



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825

In Reply Refer To:
FWS/EC94-0089

October 31, 1994

Mr. Gary J. Munekawa
Western Division
Naval Facilities Engineering Command
Code 09ER3GK
900 Commodore Drive
San Bruno, California 94066-2402

Subject: Draft Ecological Assessment for NAS Alameda and
Updated SVOC Data for the Draft Ecological Assessment

Dear Mr. Munekawa:

The U.S. Fish and Wildlife Service (Service) has completed a review of the subject documents. The Service recommends that a Phase II ecological risk assessment be initiated to fill identified data gaps and better assess ecological risk to migratory birds at the two wetland sites. The following specific comments are provided:

A. Alameda Ecological Assessment

1. Only four stations were sampled at Runway Wetland. This small number of sampling stations does not allow the wetland to be accurately characterized. The addition of four to five more sampling stations, particularly around existing site R, would better determine the extent of contamination of Runway Wetland.
2. p. 1-5. The phrase "toxicity defined as mortality (or depressed function)" is unclear. Depressed function could be measured as decreased growth, decreased reproduction or a combination of factors. The meaning of "depressed function" should be clarified.
3. p. 1-6. It is unclear whether sampling was performed more than once. Given that ecological conditions can change from season to season or even low tide to high tide, multiple sampling of the IRP sites (and Runway Wetlands) would better characterize the contamination. It is recommended that sampling be done once or twice more at these sites.
4. p. 1-6. The contamination in the West Beach Landfill Wetlands seems to be a result of the West Beach Landfill. It is possible that storm runoff from the landfill is carrying contaminants into the wetland. Monitoring the runoff from the wetland, either by collecting the storm water as it runs off the landfill or by sampling and analyzing the wetland immediately before and

immediately after a rain event may help to answer this. This is recommended as part of the stormwater monitoring plan.

5. p. 1-7. ER-L is, by definition, the lowest concentration of a contaminant at which effects to test organism are seen. These values may not be protective enough to use as the cut off point for "elevated concentrations." It is more protective to use numbers slightly lower than the ER-L. Elevated means higher than baseline conditions or higher than levels at uncontaminated reference sites. The levels you are calling "elevated concentrations" would be better termed "toxic concentrations." It is recommended that this wording be changed to reflect the definition of "elevated."

6. p. 1-12. The storm water event sampled was only 1/4" to 1/2" of rain. This amount is not always considered sufficient to flush the drains and sumps of "old" water. Although electroconductivity was taken to ensure only fresh water was collected, it would be beneficial to re-test at a larger storm event.

7. p. 1-14. Taxiway 6 is adjacent to Runway Wetlands and a possible contamination source. Monitoring of the runoff from the taxiway and the nearby industrial shops would determine the extent this area is contributing to the contamination found in the Runway Wetlands.

8. p. 1-17. IRP site 10: "it is unknown whether any wastes were discharged to storm sewers that emptied into the Seaplane Lagoon." To answer this question, searching available historical records and interviewing current and former personnel is recommended.

9. p. 1-18. "Part of the NAS Alameda storm sewer system" discharges to Seaplane Lagoon. Where does the rest discharge?

10. p. 1-21. IRP Site 20: The U.S. Army Corps of Engineers study at this site showed mortality yet there is no mention of any follow up study. A closer look at this study and the causes of mortality would help characterize this site.

11. p. 1-22. IRP Site 15: The soil in this area has the potential for PCB contamination. Soil testing should be done here to determine the extent of contamination and enable the clean up to proceed faster.

12. p. 3-2. While Runway wetlands may not have a specific "contaminant source," R3 showed the most toxicity. More sites need to be sampled on this wetland to narrow down the source of contamination (see also Comment #1).

13. Figure 1-7. On this map the landfill is directly north of the West Beach Landfill Wetlands. This does not correspond to the text. The map or the text need to be modified to show the correct location of the landfill and the wetlands.

14. p. 3-9 paragraph 3. D.O. values taken at these sites are unreliable because of interference with H₂S. The values for BOD and COD are dependent on

the D.O. value and may not be reliable. Expand on how it was determined that H₂S was interfering with the D.O. readings. If values were taken for H₂S, include them in the results.

