PHONE CONFERENCE MINUTES
FOR
AREA A DOWNSTREAM ECOLOGICAL REMEDIAL ACTION OBJECTIVES (RAOs)
GOSS COVE ECOLOGICAL EVALUATION
AREA A LANDFILL ALTERNATIVES EVALUATION
NAVAL SUBMARINE BASE NEW LONDON - GROTON, CONNECTICUT

DATE: Thursday, November 14, 1996 - 2:00 to 4:00 p.m.

OBJECTIVES:

- Presentation and discussion of the revised Ecological RAOs Proposal (CTO #276)
- Scoping and selection of a reference cove for the ecological evaluation of Goss Cove (CTO #275)
- Determination of the need for an Alternatives Analysis Report for the Area A Landfill (CTO #203)

ATTENDANTS	COMPANY	PHONE NUMBER
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Revised Ecological RAOs For Area A Downstream

NOTE: All participants to the phone conference had received copy of the revised Ecological RAOs Proposal dated 11/11/96, except Patti Tyler whose E-mail has been experiencing problems. Following the phone conference, a copy of the proposal was faxed to her.

B&R Environmental (mostly Bill Starkel) presented the revised Ecological RAO Proposal dated 11/11/96 and explained how this document was different from the original Ecological RAOs Proposal dated 09/18/96. The differences which were presented and discussed included:

- Consideration of other Contaminants Of Concern (COCs) besides DDTR with a screening threshold of 10% detection (i.e. a compound was retained as COC if detected in 10% or more of the sample analyzed) instead of the more customary 5%. This resulted in the identification of dieldrin as an additional COC for sediment, although DDTR remained the overwhelming ecological risk driver.

- Use of Lowest Observed Effect Level (LOAEL) values rather than No Observed Effect Level (NOAEL) values for the development of ecological RAOs. B&R Environmental indicated that this change increased RAO values by a factor of about 4 to 8.

- Use of a metabolic scaling approach to determine LOAELs for several site ecological receptors (barred owl, short-tailed shrew, and mallard) based upon the results of a DDTR exposure study performed for another species (brown pelican).

- Derivation and use of a site-specific DDTR Bioaccumulation Factor (BAF) of 0.1 rather than a literature-based BAF of 0.475 for the computation of RAOs for soil-related ecological receptors (barred owl and short-tailed shrew)

- Use of updated partitioning coefficients (K_{ow}s) provided by USEPA's Athens, GA laboratory for the computation of sediment RAOs protective of benthic macroinvertebrates through equilibrium partitioning (EqP).

- Evaluation of benthic macroinvertebrate community measurements and sediment toxicity data versus DDTR concentration at several site and reference locations to determine empirical toxicity thresholds. This evaluation showed a sediment toxicity threshold of 3 to 5 mg/kg DDTR which correlated relatively well with the maximum sediment RAO value of 3.21 mg/kg DDTR computed through equilibrium partitioning.

B&R Environmental indicated that the use of LOAELs, the metabolic scaling approach, a BAF of 0.1 for soil, and updated K_{ow}s had resulted in a significant increase in the calculated values for the ecological RAOs with a revised proposed sediment RAO of 3 mg/kg DDTR as compared to the previous value of 19 µg/kg and a revised proposed soil RAO of 12 mg/kg DDTR as compared to the previous value of 1.14 mg/kg. B&R Environmental also indicated that, under the revised approach, protection of the barred owl rather than the short-tailed shrew becomes the driver for determination of the soil RAO.

USEPA (Kymberlee Keckler and Patti Tyler) asked how these values compared with human risk RAOs and if those were still about 29 mg/kg DDTR as previouly determined by Atlantic Environmental. B&R Environmental (Corey Rich) replied that human risk RAOs had not yet been finalized but that a preliminary value of about 200 mg/kg had been determined.

USEPA (mostly Patti Tyler) indicated that, subject to review of the 11/11/96 revised Ecological RAOs Proposal by Patti Tyler, they were in agreement with most of the proposed modifications for the revision of the RAOs, except the use of metabolic scaling. Patti Tyler indicated that she needed to further evaluate this and contact several colleagues to discuss it before reaching a decision about the acceptability of this approach.

B&R Environmental (Bill Starkel) remarked that the metabolic scaling approach was responsible for a significant part of the proposed increases in the soil and sediment RAO values for protection of the higher order ecological receptors.

