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NCBC GULFPORT
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LETTER AND COMMENTS FROM MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY REGARDING REVIEW OF SITE CHARACTERIZATION REPORT OFF BASE AREA OF CONTAMINATION SITE 8 NCBC GULFPORT MS
9/24/2003
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

STATE OF MISSISSIPPI
DAVID RONALD MUSGROVE, GOVERNOR
MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY
CHARLES H. CHISOLM, EXECUTIVE DIRECTOR

24 September 2003

Art Conrad
Naval Facilities Engineering Command
Southern Division
2155 Eagle Drive
P.O. Box 190010
North Charleston, South Carolina 29419-9010

Re: Site Characterization Report for NCBC Gulfport Offbase Area of Contamination, Naval Construction Battalion Center Gulfport, Mississippi, Draft, April 2003.

The Mississippi Office of Pollution Control (OPC) has reviewed the above referenced document. The document does not meet requirements (in content or format) that would allow correction to a final document in a single editorial (review) step. Another draft (draft final) of the document should be prepared in close adherence to requirements described in the Brownfields regulations. A thorough (in house) review should be conducted prior to submittal to the state. A final version of the document should be submitted after all comments are addressed to the satisfaction of MDEQ and other entities involved in the review process (ie. Stakeholders NOAA and U. S. Fish and Wildlife).

1. Many items shown for sections 11, 12 and 13 of the SCRF were either missing, incorrectly labeled or did not contain all required information. None of the groundwater or soil/sediment data tables conform to the Site Characterization Report Format (SCRF) or Guidance on Presenting Data in the Site Characterization Work Plan or Site Characterization Report (SCRG) given in the Brownfields Regulations (attached).

   The Table of Contents (TOC, page iii and iv) does not give page numbers or location references for items listed in sections 11 (Tables), 12 (Figures) or 13 (Appendices). Although many of the tables and figures appear throughout the document (and accompanying CD), they are numbered incorrectly or differently than shown in the TOC. Most tables and figures listed in the TOC appear to be in the correct sections, but specific subsection table or figure designations are not numbered according to the (SCRF). Also, many table format elements (within each particular table) given in the SCRF are lacking. Tables and figures should adhere to all elements given in the SCRF and SCRG and be appropriately labeled and referenced in the document.

These few examples may serve to exemplify consistent problems with content, tabulation, referencing and location of maps, illustrations and tables observed throughout the document:

a) the Table of Contents (TOC, page iv) lists Table Section11.5 as "Comparison of Analytical Results to Regulatory Cleanup Values" but no page number or location reference is given. The SCRF lists this as Table Section 11.7. The table was located, but no regulatory values are shown for comparison.

b) the TOC (page iv) lists Figure Section 12.3 as "Geologic Cross Sections", but no page number or location reference is given. The SCRF lists this as Figure Section number 12.6. The SCRF indicates that *three* cross sections are required and gives specific elements to be included, most of which were lacking in the *two* Cross Section *sketches* provided as figures 3A and 3B (not shown on the Table of Contents, page vi).

c) the TOC (page iv) lists Figure Section 12.4 for the Site Conceptual Exposure Model (SCM). The SCRF lists this as Figure Section 12.11. A complete Site Conceptual Exposure Model (SCEM) could not be located within the main body of the report or on the CD provided with the report. An illegible copy of the SCEM worksheet provided in the Brownfields guidance was included as the last page of the main document.

d) none of the appendices (A through E) listed in the document TOC could be located within the main body of the report or on the CD provided with the report. No page numbers are given for the appendices in the TOC. Although much of the information is contained on data sheets and analytical tables etc. provided on the CD, the information is not tabulated, organized or labeled as shown on the document TOC (page iii) or according to the SCRF. The laboratory data sheets and other tables, figures, etc. contained on the CD accompanying the report do contain useful information, however it is not presented or labeled in accordance with the format prescribed in the SCRF and SCRG guidance. Summary tables extracted from the laboratory data sheets should appear in the main body of the document in the correct format and correctly labeled.

