



Bear Creek Sediments (NPL Site) BMI MD2123

What You Need to Know

Site Location

The Bear Creek Sediments site consists of approximately 61 acres of contaminated sediments in Bear Creek, near its confluence with the Patapsco River along the northwestern shore of the Sparrows Point peninsula, which is in Baltimore County, southeast of downtown Baltimore City. Bear Creek is a tidal surface water body adjacent to the 3,100-acre Sparrows Point Peninsula, which was the site of steel making and ship building industries. Tradepoint Atlantic (TPA) currently owns the property, which is operated by several tenants, who operate warehouses and conduct shipping/receiving operations. The residential neighborhoods of Sollers Point and Turner Station are northwest of the site, across the open water of Bear Creek.

The area of contaminated sediment that constitutes the site is near the outfall of the Sparrows Point Tin Mill Canal, which previously drained into Bear Creek. The depth of Bear Creek varies from less than one foot deep near the shoreline to more than 15 feet deep near the navigation channel of the Patapsco River.

The Maryland Department of the Environment (MDE) issued a fish consumption advisory for blue crab and 10 species of fish in the Patapsco River-Baltimore Harbor watershed because of the presence of polychlorinated biphenyl compounds (PCBs).

Site History

Steelmaking activities occurred on the Sparrows Point peninsula from approximately 1887 until 2012. Before 1970, wastewater and stormwater from Sparrows Point were discharged to Humphrey's Creek, which drained into Bear Creek. From 1950 to about 1970, the Tin Mill Canal was created by filling in Humphrey's Creek with slag material. When the Tin Mill Canal was completed in about 1970, stormwater and industrial wastewater discharges were routed through the Humphrey's Creek Wastewater Treatment Plant (HCWTP). At that time, the Tin Mill Canal was physically separated from Bear Creek by an earthen structure, and industrial wastewater and stormwater from the Tin Mill Canal was routed through the HCWTP before being discharged into Bear Creek. The highest concentrations of hazardous substances in Bear Creek are located near the outfall of the Tin Mill Canal.

More than 100 years of steelmaking and related activities were conducted by various owners at Sparrows Point peninsula (principally the former Bethlehem Steel Corporation), which resulted in the release of hazardous substances into the environment, including Bear Creek. Areas within Sparrows Point that have contributed to the release of hazardous substances include the Tin Mill Canal, the Rod and Wire Mill Area, and Greys Landfill. Based on investigations conducted to date, the Tin Mill Canal appears to be the primary source of the release of hazardous substances into Bear Creek.

The land-based contamination at Sparrows Point peninsula is being addressed by the current owner of the property with regulatory oversight by the U.S. Environmental Protection Agency (EPA) and MDE. These land-based cleanup activities are managed through other regulatory programs and are not included as part of this site. The land-based cleanup activities (removals, capping, etc.) have mitigated further migration of contamination into the Bear Creek.

Sediment contamination in Bear Creek is being addressed by the EPA's Superfund program. On March 16, 2022, EPA added the Bear Creek Sediments site to the National Priorities List (NPL), which are national priorities with known or threatened releases of hazardous substances, pollutants, or contaminants. The NPL was established under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), also known as Superfund.

Environmental Investigations and Actions

A Removal Action site evaluation was performed from 2016 to 2019. This evaluation documented a threat to public health, welfare, or the environment, due to the presence of hazardous substances, including metals (cadmium, chromium, copper, nickel, silver, zinc), polychlorinated biphenyl compounds (PCBs), and bis(2-ethylhexyl) phthalate in sediment at the site. The hazardous substances are comingled with oil and grease in the sediment.

To expedite the Removal Action, EPA designated the Removal Action as Operable Unit 0 (OU0). This Removal Action is intended to address the hazardous contamination associated with the sediments in Bear Creek. Further evaluation of the site will be addressed in a Remedial Investigation and Feasibility Study (RI/FS), designated as OU1, which will verify the effectiveness of the Removal Action and determine whether additional cleanup measures are required.

In preparation for the Removal Action, an Engineering Evaluation/Cost Analysis (EE/CA) report was issued in January 2024. The EE/CA evaluated removal action alternatives for the contaminated sediments. This was followed by EPA issuing an Action Memorandum on September 25, 2024. The Action Memorandum specified the removal activities to be conducted at the Bear Creek Sediments site. The Removal Action includes dredging of highly contaminated sediments (approximately 86,000 cubic yards), dewatering, and treating the contaminated sediment for off-site disposal in an appropriately permitted facility; placement of an engineered cap; implementation of Institutional Controls (ICs); and effectiveness monitoring.

Current Status

Pre-design investigations began in early 2025, and the design for the Removal Action is in progress. Once the design is completed, the Removal Action will be conducted. This action is estimated to take approximately two years.

Planned or Potential Future Action

Following the completion of the Removal Action, the RI/FS will be conducted.