



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF OCEAN RESOURCES CONSERVATION AND ASSESSMENT
HAZARDOUS MATERIALS RESPONSE AND ASSESSMENT DIVISION
COASTAL RESOURCES COORDINATION BRANCH
c/o U.S. Environmental Protection Agency (H-1-2)
75 Hawthorne Street
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December 15, 1992

Ms. Roberta Blank
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Remedial Project Manager, EPA
75 Hawthorne Street
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Dear Ms. Blank and Ms. Tan:

The U.S. Department of Commerce/National Oceanic and Atmospheric Administration (NOAA) appreciates the opportunity to review the document Naval Air Station, Moffett Field, California. Draft Final Phase I Site-Wide Ecological Assessment Work Plan. Prepared for the Department of the Navy, Western Division, by PRC Environmental Management, Inc. and James M Montgomery, Inc. November 3, 1992.

The following review is offered from the perspective of NOAA's concerns as a natural resource trustee for tidal wetlands and habitat supporting coastal fisheries and anadromous and catadromous species.

Background

This workplan focused on OU 6 and OU2 which reportedly have the greatest potential impact on ecological receptors. The potential impact from the other OUs is considered smaller, and therefore, they were not addressed in the workplan. The main objective of the planned ecological assessment is to develop a qualitative and quantitative assessment of the environmental risks or environmental impacts associated with conditions at NAS Moffett Field. These conditions include the presence of chemical contaminants in soil and groundwater and the potential that some of these chemicals are reaching adjacent or on-site streams, wetlands, storm water retention basins, or marine environments (tidal marshes of San Francisco Bay. Specifically the assessment will:

- Identify ecological receptors or species that may be exposed to chemicals associated with existing conditions at the site
- Select endpoints of concern (for example, reproduction or survival)
- Identify the pathways and routes by which ecological receptors may be exposed to the chemicals
- Measure or estimate exposure point concentrations
- Develop information on toxic effects of the chemicals
- Characterize environmental risks associated with the exposure under current and future conditions



1850

- Assess the uncertainties associated with the estimates
- Discuss the ecological significance of the findings

In order to accomplish the above objectives, the ecological assessment will characterize terrestrial habitats, conduct a wetlands delineation and functional assessment, and sample environmental media. Surface waters and sediments will be collected from the wetlands, stormwater retention ponds, the Northern Channel, and drainage ditches and analyzed for VOCs, BNAs, PCBs, pesticides, and trace elements.

Comments

Section 2.0: Purpose and Objectives

The stated purpose of this work plan is to address site-wide ecological concerns at NAS Moffett Field. Why are only OU6 and OU2 addressed in this work plan? If indeed there is minimal risk to ecological receptors at OU1 and OU3, then the phase I investigation will show no need for further evaluation. It is inappropriate to eliminate these OU's from the site-wide phase I investigation without some support for this decision.

Section 4.2.3: Field Assessments

The workplan proposes to conduct a site reconnaissance to qualitatively describe major habitat types, wildlife, and vegetation patterns. During the survey, the presence or absence of soil invertebrates is to be conducted. The survey should also include the presence or absence of sediment invertebrates in the various ditches and sloughs. This information is necessary to provide site-specific diversity of benthic species for use in the selection of ecological receptors for the overall ecological assessment.

It is also recommended that potential pathways from source areas (ditches, streams, etc.) and aquatic receptors (wetlands) be identified and documented. Depositional areas of fine grained sediments should be documented as potential sites for future sampling. Obtaining this information during the site reconnaissance will likely insure the efficient placement of sampling stations to maximize the amount of useful data in a cost effective manner.

Section 4.2.5: Assessment of Freshwater Systems

The workplan proposes to assess freshwater systems (golf course and stormwater ponds) during the Terrestrial Characterization by use of seines and dipnets to collect fish and invertebrate samples (p16). Kick nets and ponar grab samples will be obtained and sieved to determine the general composition of benthic invertebrates. These samples are proposed to be evaluated using "rapid benthic assessment methodology." To my knowledge there is not a qualitative bioassessment procedure for use in freshwater lakes and ponds. If the authors are referring to the rapid bioassessment protocols and methodologies outlined by U.S. EPA (1989), these protocols would not be an appropriate methodology to use in this situation. These protocols are for use in rivers and streams, not the ponds proposed in the workplan. It is unlikely that useful information can be gained by a qualitative evaluation of benthic and fish communities in the freshwater ponds of the

study area. It would probably be more useful to conduct additional sediment and surface water chemistry in the ponds and streams that eventually discharge to nearshore areas of the south bay.

