases will be very small in the Bay. The Self-Monitoring Program requires extensive salinity monitoring in receiving waters during the initial release. Should the South Bay stations used for determining compliance with copper and nickel trigger levels show elevated salinity and copper or nickel during the initial release, this would point to pond waters causing exceedances of the copper or nickel triggers. As the City of San Jose indicates in its comments, Finding No. 25 of the City's permit provides it the opportunity to demonstrate that copper or nickel increases at such stations were beyond its control.

### Comment 2

*Provision D.6 (Island Ponds). The City of San Jose supports the breaching of Island Ponds A19, A20, and A21, but is concerned that some loss of marsh habitat may occur due to increases in the tidal prism. This is because increases in the volume of water may increase scour in existing sloughs, and potentially reverse aggrading marsh that the City has observed along slough perimeters in recent years. The City indicates that it monitors marsh vegetation and habitat in the South Bay, and believes that increased tidal prism resulting from the proposed breaching of the Island Ponds has the potential to significantly alter marsh vegetation patterns. Additionally, the City indicates that it is concerned that increased water velocity from the breaching of the Island Ponds could cause resuspension of contaminated sediments, which could affect water quality in the Bay and future regulatory issues for Bay dischargers including the City. The City points out that additional sediment and water quality sampling in channels should be a condition of the monitoring plan for the Island Ponds. For the above reasons, the City requests that it be given the opportunity to review the Agencies proposal for monitoring and managing the Island Ponds before the Executive Officer issues approval.*

### Response 2

We appreciate the City's interest in the breaching of the Island Ponds, and we will modify Provision D.6 to indicate that the Agencies should carbon copy the City of San Jose when they submit their monitoring proposal for Executive Officer approval.

Comment 3

*The City of San Jose indicates that the hardness value of 100 mg/L is based on a single event and is extremely conservative. The City points out that this value is not representative of the hardness of receiving water in the South Bay and associated sloughs.*

Response 3

We acknowledge that a hardness value of 100 mg/L for protecting sloughs in the South Bay is very conservative. In this case, the hardness value does not affect discharge limits since the Tentative Order proposes to use salinity as a surrogate for metals.

Comment 4

*The City of San Jose indicates that Attachment 2 Translator Study for Nickel and Copper needs to clarify that water quality objectives are promulgated as dissolved and clearly distinguish the translated total limits from water quality objectives. For example, the City indicates that page 3 of Attachment 2 states “that copper will exceed the WQO of 3.7 µg/L.”*

Response 4

We agree with the City’s comment on the Tentative Order, and we have modified language in Attachment 2 to qualify WQOs based on total recoverable metals as translated WQOs. For example, we modified page 3 of Attachment 2 to state, “that total copper will exceed the translated WQO of 3.7 µg/L.”

**III. California Department of Fish & Game February 27, 2004 Comments and Response**

Comment 1

*Prohibition A.2: California Department of Fish & Game (CDFG) requests that the Tentative Order allow the initial discharge of pond waters from B8A between March 1 and July 1 instead of from March 1 to April 30. CDFG made this request because it anticipates the transfer of these ponds in March of 2004 in a dry condition, and plans to initiate discharge during the summer of 2004 once water quality control structures are in place.*

Response 1

At this time, we do not believe that CDFG has provided enough information for us to modify the Tentative Order, as it requests. This is because the Environmental Impact Report (EIR) indicates that for a discharge in April from B8A there should be about 40% pond water and 60% receiving water at a salinity of 22 parts per thousand (ppt). With a proposed salinity limit of 65 ppt, this results in a salinity of around 39 ppt in Old Alameda Creek (potentially significant/significant impact, according to CDFG’s EIR). The EIR also indicates that for a discharge in July from B8A there should be about 60% pond water and 40% receiving water at a salinity of 22 ppt. With a proposed salinity limit of 65 ppt, this results in a salinity of around 48 ppt in Old Alameda Creek (significant impact, according to CDFG’s EIR).

We recognize that one reason Old Alameda Creek would have more pond water for a July 1 initial release is because CDFG’s EIR proposed a salinity limit of 135 ppt. Due to significant evaporation in this time-period, CDFG would need to increase flow rates significantly for a July

initial release to avoid salinity levels in pond system B8A from reaching 146 ppt (the threshold at which the ionic balance changes). However, to date, CDFG has not provided an analysis for an initial release of surface waters at 65 ppt from pond system B8A to document potential impacts that could occur from an initial release in April or July. Therefore, we believe it is appropriate to base our assumptions on those documented in the EIR, which as shown above, indicate that significant impacts are more likely for an initial release in July. We also believe that since we modified Discharge Prohibition A.2 to allow for a variance from the timing requirements of the initial release for all pond systems, as provided in Provision D.7, CDFG will have the opportunity to document that discharges from pond system B8A in the summer of 2004 offer an equivalent level of protection to that permitted in the Order.