2. The text (page 1-1, paragraph 4) states that sediments containing dioxin above the residential screening level occur along a 1,500 foot stretch located entirely on the Arndt property. According to previous sampling events, dioxin concentrations in excess of residential screening values comprise an area occupying areas that extend across the Bennet, Arndt and Edwards properties (south to north, respectively) and beyond (downgradient) in the Turkey Creek drainage system.

3. Page 1-2, paragraph 3: the statement that sampling has shown that dioxin contamination above Tier 1 TRG (unrestriced) levels does not extend beyond the Brownfield Properties to the Edwards property does not agree with concentrations shown on the Swamp Delineation Map provided in the report (up to 30.8 ppt on the Edwards property). A map showing existing (post excavation confirmatory sampling) concentrations for areas comprising the Edwards property should be provided in the report.

4. The large foldout map entitled "Swamp Delineation Map" should have a figure number designation and referenced accordingly in the TOC and main body of the document.

5. A Tier 3 Ecological Evaluation should be performed in accordance with Brownfields Regulations, Subpart II, Chapter 5. An ecological pathway apparently occupies the Brownfields site area that would affect certain aquatic and semi-aquatic species.

The Brownfields Regulations (Subpart II, page 10, Section 204) state that Tier 1 and Tier 2 Evaluations are applicable only for sites with no known ecological receptors of concern. This report (SCR) (page 1-3, paragraphs 3 and 4; page 4-5, paragraph 5; page 9-5, paragraph 2; page 7-1, paragraph 1, page 7-3, last paragraph) proposes a lack of a habitat for certain aquatic and semi-aquatic species on the Brownfield properties caused by an apparent lack of fish due to frequent and extended dry periods. Therefore, a Tier 3 Evaluation was not performed. The lack of an Ecological Pathway proposed in this report has not been adequately demonstrated.

A Wetland Delineation Report (January 2003) prepared for the site area determined that essentially the entire Brownfields site is located in a Wetlands area . The absence of fish (and other prey items that potentially affect the food chain) has not been adequately demonstrated. Prey items (other than fish) evidently occur in significant quantities on the Brownfields properties to potentially affect the aquatic and semi aquatic food chain.

As indicated in comment letters (attached) provided by Stakeholders (U.S. Department of Commerce, National Oceanic Atmospheric Administration (NOAA); U. S. Fish and Wildlife Service) concerning ecological aspects of the document, several factors were evidently not considered during the Ecological Evaluation of the Brownfields site area. Some of these are listed below.

a) dry periods do not preclude the existence of fish and the lack of fish does not preclude the existence of aquatic and semi-aquatic species because other prey items and receptors such as birds, amphibians and reptiles occur in the Brownfields area.

b) even areas that are temporarily aquatic are important habitats and contain aquatic populations when water is present.

c) although no ecological risk evaluation followed the initial phase, the Screening Level Ecological Risk Assessment (October 2000) concluded that unacceptable ecological risk (to birds and mammals) occurred in offbase areas at NCBC and recommended that the next step in the ecological risk process be completed.

d) there are substantial and important uncertainties concerning existing ecological habitats in the Brownfields area.

e) fish as well as other prey items (crayfish, snails, frogs, tadpoles, aquatic insects, small snakes and turtles) occur in significant quantities on the Brownfield properties to afford high risk potential to the mink, great blue heron and eastern belted kingfisher.

Ecological risks on the Brownfield properties have not been adequately addressed. A Tier III Ecological Risk Evaluation will be necessary. A large body of data exists (from previous sampling and risk management activities) that would tremendously aid in the completion of a complete Ecological Risk Assessment.

6. The discussion on page 2-1 concerning the media encountered at the site addresses soil and sediment. The term "muck" (used extensively throughout the report) and it's relationship/occurrence with other media should also be defined at this point of the discussion.

7. The discussion (page 2-3, Section 2.1) concerning site location should reference the Location/Survey Map located in the Figures Section of the report. The map should be labeled as a figure (in accordance with the SCRF) and be included in the TOC.