Section 4.2.6: Data Products

According to the workplan, the data gathered during the habitat survey will be used to select species or groups of species for evaluation of potential risks or impacts. The wetland and field assessment barely mentions qualitatively assessing the aquatic habitat present in the sloughs in and adjacent to OU6. On page 16 benthic organisms and fish have been left out of the mentioned groups of biota from which species will be selected for risk evaluation. The assessment is not only to inventory terrestrial fauna and diversity in OU6 and OU2 but to also inventory aquatic species and habitat. This workplan should include specific mention of assessing aquatic biota in the sloughs in and adjacent to OU6.

Section 4.3.3: Wetland Delineation and Functional Assessment Report

Although the workplan states that the wetlands delineation and functional assessment report will "substantiate the wetland values in terms of...aquatic diversity and abundance,...sediment or toxicant retention...", it is unclear from the methods mentioned in the workplan how this assessment will take place. It is also unclear at this point in the ecological assessment why a functional value is to be assigned to the wetlands at NAS Moffett Field? How will this information be used in phase II of the ecological assessment?

Section 4.4.1: Sampling Locations

The workplan proposes to sample environmental media (p22) including surface water and sediments in wetlands, stormwater retention ponds, northern channel, and Marriage Road Drainage Ditch. Samples will be analyzed for VOCs, BNAs, PCBs, pesticides and trace elements. In addition to the proposed sampling, Stevens Creek, and Jagel and Devil's Slough, which flow along the western and northern boundaries of the site, should be sampled for the same analytes. Previous sampling has identified several PAHs and BNAs in sediments of these waterbodies. For Stevens Creek, sampling stations should be located downstream of the stations shown in Figure 8 of the workplan, preferably where the unnamed slough joins Stevens Creek. If Stevens Creek and the two sloughs are non-tidal flowing freshwater streams, then benthic sampling using Rapid Bioassessment Protocols should be considered in these waterbodies. Also, none of the figures label the "northern channel". This should be clarified in the figures.

The workplan calls for chemical analysis to be conducted on filets, if the fish are large enough. Since this is an ecological assessment, it is unnecessary to analyze filets. The biological receptors potentially feeding on the fish are not known to "filet" their prey prior to eating. Fish should also be collected and analyzed from Stevens Creek, Devil's Slough and Jagel Slough.

Section 4.4.2: Methods and Analysis: Stream and Wetland Sediments

The workplan calls for granular sediments in shallow streams that are to be analyzed for chemical constituents to be collected using a hand trowel or shovel. This is an inappropriate technique for collecting a surface sample for chemical analysis. A grab sampler or coring tube must be used to collect all sediment samples for chemical analysis.

Section 6.4.1: Aquatic Exposure Pathways

The workplan states that "Exposure and potential impacts to biota associated with sediments will be estimated by comparing these concentrations to sediment quality criteria established for the contaminants of concern." Exposure and impact should not rely solely on comparison to derived sediment quality criteria but should also take into consideration the results of toxicity and bioaccumulation data.

Section 8.1: Aquatic Effects Characterization

For the aquatic effects characterization the workplan reports that exposure concentrations will be compared to AWQC citing U.S. EPA (1986) and potential regulatory criteria for sediments such as Effects Range-Low and Effects Range-High values (p34). The author cited Long (1991, 1992) as the source of "Effects Range-High" values (they are not in the reference section, however). Effects Range-High values have not been defined by any of Ed Long's sediment effects work and the much used Long and Morgan (1990) establishes ER-L values and ER-M (Effects Range-Medium) values. This needs to be clarified in the workplan. For the full protection of NOAA trust resources in nearby estuarine habitats, it is recommended that ER-L values be used in the characterization of ecological risk.

Section 9.1: Aquatic Environment Uncertainties

In addition to the listed uncertainties for the ecological assessment for the aquatic environment, the following uncertainty should be added: "The use of single species and single chemical evaluations when many species and chemicals are simultaneously present at NAS Moffett Field."

Conclusions

The workplan does not propose to perform any investigations in estuarine areas of the South San Francisco Bay. It may not be necessary to sample the bay since the wetlands and evaporation ponds that lie between the base and bay may potentially act as a contaminant sink. However, some contamination may still reach estuarine habitats of concern via Stevens Creek and the two Sloughs that border the site. It is therefore recommended that a phase II workplan contain additional sampling to characterize the extent of contaminant transport, particularly if data from the adjacent sloughs indicate that the bay is a potential receptor of site related contaminants.

The workplan is an improvement over the previously submitted document. The comments offered in this review are to tighten the workplan and maximize the amount of information obtained from the environmental data collected. If you have any questions about these comments or require further explanation or elaboration, I may be reached at (415) 744-3126.

Sincerely,



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Coastal Resources Coordinator

cc: Steven Chao, Navy RPM
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