Comment 2

*Prohibition A.3: CDFG requests that for discharges proposed for 2004, the Tentative Order extend the discharge period until July 30. This is because CDFG will be constructing water control facilities this spring, and it believes that construction delays from wet conditions or problems with procurement may mean the facilities will not be in place to initiate discharge by July 1. CDFG indicates that if it cannot initiate discharges after July 1 the habitat values of ponds could be reduced if they are left in a dry conditions or allowed to dry.*

Response 2

We recognize that if the Tentative Order included rigid requirements on the timing of the initial release, this could inadvertently result in environmental impacts. For this reason, the Tentative Order includes Provision D.7, which allows for a variance from the initial release timing requirements. At this time, we do not believe CDFG has provided enough information for us to extend the initial release period until July 30. This is because hydrodynamic modeling that predicted the magnitude and spatial extent of salinity increases is based on an initial release date of July 1. We recognize modeling represents conditions from a low rainfall year, and closer to the target date for the initial release, CDFG may be able to show an equivalent level of protection for an initial release outside of the time-period specified in the permit. However, until CDFG has performed such an analysis, we do not believe that any changes to the Tentative Order are appropriate.

Comment 3

*For pond system B11, CDFG indicates that it does not expect salinities to exceed 40 ppt upon the initial discharge. Therefore, it expects this system will immediately operate under the requirements for the continuous circulation period.*

Response 3

Comment noted.

Comment 4

*Provision D.7. CDFG indicates that it will not object to Prohibition A.3 if the Tentative Order extends the initial release period until July 30 for pond systems B8A and B2. This is because in subsequent years structures will already be in place.*

Response 4

As indicated in Response 2, we do not believe that CDFG has provided enough information for us to extend the initial release period for pond systems B8A and B2. We believe that CDFG should submit a technical report pursuant to Provision D.7 if it (a) needs to commence an initial release outside of the time-period requirements in the Tentative Order, and (b) can show an equivalent level of protection.

Comment 5

*Self-Monitoring Program. CDFG requests that we remove the language under Discharge since it is not applicable to discharges permitted under the Tentative Order.*

Response 5

We modified the Tentative Order to include this request.

Comment 6

*CDFG indicates that it is concerned with the number of sampling points in slough channels that would need to be collected following high slack tide during the initial release period (Table 2A, Note A). Therefore, it requests that the phrase “following high slack tide” be changed to “around high tide” in Note A.*

Response 6

We modified the Tentative Order to include this request. Additionally, to ensure that standard observations required by Section D of the SMP are reported, we inserted the following language in notes A and B for Tables 2A and 2B: “For days it collects receiving water samples, the Discharger shall also report standard observations, as described in Section D of the SMP.”

Comment 7

*CDFG indicates that sampling should only be required in the discharge ponds, since only the discharges from those ponds could affect receiving waters. Therefore, it requests that sample points B12-0, B13-0, B14-0, B6-0, B1-0, B7-0, B6-0, B5-0, B6C-0, and B4C-0 be removed from Table 2A.*

Response 7

We agree that the Tentative Order should include pond management stations from discharge ponds (B2-0, B2C-0, B6A-0, BA-0, B-10-0, B11-0), but only for the initial release period. Therefore, we removed these stations from Table 2B. In our view, collecting samples from these ponds in the two months before the initial release is essential to ensure that CDFG will comply with Discharge Limitations contained in the Tentative Order. For the initial release and continuous circulation period, we believe that pond management stations should also consist of ponds that will route water directly to the discharge pond (unless this pond is an intake pond). Therefore, we removed pond management stations B1-0, B1C-0, B4C-0, B5C-0, B6C-0, B5-0, B6-0, B7-0, and B9-0 from both Tables 2A and 2B. Additionally, as proposed in the Tentative Order, we believe that during the continuous circulation period, pond management stations should include batch ponds.

Comment 8

*Sampling Stations. CDFG requests that we eliminate monitoring from stations B6A-5 and B6A-4 from the Tentative Order, as these stations are located above the 20 tide gates, which restrict tidal influence upstream.*

Response 8

We modified the Tentative Order to include this request.

Comment 9

*CDFG requests that the Tentative Order remove pond management stations that duplicate pond discharge stations (B6A-0, B8A-0, B2-0, and B2C-0) from Tables 2A and 2B.*

Response 9

This comment appears to be inconsistent with comment 7. Please refer to response 7.

