

**Coakley Landfill (UD#2 I-1)**  
**North Hampton, New Hampshire**  
**30 June 1985**

**Location and Nature of Site**

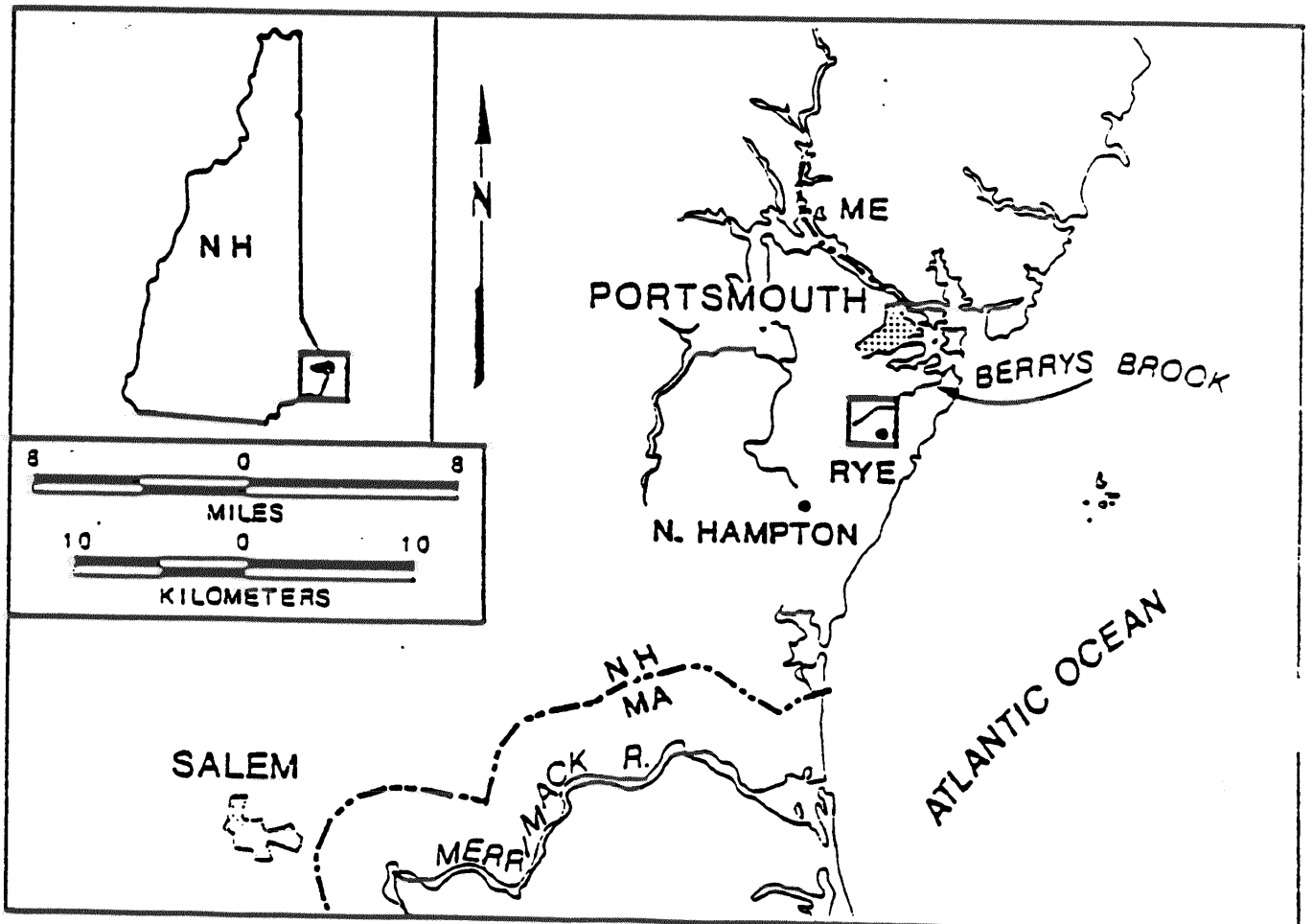
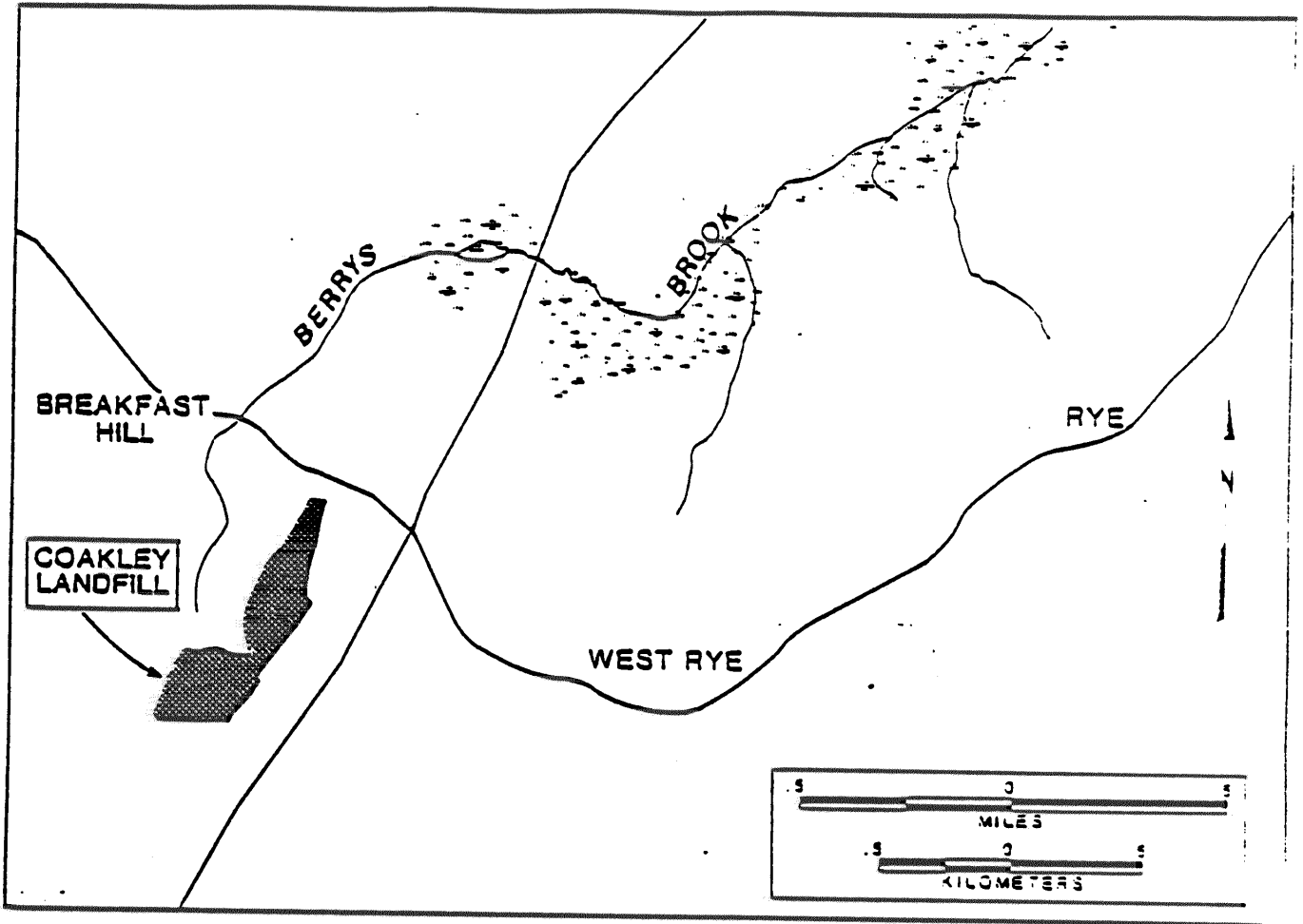
The Coakley Landfill covers 20 acres in a residential area of North Hampton, New Hampshire. The site was a sand and gravel operation prior to receiving a state permit in 1971 to operate as a sanitary landfill. Under a 1972 agreement, the owner was responsible for compaction and cover material for the domestic disposal operation, and the City of Portsmouth was to manage the disposal of incinerator ash from the Portsmouth Refuse-to-Energy Project. There is no specific documentation of industrial or hazardous waste disposal operations at the site.