8. Section 3.0 is missing.

9. Section 3.2 should focus on how contamination and physical characteristics of the impacted areas have been *investigated*, not the investigation results. Section 3.1 contains some of this information, however that section should focus on the *source area* investigation.

10. A Potentiometric Surface Map should be included in the report. The text (Section3.5, page 3-8, last paragraph and Section 4.6, page 4-4) states that a Potentiometric Surface Map has been developed but does not reference its location. The map could not be located.

11. Section 4.1 (page4-1) should focus on *source area physical characteristics* of the source area and Section 4.2 should focus on the characteristics of *impacted* surface water and sediment. The text (Section 4.2 page 4-2, paragraph 1) refers the reader back to Section 4.1 to address impacted sediment.

12. Clarification is needed concerning the description of the Regional Geology of the site area given in Section 4.3, page 4-2. The discussion should generally conform to accepted stratigraphic nomenclature. The geologic description of southern Mississippi is unclear. The use of the terms assigned to geologic units in southern Mississippi ("First, "Second" and "Third", "next" and "followed by") for the stratigraphic sequence is unclear. Geologic units should be referenced by the appropriate name and described in the text in ascending order from oldest to youngest.

13. Page 4-2, paragraph 4, first sentence: chart should read chert.

14. Illustrations would be helpful for describing the regional geology (Section 4.3, page 4-2) and the terraced terrane described in Section 4.4 (page 4-3). The sketch drawings included in the "Figures" section are inadequate. Formal hydrogeologic cross sections (as described in the Brownfields guidance) should be provided in the report. These illlustrations should be appropriately labeled with lettering (not hand written) showing control points (wells, etc.) and of a size and quality to clearly convey all hydrogeologic information.

15. Section 4.6, page 4-4: site specific aquifer characteristics should be investigated during installation of the monitor well system and the results included in the report. It should be noted that groundwater monitoring will be necessary. A long term monitoring plan should be submitted to the state for approval.

16. Section 4.8, page 4-4: results of the off-site area water well survey and sampling results (description, location maps, data tables, etc) should be included in the report. The text generally describes the locations of two of the three wells sampled, and references the Community Sampling Report (2003) for the remaining information. A USGS well survey plot and list of surrounding area wells would be helpful.

17. The text of Section 5.1 (page 5-1) should go into more detail about the source area. Information should include the pre-remedial disposition of the source area (Site 8), soil concentrations remaining below the ash following incineration, information about existing features of the ash, groundwater conditions and all pertinent pre-remedial and existing conditions that may have an environmental impact.

18. The text discussion concerning groundwater given in Section 5.4 (pages 5-1 and 5-2) needs clarification. The discussion should emphasize more clearly that the MCL was consistently exceeded during two sampling events with maximum dioxin (TEQ) concentrations (observed during the February 2002 sampling event) of 82.04 ppq and 177.55 ppq in wells WG002 and WG004, respectively. The text fails to report that the MCL was closely approached in Well WG006 at a concentration of 22.36 ppq.

It is noted that the April 2002 sampling event conducted (apparently only for (WG002 and WG004) upon addition of two new replacement wells installed near the original locations of WG002 and WG004 resulted in concentrations exceeding the MCL in Well WG002 (66.01 ppq) and a lower concentration in Well WG004 of 0.98 ppq The lowered concentration in Well WG004 may be attributable to lower turbidity than that observed during the February sampling event. None of the other wells were apparently resampled for comparison.

It should be noted that groundwater dioxin concentrations occur in the groundwater at concentrations exceeding the MCL. The statement in the text (page 5-2, paragraph 1) "TEQs reported for locations WG002 and WG004 *only* exceed the MDEQ TRG of 30 ppq" is unclear. The regulatory value (30ppq) is an MCL as well as a TRG value. One sample concentration (with one other historical exceedance and an elevated concentration of 22.36 ppq in Well WG006) in excess of this MCL is adequate justification for the observation that groundwater occurs below the site in excess of regulatory values. The groundwater will need to be closely monitored. An adequate groundwater system should be installed that will demonstrate plume containment within site boundaries and periodic monitoring should continue indefinitely.