Comment 10

*CDFG indicates that collecting Bay samples (Table 2B, Note B) at points above and below the discharge point at low tide may not provide relevant information. It explains that these discharges will occur at low tides, most likely in small channels that will form in the extensive mudflats in the area. Samples collected in the open bay will be far from the discharge point. Samples in the discharge channel will consist almost solely of the discharge. CDFG recommends that it reevaluate where sampling would be accessible and relevant following sampling during the initial release period. Additionally, CDFG requests that monthly, rather than twice monthly, samples would be sufficient to determine the effects.*

Response 10

We agree that CDFG should reevaluate where sampling will be accessible and relevant following the initial release period. The Tentative Order describes the receiving water monitoring locations for the Bay (Table 2B, Note B) as approximate, so this provides CDFG with some flexibility. To further clarify where CDFG should collect receiving water bay samples, we modified note B for Tables 2B as follows: “Receiving water bay samples represent one point above-upstream and one point below-downstream the discharge point....It should be the intent of the Discharger to collect upstream-and-downstream samples as close to the discharge point as practicable with one point unaffected by the discharge, and one point where the discharge has completely mixed with the Bay.”

Additionally, we modified note B for Table 2B of the Tentative Order to reduce receiving water sampling in the Bay to monthly for the continuous circulation period.

Comment 11

*Sediment Monitoring. CDFG indicates that the Tentative Order includes annual collection of sediment samples in 11 ponds with testing for selenium, mercury and methyl mercury. It believes this is a misunderstanding, as CDFG proposed a one-time collection of samples from these particular ponds in recognition that its earlier sampling program was not complete. CDFG does not believe it should have to repeat this extent of sampling on an annual basis. To verify its conclusion that selenium levels were low in ponds, and that higher levels observed in some*

*sampling programs were due to use of analytical methods inappropriate for high salinity matrices, CDFG proposed a one-time analysis for selenium.*

*To monitor sediment during the initial stewardship plan, CDFG proposes to submit a plan to sample a smaller number of targeted ponds for total mercury and methyl mercury. CDFG does not propose to collect additional selenium samples unless the samples it recently collected show high selenium levels*

#### Response 11

We modified the Tentative Order to include a narrative requirement for sediment monitoring. This will allow CDFG flexibility to a) eliminate selenium monitoring if its recent sampling effort shows levels below ambient, and b) target specific ponds for mercury speciation monitoring.

### **IV. Save the Bay February 27, 2004 Comments and Response**

#### Comment 1

*Save the Bay indicates that it believes the Final Order should require additional mitigation for discharge impacts that will either confine and reduce those impacts, or compensate for adverse impacts through near-term enhancement of similar resources.*

#### Response 1

While the Tentative Order allows for short-term exceedances of the Basin Plan's narrative salinity objective during the initial release period, these exceedances are expected to be small in spatial extent and occur only near discharge points. The predicted exceedances used worst-case scenarios based on highest pond salinities observed and drought-year ambient salinity conditions. We believe that the spatial extent and magnitude of salinity increases from the initial release have been minimized to the maximum extent feasible based on our analysis of historic pond salinity levels and of water quality impacts predicted by hydrodynamic modeling (see Attachment 1 of the Tentative Order). Therefore, we do not believe that there are additional measures that the Agencies can implement to further confine or reduce potential water quality impacts. Additionally, we do not believe that it is appropriate to require the Agencies to enhance conditions in another community. This is because any impacts from the initial release will (a) be short-lived, (b) mostly occur within the spatial resolution of hydrodynamic modeling (200 m<sup>2</sup> in the Bay and 15 to ~25 m<sup>2</sup> in sloughs), and (c) be outweighed by requiring the Agencies to maximize the amount of salt pond acreage restored to tidal marsh habitat within ecological and technological constraints.

#### Comment 2

*Provision D.2 Restoration Work Plan. Save the Bay indicates that the Final Order should require implementation of specific work plan tasks, identified now, that can produce appropriate environmental benefit, not merely require future preparation of a work plan. Before this comment, Save the Bay also indicates that it would be a troubling precedent for the Board to allow a Discharger to exceed water quality standards based on a rationale that is the same as the project goal. Specifically, Save the Bay indicates that the goal of the project to maximize tidal marsh restoration should not also be the rationale for allowing exceedances of water quality standards.*

## Response 2

We appreciate the concern about setting undesirable precedents. However, the rationale of maximizing tidal wetland restoration within ecological and technological constraints is not the same as the project goal. The project goal of the Initial Stewardship Plan is not to create tidal wetlands; rather, it is to cease making salt, creating a hydrologic connection between the ponds and the Bay, carefully reducing pond salinities by discharging pond contents to the Bay, and then operating the ponds for wildlife habitat and minimizing water quality impacts. In terms of precedents, for other discharges the Water Board has allowed exceptions to Basin Plan requirements based on the rationale of “equivalent protection” or “net environmental benefit,” the latter of which is proposed in this case.