The landfill is suspected of contaminating groundwater and the wetlands area north of the site. There is evidence of offsite migration of volatile organic contaminants in both surface water and groundwater. The presence of volatile organic solvents has forced the closing of 13 private residential wells to the north, east, and south of the landfill.

**Proximity of Chemical Hazard to Marine Resources**

The Coakley Landfill site consists of two areas, an extraction area to the north and a fill area to the south. The landfill is located on a surface recharge zone for two aquifers. Surface water and, presumably, groundwater, leave the site in a number of different directions. Surface drainage is particularly evident along the western boundary of the site, reaching the adjacent wetland. Berrys Brook, North Brook, and Little River are potentially downgradient of the site. Although surface water runoff from the site is not believed to reach as far as the streams, all three are at risk from contaminated groundwater.

Contamination of Berrys Brook was documented in sampling conducted by the State of New Hampshire in January 1984. Testing only for volatile organics, toluene (29 ppb), acetone (183 ppb), tetrahydrofuran (31 ppb),



methyl ethyl ketone (176 ppb), and methyl isobutyl ketone (19 ppb) were detected in surface water samples from the brook.

The chemical index for this site is based on the volatile organic chemicals that were found in the surface water of Berrys Brook. Samples currently being collected by the State of New Hampshire from the site and nearby surface waters will be analyzed for heavy metals, pesticides, and PCB's. NOAA will re-evaluate the chemical index of this site if these contaminants are present in Berrys Brook.

The State of New Hampshire has the lead on this site and is preparing a proposal for the RI/FS to submit to EPA this summer.

### **Marine Resources at Risk**

Berrys Brook, which flows east approximately ten kilometers to Rye Harbor, has established spawning runs of searun brown trout. Natural spawning in the stream is augmented by spring and summer stockings of hatchery-reared fish. Recreational sportfishing activity along Berry Brook has been increasing over the last few years.

In addition to trout runs, alewife, blueback herring, American shad, and rainbow smelt have spawning runs in most of the streams and rivers in the area. Although not investigated by the New Hampshire Department of Fish and Game, it is believed that these species also utilize Berrys Brook and other tributary streams connecting to Rye Harbor.

Rye Harbor shoreline is mostly bulkheaded, with a navigable inlet connecting directly to the Atlantic Ocean. The entire harbor area is less than 600 acres in size. There are no harvested shellfish beds in the harbor area; however, in the inlet channel and immediately seaward of the inlet, numerous traps indicate a significant active lobster fishery.

### **Site Chronology**

- Sept. 1969 Earliest photo coverage showing active landfilling operations going on at the Coakley site.
- June 1972 Coakley permitted by state for landfilling sanitary refuse.
- April 1973 Photographic documentation of site's continued operation .
- April 1977 Photographic documentation of site's continued operation.
- Oct. 1982 Office of Solid Waste permits City of Portsmouth to dispose of incinerator ash.
- Feb. 1983 Following citizen complaints, supply well to residents of Lafayette Terrace sampled by New Hampshire Department of Public Health and EPA and determined to be unsafe for consumption.

- March 1983 New Hampshire Bureau of Solid Waste Management collects samples from surface waters and seeps at Coakley Landfill.
- March 1983 State of New Hampshire issues Consent Order requiring preparation of hydrogeological report and installation of monitoring wells around site.
- Aug. 1983 EPA conducts on-site inspection of Coakley Landfill and observes presence of leachate streams and seep breakouts.
- Jan. 1984 State of New Hampshire collects samples of surface water from Berrys Brook. Presence of volatile organic contaminants documented.
- Summer 1985 RI/FS proposal is due for submission by the state to EPA.
- NOAA Reviewer: Sharon Christopherson, NOAA Hazardous Materials Response Branch
- EPA Contact: Tim Porter  
Sally Edwards
- State Contact: Muriel Robinette

## References

- Eipper, Alfred, William Knapp, and Curtis Laffin, 1982. Anadromous Fish Streams of New England: Upstream Migratory Routes. Portfolio NE-1. U.S. Fish and Wildlife Service, Newton Corner, Massachusetts.
- Information Summary on the Coakley Landfill Site, North Hampton, New Hampshire, 1983. NUS Corporation Job No. 3446 for U.S. Environmental Protection Agency Region I, Site Response Section, Boston, Massachusetts.
- Nelson, John, 1985. Personal Communication. Fisheries and Wetlands Biologist, New Hampshire Department of Fish and Game.
- Photographic Study of Coakley Landfill Disposal Site, North Hampton, New Hampshire, 1984. Environmental Monitoring Systems Laboratory, Las Vegas, Nevada.