19. Surface water sampling results should be reported in the text of Section 5.5 (page 5-2) and (if appropriate) included in table form to support the text discussion. The text does not definitively state that no dioxin has been detected in surface water.

20. Clarification is needed in the text discussion (Section.5, pages 5-2 and 5-3) as to why only 15 sediment sample results are given on Table 11-1 and how these correlate with locations of those (many more samples) shown on "Figure 2". It is assumed that the large foldout map provided in the report is the "Figure 2" referenced (page 5-2, last paragraph) in the text (the figure is not labeled and is only partially legible). All sample results pertinent to this report should be included in the document(see comment 1 concerning format and labeling of figures and tables).

21. Section 5.7, page 5-3, paragraph 4: a more in depth biological sampling effort should be conducted during the Tier 3 Ecological Evaluation to support the conclusion that no fish or shellfish occur on the Brownfields properties.

22. The text (Section 6.1, page 6-1) should reference a figure (other than Figure X) for the Site Conceptual Exposure Model (SCEM). The figure included at the rear of the document is not labeled and is not legible, nor does it appear to pertain specifically to the Brownfields Site (see comment 1 concerning format and labeling of figures and tables).

23. More detail should be provided in the text discussion in Section 6.2 (page 6-1) concerning dioxin contaminant characteristics and those congeners that have been used for footprinting of dioxin specific to Herbicide Orange.

24. The test (Section 7.1, page 7-1) should clearly indicate that the site is located in a wetlands area. And not simply an intermittent drainage area. The Wetlands Delineation Report (January 2003) should be referenced. The Wetlands Map given in that report indicates that wetlands comprise about 95% of the site area.. This map should be included in the (SCR) report.

25. Section7.2, page 7-3, last paragraph: the reasons for eliminating sensitive ecological receptors to the Potential Risk Section of the report lack demonstration. This section should be revisited upon completion of the Tier 3 Ecological Evaluation (see comment 5).

26. Clarification is needed in the text discussion (Section 9.2.1, page 9-3) concerning the determination of the remedial goal (the cleanup value) to be utilized at this site. Although the initial screening level (restricted) given in the TRG Table is 38.0 ppt for soil/sediments, the actual cleanup value will be a risk based threshold that has not been determined for this site. The cleanup value may be affected by the outcome of the Tier 3 Ecological Evaluation (see comment 5).

    The text (Section 9.2.2, page 9-3) references a triplicate study conducted by the Navy to establish15.0 ppt as a potential remedial goal based on the hypothesis that 15.0 ppt is the lowest concentration that can be reliably reproduced by the 8290 dioxin analysis method conducted at any given laboratory. This triplicate study addresses five sediment and one surface soil sample collected during the 28th Street sampling event that were split into triplicates and analyzed in the same laboratory. The study has been referenced by the navy as a reason to keep field concentration delineations and remedial goals at or above 15.0 ppt instead of the risk based unrestricted (residential) concentration of 4.26 ppt. The concentration of 15.0 ppt has been since incorrectly referenced as "the official MDEQ cleanup number for dioxins" as well as "the MDEQ screening level for dioxins" in several documents in the past (and is presently included as a footnote on risk tables in the Human Health Risk Assessment conducted at the base).

    The study fails to show that concentration (TEQ) variability increases significantly between 4.26 ppt and 15.0 ppt, and above. A sharp rise in normalized standard deviation occurs at concentrations of about 3.0 ppt and below, with minimal change between 4.26 ppt and 15.0 ppt (Figure 3). Samples split into triplicates with TEQ values of 11 ppt or greater showed greater variance than those with TEQ values in the range of 2.0 ppt to 10.0 ppt according to Table 2 (page B2) of that report. Furthermore, six samples does not provide adequate statistical sample space to conclusively demonstrate accuracy of laboratory analysis of dioxins within specific concentration categories.