The Long-Term Restoration Plan being coordinated by the State Coastal Conservancy will ultimately fulfill the permittees’ requirement to develop a Restoration Work Plan, so it is premature for the Water Board to specify the timeline and tasks for this complex planning process, estimated to take about 5 years in total.

The requirement that the Long-Term Restoration of baylands administered by the Agencies include maximized tidal wetlands is predicated on our belief that such elements in the baylands landscape will provide the greatest benefit to the Bay’s water quality, due to the role of tidal wetland functions in fixing and filtering pollutants, increasing primary productivity, providing refugia and nursery habitat for aquatic life, and recovering endangered species. The Initial Stewardship Plan itself will only incrementally improve the Bay’s water quality, if at all. In order to make a finding of net environmental benefit to water quality, functioning tidal wetlands will have to be restored on a spatial scale large enough to result in measurable changes to the Bay’s water quality and beneficial uses.

In reviewing Finding 54 in response to this comment, we concluded that our explanation of the net environmental benefit rationale was incomplete and should be changed. Part of the “net environmental benefit” of the project that outweighs the potential impacts related to short-term elevated salinity is avoiding the impacts associated with the No Action Alternative. There are negative consequences to project delay associated with build-up of salinity and equipment failure in the former salt ponds. Part of the lessons learned from the North Bay salt ponds purchased in 1994 is that the ponds need to be operated so that they do not continue to concentrate salts in solution. Also, if we insisted that Cargill take all of the lower salinity salt pond brines into its system, the beginning of wetland restoration would be delayed a number of years, and Cargill would leave the ponds dry and the wildlife that have adapted to them would be severely impacted. Therefore, allowing potential short-term exceedances of the narrative salinity objective appears to be warranted considering the long-term benefit to water quality associated with restoring tidal wetland functions on an unprecedented scale, and ceasing salt making operations in a timely manner.

Finding 54 will be changed as follows:

### **Restoration to Tidal Marsh and Timely Cessation of Salt Operations**

***Restoration and timely cessation of salt operations outweighs short-term exceedances.***

Restoring tidal wetland functions to salt ponds will improve water quality in the South San Francisco Bay Estuary on a spatially significant scale with large contiguous habitat, maximized



ecotonal or edge habitat, and minimized non-native vegetation. Marsh systems tidally connected to the estuary improve water quality and beneficial uses by filtering and fixing pollutants, providing nursery habitat and protection from predation for native fish species, providing significant biological productivity to the estuarine system, and providing habitat for rare and endangered species. The finding of net environmental benefit relevant to water quality and beneficial uses is therefore predicated on the assumption that tidal marsh restoration in the permitted area is maximized within the constraints of ecologically beneficial habitat goals for migratory birds and all terrestrial and aquatic life dependent on high quality of the waters of the state in the permitted area. These constraints include seasonal migration of salmonid fish species, flood management requirements, existing infrastructure for energy and transportation, and the need to phase restoration carefully over time to avoid displacement of significant quantities of organisms adapted to the existing saline pond habitats along the salinity gradient of 15 to 150 ppt. The finding of net environmental benefit is also based on timely cessation of salt-making operations and the avoidance of the negative consequences of project delays on buildup of salt in the former salt ponds and the associated water quality risks and management costs, as experienced by the dischargers with the North Bay salt ponds.

## **V. Santa Clara Valley Water District February 27, 2004 Comments and Response**

### Comment 1

*Establishment of Project-Specific Discharger Limits. Santa Clara Valley Water District (District) indicates that for several pollutants, the Tentative Order establishes project-specific discharge limits, based on ambient water and/or sediment concentrations of the constituent (e.g., mercury), which in some cases are in excess of previously established water quality objectives (numeric and narrative). The District indicates that it supports the flexible approach presented in the Tentative Order which allows for consideration of the greater environmental benefits as a tradeoff for project discharge limits that could impact other projects and the Bay itself.*

### Response 1

We appreciate this comment, and want to clarify that project-specific limits in the Tentative Order that allow for certain constituents to be discharged at levels higher than what the narrative salinity water quality objective would require applies only to the initial release period, estimated to be one to three months in duration depending on the pond system and timing of release. During the continuous circulation period, the Tentative Order requires the Discharger to meet water quality objectives established in the Basin Plan.

