Lower Neponset River Superfund Site
Boston/Milton, MA

United States Environmental Protection Agency

U.S. EPA | HAZARDOUS WASTE PROGRAM AT EPA NEW ENGLAND

THE SUPERFUND PROGRAM protects human health and the environment by investigating and cleaning up often-abandoned hazardous waste sites and engaging communities throughout the process. Many of these sites are complex and need long-term cleanup actions. Those responsible for contamination are held liable for cleanup costs. EPA strives to return previously contaminated land and groundwater to productive use.

INTRODUCTION

The Phase 2 Data Evaluation Summary Memorandum summarizes investigation activities conducted by EPA at the Lower Neponset River Superfund Site (the "Site") between May 2024 and May 2025. The Phase 2 investigation activities follow the completion of investigations in 2023 that focused on the Phase 1 Reach of the Site, which stretches from the confluence of the Neponset River with Mother Brook to the Tileston and Hollingsworth Dam. The Phase 2 investigations focused primarily on the Phase 2 Reach of the Site, located between the Tileston and Hollingsworth Dam and the Walter Baker Chocolate Dam. The Phase 2 Data Evaluation Summary Memorandum can be found at https://semspub.epa.gov/work/01/100037942.pdf.

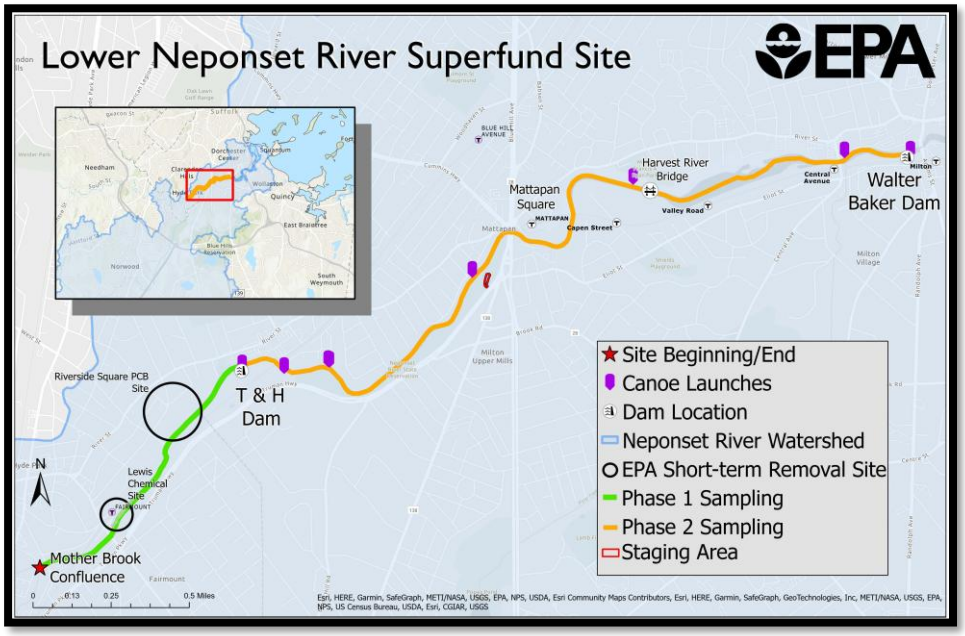

Figure 1: Lower Neponset River Superfund Site Map

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WHY DID EPA CONDUCT THE PHASE 2 INVESTIGATION?

EPA has conducted field investigations in the Lower Neponset River since 2023, following the Site's listing on the National Priorities List in 2022. Field investigations at the Site are part of a remedial investigation (RI), which characterizes site conditions and the nature and extent of contamination. The comprehensive RI report will incorporate data throughout the 3.7-mile Site.

WHAT WAS EPA'S SAMPLING PROCESS FOR THE PHASE 2 INVESTIGATION?

EPA developed data quality objectives for the Phase 2 investigation. These objectives established the investigation's framework by describing the environmental media, aquatic species, and contaminants to sample. The Phase 2 field activities were guided by these objectives.

Field activities for the Phase 2 investigation were conducted in the Phase 2 Reach, select locations in the Phase 1 Reach, and in Pine Tree Brook, a tributary of the Neponset River along the Phase 2 Reach. Sampling was conducted in floodplain soil, surface water, and sediment. Mussels and two types of fish species, brown bullhead and white suckers, were also sampled. Analyses focused on contaminants commonly associated with historical industrial activities, including metals and polychlorinated biphenyls (PCBs), among other contaminants.

The data gathered from the field activities are compared to human health and ecological project action limits (PALs). The PALs represent the lowest of the relevant human health and ecological screening levels that may be used in this or later stages of the site characterization and cleanup process. Screening levels are used when a site is initially investigated to determine if potentially significant levels of contamination are present to warrant further investigation. Results were compared to PALs for information purposes and are not an indication of risk.

WHAT WERE THE RESULTS FROM THE PHASE 2 INVESTIGATION?

PCBs and other hazardous substances were found in sediment, soil, and fish tissue (fillet) above PALs. In Phase 2 Reach sediment, the maximum detected value of PCBs found was 121 milligrams/kilogram (mg/kg), with an average value of 12 mg/kg. In Phase 2 Reach floodplain soil, the maximum detected value of PCBs found was 104 mg/kg, with an average value of 9 mg/kg. In fish tissue throughout the Site, the maximum detected value of PCBs found was 4.16 mg/kg, with an average value of 1.35 mg/kg. For comparison, EPA selected a cleanup level of 1 mg/kg total PCBs for sediment and floodplain soil for the Non-Time-Critical Removal Action in the Phase 1 Reach and the U.S. Food and Drug Administration has a limit of 2 mg/kg total PCBs in fish and shellfish (edible portions).

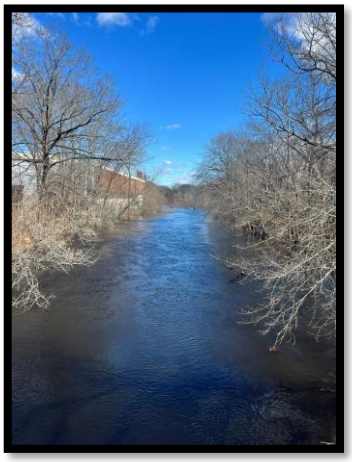

Photo 1: Central Ave facing west overlooking the Neponset River nearby the Central Ave MBTA stop.

WHAT'S NEXT?

Data gathered from the Phase 1 and Phase 2 investigations will be used to support the comprehensive remedial investigation/feasibility study (RI/FS) for the 3.7-mile Site. The RI/FS will address any data gaps from the initial investigations, assess risk to human health and the environment, and evaluate the potential performance and cost of cleanup options for the Site.

On November 5, 2025, EPA selected a cleanup approach for the Phase 1 Reach called a Non-Time-Critical Removal Action (NTCRA). This work focuses on reducing immediate risks from contaminated sediment and soil in the Phase 1 Reach. It includes removing contaminated material from the river and nearby floodplain, as well as removing the Tileston and Hollingsworth Dam. The NTCRA will help move the cleanup forward while the long-term, comprehensive remedial action is being developed.

Photo 2: Central Ave facing east overlooking the Neponset River nearby the Central Ave MBTA stop.

SUPERFUND