# United States Department of the Interior

**FISH AND WILDLIFE SERVICE**
New England Field Office
70 Commercial Street, Suite 300
Concord, New Hampshire 03301-5087



April 29, 2005

James Chow
US EPA - Region 1
One Congress Street
Suite 1100
Boston, MA 02114-2023



Dear Mr. Chow,

Thank you for the opportunity to review the Draft Baseline Ecological Risk Assessment for the Troy Mills Landfill Superfund Site, Troy, NH, March 25, 2005, as prepared by Metcalf & Eddy, Inc. Our comments are provided as part of our Interagency Agreement for Technical Assistance and our role as Natural Resource Trustee. Section-specific comments are as follows:

**2.0**: It would be helpful to provide a brief statement on the types of industrial activities conducted at the Troy Mills site and what chemicals processes were commonly used. Additionally, it would be good to know if waste materials were burned or incinerated and then disposed of onsite. Identify the primary constituents of the LNAPL plume migrating into the wetland area.

**2.2.1**: We understand that the site is in fast track status but conducting an ecological survey of site conditions, relative to plants and wildlife, in December, is sub-optimal for portraying conditions of the woody/herbaceous plant community during growing season or biota site usage during breeding season.

**2.2.2**: Provide approximate acreage of the bordering wetland. A formal wetland delineation should be performed onsite during the growing season. It would be helpful to obtain flow data on Rockwood Brook to aid in potential seasonal dilution evaluation. It appears, based on sample timing, that low flow sampling was not conducted and that low flow conditions may result in different contaminant concentrations and toxicity potential. Additionally, Rockwood Brook is within the watershed of the S. Br. Ashuelot River which is a salmonid system and annually stocked with Atlantic salmon fry. Rockwood Brook should be evaluated as a potential salmonid breeding sub-system, especially since salmonid species are notably sensitive to a variety of contaminants.

**2.2.3**: The occurrence of vernal pool or other amphibian breeding habitat should be investigated.

**2.3.1**: It should be stated if discrete soil samples were collected from a variety of depths in the 0-2 foot soil range, if soils were composited from different depths within this horizon or if soils were taken from the same representative depth for COC comparison. It is uncertain if grain size analysis

was conducted, if so, the analytical results should be presented. If grain size analysis was not conducted then this data gap should be discussed relative to the heterogeneity of soil/sediment samples and comparability with reference locations.

**2.3.2.1**: As discussed in the site review meeting, reference samples were taken from the main branch of Rockwood Brook, upstream from the site. However, similar sampling was not conducted in the East Branch of the brook. It was stated that Weston START historic data exists for this portion of the site. Even though this data is dated, it appears that this is the only data available for verification of reference/background conditions in upstream reaches of the Main Branch and potential evaluation of concentrations downstream of the East Branch/Main Branch confluence.

**2.4**: It is stated that terrestrial surface soils contamination may have occurred due to fate and transport processes. However, it is not indicated that terrestrial surface soils were sampled or compared to soil benchmarks; rather, only wetland surface soils were evaluated. Please clarify.

**3.2**: MacDonald, 2000 Threshold Effects Levels (TELs) are more current and preferred for comparison to site sediment values versus NOAA or Ontario criteria.

**4.1**: Total surface water concentrations should be discussed as a source of uncertainty if dissolved concentrations are used for AWQC comparison. Total concentrations are a more conservative indicator of potential exposure to fish and wildlife using aquatic habitats. Screening procedures usually assume the most conservative scenario while BERA procedures typically refine scenario inputs to less conservative or average exposure/intake values.

**4.3.2**: It appears, based on Remedial Investigation (RI) Appendix G media analytical results tables, that pesticides and PCBs were not analyzed for in Rockwood Brook sediments or other media. Therefore, it is misleading to state that no pesticides/PCBs were detected. If this data exists it should be provided. If this data does not exist then rationale should be provided for its exclusion. START data from 2001 appears to have no detected pesticides for soils or sediments, except for SD-42 mentioned below, which is very unusual, even for a rural setting, and may warrant QA/QC re-validation. It is unclear why sample location PR-01 has very elevated detection levels for methoxychlor and PCBs relative to other samples. Additionally, there is one noticeable detection of 230 ppb of PCB 1242 at SO-01, unless this is a typo in the data table. This is also unusual since PCBs are not detected in any other site samples. Is this detection an anomaly? If so, what is its origin and if not, why were there no other detected PCBs onsite or follow-up localized confirmatory sampling? Additionally, SD-40/41/42 were all rejected for pesticide/PCB analysis except for an estimated concentration of 3.6 ppb of 4,4' DDT at SD-42. It is unclear if these locations were ever resampled. It is also impossible to verify where START samples were located compared to current sampling without a sample location map. If RI sampling or lack thereof was based on 3 year old START sample results then it would be helpful to provide this rationale. It would also be incorrect to state that no pesticides/PCBs were detected based on the aforementioned. We are not aware that START preliminary investigation data is traditionally used as part of an RI; rather, RIs usually stand alone with a comprehensive characterization of site contaminant conditions for all media potentially impacted. Please clarify. **Table 3**: It would be more appropriate to report detected inorganic analytes and sediment criteria in mg/kg. The use of START data here and in Table 4 should be denoted.

