



US Army Corps  
of Engineers®

Engineer Research and  
Development Center

# Dredging Operations Technical Support Program

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## Problem

A significant investment in research and development activities relevant to the navigation mission of the Corps of Engineers is made on an annual basis. Such investments have been made for decades, and have cumulatively have created a vast body of knowledge across a spectrum of engineering and scientific topics. This body of knowledge is expanding continuously, posing challenges for those employed in the navigation realm or simply interested in technical advances to stay abreast of the latest developments. The Dredging Operations Technical Support (DOTS) Program has sought to fulfill this critical need since 1979. Initially dedicated to technology transfer functions and services specifically related to dredging and dredged material placement processes, DOTS now covers the gamut of issues relevant to planning, construction, and maintenance of navigation infrastructure. This expanded role is currently in a transition phase, and will grow in span of topical coverage in succeeding years.

## Description of Program Functions

*Technical Responses:* A primary objective of DOTS is to expeditiously link technical expertise in the U.S. Army Engineer Research and Development Center (ERDC) with users both within USACE and the navigation community at large. DOTS provides support in order to facilitate resolution of emerging technical problems or conflicts by applying the results of the latest R&D efforts and bringing to bear the expertise of dedicated scientists and engineers within the laboratory system. Responses to Corps field personnel can be quickly initiated simply by contacting the program manager (see below for contact information) via email or telephone.

*Training:* DOTS supports training exercises targeted for new and reassigned Corps employees, as well as personnel in both federal and state regulatory agencies with oversight of navigation projects. Training materials are openly shared with large audiences at regional events offered at no cost to the user. Training can extend to technical responses to individual Corps offices, such as hands-on training with Corps-sponsored numerical modeling tools.

*Liaisons:* DOTS supports outreach functions to collaborative agencies and organizations. For example, DOTS contributes annually to the National Academy of Science Marine Board. Recent efforts to bridge gaps and improve cooperation between the Corps and the bird conservation community have been conducted under the DOTS umbrella. DOTS fulfills obligations to international treaty organizations by maintaining and updating databases related to placement of dredged material. DOTS also supported implementation of a standardized protocol for reporting costs of compliance with the Endangered Species Act, as mandated by Congress.

*Access:* DOTS continues to foster transition into web-based resources (<http://el.erd.usace.army.mil/dots>) that provide efficient connections to the existing and growing body of navigation-relevant technical knowledge. DOTS serves as an archive and clearinghouse for digitized documents of otherwise difficult to find products of past and present R&D programs. A wide variety of unique databases and web-based tools specific to dredging processes are found on the DOTS website. Examples include the USACE Sea Turtle Data Warehouse and the Automated Dredging and Disposal Alternatives Modeling System (ADDAMS). Links to sources for technical documents, guidance documents (e.g., relevant Engineer Manuals), and outreach materials are found on the DOTS website.

**New Products and Services**

In Fiscal Year 2009 over forty technical responses were completed to numerous Corps field offices. Examples of the breadth of topic areas included technical advice on beneficial uses of dredged material for habitat restoration, advice on problematic sedimentation issues in waterways and coastal inlets, reviews of water quality compliance monitoring efforts in several Districts, advice on stability issues pertaining to navigation structures, and application of remote sensing techniques to detect endangered species in proximity to dredging operations.

The latest in a series of regional training exercises was held in Detroit, Michigan, with over 100 attendees.

Critical support was provided to multiple Districts and Divisions in coordinating incidental take limits of sea turtles by hydraulic hopper dredges in the Gulf of Mexico and along the Atlantic seaboard.

**Potential Users**

DOTS has a forty year record of serving the Corps's dredging and broader navigation missions. Users span the entire array of Federal and state agencies, industry, port authorities, NGOs, and other stakeholders involved in these critical missions.

**Projected Benefits**

The DOTS Program has consistently received accolades from users for providing technical assistance that proved crucial in avoiding and resolving conflicts surrounding many aspects of dredging and navigation infrastructure projects. Activities promoted by DOTS have fostered cooperation and collaboration among entities with divergent interests in the navigation community. In the immediate future DOTS will expand its applicability and utility to the navigation community.

**ERDC Program Manager**

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