



**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)  
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August 17, 1994

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Dear Mr. Lee:

N68311.000301  
 NAVSTA LONG BEACH  
 SSIC #5090.3

The U.S. Department of Commerce/National Oceanic and Atmospheric Administration (NOAA) appreciates the opportunity to review and comment on Technical Memorandum No. 5, Draft Fish Sampling and Analysis Plan for Naval Station Long Beach, California. This document is dated July 21, 1994 and was prepared by Bechtel National, Inc., San Francisco, CA.

**Summary Comments**

As written, the plan provides a reasonable approach to the collection of fish contamination data for a screening-level assessment of the threat to humans posed by the contamination in the sediments at Naval Station Long Beach. However, it is not appropriate for determining the risk to fish that may result from the contamination in the harbor. From an ecological perspective, it is unclear what information will be ascertained from this sampling and analysis attempt that will significantly aid in the determination of the impact of contaminated sediments to the harbor biota and food web.

Editorially, the draft was confusing because of a large number of sentences that either were very imprecise or presented incomplete ideas that were never amplified later. For example, the last step on the proposed approach is to "Use findings to delineate species, locations, and COPCs within the Harbor." What this means and how the effort would be performed was not clear.

The draft also suffers from a substantial amount of repetition, sometimes identically the same and other times just different enough to make the reader wonder if this is really something new or not. For example, Section 1 (page 2) provides a summary of the approach (11 steps) that is in fact identical in substance to the summary of approach presented in Section 2 (page 6), except that the latter is organized slightly differently. Although NOAA appreciates the fact that the Navy does not want to imply that they have contaminated the entire southern California coast, probably about one-half of the uses of the word "potential" and its forms could be eliminated without effecting the meaning of the draft.



## Technical Comments

Section 1, Executive Summary, p. 2-3, regarding the "summary of overall approach":

Point 1. In the design sampling strategy, the age class and size of the fish collected are important for determining the level of contaminants. These should be considered as criteria in the design.

Point 2. The specific collection methods for the required fish are not discussed as suggested. Rather, generic approaches are presented in Section 3.1. Please be more specific on the methodology to be used.

Point 3. A very limited discussion of sample handling was provided in Section 3.1. For example, the draft states only that "fish ... will be packed on ice." The methods should give more detail on how the fish will be handled during the sampling efforts. Similarly, no discussion, even by reference, is given to the method of field-extracting bile. The draft provides only minimal discussion of analytical methods/procedures. Of specific concern was the lack of discussion, even by reference, of the exact analytical procedures, e.g., EPA or ASTM reference method, that would be used. There was no QA/QC discussion included in the text.

Point 4. Statistical analyses are referred to in this section and in a number of other areas, but no specific tests are suggested.

Point 5. It is not clear how Points 5 and 9 address ecological receptors. Section 3.3.1 and Section 4.1 appear to be based on basically an identical approach to determining human health risk concentrations for the COPCs in fish. How are the ecological screening concentrations to be generated.

Points 6, 7, and 8. Exactly what the purpose of these portions of the approach are and how they would be accomplished was not apparent. It was stated that the sediment and other data collected in other parts of the site investigation, as well as data from the literature, would be involved, but how and for what purpose was not clear. From the points presented, and the text that appears to be related in other portions of the draft (Sections 3.3.4), it can be inferred that the intended work is an analysis to determine the likelihood that COPCs measured in the fish are related to the COPCs found in the sediments of the Harbor of the area outside of the Mole. By further inference, it is assumed that this analysis would be done by generating some sediment BCF or related value and comparing those with BCF ("uptake") values that would be generated from methods suggested in the literature cited. Although this approach can work, to support such an analysis with sufficient precision to make it worth the effort, more fish data is necessary than is proposed to be collected during this sampling. The intent and approach with regard to this approach should be clarified.

Point 10. In Section 4.2 there is a discussion that appears to provide support for the ecological model approach, but not in a particularly satisfying way. First, the basic toxicity evaluation would be developed as part of the risk assessment, not as part of the fish study. Second, the text states that the "toxicity benchmarks" derived would "generally be compared to project-specific toxicity information (bioassays)," rather than to the concentrations observed in the fish. Similarly, the following paragraph ends with the statement that "biouptake will not be equated with toxicity unless some evidence of toxicity is present". What this implies is that the fish data will in fact not be used to support an analysis of ecological risks, because they are not associated with direct observations of a toxic response. The draft avoids any statement that the concentrations of COPCs in the fish tissue would be compared to fish toxicity benchmarks, which would actually allow for the estimation of risk to the fish.