B&R Environmental (Bill Starkel) remarked that the revised soil and sediment RAOs developed for protection of the higher order ecological receptors, such as the barred owl, the mallard, the raccoon, and the short-tailed shrew did not include any adjustment related to the fact that, for the most part, only a fraction of their home range is likely to be within the contaminated zones of the Area A Downstream site. B&R Environmental explained that this adjustment was omitted to impart a certain conservativeness to the RAO values. USEPA (Patti Tyler and Kymberlee Keckler) stated that they did not agree with this because it was unrealistic to consider that higher order ecological receptors, with the possible exception of the short-tailed shrew, would spend all of their time within such a small geographic area. USEPA commented that this might be the reason why the barred owl replaced the short-tailed shrew as the driver for the revised soil RAO. USEPA also requested that the revised RAOs be adjusted for home range.

B&R Environmental (Jean-Luc Glorieux) remarked that, for the purpose of the current FFS, given the relatively limited data currently available regarding the extent of contamination, in particular that of the soil, significant differences in RAO values will not necessarily impact very significantly on the volumes of media to be considered for remediation. B&R Environmental added that, however, once the extent of contamination is more precisely determined as part of the remedial design, differences in RAO values will certainly have a significant impact on quantities of media to be remediated.

B&R Envrronmental (Corey Rich) asked which set of ecological RAOs should be included in the revised draft FFS Report, those developed in in the 09/18/96 proposal, or those being discussed today as part of the 11/11/96 revised proposal, or both. USEPA (Kymberlee Keckler) replied that only one set of ecological RAOs should be used and that it should be the higher values of the 11/11/96 revised Ecological RAO Proposal.

The Navy (Mark Evans) asked that all participants submit their comments by 11/19/96 so that responses to these can be incorporated into the revised draft FFS Report which is due on 12/02/96.

USEPA (Kymberlee Keckler) asked to be sent five copies of the revised draft FFS Report instead of the customary three copies which have normally been sent to them for other submittals. The Navy and B&R Environmental took note of this request.

Scoping and Selection of a Reference Cove For the Ecological Evaluation of Goss Cove

USEPA (Patti Tyler) and CTDEP (Traci Iott) stated that they were not able to recommend a methodology or provide guidance for evaluation of such an ecological habitat as Goss Cove. Both stated that it would be up to the Navy to develop a suitable approach and that comparison with a reference cove was probably a good way to proceed.

USEPA (Patti Tyler) also offered to fax copy of a recent technical paper regarding the impact of sulfide concentration in the pore water of sediment on several ecological receptors. USEPA added that this paper might shed some light on the toxicity to benthic macroinvertebrates observed for the the Goss Cove sediments which have been noted to have a significant sulfur smell.

The Navy (Dick Conant) reported on their preliminary inspection of two candidate reference coves, including one called Mamacoke Cove located across the Thames River from NSB-NLON near Connecticut College and one called Bee Bee Cove located up the Mystic River.

The Navy commented that, of these two coves, Mamacoke Cove was probably the better candidate as a reference for Goss Cove since it was on the same river at a location subjected to the same tidal regime. The Navy indicated that other similarities between Mamacoke Cove and Goss Cove included similar size and the facts that both coves were separated from the Thames River by a railroad embankment, were bordered on their opposite shore by a relatively steep hillside, had no permanent fresh water recharge , and received storm runoff. The Navy also stated that there were differences as well between the two coves including: (1) Mamacoke Cove has been less impacted by development, (2) with an estimated depth of 2 to 4 feet, Mamacoke Cove is shallower, (3) Mamacoke Cove is lined with riprap along one shore only instead of all three, (4) Mamacoke Cove appears to have a more robust and diverse aquatic population with minnows and clams, and (5) Mamacoke Cove has direct and open communication with the Thames River through a box culvert whereas Goss Cove only communicates with the Thames River by infiltration through a railway enbankment.

The Navy (Mark Evans) asked USEPA (Kymberlee Keckler and Patti Tyler) if a comparative ecological evaluation of the two coves could proceed on that basis or if further investigation was first required to confirm the acceptability of Mamacoke Cove as reference. USEPA responded that they would like to see a two-tiered approach with further inspection of Mamacoke Cove being first performed in a way similar to

that performed on Goss Cove on 10/22/96, following which a decision would be reached regarding the acceptability of Mamacoke Cove as a reference and the comparative ecological evaluation would proceed.

B&R Environmental (Jean-Luc Glorieux) suggested that, on account of the advancing season, the additional inspection of Mamacoke Cove should be performed relatively soon and USEPA and CTDEP were asked if they wanted to participate to that inspection. Both USEPA and CTDEP replied that they wanted to be given a timely notice of the inspection schedule so they will have the option to attend. The Navy and B&R Environmental will discuss timing of the field effort and will reply to USEPA and CTDEP within the next few days.

Need For an Alternatives Analysis Report For The Area A Landfill

The Navy (Mark Evans) explained that it was necessary to discuss USEPA's letter dated 11/01/96 regarding potential encroachment of the Area A Landfill cap upon the adjacent Area A Wetland and to verify the need to prepare an Alternatives Analysis Report for that landfill cap.

