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of Engineers

## DREDGING OPERATIONS TECHNICAL SUPPORT PROGRAM

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# METHODS OF DETERMINING THE LONG-TERM FATE OF DREDGED MATERIAL FOR AQUATIC DISPOSAL SITES

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<p>To manage an open-water dredged material disposal site, it is essential to know the physical capacity of the site (i.e., how much material should be dumped at the site and what the capability is of the material to remain onsite under various environmental conditions of waves and currents). Long-term management of aquatic disposal sites also requires an understanding of how much area the disposal mound encompasses, when the mound encroaches on the site boundaries, how much material leaves the site, and perhaps where the material ultimately goes.</p> <p>The purpose of this report is to identify methods that can be used to develop information concerning the long-term fate of dredged material disposed at aquatic sites. The methods are broken into two major categories: (a) methods of analysis for mound resuspension and dynamics and (b) methods of analysis for transport and redeposition of mound</p> <p style="text-align: right;">(Continued)</p>					
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Aquatic disposal sites	Sediment resuspension
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Dredged material	Site capacity
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material. For each of these two categories, four basic approaches are reviewed:  
(a) steady-state analytical methods; (b) time- and rate-dependent analytical methods;  
(c) physical and numerical modeling; and (d) measurements through field and laboratory  
studies.

Other sections of the report are devoted to discussions of physical processes and  
study recommendations. Additional details of the methods of analysis are provided in four  
appendixes.