15. p. 3-11 paragraph 1. "The results of bioassay testing with Wetland Reference sediments were not used as a baseline for comparison with sediments from the West Beach Landfill Wetlands." A baseline must be used for the results to be meaningful. A baseline bioassay test needs to be performed.

16. p. 3-16. There is no comparison for the R3 benthic population evaluation. Without a comparison site, the results of the benthic population evaluation of site R3 is not meaningful. A comparison benthic population evaluation needs to be done.

17. p. 3-16. Since the lowest benthic population diversity at NAS Alameda was seen at R3, this site and wetland as a whole should be studied further. Further testing and characterization of this site and the contaminants, especially in relation to their impacts on benthic population, is recommended.

18. p. 3-19/20. It is unclear where the fill for Runway Wetlands was obtained. Historical records or interviews of present and former personnel may answer this. The source of the fill for Runway Wetland needs to be determined to aid in pin-pointing a source of contamination for the wetland.

19. p. 3-22. At the May 17, 1994 meeting on the Ecological Assessment at WESTDIV, it was agreed that the last paragraph on this page was going to be changed to prevent a misunderstanding in the value of these wetlands. The Service would like a copy of the re-worded paragraph when it is completed.

20. p. 3-26. Include a sentence on the change in delineation of Runway Wetland after the base is closed. Air and runway traffic will decrease, lowering the disturbance around Runway Wetland and possibly making the wetland more attractive to migrating waterfowl.

21. p. 3-27. The second sentence needs to be rephrased to recognize that this judgement is only under the current circumstances and will change once the environment surrounding the wetland (i.e. the closing of NAS Alameda) changes. This will prevent general misunderstanding about the important role of wetlands on this site.

22. p. 4-2. Based on Figure 4-4, site B10 was to be off the southwestern tip of West Beach Landfill Wetlands. In future testing, a site should be included in this area. Having a site centrally located off the shore of the West Beach Landfill Wetlands will help characterize the extent of contamination and help determine whether the contaminants are being carried from the landfill, through the wetlands and into the bay.

23. p. 4-4/5. The highest areas of sediment metal contamination occur right off the northern shore of West beach landfill. This may be caused by runoff from the landfill. More storm water monitoring needs to be done to provide an answer to this question.

24. p. 4-41. It is suggested here that sediments from San Francisco Bay have been carried into Seaplane Lagoon to settle and accumulate over time. A study of the tidal flow in this area would determine if it is likely that San Francisco Bay sediment can be transported into the Seaplane lagoon in high enough quantities to explain the contamination seen here. It is recommended that tidal patterns and sediment loads in this area of the San Francisco Bay be included in any future study.
25. p. 4-41. 1993 storm water sampling was unable to be carried out. Rescheduling storm monitoring and runoff testing should be a priority. Many of the questions in the Ecological Assessment and the concerns of the Service may be answered through thorough storm monitoring and runoff testing.
26. p. 4-41. It is suggested in the last sentence that the contamination seen in Seaplane Lagoon may be from the "gradual mobilization of chemicals from deeper sediments into surficial sediments over time." The likelihood of these contaminants mobilizing upward into the surficial sediment layer needs to be addressed further.
27. p. 4-41. Sample analysis reveals that the deepest sediments are cleaner than the intermediate core sediment samples. It is unclear how contaminants would be mobilized from deeper sediments if the deepest sediments are cleaner than the surface sediments. If this idea is to be included in the Ecological Assessment, it needs to be expanded upon.
28. p. 5-3. There is currently a Least Tern predator reduction program at NAS Alameda. This program should be continued after the base closes. The Reuse Committee should address this.
29. Section 5: It would be helpful to include the listing status, if any, for each species mentioned in this section.
30. Section 5: There is no mention of a wildlife survey. A complete wildlife survey, performed by biologists familiar with the species in this area needs to be done. Once the survey is completed, include the results in the Ecological Assessment. A map, outlining the species and the locations they were seen in during the survey, would help in determining the areas of concern.
31. Section 6: December 13-14 was the third storm event of the 1993 Northern California rain season. The first storm event was in late October, the second storm event was the first week of December. Most toxicity in storm runoff is seen in the first event due to the extended summer dry season. When storm monitoring is re-scheduled, a first storm event sampling and analysis should be sampled to find the "worst case" run off scenario.
32. p. 7-2. "If the concentrations fall above the ER-M...biological effects could occur." This is true of any levels of contaminant above the ER-L. If the sentence must include the "ER-M" it should be re-phrased to say "biological effects are likely to occur."