### Comment 2

*Duration of the Project. The District indicates that development of a long-term restoration plan is expected to take about five years, and that the continuous circulation period will remain operational throughout the period between plan completion and implementation, with implementation expected to take 20 plus years for certain pond systems. While the District indicates that it supports the long-term approach of the project, it believes the Tentative Order could be strengthened in this regard by addressing the longer timeframe, instead of the five-year plan development timeframe. Specifically, the District indicates that Finding No. 92 should not minimize the likelihood that maintenance of levees will be conducted because of the time necessary to implement the long-term restoration plan.*

### Response 2

We agree with the District's comment. Therefore, we modified Finding No. 92 to indicate that certain pond systems will require levee maintenance, as the time-period for implementing the long-term restoration plan could be longer than 20 years for select pond systems.

### Comment 3

*Relationship of the District's Lower Guadalupe River Flood Protection Project. The District indicates that it supports the protective measures indicated in Finding No. 97, and believes that the Tentative Order should be strengthened to ensure such protections are considered for all ponds covered by the Tentative Order. Specifically, the District is referring to (a) development of a mercury monitoring plan to determine if floodwaters cause mercury concentrations in pond sediments to increase, and (b) implementation of corrective measures if mercury sediment levels are found to exceed any applicable TMDL target and baseline concentrations.*

### Response 3

The Tentative Order only refers to select ponds in Finding No. 97 because we do not expect the remaining ponds to be subject to flooding. As the mercury discussion in Finding No. 97 is particular to ponds subject to flooding from waters in a watershed that have the potential to be high in mercury content, we do not believe it is appropriate to extend this discussion to other ponds systems that do not meet this description.

### Comment 4

*Relationship of the District's Lower Guadalupe River Flood Protection Project. To clarify Finding No. 97, the District also suggests that we change the wording in the Tentative Order. Specifically, the District requests that we use the following language: "The Santa Clara Valley Water District intends to complete the Lower Guadalupe River Flood Protection Project (Guadalupe Project) in winter 2004 in accordance with Order W-2002-0089, Santa Clara Valley Water District Lower Guadalupe River Flood Protection Project, issued by RWQCB on September 26, 2002. As designed, the Guadalupe Project would increase flooding at some of the Alviso Salt Ponds. During flood conditions, the Guadalupe Project's Report of Waste Discharge (Report) indicated that the project would cause water depths in ponds A5, A7, A8D, A8W and A6 to increase by up to one-foot compared to current conditions. Additionally, the ISP indicates that Santa Clara Valley Water District will use ponds A8, A5, and A7 for flood events approximately greater than a 10-year flood in the lower Guadalupe River. To reduce the impact of flooding, the Report indicates that the District will construct an overflow weir at pond A8W. The Report also states that diverted flood flows can be adequately stored in ponds A5, A7, and A8 **and A6** with minimal overbanking into Alviso Slough."*

### Response 4

We modified the Tentative Order to include this request.

### Comment 5

*Relationship to the District's Pond A4 Tidal Wetlands Restoration Project. The District explains that it purchased Pond A4 from Cargill Salt in 2000, in order to fulfill mitigation requirements stemming from the District's Multi-Year Stream Maintenance Program and Lower Guadalupe River Flood Protection Project. As the project proposed by the Dischargers will shut off the*

*incoming flows to Pond A4 in 2004, the District indicates that an interim management plan for Pond A4 should be considered as a result of the Initial Stewardship Plan Project, in order to avoid adverse water quality impacts to that pond. The District is currently undertaking planning for the interim management of Pond A4. In developing the solution for Pond A4's interim management, the District is exploring potential solutions in collaboration with the applicants for this Project. Of the many potential management scenarios, some may entail continued inflows to Pond A4 from one of the ponds covered in this permit, and/or discharges from Pond A4 to ponds covered in this permit. At minimum, however, the District indicates that the Tentative Order should address water quality impacts of hydrologic isolation (i.e., increasing salinity) to Pond A4.*

#### Response 5

We do not believe it is appropriate for the Tentative Order to address potential water quality impacts to Pond A4, as the Tentative Order does not permit discharges of pond waters to this pond nor does the Tentative Order propose to regulate pond A4. In our view, the District should relay any concerns it may have with the effect of the proposed project on Pond A4 directly to the Agencies by making arrangements for intake water and/or commenting on the Environmental Impact Report/Environmental Impact Statement for this project.