Section 2.2, p. 7.

This section, particularly on page 8, made numerous statements of apparent fact with no citation of a reference to indicate the source. In addition, an EPA study is discussed (EPA 1994), including reference to a review by "regional experts." However, no results of the EPA study, nor of the experts' review, was presented.

Section 2.2 p. 7.

Fish tissue selection (page 9). The draft should state clearly whether or not the fillet samples would be collected from the same fish as used for whole-body analysis (e.g., by removing a small muscle sample) or from completely different fish.

Section 2.2 p. 11.

The sample compositing discussion indicates that the data would be used to test the COPC concentrations for dependence on size, lipid content, age, and other important factors. Based on information available on this approach NOAA's does not believe that the numbers of fish caught would provide the data for such analyses. Further, given the small sample size, it is important differences among the fish be minimized, i.e., the fish sampled should be of the same size, age, and sex. The final plan (or the QA plan) should specify exact characteristics for allowable fish (e.g., length limits and sex).

Section 2.2 (the second one, beginning on p. 11).

Field observations: as above, the requisite field observations should be precisely specified.

Section 3.1.1.

Figure 1 was not included with the draft that was transmitted to NOAA for review. Given that the purpose of the human health exercise is to be protective of human consumers, it would seem that the test site fish should be caught from the areas where exposure to COPCs from the site would be expected to be the greatest, not just from

where fishing is most frequent. The proposed sampling locations appear to be the latter not the former. Of a related nature, the text lists three proposed locations for sampling for the ecological test fish, while Table 2 indicates that four areas would be sampled. Is the outside of the Mole the fourth area? Finally, the use of a variety of fish sampling techniques should ensure that fish can be collected from all desired areas, but the text implies that fish may not be collected from the "best" areas because of potential problems with the sampling gear.

#### Section 3.1.1.

A brief discussion is given to comparison of the COPC concentrations in the test fish with data from other studies. Why and exactly how the comparisons would be made is not clear.

#### Section 3.2.1.

The table references in this section appear to be incorrect. It also was not clear which of the detection limits in the tables were actually the ones that would be used in the analyses, nor what the "desired MDL" was intended to represent. The "recommended level of detection" noted in the second paragraph of Section 3.2.1, is only based on human health concerns.

#### Section 3.2.1.

It would be useful to have a table of the selection criteria for the COPCs discussed on page 14, e.g., the Kow, Koc, Kd, etc. values, compared to the likely substances released from the site, referred to on the top of page 15, in order to more easily to follow the selection process of the proposed COPCs.

#### Section 3.3.1.

As noted above, only human health screening criteria are discussed.

#### Section 3.3.2

The data collected from the reference areas can only very tenuously be considered to "represent a regional baseline for contaminant levels in fish tissue" (line 2). The method is not presented for using the reference data to determine the COPCs, which is one the goals of this section. It is not clear, given the limited data, how this can be done. The rest of the section describes in very fuzzy ways, various identifications and determinations that would be done, based on different combinations of different data. The suggested analyses are not inappropriate, but are not trivial undertakings. If they will be attempted, the text should provide enough detail to allow a reader to determine that there is some reality in the expectation that they can be performed.

Section 3.3.4.

This section shares the same fundamental weakness of Section 3.3.2. Reasonable objectives for a data analysis are presented, but the actual methods of achieving those goals is not.

As written this workplan does not provide the information necessary to determine the risk to fish and the food web from exposure to contaminated sediments in the NS Long Beach harbor. NOAA strongly suggests that the Navy develop a comprehensive plan to address the ecological risk to biota associated with the contaminants at NS Long Beach. As expressed in available ecological risk assessment guidance, developing a site-specific conceptual model based on the information already collected from the base will be a good start in assembling an appropriate ecological risk assessment. NOAA will be happy to provide assistance to the Navy in scoping this effort. If you have any questions about these comments or require further explanation or elaboration, I may be reached at (415) 744-3126.

Sincerely,



Denise M. Klimas  
Coastal Resources Coordinator

cc: Sheryl Lauth, EPA RPM  
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