United States Department of the Interior

FISH AND WILDLIFE SERVICE
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IN REPLY REFER TO:
File Reference)

March 15, 2001

Mr. Richard Weissenborn
Department of the Navy
Southwest Division
Naval Facilities Engineering Command
1220 Pacific Highway
San Diego, California 92132-5190

Subject: Alameda Point, Installation Restoration (IR) Site 2 Draft Remedial Investigation Report

Dear Mr. Weissenborn:

Thank you for providing the U.S. Fish and Wildlife Service (Service) with the opportunity to comment on the subject report. Although it is obvious that a great amount of work went into the preparation of this document, the Service considers the recommendations for no further action to be premature, based primarily on shortcomings in the ecological risk assessment. Specific comments are as follows:

Section 2.3.2.1, Native Flora and Fauna.

Page 2-27, last paragraph. The genus name of Pacific cordgrass should be spelled *Spartina.*

Page 2-28, 4th paragraph. The statement regarding the importance of salt marshes for the breeding of transient species is vague. Additional explanation of why Cohen and Laws (1991) consider the importance of salt marshes to have declined would add clarity and provide context.

Page 2-28, 5th paragraph. The salt marsh song sparrow (*Melospiza melodia pusillula*) should be included as a resident salt marsh species.

Page 2-32, 1st paragraph. The discussion of piscivorous birds should include the Federally listed endangered California least tern (*Sterna antillarum browni*) and the Caspian tern (*Sterna caspia*), both of which breed and forage in or near the West Beach Wetlands.

Page 2-34, 5th paragraph. The common name of *Elanus caeruleus* has been changed to the black-

shouldered kite (vice white-tailed).

Page 2-36, 1st paragraph. In discussing the integrated food web, the term "connectivity" is used in two different contexts without definition. In particular, the term should be clarified when discussion relationships between feeding guilds and the food web.

Section 3.1.6, Biotic Sampling

Multiple pages, Tables 3-2, 3-3, and 3-4. These lengthy tables actually convey very little useful information, and should be placed in an appendix.

Page 3-69, 3rd paragraph. No rationale is given for the selection of the reference areas on Alameda Point used to develop baseline estimates for contaminants in terrestrial receptors. I order to evaluate the suitability of those sites, the process by which they were identified should be described.

Page 3-72, last paragraph. The sea-urchin bioassay is reported as a bioaccumulation test. However, based on subsequent discussions in the report, that seems to be an error.

Section 4.0, Data Analysis and Summaries

Multiple pages, Summary Tables. Summary tables do not indicate whether contaminant concentrations are reported on a wet weight or dry weight basis.

Page 4-37, 3rd paragraph. The first sentence states that ambient data were collected only for polycyclic aromatic hydrocarbons (PAHs). No rationale is given for why this was so. Considering the effort made to establish ambient concentrations of inorganics, it is not clear why a comparable effort was not made for organic compounds.

Pages 4-75, Table 4-19. There is no discussion of how plant samples were sorted or composited for chemical analyses, and species-specific results, if any, are not reported.

Page 4-83, Table 4-21. Section 3.1.6 states that larval silversides (Family Atherinidae) were found predominantly in the northern pond, while the threespine stickleback (*Gasterosteus aculeatus*) was the dominant species collected in the southern pond. However, there is no discussion of how fish samples were sorted or composited for chemical analyses, and species-specific results, if any, are not reported.

Page 4-95, last paragraph. Benthic invertebrate community sampling in the West Beach Landfill Wetland and the Runway Wetland are discussed. The text does not indicate that reference stations were identified and sampled. The utility of the benthic community analysis is therefore questionable.

Section 5.1, Transport of Chemicals from Buried Waste to Surface Soil and Biota

Page 5-6, 2nd paragraph. Analyses of variance (ANOVA) was used to compare contaminant concentrations between the landfill cover, the interior margin, the coastal margin, and the wetland soils. It would seem logical to include the ambient data in this analysis as well, so the rationale for not doing so should be provided.

Page 5-7, 3rd paragraph. This section states that, "Because soil samples and tissue samples are not co-located in time and space a thorough analysis of correlations between these data is not possible." However, the text goes on to state that Site 2 mouse and plant tissue concentrations of some constituents are elevated over reference sites. This seems to be consistent with the soil data for Site 2 and the reference site, since many constituents at the site exceeded reference site concentrations. A straight-forward presentation of these comparisons in a single table or figure would add a great deal of clarity to this section. The last sentence of this paragraph seems contradictory to the discussion preceding it: a number of metals in both tissue and soil are elevated at Site 2 compared to the reference site. That would indicate a stronger likelihood of migration of chemical constituents from buried wastes to biota; no one is suggesting reliance on tissue data alone.

Page 5-7, 4th paragraph. This section concludes that the various analyses discussed do not indicate that biotic pathways have been active in facilitating the migration of chemicals from buried waste. This conclusion is not warranted until the ambient data from the reference locations is factored into the analyses.

Page 5-9, 2nd, 3rd, and 4th paragraphs. This section discusses the impact of landfill wastes on local groundwater, hypothesizing that if there is an effect, the down-gradient concentrations will be higher than the up-gradient concentrations. It is later stated that the "up-gradient concentrations *were not higher* than down-gradient concentrations in either water-bearing zone" for a number of metals, including chromium, copper, lead, and nickel. If the concentrations of these metals were "not higher" up-gradient, does that mean they were "lower" up-gradient, consistent with the hypothesis above, or is this a typographical error? In addition, arsenic and several common cations are reported as higher down-gradient, again consistent with the hypothesis. It is somewhat surprising, therefore, to find the conclusion of the discussion to be that "the data suggest that neither the first nor the second water-bearing zone has been significantly impacted by migration of inorganic chemicals from the landfill." Salt water intrusion is presented as an alternative explanation. However, if the data do not permit resolution between two competing hypotheses, then they are not sufficient to support the conclusion of no impact. In addition, the ground water figures in Appendix B are not very helpful, since they don't indicate which points are up-gradient and which are down.