#### Comment 6

*Relationship to the Water Board's Development of TMDLs. The District indicates that the Tentative Order does not provide a clear nexus between the Project and the TMDLs in development for the Bay and its tributaries. Specifically, the District indicates there should be more discussion of how short term and long-term TMDL issues will be addressed by the Project. The District indicates that the Project is estimated to 1) increase the loading of total and methyl mercury into the Bay (i.e. more mass available for bio-concentration), and 2) facilitate the transport of sediments containing elevated levels of mercury to relatively uncontaminated areas that have largely been isolated from mercury inputs transported with flows from the Guadalupe River and Bay. The District indicates that this may result in the distribution of mercury and PCBs to areas where the very forms of wildlife that the mercury and PCB TMDLs are being designed to protect will likely feed and nest, thereby exacerbating the key conditions currently underlying the mercury and PCB TMDLs.*

#### Response 6

We appreciate the District bringing attention to issues related to pollutant loading and pathways of exposure related to bioaccumulation, important to the Water Board's TMDL program, but we disagree with the District's comments, based on our review of available technical information.

Regarding a nexus with TMDLs, the Tentative Order establishes a regulatory mechanism that can be re-opened to implement TMDL provisions when TMDLs are adopted by the Water Board and the Basin Plan is amended and approved by State Board, Office of Administrative Law, and U.S. EPA. It is inappropriate to establish TMDL implementation provisions in permits in advance of official approval of TMDLs, but this Tentative Order creates a mechanism to implement requirements if found to be necessary based on ambient monitoring results. Since the ponds are ecologically connected to the Bay although not hydrologically connected, the addition of hydrologic connections is not expected to lead to requirements beyond those in the Tentative

Order, e.g., to maintain dissolved oxygen at levels at or above the Basin Plan objective and/or ambient levels.

We have identified mercury as a pollutant of concern from the beginning of our involvement with this proposed project, and agree that changes in mercury methylation dynamics associated with salinity reduction must be documented associated with the initial release discharges (only 1-2 months in duration) to assist with implementation of the mercury TMDL for San Francisco Bay. Therefore, we have specific provisions for mercury methylation monitoring, developed in consultation with experts at USGS, to track mercury methylation dynamics from pre-project through continuous circulation, answering the question of whether mid-range salinities have significantly suppressed mercury methylation, and providing invaluable baseline monitoring for long-term restoration projects.

We do not agree that there will be measurable, increased total mercury loading to the Bay. This comment ignores the fact that the Bay's food chain is presently exposed to the mass of bioaccumulative pollutants in the salt ponds, as well as the fact that the mass of mercury in the ponds, to be discharged in the initial release, originated from the Bay. Finally, during the continuous circulation phase that begins one to two months after initial discharge, the mercury in the water column will be essentially equivalent to that in the Bay.

Mercury mining long pre-dates most of the salt ponds around Alviso Slough, and this explains why scores of data points evaluated by the Water Board indicate that mercury levels in pond sediments around the historic delta of Guadalupe River are about the same as the Guadalupe River, Alviso Slough and tidal Coyote Creek. Therefore, we disagree with the comment that pond sediments affected by intakes from Alviso Slough are "relatively uncontaminated areas that have been largely isolated from mercury inputs transported with flows from the Guadalupe River and Bay."

Regarding PCBs, we appreciate the comment regarding exposure pathways to wildlife and how it could potentially affect TMDL targets. We agree that levels in sediments from the Guadalupe River watershed and South San Francisco Bay are probably higher than those in most of the salt ponds. We do not believe that the available technical information supports a conclusion that exposure of birds to PCBs will measurably increase as a result of hydrologically connecting the ponds to the Bay. The ponds have not been completely isolated from Bay sediments, as active intakes are located at Ponds A1 (Charleston Slough) and A9 (Alviso Slough). As stated in the EIR for the project, almost all wildlife (bird) species use the ponds in accordance with the tidal cycle (high tides), and are already exposed to Bay PCBs in the mudflats. But the Tentative Order recognizes the value of adaptive monitoring and management. If monitoring information related to the Bay Regional Monitoring Program or PCB TMDL demonstrates increases in tissue PCB levels potentially attributable to the project, the Order provides a regulatory mechanism to implement recommended changes where warranted. Perhaps more importantly, the required annual update of the Operations Plan provides an adaptive mechanism to make operational changes that could minimize PCB mass intake if determined to be necessary. Minimizing exposure of Bay pollutants to wildlife is related to the mission of the Agencies.

