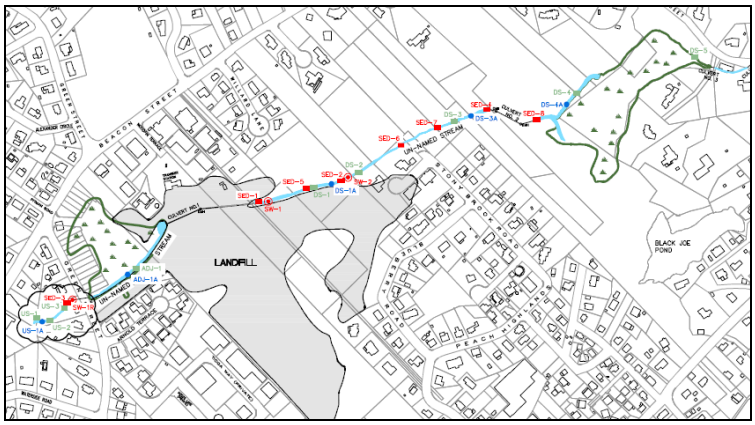
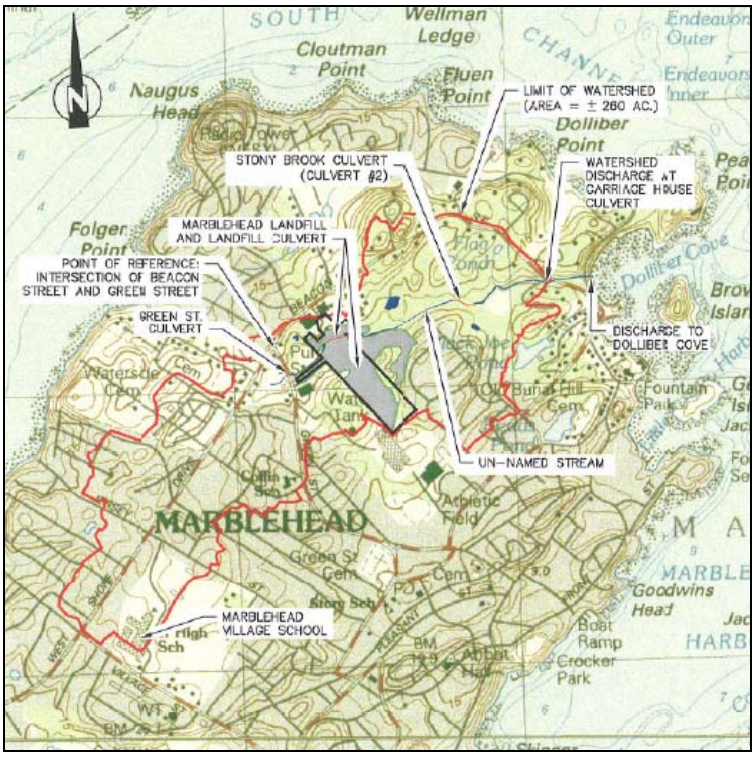
Massachusetts Contingency Plan Ecological Risk Assessment at a Former Landfill

Project Characteristics:

- *Ecological risk assessment*
- *Collection of sediments, soils, and biota*
- *Work plan preparation*
- *State agency coordination*





Woods Hole Group, Inc. worked for the Town of Marblehead, MA in collaboration with SEA Consultants and The Science Collaborative to conduct a Massachusetts Contingency Plan Ecological and Human Health Risk Characterization of the municipal landfill in Marblehead. Woods Hole Group's role was to assess the ecological risk at a stream and two wetlands, and provide recommendations towards closure of the landfill.

Woods Hole Group directed Stage I and Stage II Ecological Risk Characterization activities at the Site, which included field, laboratory, and analytical tasks. Field and laboratory work included collection of sediments for toxicity testing, collection of wetland biota for analysis of contaminant body burdens, and collection of wetland soils for analysis of metals and organic contaminants. The analytical program included preparation of work plans for review by MassDEP, preparation of exposure estimates using site data and exposure/toxicity models, and preparation of ecological risk characterizations following MassDEP regulation and guidance.

Analysis of the stream yielded a finding of no significant risk of harm to ecological receptors. There was not a conclusion of no significant risk in the wetlands. Studies of songbird and small mammal populations were required in one wetland along with additional analyses of metals in wetland soils and earthworms in the other wetland to reduce uncertainty in the assessments. Findings of the additional work will provide decision points for future Site management and closure.

WOODS HOLE GROUP