Page 5-10, last paragraph. This paragraph discusses the potential for transport of chemicals from the surface soil of the landfill to the wetland. It states, "...because wetland soil concentrations in areas that do not receive runoff from the landfill were included in this comparison, it is not possible to conclude that water runoff has resulted in migration of metals from the upland areas of the landfill to soils in the lower-lying wetland area." It should be possible to segregate the wetland soil data to compare only those locations in the wetland that *do* receive runoff from the

landfill.

Section 7.0, Ecological Risk Assessment

Page 7-2 to 7-3, Section 7.2. This section discusses screening for contaminants of potential ecological concern (COPECs), including the use of various screening values from several sources. Although references for the screening levels are given, it would aid interpretation of this section if the actual screening values used for each COPEC in each medium were provided in a table or series of tables. In addition, paragraph one at the top of page 7-3 states that bioaccumulative compounds in soil that were below the screening level were not retained as COPECs. Since the agencies have not yet agreed that the Los Alamos National Laboratory ecological screening values are the most appropriate soil screening values for this site, the bioaccumulative compounds that were screened out using these values should be specifically identified and concentrations compared to other screening levels that could have been applied.

Page 7-8, 1st paragraph. This paragraph discusses lines evidence evaluated to characterize risk for Site 2. A major omission is food-chain modeling for constituents that do not have a Navy - Biological Technical Assistance Group (BTAG) toxicity reference value (TRV). These constituents include, among others, chromium, chlordane, and various radionuclides that were screened as COPECs at the site. For COPECs in this category, it is incumbent upon the Navy to develop, defend, and apply reasonable TRVs based on available literature.

Page 7-10 to 7-13, Table 7-6 and Table 7-7. These tables discuss the uncertainties and assumptions in ecological problem formulation. They raise several issues where additional thought or clarification is needed: First, the tables imply that only field-collected insect data was used in dose modeling. In the case of the wetlands that consists of two composite insect samples. However, a more extensive data set of *Macoma* tissue data exists from laboratory bioaccumulation studies. At other sites around San Francisco Bay, the Navy has insisted that such data is appropriate for food-web modeling, so it is not clear why the *Macoma* data was not used for this site to calculate oral doses for aquatic omnivores and benthivores. Second, the statement is made several times that, "Available field-collected tissue data for many organics had method detection limits that were too high for risk assessment purposes." Presumably that means that use of the method detection limit value resulted in an indication of risk. Various options exist to deal with this problem, but which option the Navy used for purposes of the oral dose models presented in the report is not clear. Third, the raccoon (*Procyon lotor*) is modeled as a terrestrial consumer; however, raccoons also forage at the margins of aquatic systems. An oral dose model that reflects this potential would be more appropriate in this case.

Page 7-18, 1st paragraph. This section presents the oral dose model used to estimate exposure to upper trophic level receptors. The formula is not presented clearly. First, the values inside the parentheses should be multiplied , not added; second it is not explicitly clear that values for soil, water, and food ingestion are added for the total dose; finally, the term "media-specific transfer factor" (TF) is potentially confusing in this context, because it is very similar to the term "trophic transfer factor", which has an altogether different meaning. "Assimilation efficiency" might be a

better choice to describe the intention of the TF.

Page 7-19, Table 7-8. The site use factors (SUFs) for the red fox (*Vulpes vulpes*) are too small. In estimating a receptors foraging range, consideration has to be given to the surrounding habitat. So, although the fox might have a 277 acre foraging range under average conditions, it is unlikely that the runways and tarmac over most of the area surrounding Site 2 provide suitable foraging habitat, and site use factors have to be calculated accordingly. A total SUF of one should be used. If separate SUFs for the West Beach Landfill and the West Beach Landfill Wetland are used (based on a total area of 110 acres, not 277) to calculate doses for those areas, then the doses for the adjacent areas, calculated with (1-SUF) need to be added to provide an estimate of total exposure, since a fox is not likely to forage in just one location and not the other. This discussion also applies to the oral dose calculations for the raccoon, the red-tailed hawk (*Buteo jamaicensis*) and the mallard (*Anas platyrhynchos*).

Page 7-50, Section 7.3.2.4 and Tables 7-23 to 7-32. It is not at all clear from the discussion in this section exactly what tissue data and SUFs were used to calculate the doses for each receptor in the indicated tables. This process should be discussed in enough detail that a reviewer can use the same inputs and verify the dose calculations presented in the report.

Page 7-72, Section 7.3.3. Several of the assessment endpoints on page 7-8 include protection of populations of the upper trophic level receptors. However, the interpretation of lines of evidence includes no population-level analyses for any of these organisms. For oral doses that exceed the low TRV, an attempt should be made to assess population-level effects based on the literature from which the TRVs were developed. Simply assigning "equivocal" risk is not sufficient.

Page 7-82, last paragraph. The Service disagrees that the results of the baseline Ecological Risk Assessment support a recommendation of No Further Action. Substantial revision and re-evaluation are required for such a recommendation to be supportable.

If you have any questions, please contact Mr. Jim Haas in my Environmental Contaminants Division at (916) 414-6604.

Sincerely,

Dale A. Pierce
Acting Field Supervisor

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