27. OPC concurs with the proposal given on page 9-3 (paragraph 2) to install permanent groundwater monitoring wells. Apparently the intent is to establish the extent of impact to groundwater that has occurred. It should be noted that permanent long term monitoring of

groundwater will be necessary for this site. Sediment monitoring should also be considered. This type of monitoring is frequently performed (such as that presently conducted at Keesler Air Force Base in Biloxi) to demonstrate remedial design effectiveness.

28. Clarification is needed concerning the use of estimated maximum potential concentrations (EMPC) values for calculating and reporting of dioxin concentrations. The discussion (for example, Appendix STG 494247, pg. 13 shown on the CD) given on the cover letters accompanying laboratory sample analyses is unclear. A similar discussion appears for aqueous sample analyses given in (for example, Appendix STG 48710).

    The accompanying statement (Appendix SDG 49247, memorandum, page 2) that "EMPCs and results qualified as nondetected due to blank contamination were not used in the Total TEF calculation" needs clarification. It should be noted that toxicity equivalency factors (TEFs) and toxicity equivalency quotients (TEQs) are often used interchangeably. It is assumed for this discussion that " total TEF" as given in the text (for example, Appendix SDG 49247, memorandum, page 2) applies to the total dioxin concentration (TEQ) as determined by summing the factored equivalent (to 2,37,8-TCDD) concentration of each congener.

    EMPC values for dioxin congeners (or TEQs) should not be reported as non detect or qualified as (U). If actual concentrations of dioxin congeners cannot be accurately reported within the appropriate confidence interval, then those results should be omitted or the most conservative maximum estimated (EMPC) value should be used for reporting dioxin (TEF and individual congener) concentrations. All congener concentrations that were reported (qualified) as undetected (U or J) based on EMPC values should be clearly flagged to separate these estimated values from other types of U or J designations for clarity.

    The designation of EMPC is suggested for those values that appear in summary tables in the main body of the document. A cover letter accompanying the raw data tables located in the appendix should clarify the correlation of EMPC values with (U and J) designations reported from the laboratory.

Please feel free to contact me if I can be of further assistance.

Sincerely,

Bob Merrill

cc. Michelle Thornton, USEPA

Guidance on Presenting Data in the Site Characterization Work Plan or Site Characterization Report

In an effort to expedite review of analytical data submitted to MDEQ as part of the Brownfields Program, MDEQ has developed the following tabular formats that must be utilized in the Work Plans and Reports associated with the Brownfields Program.

Soil Analytical Results

(1)	(2)	(3)		(4)	(5)	(6)	(7)	(8)
Sample ID	Date	Parameter	CAS	Concentration or QL (mg/kg)	Flag	Analytical Method	Unrestricted TRG	Restricted TRG

Columns (7) and (8) must be shaded if their values are less than the values in Column (4). Column (4) must contain a numerical value representing either the actual analytical concentration of the soil sample parameter or the Quantitation Limit (QL). Should the value in Column (4) represent the QL, Column (5) must have a "U" Qualifier (Flag). Should the value in Column (4) represent the actual analytical concentration, Column (5) must have a "D" Qualifier (Flag). Chemical Abstract (CAS) Numbers must NOT include dashes "-" between numbers (i.e., 90437, not 90-43-7).

Groundwater Analytical Results

(1)	(2)	(3)		(4)	(5)	(6)	(7)
Monitoring Well ID	Date	Parameter	CAS	Concentration or QL (mg/L)	Flag	Analytical Method	MCL or Tier 1 TRG

Columns (7) must be shaded if the value are less than the value in Column (4). Column (4) must contain a numerical value representing either the actual analytical concentration of the soil sample parameter or the Quantitation Limit (QL). Should the value in Column (4) represent the QL, Column (5) must have a "U" Qualifier (Flag). Should the value in Column (4) represent the actual analytical concentration, Column (5) must have a "D" Qualifier (Flag). Chemical Abstract (CAS) Numbers must NOT include dashes "-" between numbers (i.e., 90437, not 90-43-7). Well ID Numbers must remain constant throughout the duration of the sampling activity, including long-term monitoring and must not exceed eight digits, preferably listed in a format as follows, MW-1, or TW-1, where "MW" represents Monitoring Well, and "TW" represents Temporary Well.