**5.1**.: It would be helpful to state for each section - surface water, wetland soils, and sediments (notably not addressed) - that no additional COPCs were eliminated except for those described and reference Table 5. Table 5 format could be altered to state both SLERA and final BERA COCs for clarification.

**5.1.1**: The detection of lead in surface water at 6.9 ug/L far exceeds the AWQC, as stated. Additional surface water sampling upstream of RBSW1 showed very reduced concentrations, closer to AWQC criteria. However, we believe that it is important to further investigate this high exceedance of lead in the most downstream sample location. It would be beneficial to determine the extent and potential source of the most downstream exceedance for evaluation of potential impacts. Additionally, even though several metals do not exceed their respective AWQC criteria, RBSW1 appears to have the bulk of maximum detected inorganics. This alone suggests a change in surface water conditions downstream of RBSW2 and warrants further discussion. Furthermore, the most downstream sediment location is upstream of RBSW2 which compromises causal linkage with elevated downstream surface water concentrations.

**5.2.1**: *Predatory birds* : Green heron would probably have been a more appropriate species to use at this site based on habitat characteristics.

**5.2.1.2**: *Amphibians*: This receptor group was not included and characteristically should be in all risk evaluations including wetland habitats. Wetland habitat is as relevant to amphibian exposure as the moving water habitats in Rockwood Brook. *Songbirds*: This wetland area may potentially support woodcock foraging activity as well.

**5.2.2**: There is no discussion of exposure pathways and indicator species for surface water. This should be addressed, especially since the aforementioned salmonid issue exists.

**5.2.2.2**: The habitat provided by the wetland and the adjacent Rockwood Brook corridor may support breeding pairs of migratory birds. As such, it seems justified to address potential uptake of contaminants to robin or woodcock that may preferentially forage in limited areas during breeding season.

**6.1.1**: During the meeting it was discussed that the Rockwood Brook sediment 10-day toxicity tests were not preferable, as compared to 28-day toxicity tests. We understand, at this juncture, that toxicity tests will not be re-run for chronic exposure durations but this issue should be addressed in the uncertainty section. **Table 9**: It is unclear why a significant difference is found for RBSE-4 versus the Lab control, when RBSE-5, which has a lower survival rate that RBSE-4, is not significantly different versus the Lab control. Please clarify. It is apparent that both the *Hyallela* and *Chironomus* tests show reduced survival at RBSE-5, with *Chironomus* survival still depressed at RBSE-4 and recovery by RBSE-3. However, it is unclear what the East Branch of Rockwood Brook may be contributing to the toxicity of the Main Branch or if toxicity is originating from surface water or groundwater discharge from the Leachate Wetland. Current surface soil/groundwater data downgradient west/south of the Drum Area or historic East Branch data would potentially aid in determination of this issue. The lack of sediment, surface water and toxicity testing in the East Branch does not allow for the determination of potential toxicity upstream of RBSE-5.

**6.1.2**: The failure of the wetland soil toxicity test is unfortunate and leaves a data gap for validating the toxic potential of wetland soils to the invertebrate community and the bioaccumulation potential for use in food chain modeling. This should be addressed in the uncertainty section.

**6.2**: The AVS-SEM data in Table 11 does not correspond to the data in the RI Table G-6. Please rectify table and text. Data suggests that location RBSE-5, which showed elevated toxicity, is not being ameliorated by AVS concentrations, relative to SEM.

**7.1.3**: Even though vanadium is of low concern, its HQ exceeds 1, as stated in Table 15, and should be discussed and text revised accordingly, here and in Section 7.4.

Overall, it appears that this site exhibits low level impacts in some limited stretches of Rockwood Brook. However, conditions during low seasonal flows and in upstream reaches of the East Branch are unknown and may warrant further investigation. The leachate wetland appears to also be functioning at a low level of potential impact with high levels of iron and manganese and slightly elevated levels of a variety of other inorganics and VOCs/SVOCs. LNAPL discharge to the wetland and Rockwood Brook is of concern as a continued source of localized risk to biota.

For further comments or questions, please contact Kenneth Munney at 603-223-2541, ext.19 or Kenneth_Munney@fws.gov.

Sincerely,

Kenneth Munney
Environmental Contaminants
New England Field Office