B&R Environmental (Jean-Luc Glorieux) briefly described the currently designed cap for the Area A Landfill and stated that this cap would not extend beyond the boundary limit between the landfill and wetland as surveyed in the fall of 1994. B&R Environmental further explained that some minimal wetland encroachment would occur during landfill cap construction in the form of installation of silt screen and other erosion controls which would extend approximately 5 feet beyond the surveyed landfill/wetland boundary. B&R Environmental added that, following cap construction, this small area of encroachment would be restored to original conditions.

USEPA (Patti Tyler) stated that, under these circumstances, preparation of an Alternatives Analysis Report was not required for the Area A Landfill cap but that implementation of erosion controls and wetland encroachment monitoring should be described in the Remedial Action Work Plan. The Navy (Mark Evans) replied that it is exactly what they intend to do.

USEPA (Kymberlee Keckler) stated that this did resolve the question of physical encroachment of the Area A Landfill into the Area A Wetland but still did not answer her long-standing concern about the long-term cumulative impact of the discharge of contaminated groundwater or leachate from the landfill into the wetland.

The Navy (Mark Evans) and B&R Environmental (Corey Rich, Jean-Luc Glorieux) expressed surprise that this was still a concern because (1) the Phase II RI risk assessment has identified no significant human or ecological threat to the Area A Wetland and (2) capping of the Area A Landfill would improve the current situation and the Groundwater/Leachate Modeling Study has shown that the predicted quality of the groundwater/leachate discharging from the landfill into the wetland would meet or exceed chronic ecological Ambient Water Quality Criteria (AWQCs), which should be protective of the wetland.

USEPA (Kymberlee Keckler) argued that there was still a possibility for accumulation of contaminants in the Area A Wetland sediment. The Navy (Mark Evans) and B&R Environmental (Corey Rich) replied that such contaminant accumulation had not been detected in the soil/sediment samples collected along the landfill/wetland boundary and the Navy added that it was their intention to conduct long-term monitoring of groundwater quality.

USEPA (Kymberlee Keckler) still expressed some concern that the soil/sediment samples collected to date in the Area A Wetland may not have been representative because they were too shallow and the groundwater/leachate penetrates the wetland at a greater depth. B&R Environmental (Corey Rich) remarked that the only way that groundwater/leachate could penetrate the Area A Wetland was to percolate up through the soil/sediment and reminded USEPA of the presence of a relatively shallow dredge spoil confining layer which prevents deep groundwater penetration. B&R Environmental also

argued that, if the groundwater/leachate regime is that deep then it would not even impact the Area A Wetland but would flow under it into the Area A Downstream valley and to the Thames River.

In the end, it was agreed that the need for additional sampling of the Area A Wetland should be evaluated for the establishment of baseline conditions prior to capping of the Area A Landfill. It was also agreed that long-term groundwater quality monitoring would be planned as part of the base-wide groundwater evaluation.

Action Items

The following action items were identified as a result of this phone conference:

Area A Downstream Ecological Risk Assessment

- USEPA will further review the 11/11/96 revised Ecological RAOs Proposal and advise the Navy and B&R Environmental of its acceptability, including, in particular, the acceptability of the metabolic scaling approach.
- All comments regarding the revised Ecological RAOs Proposal will be submitted to the Navy and B&R Environmental by 11/19/96.
- B&R Environmental will modify the ecological RAOs in accordance with the comments received from USEPA and CTDEP and to incorporate adjustments for home range.
- B&R Environmental will submit five copies of the revised draft FFS Report to USEPA.

Goss Cove Ecological Assessment

- B&R Environmental will develop a proposed methodology for the ecological assessment of Goss Cove.
- USEPA will fax to the Navy and B&R Environmental copy of a recent technical paper regarding the impact of sulfide concentration in the pore water of sediment on several ecological receptors.
- The Navy and B&R Environmental will perform a preliminary ecological investigation of Mamacoke Cove to verify its suitability as reference for Goss Cove. Timely notice of this inspection will be given to USEPA and CTDEP to give them the option to attend. The Navy and B&R Environmental will discuss the timing of this investigation during the next few days and inform USEPA and CTDEP early next week.
- The Navy and B&R Environmental will prepare a brief ecological inspection report for Mamacoke Cove and submit it to USEPA and CTDEP.

Area A Landfill / Area A Wetland

- The Navy and B&R Environmental will evaluate the need for additional sampling of the Area A Wetland to establish baseline conditions prior to the capping of the Area A Landfill.
- The Navy and B&R Environmental will develop a long-term post-remediation groundwater monitoring program for the Area A Landfill.