Electronic Format

The Soil and Groundwater Analytical Results should also be presented in electronic format in the outlines above. The electronic file must be in a spreadsheet format, either created in Microsoft Excel or Lotus 1-2-3. All numerical data must be presented to at least two significant digits and be in a numerical format within the spreadsheet program.

U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SERVICE
OFFICE OF RESPONSE & RESTORATION
COASTAL PROTECTION AND RESTORATION DIVISION
c/o U.S. Environmental Protection Agency, Region 4
Waste Management Division
61 Forsyth Street, Atlanta, GA 30303

MEMORANDUM

TO: Bob Merrill, Mississippi Department of Environmental Quality

FROM: Tom Dillon, Ph.D. NOAA CRC

SUBJECT: NOAA Comments on NCBC Screening Level Ecological Risk Assessment and Draft Site Characterization Report.

DATE: June 24, 2003

CC: Arthur Conrad, NAVFAC
Lloyd Inmon, U.S. Fish & Wildlife Service

The U.S. Department of Commerce, National Oceanic and Atmospheric Administration (NOAA) appreciates the opportunity to comment on Human Health Risk Assessment and Screening Level Ecological Risk Assessment of Dioxins and Furans Associated with Former Herbicide Orange Storage, prepared by Harding Lawson Associates for Department of the Navy Southern Division, March 2001 and Draft Site Characterization Report for NCBC Gulfport Offbase Area of Contamination, prepared by Tetra Tech NUS, Inc for Department of the Navy Southern Division, April 2003. If you have any questions, please contact me at 404-562-8639, Fax 404-562-8662, tom.dillon@noaa.gov; or Michel Gielazyn, Ph.D. assistant CRC, at 404-562-8646, Fax 404-562-8662, michel.gielazyn@noaa.gov.

1. The Screening Level Ecological Risk Assessment (SLERA) concluded that potentially unacceptable ecological risk was found in the offbase areas at NCBC and, consistent with EPA guidance, recommended that the next step in the ecological risk assessment process be completed. An unacceptable risk to birds and mammals in offbase areas was found. Many of the hazard quotients in the offbase swamp area beyond Outfall 3 (now referred to as the Brownfields area) were greater than one, indicating an unacceptable risk. The recommendation to continue with the step 3 of the EPA eight-step ecological risk assessment process (EPA 1997) (or step 3a of the Navy's process) should be followed.

2. The conclusion of the Site Characterization is not consistent with conclusions in the SLERA described above. The SLERA indicated the necessity of continuing with the ecological risk process given the potential for adverse effects. A refinement of the problem formulation and the inclusion of site-specific information are included in Step 3. This step is necessary before the site characterization can be completed. The site characterization states that there were no fish collected in the Brownfields area, therefore there is no completed pathway and no ecological risk. However, the absence of fish has not been demonstrated. Moreover, there are other prey items and receptors such as birds, amphibians, and reptiles in the Brownfields area. Even areas that are temporarily aquatic are important habitats and contain aquatic populations when water is present. Ecological risks on the Brownfields properties should be adequately addressed with appropriate receptors before it can be recommended that no further ecological risk studies be conducted.

3. There appear to be substantial and important uncertainties in both the SLERA and the site characterization report. For example, what habitats exist in the swamp area beyond Outfall 3 in the Brownfields area? Some documents state this area is wet; some state it is intermittently covered with water and other say there are not aquatic habitats. The area is classified as a wetland (Tetra Tech NUS 2003). Clarification of the habitat is recommended and will aid in choosing appropriate receptors.

4. General comments. The draft site characterization report needs to be reviewed for numerous typographical errors and inconsistencies. Some examples are provided below.

a) Many of the site identifications and TCDD TEQ results in Figure 1 are illegible, the font size and type should be altered to remedy this.
b) Figures are incorrectly cited in several sections of the text.
c) The definitions used for sediment and soils are not consistent with other NCBC documents.
d) Terms should be used consistently throughout the document. For example, Brownfields properties, Arnt and Bennett properties, and Offbase Area of Concern are all apparently used interchangeably in the document. Do these all refer to the same area?

