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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION I
J.F. KENNEDY FEDERAL BUILDING, BOSTON, MASSACHUSETTS 02203-2211

February 3, 1997

Mark Evans, Remedial Project Manager
U.S. Department of the Navy
Naval Facilities Engineering Command
Northern Division
10 Industrial Highway
Code 1823, Mail Stop 82
Lester, PA 19113-2090

Re: Draft Functions and Values Assessment of the Area A Downstream - Wetlands and Watercourses

Dear Mr. Evans:

EPA reviewed the *Draft Functions and Values Assessment of Area A Downstream, Wetlands and Watercourses* for the Naval Submarine Base in Groton, Connecticut dated December 20, 1996. The report was reviewed for adequacy in adhering to the *New England Division, U.S. Army Corps of Engineers Highway Methodology* (1995). While the vegetation identified on Tables 1 and 2 of the report is extensive, some non-persistent herbaceous vegetation may have been missed in late October, because they were assessed outside of the growing season. Detailed comments are provided in Attachment A.

The conclusions of this report will need to be integrated into the ecological discussions within the revised Feasibility Study and Remedial Design documents. In the various sections of the document, statements are presented that are not pertinent to the function and values assessment and may be more appropriate for a feasibility study and/or a remedial design.

Due to the likelihood that amphibians and invertebrates inhabit these areas, a more detailed discussion on the potential functions that could be provided by these wetlands to amphibian and invertebrate populations in the absence of contaminants should be provided. This type of information could be useful during the remediation process in formulating a method of quantifying the necessity and/or performance criteria of remedial actions.

The functions and values assessment of Area A Downstream has qualitatively identified both the specific occurrence of functions and values, and the principal nature of each in individual wetlands. The identification of these functions and values is essential to the development of wetland mitigation plans. Moreover, such information must be incorporated into the remedial design along with the findings of the ecological risk assessment.

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The Cowardin *et al.* (1979) classifications of the wetlands should be reexamined. In the report, wetlands dominated by *Phragmites*, were incorrectly classified as "non-persistent" wetlands. What is the Cowardin classification of the water regime for the wetlands (*e.g.*, saturated, seasonal, *etc.*)? Although the report presents the current water depth of the wetlands, it does not indicate whether these areas ever dry-out. For wetlands containing open water, the approximate percentage of open water in the wetland should be included in the text. In addition, Figure 4 on page 7 shows that Upper Pond contains an open water component.

Please briefly discuss the general methodology of the *New England Division, U.S. Corps of Engineers Highway Method* (1995) in either Section 2.0 or 5.0.

The worksheets define the Area A Downstream streams as being in the middle of the watershed. Please briefly discuss the watershed in the report text. What is the upper part of the watershed like? Where does it begin? Is it developed? Are there any agricultural areas or golf courses located upstream? Some drainage information is given in the first paragraph on page 1, but it is unclear whether the watershed continues above the Area A wetland or the landfill. Inclusion of a USGS map in the report could give a better overall picture of the study area and the watershed area.

Metric units should be used consistently throughout the report.

I look forward to working with you toward the cleanup of the Area A Downstream. Please do not hesitate to contact me at (617) 573-5777 should you have any questions.

Sincerely,

Kymberlee Keckler, Remedial Project Manager
Federal Facilities Superfund Section

Attachment

cc: Mark Lewis, CTDEP, Hartford, CT
Andy Stackpole, NSBNL, Groton, CT
Patti Lynne Tyler, USEPA, Boston, MA
Jennifer Hayes, Gannett Fleming, Harrisburg, PA
Timothy Prior, USFWS, Charlestown, RI

