Public Input on General Electric's September 28, 2023 Pre-Design Investigation Summary Report for Reach 5A Sediment and Riverbanks

January 2024

Mass Audubon

December 18, 2023

Christopher Smith
EPA New England, Region I
Federal Facilities & Housatonic River Section
Superfund and Emergency Management Division
5 Post Office Square
Boston, MA 02109-3912

Via Email: R1Housatonic@epa.gov and smith.christopher@epa.gov

Re: **GE-Pittsfield/Housatonic River Site Rest of River (GECD850)**
Pre-Design Investigation Summary Report for Reach 5A Non-Residential Floodplain Exposure Areas
Pre-Design Investigation Summary Report for Reach 5A Sediment and Riverbanks
Phase IB Cultural Resources Survey Work Plan for Reach 5A

Dear Mr. Smith:

On behalf of Mass Audubon, I submit the following comments on GE's recently-submitted pre-design investigation summary reports and cultural resources survey work plan for Reach 5A. As noted in our previous comments on this project, Mass Audubon is a directly affected landowner at our Canoe Meadows Wildlife Sanctuary in Reach 5A of the Rest of River area. Additionally, as a statewide conservation organization, we have a broader interest in the conservation and restoration of the Housatonic River Valley ecosystem for the benefit of both people and wildlife.

Summary Comments

The submitted documents represent determined efforts to understand the distribution of PCBs and cultural resources across the study area, presenting the most publicly available detail on these site characteristics to date. Mass Audubon's Senior Conservation Ecologist for our Central/West Region, Tom Lautzenheiser, reviewed the documents and provided the following comments.

We recommend that the extensive data that is presented in tabular format be made available in a more accessible format such as ArcGIS. This would enable interested parties to understand the data geospatially and view the information more flexibly than in static tables and maps. We also request that additional cultural surveys be performed, specifically for archeological resources at Canoe Meadows. For floodplains, consideration should be given to lowering elevations in some locations rather than restoring pre-construction elevations in every floodplain location.

Pre-Design Investigation Summary Reports

Weighing in at over 9,000 pages, together these reports provide an overwhelming volume of information, largely tabular data and analytical results that boil down to a relatively small number of key tables and figures. While the reports describe data collection, validation, and evaluation methods, as presented these reports are impractical. Information contained in these reports should be shared in a more readily understandable manner, both through maps and statistics.

Regarding mapping, the included summary maps are helpful, yet they are only a starting point. Mass Audubon gratefully acknowledges that GE has separately provided maps and data tables specifically for Canoe Meadows. However, given the availability of various geographic information data viewers and related tools, GE should prepare a publicly accessible spatial information portal. Such a portal could allow citizens to understand and assess PCB test results from soils and sediments in areas of interest, communicating more effectively than static maps and thousands of pages of test results can accomplish. (Geotechnical and other datasets should also be shared in a similar manner.) Residents of Housatonic River valley communities deserve transparency and accessibility in all aspects of remediation planning, including data distribution.

Regarding statistics, the bulk of the information provided in the reports are raw data. Summary statistics for each Exposure Area (EA), including frequency of PCB detection; minimum, maximum, mean, and confidence intervals for each EA floodplain soil dataset, would be helpful for interpreting the distribution of PCBs in each area. Assumptions used in the Exposure Point Concentration (EPC) calculations should also be described. As appropriate, similar summary statistics should be calculated and shared for channel and bank sediment areas.

Overall, the sheer volume of data presented in these reports demonstrates a robust (and needed) effort to characterize the distribution of PCB contaminated soils and sediments within the study area. However, this volume also raises questions of quality control (are results accurate at the appropriate scale?) and data completeness (should additional sampling be conducted?), which are difficult to assess with the information provided. A more robust assessment of confidence in PCB modeling within sampling units is necessary.

Cultural Resources Survey Work Plan

The Phase 1B Cultural Resources Survey Work Plan for Reach 5A presents a reasonable approach to investigating cultural resources within areas of high potential archaeological sensitivity that may be affected by remediation activities. Still, archaeological resources are irreplaceable, and every precaution should be taken to ensure that remediation activities do not result in the loss of cultural artifacts or the opportunity to document them in place as encountered throughout the study area.

