United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In reply refer to:
FWS/EC-04-055

Thomas Macchiarella
BRAC Environmental Coordinator
Department of the Navy, Southwest Division
Naval Facilities Engineering Command
1230 Columbia Street, Suite 1100
San Diego, California 92101

JUN 2 1 2004

Subject: Alameda Point Seaplane Lagoon – Draft Final Remedial Investigation Report

Dear Mr. Macchiarella:

Thank you for providing the U.S. Fish and Wildlife Service (Service) with the opportunity to review and comment on the Navy's Response to Comments on the Draft Final Remedial Investigation (RI) Report for the Seaplane Lagoon at Alameda Point. In general, we appreciate the Navy's response to the Service's comments on the Draft RI. However, the Service believes several issues require further consideration, particularly the use of only the 0 to 0.3 ft depth sediment data in the ecological risk assessment.

Section 2, Site Setting

Pages 5, 14. Regarding the period of discharge of contaminated material via the storm drains, please describe when the storm drains were capped, cleaned, or otherwise altered to prevent ongoing release of residual contamination from the overall storm drain system. If this did not occur in 1975, please revise text to state that while inputs to the system may have been halted, releases of residual contamination from the system continued until the system was cleaned or capped.

Figure 2-1. Please add the northwest corner outfall onto this map.

Page 14. Please add total DDTs to the list of primary contaminants of concern.

Page 14. Please reiterate in this section that the net sediment accumulation rate of 1 cm per year was based on a single dated core from the northeast corner of Seaplane Lagoon (SPL), and as such, is unlikely to be representative of the overall area. Figure 2-3 illustrates the difference in the depth of Bay Mud as an example of differential sediment deposition and erosion.

Page 14. Please provide details of the vertical composite sediment core study as it is not clearly stated in the text.

Section 3, Nature and Extent of Sediment Contamination

Page 33 and Figures 3-15 and 3-16. The text states that non-detects were included in chemical sums at one half the reporting limit. However, the figures for total DDTs and PCBs note that non-detects were included as zero in the sums. Please clarify this discrepancy.

Page 36. The readability of the document would be improved if the box plots for all chemicals were placed in one location rather than the current split between the hard copy main text and in Appendix A on the CD.

Page 39 and Table 3-2. Concentrations of lead in surface sediments in each year measured exceeded the ER-M (218 mg/kg) with an overall maximum of 619 mg/kg. Therefore, please include lead in the list of inorganic chemicals that consistently exceeded ER-M values.

Page 41 and Table 3-2. Please note the elevated concentrations of total petroleum hydrocarbons, particularly diesel and motor oil (up to 2600 and 9500 mg/kg, respectively in surface sediments), in the text describing organic chemical contamination.

Section 5, Ecological Risk Assessment

Page 144. Special status species should have assessment endpoints at the level of the individual, as well as the community.

Page 145 and Figure 5-2. The use of only surface (0 to 0.3 ft depth) sediment data is a major confounding factor in the interpretation of the risk assessment results. Many physical and biological processes make relatively deeper sediments bioavailable either through direct contact with these sediments by benthic organisms or indirectly through disturbance and bioturbation that resuspends deeper sediments. On Page 14, the text refers to disturbance and mixing as possible reasons for the ongoing contamination of surface sediments. Similarly, the text on Page 15 states that "the depth and degree of vertical mixing have not been quantified." Therefore, the assumption that only the top four inches of sediment is bioavailable and the only source of exposure is not supported by site-specific scientific evidence or earlier text within the document itself. In addition, please revise Figure 5-2 to include these potential processes.

Page 149. Please identify whether concentrations are in wet or dry weight for each term used and what metrics of concentration were used for sediment and prey (e.g., maximum or upper percentile).

Page 161. In the comments on the draft document the Service previously requested that the Navy revise the site use factor (SUF) for least terns, and recommended a value of 0.25. The Service appreciates the Navy's use of several different SUF (0, 0.094, 0.25, 0.5, and 1) in evaluating risk to least terns in this version.

Pages 163-164 and Tables 5-25 and 5-26. The hazard quotient with the low TRV for cadmium exposure to least terns is greater than 1.0 with bivalve tissue based on the SUFs recommended by the Service (0.25) and the Navy (0.094), and greater than 1.0 with forage fish tissue and the higher SUF (see table below). Given the uncertainty in the SUF and the need to protect individual least terns, the Service recommends that cadmium be retained as a chemical of concern for least terns.

	SUF = 0.25	SUF = 0.094
Source of SUF	*Maximum observed plus uncertainty factor for marked to unmarked individuals, Service recommended*	*average, Navy recommended*
Bivalve Tissue	$HQ_{low\ TRV}$ = 6.92	$HQ_{low\ TRV}$ = 4.32
Forage Fish Tissue	$HQ_{low\ TRV}$ = 1.05	$HQ_{low\ TRV}$ = 0.624

Figure 5-2. Please include the use of forage fish tissue in evaluating least tern exposure on the site model.

Section 6, Human Health Risk Assessment

This section was not reviewed.

Section 7, Development of Preliminary Remediation Goals

Page 242. The assumption that fish exposure to cadmium will primarily occur through sediment and prey is inconsistent with the text on Page 19 that describes cadmium's ability to leach from sediments (up to 40% in 90 days) and the observed flux of cadmium into the water column.

Page 243. Please note whether the distribution of the bioaccumulation factors (BAF) was tested to determine the appropriate measure of central tendency (e.g., mean, geometric mean, median).

Section 8, Uncertainty Analysis

The Service reiterates its request that hazard indices also be used to evaluate potential additive impacts of chemicals that act by similar mechanisms or affect similar endpoints. The text change proposed in the Navy's response to comments did not adequately address the Service's recommendation for hazard indices, and was not included in the Risk Characterization section. The toxicity reference values (TRVs) used in the risk assessment were specifically selected to evaluate reproductive endpoints, if available. The cadmium TRV is based on observations of kidney degeneration in juvenile birds, the PCB TRV is based on observations of decreased egg production in adult birds, and the total DDTs TRV is based on observations of egg failure to hatch. This suggests that the above compounds could have cumulative effects on the reproductive success of avian receptors, even though they act through different biochemical mechanisms, because they all affect key parameters associated with the number of young fledged per nest – number of eggs produced, number of eggs that hatch successfully, and number of young hatched that survive to fledge. An additive hazard index is therefore justified.

If you have any questions regarding this letter, please contact Dr. Beckye Stanton at (916) 414-6733.

Sincerely,

Michael B. Hoover
for David L. Harlow
Acting Field Supervisor

cc:
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