## ATTACHMENT A

| Page | Comment |
|---|---|
| p. 2, Figure 1 | Please indicate the scale and show the limits of the OBDA. Also, the Area A Wetland and landfill are described on page 1, but are not labeled on Figure 1. The study area limits for Area A Downstream should be identified in the report and depicted on Figure 1. Are the numbers around the wetland boundaries GPSed (Global Positioning System) wetland delineation flags? What is the proposed upland buffer zone? Please briefly discuss this buffer zone in the introduction of the report. |
| p. 4, §2.0 | Please describe the methodologies used to determine herbaceous, shrub, and tree coverage. |
| p. 4, §3.0 | The last sentence in this section states that "Streams 5 and 6 are located outside of Area A Downstream and were not included in this study." However, on page 1 the fourth sentence includes streams 1-6 in Area A Downstream. |
| pp. 4 to 10, §3.0 | Please provide more quantitative data in the text. How many plant species were identified at each of the different areas? |
| p. 6, §3.2 | On the ninth line, replace "density" with "diameter." |
| p. 6, §3.2 | The sixth sentence characterizes the lower portion of the stream as having "greater plant cover and lower diversity." The last sentence of the paragraph states "The shrub cover...also decreases in the lower portion of the stream where herbaceous cover is practically nonexistent." Are not these sentences contradictory?<br><br>Table 2 lists seven shrubs and fourteen herbs identified at stream 1. Please elaborate in the text on flora identified and relative coverage. Also, describe the herbaceous coverage that would be expected with the leaf litter and canopy coverage in the stream 1 area. |
| p. 10, §4.0 | The first sentence states that "use of the Downstream Area by birds and other wildlife was considerable." How many birds, mammals, reptiles, and amphibians were identified? Although the specific species are listed in Table 3, quantitative data is not provided. |
| p. 12, §5.1 | This last sentence indicates that the OBDA pond has fewer functions than the Lower Pond. This assessment serves as a basis for quantifying |

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| | replacement requirements - not for the comparison of one wetland's function to another. Please delete this statement. |
| p. 12, §5.3 | This subsection indicates that the water depth is not sufficient to support a fish population. This is one criterion for vernal pool identification. If it is likely that amphibians would use this area in the absence of pollutants and they are not, please explain why. |
| pp. 12 to 16, §5.0 | Although the functions of each wetland are explained well, the primary function(s) assessed for each wetland is not clear without referring to the worksheets. Please revise accordingly for each wetland. |
| p. 13, §5.3 | While a high aesthetic value is one of the values assessed, it should not be misconstrued as primary evidence for deciding whether to take remedial action. If the area in question provides unacceptable risk to ecological receptors, then aesthetic value is relatively unimportant. The last two sentences of this section are more applicable in a remedial action discussion rather than a function and values assessment (*see also* page 16, §5.4). |
| p. 13, §5.4 | Approximately, what percentage of the uplands is mature forest and what percentage is pioneer? |
| p. 14, Figure 8 & p. 16, §6.0 | In the third sentence, a forest pool is mentioned and a photograph of the pool is shown in Figure 8. Please give more information about this pool. Is it vernal? How big is it? Was it sampled for herpetiles in 1990? Are there other similar pools in the area? Should it be given special consideration as potential reptile and amphibian habitat? |
| p. 16, §6.0 &Tables 1 and 2 | The report states that twenty-three "typical" wetland species were recorded during the floristic survey. "Typical" wetland species are marked with an asterisk in Tables 1 and 2. A definition of "typical" should be included in the text. For example, is "typical" defined by plants with an Indicator Status (Reed 1988) of Facultative Upland (FAC) or greater (FACW and OBL)? If "typical" wetland species were defined by Indicator Status, then several hydrophytic plant species were not marked with an asterisk in Tables 1 and 2 (*e.g.*, *Ulmus americana* - FACW). |
| pp. 16 & 17, §7.0 | The statement regarding the lack of apparent adverse effects to vegetation is misleading. The function and values assessment was performed in October and visible evidence (*e.g.*, chlorosis) of stress from exposure to contaminants is virtually impossible to differentiate from the natural physical appearance of vegetation at this time of year. In addition, there was no data collected during the remedial investigation that determines |

whether contaminants are accumulated by vegetation and subsequently consumed by terrestrial receptors. The last paragraph states that Lower Pond is the least disturbed stream course; this should be clarified to state that it may be the least physically disturbed stream course. However, the Lower Pond contains some of the highest concentrations of pesticides and there was 0% survival of benthic invertebrates during the sediment toxicity tests. As stated above, such statements should be modified or stricken and that this document should be limited to the assessment of functions and values potentially lost when and if mitigation is deemed necessary.

## REFERENCES

USEPA 1994. *Considering Wetlands at CERCLA Sites*. United States Environmental Protection Agency. Publication 9280.0-03. EPA540/R-94/019. PB94-963242. May 1994. Office Of Solid Waste and Emergency Response.