Figure 7 (pdf page 25) is of particular significance to Mass Audubon, as it depicts preliminary areas for archaeological survey at Canoe Meadows, including West Pond, a potential staging area south of West Pond, and isolated areas along the riverbank and near the confluence of Sackett Brook with the Housatonic River. Understanding that linework defining these target areas is preliminary, GE should expand cultural resource survey activities to include some degree of buffering around what appear to be precisely determined areas. Additionally, if the construction of access roads is needed to support remediation activities in any certain areas, these areas should also be subject to cultural resource surveys.

Canoe Meadows also includes a substantial area of potential effect (APE) to historic architectural resources (Figure 5, pdf page 19). An access road is depicted as extending through this area to reach a potential staging area south of West Pond. Noting that the potential staging area is occasionally subject to saturation or

inundation due to varying levels of beaver activity in the adjacent wetland complex, it may be worthwhile to conduct further archaeological survey in upland portions of this APE, north of West Pond.

Additional Comments on Floodplain Restoration

On further reflection regarding post-remediation floodplain restoration activities, Mass Audubon recognizes that elevation is likely to be the strongest variable that design decisions can control. While a capping and other sediment amendment techniques are proposed in the riverbed and vernal pools, etc., Mass Audubon suggests that a lower post-remediation ground surface elevation has many advantages over attempts to restore pre-remediation elevations within the floodplain environment. Expanding on this idea:

- Importing topsoil or fill increases the risk of introducing Japanese knotweed rhizomes and/or propagules of other invasive plants, even when screened.
- In general, the wetter (lower) a floodplain terrace is, the more resistant it is to invasion by invasive plants.
- The floodplain forest vegetation that is distinct from upland forests is mainly restricted to the areas that experience the most prolonged flooding regimes.
- Lower soil elevations contribute more to flood storage capacity, which is an increasingly important floodplain function with climate change.
- Natural sediment deposition in floodplain is variable, which creates an uneven microtopography of small ridges and swales that support a diverse vegetation of species with range of flood tolerance. Consequently, filling in of swales is to be avoided.
- Floodplain pioneer plants are adapted to recruiting on the moist fresh sediment seedbeds on sandbars. Bare mineral soils left behind from removing contaminated soils would mimic those natural sandbar seedbeds more closely than a topsoil brought in from an upland.

Thank you for the opportunity to review these reports, and for your consideration of these comments.

Regards,

Stephen Hutchinson
Senior Regional Director
Mass Audubon
[redacted]

November 18, 2023

Mr. Dean Tagliaferro
EPA new England
10 Lyman Street, Suite 2
Pittsfield, MA 01201

RE: Pre-Design Investigation 5A Sediments and Riverbanks, Sept 23.

Dear Dean,

Please schedule CCC informational public meetings, to discuss Pre-Design Investigation (PDI), 5A Sediment and Riverbanks, Non-Residential Floodplain Exposure Areas, and be prepared to answer questions the public may have about the Cultural Resources Survey. Please display maps, charts, and narratives so the public may understand the ROR project in better detail. Please provide the Performance standard and Statement of Work descriptions for the various activities as they are presented.

Please require GE to provide all the information SKEO has outlined in their technical review of GE's PDI-5A Sediments and Riverbank September 2023 report where they begin with "the community may want to ask EPA if GE will….

Please require GE to provide the following:

1. Require GE to stop and prevent all PCBs outputs from the former GE Pittsfield plant and surrounding areas from entering the Housatonic River, prior to commencement of ROR remediation.
2. Please show the Housatonic Railroad line proximity next to the river, so possible rail sidings may be placed near remediation sites. Please locate Audubon Canoe Meadow property boundaries on the aerial plans to help orientate the public of where the 10 acres of floodplain remediation is proposed and identify location of the 10 vernal pools proposed for remediation on the aerial plans along with PCB sampling tests.
3. An overlay of PCB data results for the sediment samples by depth. Please include the dates the samples were taken.
4. Combine the riverbank soil PCB results with the Bank Erosion Hazard Index (BEHI) and Near-Bank Stress results by length along the riverbanks. Please provide an explanation of what these measures mean to the public and how the banks and disturbed areas will be stabilized during storm events.
5. Revise the sediment PCB analysis map to depict PCB results by depth to interpret contamination occurrence more readily by location. Please help the public understand the depth profile of PCB and other hazardous waste occurrence for each in-river sampling transect. See SKEO Sediment and River report, November 30, 2023, comment # 6, a sample chart.
6. Will adjacent contaminated floodplain soil be at risk for mobilization from flood events of channel morphology changes?