Comment 7

*Self-Monitoring Program. The District indicates that there is a great deal of uncertainty regarding the fate and bio-concentration of mercury and PCBs in wetlands, and it believes that projects such as these should contribute to the greater scientific knowledge being developed elsewhere in the Bay. The District suggests that mercury (total, dissolved, methyl) and PCBs (and other pollutants mentioned in Tables 1A and 2A) should be measured in the intake, discharge, and ponds on a daily basis during the release period to determine the loads introduced to the ponds, discharged from the ponds, and retained within the ponds. Additionally, the District indicates that mercury (total, dissolved, methyl), PCBs and the pollutants listed in Tables 2A and 2B should be measured in the intake, discharge, and ponds on a more frequent basis for a substantial period (several years) to determine the loads introduced to the ponds, discharged from the ponds, and retained within the ponds, and to evaluate seasonal effects on the conversion of the pollutants to bio-available forms. The District indicates that this information will help to provide a more solid scientific basis for evaluation of restoration options in the long term.*

Response 7

We agree that there is a great deal of uncertainty regarding the fate of mercury and PCBs in wetlands; however, under the Initial Stewardship Plan, Bay water will circulate into and out of the ponds, and they will be managed as open water habitat, almost identical to the existing ponds except for salinity levels and water residence time. Therefore, we do not believe that mercury or PCB concentrations will change significantly between the intake and discharge points of each pond system. To address the potential for increased mercury methylation during the Initial Stewardship Plan, the Tentative Order requires the Agencies to analyze sediment in ponds along the initial salinity gradient, as well as those that will have fluctuating water levels, and therefore may be more conducive to enhanced mercury methylation. This monitoring approach was developed in consultation with experts at USGS, and will provide invaluable baseline information for the long-term restoration of tidal and seasonal wetlands, as well as ponds, throughout the project area.

The District's recommended changes to the self-monitoring program are unnecessarily onerous to the Agencies considering that the Bay's ecology is already exposed to pollutants in the salt ponds through the food chain, and that the Initial Stewardship Plan is a short-term project. The costs of the suggested program would be astronomical and unbalanced with other important monitoring and management needs, considering that the project includes 54 ponds and as many as 18 discharge points. See also response to comment No. V.6 regarding the documentation of mercury methylation dynamics during the salinity reduction phase (i.e., initial release). The monitoring requirements can be changed based on the Agencies' recommendations in their annual report.

**VI. U.S. Fish and Wildlife Service February 27, 2004 Comments and Response**

Comment 1

*Provision D.5. U.S. Fish and Wildlife Service (U.S. FWS) provided a technical report that demonstrates the effects on water quality from the initial release and continuous circulation of*

*waters from the West Bay Ponds, as required by Provision D.5 of the Tentative Order. Therefore, U.S. FWS requests that we remove this provision from the Final Order.*

#### Response 1

While we consider Provision D.5 of the Tentative Order satisfied, preliminary modeling by U.S. FWS a) did not evaluate metals increases, and b) indicates that during the continuous circulation period there is a potential for salinity to cause significant impacts in Ravenswood Slough during the late summer. Therefore, we will revise this provision to require U.S. FWS to evaluate these potential impacts before it commences with an initial release of pond waters from the West Bay Pond Systems. Additionally, we documented U.S. FWS's analysis on the West Bay Ponds in Finding No. 49, the Fact Sheet, and Attachment 1 to the Fact Sheet.

#### Comment 2

*Self-Monitoring Program Initial Release Sampling. U.S. FWS indicates that it is concerned with the number of sampling points in slough channels that need to be collected following high slack tide during the initial release period. This is because slough channels in the areas noted are extremely shallow and subject to wide tidal ranges, which may make it physically impossible to collect all the samples in one tidal cycle. Therefore, it requests changing the phrase "following high slack tide" to "around high tide" in Note A and deleting required sample points at A3W-5, A7-6, and A16-3 in Table 1A.*

#### Response 2

We modified the Tentative Order to include this request. Additionally, to ensure that standard observations required by Section D of the SMP are reported, we inserted the following language in notes A and B for Tables 1A and 1B: "For days it collects receiving water samples, the Discharger shall also report standard observations, as described in Section D of the SMP."

#### Comment 3

*Self-Monitoring Program Benthos Sampling. U.S. FWS indicates that it will collect bottom grab samples for benthos at the sites delineated (Table 1A, Note C); however, based on past attempts to collect samples in several south bay sloughs, it should be noted that some samples may not contain benthos.*

#### Response 3

Comment noted.

#### Comment 4

*Self-Monitoring Program Pond Monitoring. U.S. FWS indicates that sampling should only be required in the discharge ponds, since only the discharges from those ponds could affect receiving waters. Therefore, it requests that sample points A-A1-0, A-B1-0, A-B2-0, A-A5-0, A-A9-0, A-A10-0, and A-11-0 be removed from Table 1A.*

#### Response 4

We agree that the Tentative Order should include pond management stations from discharge ponds (A2W-0, A3W-0, A-A7-0, A-A14-0, and A-A16-0), but only for the initial release period. Therefore, we removed these stations from Table 1B. In our view, collecting samples from these

ponds in the two months before the initial release is essential to ensure that U.S. FWS will comply with Discharge Limitations contained in the Tentative Order. For the initial release and continuous circulation period, we believe that pond management stations should also consist of ponds that will route water directly to the discharge pond (unless this pond is an intake pond). Therefore, we removed pond management stations A-A1-0, A-B1-0, A-A5-0, A-A9-0, A-A10-0, and A-A17-0 from both Tables 1A and 1B. Additionally, as proposed in the Tentative Order, we believe that during the continuous circulation period, pond management stations should include batch ponds.

