MONITORING ESTUARY ECOSYSTEM FOR AT LEAST 30 YEARS

This fact sheet was prepared by the Trustee of the Penobscot Estuary Mercury Remediation Trust

The Penobscot Estuary Mercury Remediation Trust (Remediation Trust) is implementing measures to remediate mercury contamination in sediments and speed up the natural recovery of the Estuary. The Remediation Trust's responsibilities include monitoring fish, birds, and other organisms in the sediments and intertidal flats to assess recovery of the Estuary over time.

Monitoring the Estuary's Recovery Through Sampling

Conditions in the Penobscot Estuary will be monitored and measured for the next 30 to 45 years to evaluate the effectiveness of the Remediation Trust's cleanup actions and their impact on the health of the Estuary ecosystem. Long-term monitoring will involve sampling every three years to measure changes in mercury levels found in worms, fish, birds, sediments, and surface water. The goal of the long-term monitoring program is to observe whether mercury levels in the Estuary and ecosystem are decreasing over time.

A field crew uses a net to gather smelt to measure mercury levels in aquatic life.

Seeking Landowner Permission to Access Intertidal Flats

The Remediation Trust is seeking permission from property owners along the Estuary to access intertidal flats and to collect sediment samples. The sampling activities will not change or affect the sampling sites. The Remediation Trust is also obtaining permits and other regulatory approvals required to collect targeted bird samples, fish, and worms as part of its long-term monitoring activities.

A field crew member holds a core of sediment collected from an intertidal flat.

Methods of Collecting Samples

The Remediation Trust has prepared a Long-Term Monitoring Plan that identifies the locations and number of samples to be collected, and specifies procedures for sampling and analyses. Remediation Trust field crews will collect samples wearing appropriate equipment and taking other measures to protect human health and the environment and to complete work safely. Personnel will follow sampling procedures that include photographing recovered samples, logging detailed information and descriptions, and storing and transporting samples in containers for analysis under controlled conditions in accordance with requirements established to ensure the samples are protected and preserved for analysis at an independent laboratory.

A field crew member holds a songbird to measure and band it and sample its blood before releasing it.