7. Evaluate the combined information presented in the above reference reports to determine if banks will require additional remedial action to address adjacent contamination that may be mobilized through substantial flood events or river channel morphology changes.
8. "Please have GE evaluate the PCB data, erosion potential, adjacent floodplain removal constructability issues and the likelihood of future downstream transport at such concentrations should banks erode" (SKEO, 11-30-23).
9. Please require GE to provide congener- based total PCB analysis to be done for all future verification sampling, so all possible PCBs presence may be revealed.
10. Require GE to combine all summary report maps to view areas affected by PCBs so the public may better understand remedy design decisions.
11. Generate a baseline map depicting the baseline flood storage capacity and surface water elevation to determine whether primary performance standards are achieved from remedy actions.
12. Please require GE to do additional PCBs sampling in Riverbank areas adjacent to elevated total PCBs presence identified in two EA Reach 5A Non-Residential Floodplain Exposure Areas (See Section pdf page 25).
13. Please include sediment samples collected and analyzed for non-PCB disposal characterization to be included in this report. See comment SKEO comment # 15. Regarding Section 2.3.2.2 of the Sediment and Riverbanks Summary Report pdf pages 26 to 27.
14. Please answer and address SKEO # 17 Editorial comments bullet points.

In general, this report is nearly 1000 pages, and it is undemocratic to assume the public has time to review this document without EPA informational meetings to aid in understanding the findings. The other hazardous waste should be outlined so the public knows exactly what is being dumped into the EPA forced landfill. I am not aware of any organizations who can acquire a permit without providing the details necessary to receive one.

Sincerely,

Gail Ceresia
[redacted]

Citizens for PCB Removal Comments December 4, 2023

Pre-Design Investigation Summary Report for Reach 5A Sediment and Riverbanks

While there has been significant physical sampling and testing in the Sediment and Riverbanks for reach 5A including identification of vernal pools and more, there is new technology that would benefit an overall permanent archive of Rest of River including Reach 5A.

With the likelihood that it may take two years before any remediation activities will begin, CPR strongly urges GE and EPA to use an exciting technology called LIDAR (LIDAR Scanning or Mapping) being used by archeologists for a project called The Earth Archive (www.theeartharchive.com).

Here is an excerpt from https://www.sapiens.org/archaeology/lidar-mapping-earth/

"What lidar data provides is not a flat image but instead a dense, three-dimensional cloud of points recording the Earth's surface and everything on it in incredible detail. Using computer software, researchers can filter the point cloud to identify features such as trees, geological fault lines, hydrological elements, and much more. Using 3D visualization technologies, researchers can actually walk through the resulting "point cloud."

"Because traditional archaeological methodologies are so time intensive, the richest information that academics have about the past is limited to a handful of impressive case studies laboriously collected over decades by dedicated researchers. This means that there is much left to be explored. Wherever archaeologists point a lidar instrument—whether it's around a known site or a completely unexplored region—we unveil amazing and previously undocumented finds. Our archaeological universe is going through its own big bang."

This technology will create a permanent digital point in time for the Housatonic River prior to any future remediation. It will also assist in verifying that post remediation will meet the goals established in the Rest of River process.

This is our one chance to get things right for our Housatonic River and its historically important cultural resources. When looking at the vast amounts of monies that will be spent on this project, it seems that this will be inconsequential to the total outlay. It is SO IMPORTANT.

Start with Reach 5A and complete the same LIDAR mapping for Rest of River. It would also be an important archive if this was done to the Housatonic that flows through Connecticut to the Long Island Sound. You can even go back and map the ENTIRE Superfund site including the first half mile, the next mile-and a half, the GE plant site, Unkamet Brook and the location of the UDF.

We MUST use every technology at our disposal.

Charles Cianfarini

Interim Executive Director

Citizens for PCB Removal

Comments on “Pre-Design Investigation Summary Report for Reach 5A Sediment and Riverbanks”

Mark H. Hermanson PhD

2023-12-18

In the analytical section regarding PCBs, the target congeners for any of the Aroclors are not identified. This is particularly important for Aroclor 1254 because there were distinctly different congener make-ups of early and late-production A1254.

In Table E-9, PCB congener data are reported, analyzed using EPA Method 1668C. Congener data are very useful for identifying the changes that may have occurred to PCB congener distributions, generally by dechlorination. The use of Method 1668C is not mentioned anywhere in the documentation about PCB analysis. It would be useful to know which laboratory was involved in this analysis. It would also be useful to know if any other Housatonic samples from this data set or in the past have been analyzed using Method 1668C.

