Barkhamsted-New Hartford Landfill
Barkhamsted, Connecticut
Region 1
CTD980732333

Site Exposure Potential

Since 1974, the Barkhamsted-New Hartford Landfill, in a rural/residential area of Barkhamsted, Connecticut, has received municipal and industrial wastes, including an estimated 2,700 metric tons of oily, metal-grinding sludge (Figure 1). A barrel-crushing operation was also performed on the site (NUS 1987).

The unlined landfill encompasses 42 hectares on a northward- and eastward-sloping hillside (NUS 1987). An unnamed brook borders the site to the southwest and north. The terrain slopes an average of six percent between the facility and the unnamed brook. The brook flows for 2 km before entering the West Branch of the Farmington River, which flows 65 km before it enters the Connecticut River. The Connecticut River empties into the Atlantic Ocean 150 km below the site. A 22-hectare freshwater wetland is 450 meters downstream from the site along the unnamed brook.

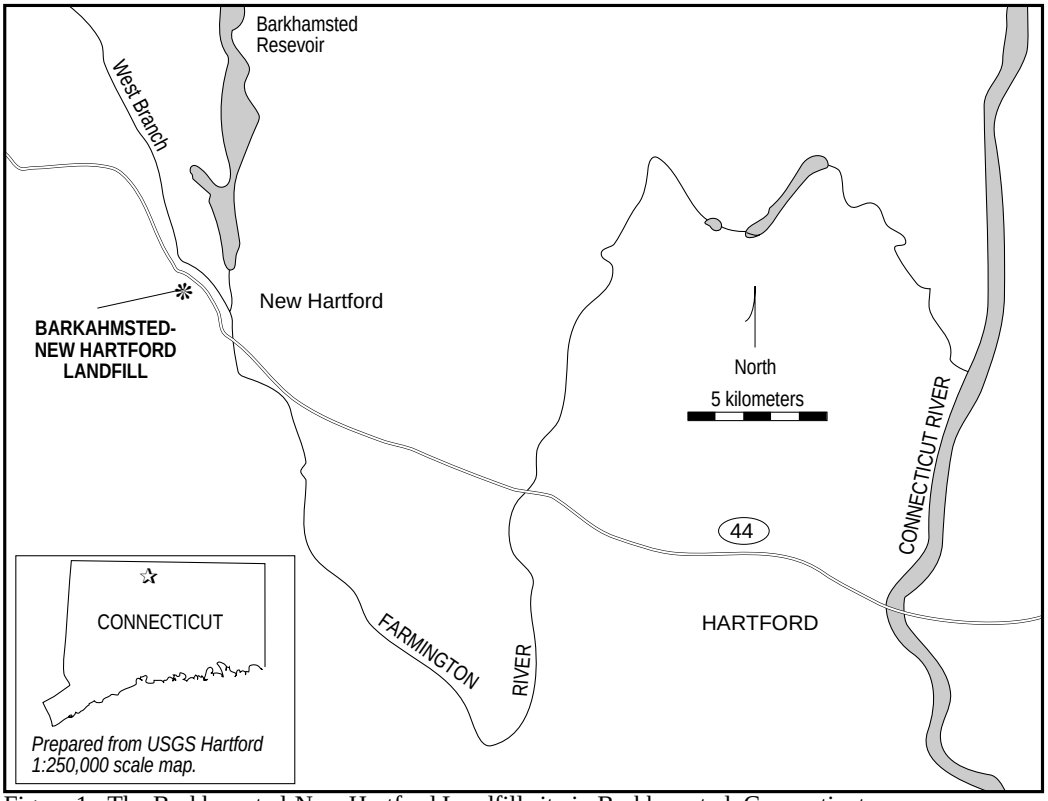

Figure 1. The Barkhamsted-New Hartford Landfill site in Barkhamsted, Connecticut.

Contaminant migration pathways to NOAA trust resources include leachates, surface water runoff, and, possibly, groundwater flow to the unnamed brook and the West Branch of the Farmington River.

Site-Related Contamination

The contaminants of concern to NOAA include trace metals and VOCs. Copper, lead, and zinc were measured in groundwater in concentrations that exceeded AWQC for the protection of freshwater aquatic life (EPA 1986; NUS 1987) (Table 1). In addition, benzene was observed in groundwater at a concentration exceeding LOEL. Low levels (less than 50 μg/l) of VOCs have been measured in the surface water of the unnamed brook. Concentrations of chromium were measured in on-site sludge at levels exceeding the level found in natural soils. Investigators reportedly developed nausea, headaches, and dizziness from fumes emitted by the unnamed brook bordering the landfill and from leachate that enters the brook (EPA 1983).

Table 1. Maximum concentrations of contaminants at the Barkhamsted-New Hartford Landfill site (NUS 1987); ranges in natural soil (EPA 1983); AWQC for the protection of freshwater aquatic life (EPA 1986); sludge and soil concentrations in mg/kg and water concentrations in μg/l.

		Range in		AWQC	
Contaminant	Sludge	Natural Soils	Groundwater	Acute	Chronic
Volatile Organic Compounds					
benzene	N/A	N/A	50,000	5,300*	N/D
acetone	N/A	N/A	12,000	N/D	N/D
Trace Metals					
cadmium	10.0	1-0.7	2	3.9†	1.1†
chromium	1,700	1-1,000	1	16	11
copper	71	2-100	40	18†	12†
lead	30	2-200	14	82†	3.2†
nickel	120	5-500	20	1400†	160†
zinc	43	10-300	2,300	120†	110†

N/A:Not available; N/D: Criteria not determined; * LOEL; † Hardness-dependent (based on 100 mg/l $CaCO_3$)

NOAA Trust Habitats and Species in Site Vicinity

No information was available in the documents reviewed regarding the aquatic habitats of the unnamed brook. The West Branch of the Farmington River is a continuously flowing, low-gradient river that averages 30 meters wide, 0.6 meters deep, and has pools up to five meters deep on the stretch of the river near the site (Hagstrom 1988). The substrate consists of large rocks and boulder with some patches of gravel and coarse sand. The water quality is generally good. The banks along the river are moderately to well-vegetated by trees, shrubs, and grass.

Restoration of anadromous fish runs is underway for the Farmington River. Atlantic salmon and American shad are being released in the river near the site (Minta 1988). Alewife and blueback herring are also expected to use the river near the site when the restoration is completed. All of these species will have access to the unnamed brook, although only strays are expected to use it. The Farmington River is used for recreational fishery.

The Connecticut River supports runs of American shad, Atlantic salmon, alewife, and blueback herring at its confluence with the Farmington River (Minta 1988).

Response Category: Not Determined

Current Stage of Site Action: RI/FS Workplan

EPA Site Manager

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References

EPA. 1983. Hazardous Waste Land Treatment. Washington, D.C.: Office of Water Regulations and Standards, Criteria and Standards Division. SW-874.

EPA. 1986. Quality Criteria for Water. Washington, D.C.: Office of Water Regulations and Standards, Criteria and Standards Division. EPA 440/5-86-001.

Hagstrom, N., field biologist, Connecticut Department of Environmental Protection, Hartford, personal communication, December 12, 1988.

Minta, P., fishery biologist, Connecticut Department of Environmental Protection, Hartford, personal communication, December 12, 1988.

NUS Corporation. 1987. Final Hazard Ranking System Package, Barkhamsted-New Hartford Landfill, Barkhamsted, Connecticut. Boston: U.S. Environmental Protection Agency, Region 1. TDD No. F1-8706-15.