5. References.

USEPA 1997. Ecological risk assessment guidance for superfund: process for designing and conducting ecological risk assessments. Interim Final. EPA 540-R-97-006.

Tetra Tech NUS, Inc. 2003. Wetland Delineation Report for Off-Base Area of Contamination Associated with Site 8 – Herbicide Orange Storage Area Naval Construction Battalion Center Gulfport, Mississippi, Submitted to Southern Division Naval Facilities Engineering Command, North Charleston, SC.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Mississippi Field Office
6578 Dogwood View Parkway, Suite A
Jackson, Mississippi 39213
June 20, 2003

Mr. Bob Merrill
Mississippi Department of Environmental Quality
P.O. Box 10385
Jackson, Mississippi 39289

Dear Mr. Merrill:

This concerns two documents which were transmitted to us by personnel from the Naval Construction Battalion Center, Gulfport, Mississippi: 1) Screening Level Ecological Risk Assessment (SLERA) of Dioxins and Furans Associated With Former Herbicide Orange Storage, Naval Construction Battalion Center, Gulfport, Mississippi, and 2) Draft Site Characterization Report (DSCR) for NCBC Gulfport Offbase Area of Cintamination, Naval Construction Battalion Center, Gulfport, Mississippi (DSCR). We have reviewed the documents and offer the following comments for your consideration.

The SLERA and DSCR state that no fish populations were identified on the Brownfield Properties due to frequent and extended dry periods in the intermittently flooded main channel. As a result, the documents imply that the dioxin contaminated Brownfield Properties would not pose much risk to fish and fish eating wildlife such as the mink, the eastern belted kingfisher, and the great blue heron. The SLERA recommends that the assumptions of the document be reevaluated.

The Fish and Wildlife Service has some concerns regarding the conclusions reached in the SLERA and the DSCR. The 70-acre Brownfield Properties is a bald cypress-tupelo gum swamp, which is classified as a forested wetland (Cowardin 1979). Areas such as these are covered with water most of the year. These wetlands provide reproductive and feeding habitat for the mink and great blue heron, and feeding areas for the eastern belted kingfisher.

Fish species found on Brownfield Properties include those stocked in the area when Turkey Creek overflows onto the property. Crayfish, snails, aquatic insects, frogs, tadpoles, snakes, and turtles appear to occur in large numbers on the area. The mink, great blue heron, and eastern belted kingfisher feed heavily on the fish, crayfish, snails, frogs, tadpoles, aquatic insects, and small snakes and turtles as the water dries up, and these prey animals become trapped in small, shallow pools (Lowery 1974 and Forbush and May 1955). It is important to note that the mink, great blue heron, and eastern belted kingfisher feed heavily on fish as well as the other prey items mentioned above.

In summary, we believe fish as well as other prey items occur in significant numbers on the Brownfield Properties. As a result, there is potential for high risk of injury to the mink, great blue heron, and the eastern belted kingfisher. Therefore, it is recommended that the remaining steps in the ecological risk assessment process be completed. We further recommend that other ecological risk receptors such as crayfish be evaluated.

We appreciate the opportunity to provide comments on the SLERA and DSCR. Please keep us apprised of actions taken on our recommendations. If you have any questions, contact Mr. Lloyd of this office at 601-321-1134.

Sincerely,

Curtis B. James

Curtis B. James
Acting Field Supervisor

Literature Cited

Cowardin, L. M. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Fish and Wildlife Service, Northern Prairie Wildlife Research Center, Jamestown, North Dakota. 103 pp.

Forbush, E. H. and J. B May. 1955. A natural history of American birds of eastern and central North America. Bramhall House, New York. 552 pp.

Lowery, G. H. 1974. The mammals of Louisiana and its adjacent waters. Louisiana State University, Baton Rouge, Louisiana. 565 pp.