There was production of PCB congener data on at least some samples collected for sediment and pore water work on the Housatonic in 2022. I am attaching table E-9 here with one page of congener data (PCB-1 through 33). This is from page 1638 of the "sediment and riverbanks" report from EPA. One thing you will notice on this page is that PCB-4 and PCB-19 are comparatively high in sample ST91-PW08-08042022, a pore water sample. Both congeners (especially PCB-4) are considered to be dechlorination end-points according to the literature. And PCB-4 is a strong neurotoxin, interfering with dopamine synthesis in brains of mammals.

In Table E-9, the amounts of recovery standards (PRCs) found in samples are mentioned, but the percent recovery is not shown. This information is required. On page 36 in the overall document (page 27 within the report), the PRCs are identified, but the amounts added are not. This information is required.

In Method 1668C, there are normally two groups of C-13 labelled standards used, extraction standards and cleanup standards. These are not specified in the PCB congener data in this report.

Table E-9
Summary of 2022 PDI Porewater Sampling Results via SPME

Chemical	Sample ID / Sample Date / Depth / Method	ST91-PW08-080422 8/4/2022 1–2.35 ft	HR-SPME-ST99-PW09-080422 10/27/2022	ST99-PW09-080422 8/4/2022 1–2.15 ft
Conventional Parameters (porewater) (mg/L)				
Dissolved organic carbon	SM5310B	--	--	--
Conventional Parameters, Dissolved (porewater) (mg/L)				
Dissolved organic carbon	SM5310B	1.3 UJ	--	--
Conventional Parameters (percent)				
Total organic carbon	Lloyd Kahn	**0.132 J**	--	**0.0617 J**
Total solids	SM2540G	**80.2**	--	**85.2**
PCB Aroclors (mg/kg)				
Aroclor 1016	SW8082A	0.040 U	--	0.036 U
Aroclor 1221	SW8082A	0.040 U	--	0.036 U
Aroclor 1232	SW8082A	0.040 U	--	0.036 U
Aroclor 1242	SW8082A	0.040 U	--	0.036 U
Aroclor 1248	SW8082A	0.040 U	--	0.036 U
Aroclor 1254	SW8082A	**0.316**	--	**0.29**
Aroclor 1260	SW8082A	**0.682**	--	**0.161**
Aroclor 1262	SW8082A	--	--	--
Aroclor 1268	SW8082A	--	--	--
Total PCB Aroclors (U = 0 max limit)		**0.998**	--	**0.45**
Total PCB Aroclors (U = 1/2 max limit)		**1.06**	--	**0.51**
PCB Congeners (µg/kg)				
PCB-001	E1668C	**2.46**	--	**0.00893**
PCB-002	E1668C	**0.0919**	--	**0.000223 J**
PCB-003	E1668C	**0.762**	--	**0.00384**
PCB-004	E1668C	**29.3 J**	--	**0.309**
PCB-005	E1668C	**0.0366**	--	0.000478 U
PCB-006	E1668C	**4.22**	--	**0.00939**
PCB-007	E1668C	**0.273**	--	0.00047 U
PCB-008	E1668C	**5.19 J**	--	**0.0149**
PCB-009	E1668C	**0.429**	--	**0.00128 J**
PCB-010	E1668C	**1.06**	--	**0.0185**
PCB-011	E1668C	**0.181**	--	0.00355 U
PCB-012/013	E1668C	0.00226 U	--	**0.0109**
PCB-014	E1668C	0.00226 U	--	0.000468 U
PCB-015	E1668C	**13.8 J**	--	**0.099**
PCB-016	E1668C	**1.55**	--	**0.00897**
PCB-017	E1668C	**33.2 J**	--	**0.112**
PCB-018/030	E1668C	**7.64**	--	**0.0725**
PCB-019	E1668C	**22.6 J**	--	**0.382**
PCB-020/028	E1668C	**6.54**	--	**0.0598**
PCB-021/033	E1668C	**2.77**	--	**0.0312**
PCB-022	E1668C	**1.19**	--	**0.00649**
PCB-023	E1668C	0.00478 U	--	0.000865 U
PCB-024	E1668C	**0.0532**	--	0.000537 U
PCB-025	E1668C	**6.05 J**	--	**0.0478**
PCB-026/029	E1668C	**8.01**	--	**0.0463**
PCB-027	E1668C	**13.1 J**	--	**0.115**
PCB-031	E1668C	**7.14 J**	--	**0.043**
PCB-032	E1668C	0.000738 U	--	**0.138**