

MODULE 1 MARINE

1.1 SHELLFISH TISSUE ANALYSIS

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1.1 2005 Marine Sediment, Shellfish, and Lobster Tissue Analysis

This draft report contains data on freshwater sediments, marine sediments, softshell clam (*Mya arenaria*) tissue, and lobster (*Homerus americanus*) tissues collected in 2005. DEP is still waiting for some clam and lobster (*Homerus americanus*) tissue data from the contracted laboratory. Tissue data will be reported as they are received and reviewed.

The following sites were sampled for sediment in 2005: Spruce Creek, Kittery (three replicates at four locations); Barberry Creek, South Portland (three replicates); and Clarks Pond, South Portland (three replicates). Spruce Creek is a tidal estuary. The South Portland sites were fresh water sites, sampled above the salt water estuarine area to determine contaminant loading coming from extensive upland development in these areas and potentially entering the Fore River estuary. Sites were sampled on the following dates:

Location	Date Sampled
Spruce Creek, Kittery	11/17/05
Barberry Creek, South Portland	12/07/05
Clarks Pond, South Portland	12/07/05

Sediment taken from Spruce Creek, Kittery; Barberry Creek, South Portland; and Clarks Pond, South Portland; were analyzed for: Mercury, heavy metals, PAHs, pesticides, and PCBs.

The following sediment and clam sites were sampled in 2005: Long Cove, Searsport; Fort Point Cove, Stockton Springs; and Mill Cove, Robbinston. All samples consisted of three replicate samples. Sites were sampled on the following dates:

Location	Date Sampled
Long Cove, Searsport	12/01/05
Fort Point Cove, Stockton Springs	11/10/05
Mill Cove, Robbinston	11/29/05

Sediment and clam tissue from Long Cove, Searsport; Fort Point Cove, Stockton Springs; and Mill Cove, Robbinston; were analyzed for: Mercury, heavy metals, PAHs, pesticides, and PCBs. Sediment and clam tissue from Mill Cove, Robbinston, were analyzed for dioxins and furans.

Lobsters were collected as part of the National Coastal Assessment (NCA) on the eastern half of the Maine coast in 2005. Thirteen stations were sampled over the eastern half of the coast, and DEP dissected lobsters into hepatopancreas, muscle, and offal tissues. Whenever possible, lobster samples were composites of seven individual animals, though a some samples contained fewer lobsters. EPA, as part of the NCA program, will analyze lobster muscle tissue for: Mercury, heavy metals, PAHs, pesticides, and PCBs. As part of the SWAT program, DEP analyzed the lobster muscle tissue for: Dioxins, furans, coplanar PCBs, and PBDEs. In addition, as part of the SWAT program, DEP analyzed

lobster hepatopancreas for: Mercury, heavy metals, PAHs, pesticides, PCBs, dioxins/furans, coplanar PCBs, and PBDEs. No lobster data have been received from the contracted lab. Lobster data will be presented upon their receipt, analysis, and review and are not contained in this draft report. In 2004, there was insufficient hepatopancreas tissue to allow the analysis of hepatopancreas for PBDEs. Sampling in 2005 included acquisition of up to seven lobsters at each site, rather than the five collected in 2004. This change appears to have provided adequate tissue to allow PBDE analysis (along with other planned analyses) in nearly all samples. Some samples did not contain sufficient mass of hepatopancreas to allow all analyses, but these were locations where the target of seven lobsters was not achieved.

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