Tools Vary By Sample Types

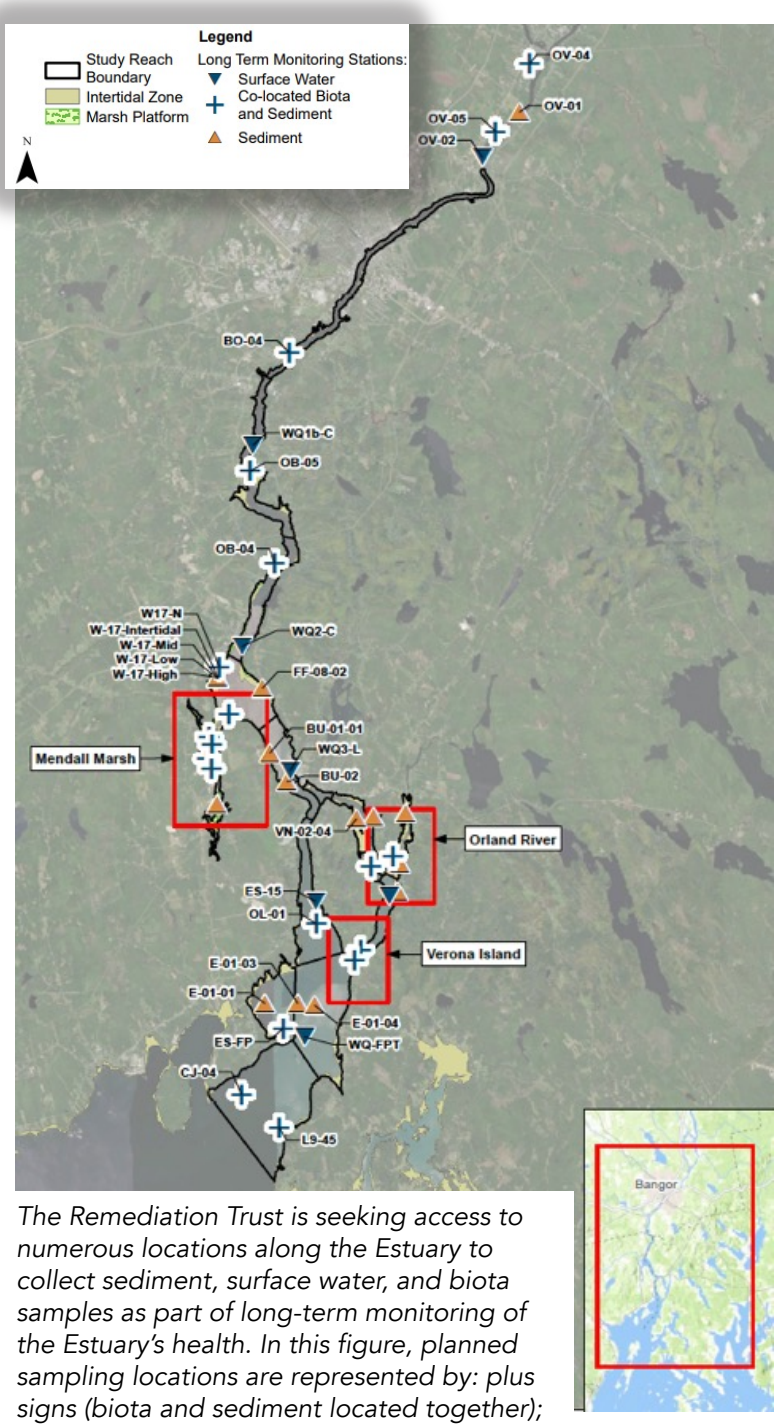
- **Sediment:** For long-term monitoring activities performed in 2023, boats will be used to access sample locations on intertidal flats, and small, hand-operated coring devices will be used to collect sediment samples.
- **Surface water:** Surface water samples will be collected with a special pump during ebbing tide.
- **Songbirds:** Mist nets will be used to capture songbirds in keeping with approved handling and banding techniques that prioritize bird health and welfare. Songbirds will be measured and banded, and their blood sampled. The songbirds will then be released.
- **American black ducks:** Wire cages will be used to capture ducks. The ducks will be banded and their blood sampled. The ducks will then be released.
- **Fish:** Baited eel traps and a variety of other fish collection techniques will be used to collect specimens of American eel, Atlantic tomcod, mummichog, and rainbow smelt.
- **Worms:** Worms (also called polychaetes) will be collected with gloved hands using a shovel or clam rake to dig the worms out of the sediment when exposed during low tide.
- **Lobster:** Contracted, professional lobster fisherman with appropriate state permits will use permit-approved traps to collect lobsters.

Monitoring Results to Be Shared

Long-term monitoring results will be shared with relevant agencies and the public. Sampling results will be available on the Remediation Trust's website at www.penobscotriverremediation.com.

Remediation Trustee

The Trustee of the Remediation Trust is Greenfield Penobscot Estuary Remediation Trust LLC, an affiliate of Greenfield Environmental Trust Group, Inc. (Greenfield). It was appointed Trustee by the U.S. District Court in Maine as part of the court's approval of a consent decree and cleanup plan. Greenfield is the court-appointed trustee of several environmental response and custodial trusts directing complicated cleanups of polluted sites across the country.



The Remediation Trust is seeking access to numerous locations along the Estuary to collect sediment, surface water, and biota samples as part of long-term monitoring of the Estuary's health. In this figure, planned sampling locations are represented by: plus signs (biota and sediment located together); dark triangles (surface water); and orange triangles (sediment).

For more information

Email penobscot@g-etg.com

Call (414) 732-4514

www.penobscotriverremediation.com

Learn More