Comment 5

*Self-Monitoring Program. U.S. FWS indicates that for the Continuous Circulation Period monitoring (Table 1B), it believes that collecting slough samples monthly, rather than bimonthly, would provide sufficient information (Note A). Additionally, U.S. FWS indicates that collecting this data at low tide may not be practicable, but it will evaluate options to do so.*

Response 5

We modified the Tentative Order to require monthly receiving water monitoring sampling in sloughs for the continuous circulation period in both Tables 1B and 2B. To further clarify where the Agencies should collect receiving water samples, we also modified note A for Tables 1B and 2B as follows. “It should be the intent of the Discharger to collect upstream samples at a point where the receiving water is unaffected by the discharge, and downstream samples at a point where the discharge has completely mixed with the receiving water, but as close to the discharge point as practicable.”

Comment 6

*Self-Monitoring Program Bay Samples. U.S. FWS indicates that collecting Bay samples (Table 1B, Note B) at points above and below the discharge point at low tide may not provide relevant information. It explains that these discharges will occur at low tides, most likely in small channels that will form in the extensive mudflats in the area. Samples collected in the open bay will be far from the discharge point. Samples in the discharge channel will consist almost solely of the discharge. U.S. FWS recommends that it reevaluate where sampling would be accessible and relevant following sampling during the initial release period. Additionally, U.S. FWS requests that monthly, rather than twice monthly, samples would be sufficient to determine the effects.*

Response 6

We agree that U.S. FWS should reevaluate where sampling will be accessible and relevant following the initial release period. The Tentative Order describes the receiving water monitoring locations for the Bay (Table 1B, Note B) as approximate, so this provides U.S. FWS with some flexibility. To further clarify where U.S. FWS should collect receiving water bay samples, we modified note B for Table 1B as follows: “Receiving water bay samples represent one point above-upstream and one point below-downstream the discharge point...It should be the intent of the Discharger to collect ~~upstream and downstream~~ samples as close to the discharge point as practicable with one point unaffected by the discharge, and one point where the discharge has completely mixed with the Bay.”

Additionally, we modified note B for Table 1B of the Tentative Order to reduce receiving water sampling in the Bay to monthly for the continuous circulation period.

Comment 7

*Self-Monitoring Program Pond Monitoring for Continuous Circulation Period. U.S. FWS indicates that it believes monitoring should only be required for discharge ponds, not all ponds in the system (Table 1B, Note E). Therefore, it requests that sample points A-A1-0, A-B1-0, A-B2-0, A-A3N-0, A-A5-0, A-A8-0, A-A9-0, A-A10-0, A-A12-0, A-A13-0, and A-A15-0 be removed from Table 1B.*

Response 7

Please see Response 4. Additionally, for discharge pond monitoring during the continuous circulation period, we believe the Agencies should monitor for total suspended solids concurrent with metals monitoring. Therefore, we revised note C of Tables 1B and 2B.

Comment 8

*Self-Monitoring Program Sediment Monitoring. U.S. FWS indicates that the Tentative Order includes annual collection of sediment samples in 11 ponds with testing for selenium, mercury and methyl mercury. It believes this is a misunderstanding, as U.S. FWS proposed a one-time collection of samples from these particular ponds in recognition that its earlier sampling program was not complete. U.S. FWS does not believe it should have to repeat this extent of sampling on an annual basis. To verify its conclusion that selenium levels were low in ponds, and that higher levels observed in some sampling programs were due to use of analytical methods inappropriate for high salinity matrices, U.S. FWS proposed a one-time analysis for selenium.*

*To monitor sediment during the initial stewardship plan, U.S. FWS proposes to submit a plan to sample a smaller number of targeted ponds for total mercury and methyl mercury. U.S. FWS does not propose to collect additional selenium samples unless the samples it recently collected show high selenium levels.*

Response 8

We modified the Tentative Order to include a narrative requirement for sediment monitoring. This will allow U.S. FWS flexibility to a) eliminate selenium monitoring if its recent sampling effort shows levels below background, and b) target specific ponds for mercury speciation monitoring.