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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IV

345 COURTLAND STREET, N.E.
ATLANTA, GEORGIA 30365

APR 19 1993

4WD-FFB

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Byron Brant
Department of the Navy - Atlantic Division
Naval Facilities Engineering Command
Code 1822
Norfolk, Virginia 23511-6287

RE: Marine Corps Base Camp Lejeune NPL Site
Operable Unit 3, Site 48
Jacksonville, North Carolina

Dear Mr. Brant:

EPA has reviewed the document titled "Draft Ecological Risk Assessment for Operable Unit No. 3 (Site 48). Comments on the draft document are enclosed.

If you have any questions or comments, please call me at (404) 347-3016.

Sincerely,

Michelle M. Glenn

Michelle M. Glenn
Senior Project Manager

Enclosure

cc: Peter Burger, NCDEHNR
Neal Paul, MCB Camp Lejeune

COMMENTS
DRAFT ECOLOGICAL RISK ASSESSMENT
Operable Unit Three
(Site 48)

GENERAL COMMENTS

1. Several sections of the ERA contain incorrect references to previous sections for supplementary data or information. Some sections of the Draft ERA cite apparently appropriate technical references which are not provided in the reference section. Many sections appear to present technically sound information, but without references.

SPECIFIC COMMENTS

1. Page 2-1, Section 2.1, Paragraph 2 - A site ecosystem map detailing topographic features, critical habitats, wetlands, terrestrial ecosystems such as woodlands and open fields and areas of stressed vegetation within a half-mile radius of the site should be included in the Draft ERA. Several sections of the Draft ERA refer to these ecosystems. The marsh areas north and northeast of Building 804 along with other potential wetland areas onsite and within a half-mile radius of the site should be identified on a site ecosystem map.

2. Page 2-4 - 2-6, Section 2.3.2.2 - In addition to determining if any species of status is located within the sphere of influence of the site, any critical habitat located within the area of influence of the site which would support any of these species should be identified and noted.

3. Page 4-2, Section 4.2, Third Bullet - The "relevance to human beneficial uses" is of minimal importance to choosing indicator species.

4. Page 4-2, Section 4.2.1, Second Bullet - The sport aspect of fish and their commercial importance does not effect the use of fish as an indicator of water quality conditions.

5. Page 4-7, Section 4.3.1.2; Page 5-2, Section 5.1.2, Second Paragraph; and Page 5-7, Section 5.3 - The term "sediment criteria" should not be used since, as stated in the second paragraph, it does not exist. The use of this term tends to overemphasize the Region IV Sediment Screening Values. An alternative approach for non-polar organics would use equilibrium partitioning coefficients and total organic carbon content of the sediment to calculate a "sediment quality screening value" from the water quality criteria value.

6. Page 4-14, Section 4.4.1.2, Paragraph 6 - No rationale was given for the selection of fish species for tissue analysis. According to the EPA's Technical Support Manual, four of the five fish species collected for tissue analyses (croaker, menhaden, striped mullet and summer flounder) use estuaries as nursery grounds, which explains the low size class distribution of these species in the New River. Observed threshold levels of contaminants, especially heavy metals (e.g., mercury and chromium), are achieved at an accelerated rate in juvenile fish resulting in increased mortality. Therefore, the likelihood of observed bioaccumulation in fish in their adult stages is reduced or eliminated.

   It should also be noted that some of these fish species are anadromous; that is, they spend only a portion of their life cycle in estuaries. Finally, the Technical Support Manual indicates that some of these species are considered migrant species that use estuaries as feeding grounds or routes to and from rivers and the sea. Provide a complete description of the criteria used to select these species. Include a discussion of the influence of the above factors on the suitability of the species selected for meeting the objectives of the Draft ERA.

7. Page 4-18, Section 4.4.4, Paragraphs 5 and 6 - The selected reference location is not comparable to the site sample locations based on the information provided in the Draft ERA. The Draft ERA provides incomplete descriptions of the physical, chemical and ecological characteristics of the reference condition. However, the following elements appear to be significantly different at the reference location:

   - Sample volumes;
   - Sampling procedures; and
   - Physical and chemical parameters (i.e., substrate composition, river flow and salinity).

   Therefore, given that the reference location is not comparable to the site sample locations, the field data collected are inconclusive.

8. Table 5-4, Site 48, Sediment Data Summary - New River, Frequency and Range of Detection Compared to USEPA Region IV Sediment Screening Values, Remedial Investigation CTO-0133, MCB Camp Lejeune, North Carolina, Page 5-8, First Column - The "Analyte" column has mistakenly labelled the list of metals "Organics".

9. Page 7-1, Section 7.1, Fourth Paragraph; and Page 8-1, Section 8.1, Third Paragraph - The exceedence of water quality standards (criteria) for copper and mercury indicates there are potential current risks to aquatic receptors. Slight exceedences of these standards does not necessarily signify low risks.

10. Page 7-2, Paragraph 2 - Any contaminant detected above the screening values for sediment creates a potentially toxic environment for aquatic receptors regardless of sediment sample depth. It is inappropriate to conclude that there are no adverse impacts from sediments based on fish tissue analyses. Many fish species are present in an estuarine environment for a limited time. The species and individuals collected may not accurately represent contaminant concentrations due to such factors as age and feeding habits. Furthermore, benthic macroinvertebrate populations could be affected by the contamination.

11. Page 8-1, Section 8.2 - The first and last paragraphs are contradictory. The last paragraph should be rewritten to read "Potential for aquatic life to be adversely affected by site related contaminants (chemicals of concern) in the sediments is expected to be low".

12. Page 8-2, Section 8.3.2 - The tissue analysis of species representative of more resident populations would provide distinct proof of the lack of site-related biotic contamination.

13. Page 8-3, Section 8.4, Third Paragraph - The fact that the species diversity of the reference station (White Oak River Station), 0.636, is within the range of the species diversity of the New River stations, 0.252 to 0.820, is rather meaningless. The comparison of each station diversity to appropriate control stations would provide more significant information.