33. p. 7-3. Since there are only 5 areas, it would be beneficial to see PRC's ranking of more than the top 3 contaminated areas.

34. p. 7-9. The last sentence would be better phrased "and did not contain concentrations of metals or organic compound at levels above the ER-L."

35. p. 7-10. The last sentence should be changed to: "but did not cause toxicity in laboratory bioassay tests."

36. p. 7-11. "It is possible that water from the Seaplane Lagoon or San Francisco Bay periodically floods the wetland, accumulates in the ponds, and evaporates, leaving an increasing mass of trace materials behind in the sediments at that station." This theory should be followed up on. A check of available historical records will reveal the dates of flooding to this area. Computer projections and tidal charts will judge the likelihood of this occurring. A geological map of this area will determine if there are any geographical features between Runway Wetlands and Seaplane Lagoon that would either facilitate or prevent flooding. This does not explain, however, why areas closer to the Bay and closer to Seaplane Lagoon do not show contamination at the high levels seen at R3. Until there is more than a sentence outlining this flooding idea, it seems more likely the contamination is from runoff from the taxiway and shop area.

37. P. 7-12. The first sentence should be reworded to include all three factors.

38. p. 7-12. See comment #24.

39. p. 7-12. Contamination is directly offshore to NAS Alameda and the major areas of contamination are linked to outflow areas of NAS. It is difficult to unilaterally accept the claim that the contamination "cannot be attributed specifically to NAS Alameda." Tidal flow studies showing how contaminants could be brought in from other areas could help clear up this claim.

40. p. 7-12. "Although the areas of greatest chemical contamination in the Oakland Inner harbor sediments were adjacent to major outfalls from NAS Alameda, they were also areas that were under the influence of discharges from major industrial centers such as the Port of Oakland and Todd Shipyards." Outfalls from other sources and including their locations need to be mapped out to better understand the strength of this claim.

41. p. 7-16 paragraph 3. "It cannot be determined if the paucity of benthic populations in the West Beach Landfill Wetland was due to chemical contamination or to the harsh ecological conditions in the study area." This is the first time harsh ecological conditions have been mentioned. Please detail what these conditions are. See also Comment #16.

42. p. 7-17 paragraph 3. The contamination from E4 is highly localized, yet contamination from other industrial centers in Oakland Inner Harbor and San Francisco Bay is suggested as a possible source of contamination. It is unclear how this is possible. Please expand upon this idea.

Mr. Gary J. Munekawa

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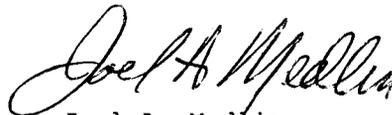
43. p. 7-17 last paragraph. Tidal and wind pattern analysis would help confirm this idea.
44. p. 7-18 second paragraph. This sentence would be better as "toxicity was not expressed in laboratory bioassay tests."
45. p. 7-18/19. There is no mention of Runway Wetlands in the Summary section. The Summary needs to be re-written to include Runway Wetland.

B. Updated SVOC data for the Draft Ecological Assessment, Alameda

1. There is no discussion section at the end of Section 3 to discuss the results of the organic analysis of the Wetland area. This needs to be written and included at the end of Section 3 for the Ecological Assessment.
2. At the May 17, 1994, meeting at WESTDIV, PRC agreed to look into the possibility of contamination from the small arms range. The Service would like a copy of any plans to study the small arms range when they are prepared.
3. p. 7-1 paragraph 2. Runway Wetlands also seems contaminated. Since there are only five sites, it is recommended that all five sites be listed in PRC's ranking order of most contaminated sites, not just the top three.
4. There is no mention of a survey of the migrating waterfowl utilizing this area. A survey of all wildlife on NAS Alameda needs to be performed and the results need to be reported in the Ecological Assessment.

If you have any additional questions, please contact Mr. Jim Haas of my staff at (916) 978-5603.

Sincerely,



Joel A. Medina
Field Supervisor

cc: Ms. Denise Klimas, NOAA
Dr. Michael Martin, CDFG
Mr. James Ricks, USEPA
Mr. Thomas Lanphar, DTSC
Mr. James Nusrala, RWQCB