

## EXECUTIVE SUMMARY

---

Most of the material dredged from New England's waterways and harbors is deposited in nine offshore disposal sites. The offshore disposal of the dredged material must be properly managed to ensure no unacceptable adverse impacts to biota in the marine environment. The Disposal Area Monitoring System (DAMOS) Program provides this management control. The DAMOS Program includes field monitoring of the disposal sites as well as additional tasks that contribute to the overall management of the DAMOS Program. Operated by the US Army Corps of Engineers, New England Division (NED), DAMOS has been in existence since 1977. The last summary of the DAMOS Program was published in 1984. This report summarizes the program efforts from 1985 to 1990.

The DAMOS Program monitors nine offshore dredged material disposal sites from Long Island Sound to the Gulf of Maine: Central Long Island Sound Disposal Site (CLIS), Western Long Island Sound Disposal Site (WLIS), New London Disposal Site (NLDS), Cornfield Shoals Disposal Site (CSDS), Portland Disposal Site (PDS), Rockland Disposal Site (RDS), Cape Arundel Disposal Site (CADS), Massachusetts Bay Disposal Site (MBDS), Buzzards Bay Disposal Site (BBDS), and several special-use sites. In 1990 field work was conducted at CLIS, WLIS, NLDS, CSDS, CADS, MBDS, and BBDS. Additional nonfield work has included verification of the DAMOS Capping Model, management of the DAMOS database, integration of the Geographic Information System (GIS) with dredging and disposal site information, and the development of a tiered monitoring plan by the DAMOS Technical Advisory Committee (TAC).

Continuous monitoring of the nine dredged material disposal sites has shown that, in most cases, (1) disposal mounds are stable over time, (2) there is minimal transport of material away from the site, and (3) organisms did not take up significant levels of contaminants. Stable disposal mounds with no offsite transport are found at containment sites. Eight of the nine disposal sites are containment sites where material is expected to stay in the area. The only noncontainment, or dispersive, site is CSDS. At CSDS, material is expected to leave the site, and it is managed so as not to adversely effect the marine environment.

Site-specific adjustments in management have been needed at NLDS since 1984. At NLDS, a capping project required dredged material to be spread evenly over an existing mound. Multiple points on the mound were chosen as target release points with the plan that the randomness inherent in the disposal operation would result in an even distribution of the sediment. The cap material formed discrete mounds with less spreading over the base mound than expected. As a result of this finding, additional material was directed to this location to augment the cap.

## EXECUTIVE SUMMARY (cont.)

---

Recent nonfield DAMOS efforts (Capping Model, database, GIS, and tiered monitoring) have provided a better understanding of DAMOS management requirements. The DAMOS Capping Model, designed to predict the size and shape of a dredged material mound, provides a reliable estimate of the dredged material mound if the disposal operation is tightly controlled. Once dredged material is in place, the DAMOS database, accessed through the INFORMIX interface on the PC-based system, can provide information on the dredged material and disposal operations. Given the ongoing generation of information by DAMOS field work, the tiered strategies developed by the TAC were designed to prevent significant adverse impacts on the environment by providing early warnings for such occurrences.

Field observations at the DAMOS dredged material disposal sites, predictive modeling, tiered monitoring, and the ability to extract and present data from a database combine to provide an effective management plan for dredged material disposal in New England waters. This summary of the DAMOS Program from 1985 to 1990 outlines each aspect of the program and presents highlights of the most recent field data.