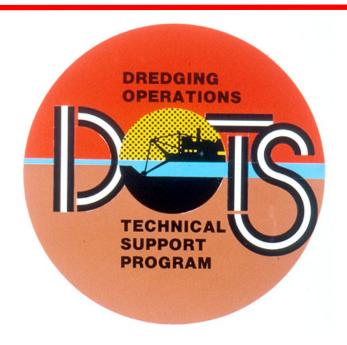
Introduction to DOTS



Dr. Doug Clarke Douglas.G.Clarke@usace.army.mil





Introduction to DOTS

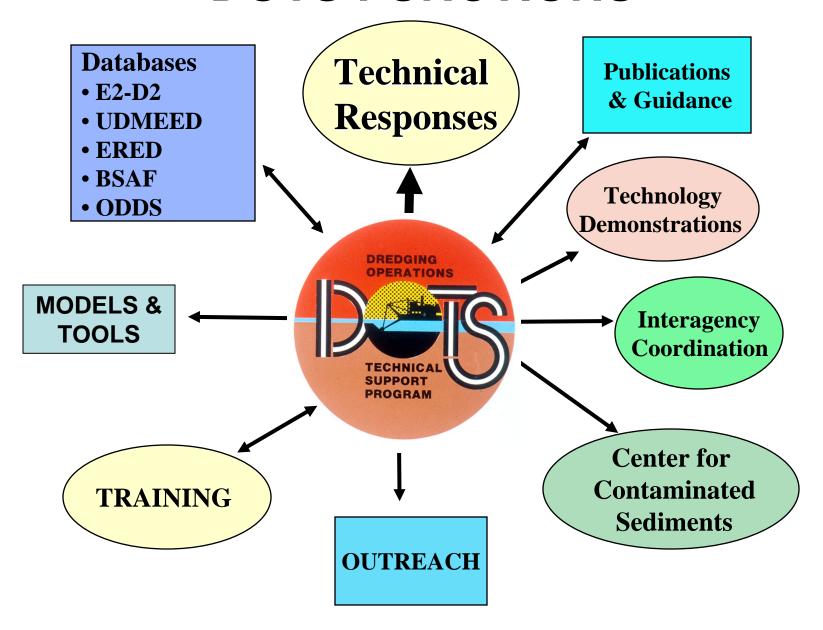
Dredging Operations Technical Support Program

http://el.erdc.usace.army.mil/dots





DOTS FUNCTIONS





Direct Technical Support

A Response Can.....

- be initiated by letter or e-mail request
- consist of up to 2 weeks of scientist or engineer time & travel expenses
- range from a phone call "one stop", to a technology demo, to a site visit
- result in products such as an MFR, technical document, or expert testimony



Activities

Training

- Dredged Material Assessment and Management Seminar
 - San Francisco, 2002
 - Denver, 2003
 - Cleveland, 2004
 - Boston, 2005
 - Sacramento, 2008

Dredging Operations

Technical Support Program

U.S. Army Corps of Engineers | Engineer Research & Development Center | Environmental Laboratory



What's New

Research

Databases

Beneficial Uses of Dredged Material

Publications

Guidance Documents

Models

Center for Contaminted Sediments

Expertise/Contacts /Research Teams

Training

Dredging Resources

Education Center

Related Sites

ACCORD

Program Manager: <u>Dr. Douglas Clarke</u> Program Monitor: <u>Mr. Joseph Wilson</u>

The Dredging Operations Technical Support Program, known as DOTS, provides direct environmental and engineering technical support to the U.S. Army Corps of Engineers Operations and Maintenance (O&M) dredging mission. Technology transfer activities have supported diverse field needs for years and have directly benefited O&M dredging operations throughout the United States.



Take a Trip Through a Dredge!

Search

DOER



Dredging Operations and Environmental Research

U.S. Army Corps of Engineers | Engineer Research and Development Center | Warning

Research

Links



DOER Focus Areas

Dredged Material Management Environmental Resource Protection Operations Technologies Risk

Technology Transfer

Reports
Technical notes
Bulletins
Research briefs

Research Team

Tools

Data Warehouses/Databases
Dredging Calculators and Screening
Tools
Flow Fields Around Dredge Intakes
Models
Animations

Related Wes Links

Coastal and Hydraulics
Laboratory/Dredging

Point of Contact

Program Manager: <u>Todd S. Bridges</u>, Ph.D. Senior Scientist (Environmental Sciences) Assistant Program Manager: <u>Edmond Russo</u>, Research Hydraulic Engineer (CHL)

The Dredging Operations and Environmental Research (DOER) Program supports the U.S. Army Corps of Engineers Operation and Maintenance Navigation Program. Research is designed to balance operational and environmental initiatives and to meet complex economic, engineering, and environmental challenges of dredging and disposal in support of the navigation mission. Research results will provide dredging project managers with technology for cost-effective operation, evaluation of risks associated with management alternatives, and environmental compliance.

USACE Program Monitors

• <u>James Walker</u>, • <u>Joseph R.Wilson</u>, Navigation Business Line Manager Environmental





- Technical Notes
- Technical Reports
 - DOER Active



Dredging Operations Technical Support

Publications

| U.S. Army Corps of Engineers | Engineer Research and Development Center | Environmental Laboratory | Warning |

Environmental Effects & Dredging and Disposal (E2D2)

Searchable publications reference database containing reports, journal articles, conference proceedings, and publications available from world-wide sources. The database is updated continuously and contains nearly 4,000 references, including many abstracts.

Technical Reports

Dredging Operations and Environmental Research (DOER)

Long-Term Effects of Dredging Operations (LEDO)

Environmental Effects of Dredging Program Archived, Former Programs:

Dredged Material Research Program (DMRP): List | Summary reports online

Dredging Research Program (DRP): List | Summary reports online

Field Verification Program (FVP): Summary reports online

• Research Briefs (For optimal printing of briefs, set page margins to Top 0.4, Left and Right 0.2, and Bottom 0.0.)

Influence of Food Ration on Sediment Toxicity in Neanthes arenaceodentata (Annelida: Polychaeta)

Dredge Bucket Comparison Demonstration at Boston Harbor

 Information Exchange Bulletin Dredging Research

Technical Notes Online

Dredging Operations and Environmental Research (DOER)

Environmental Effects of Dredging Program (Results from FVP, LEDO, DOTS and prior programs)

Dredging Research Program (DRP) (Archive)

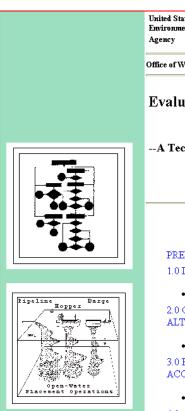
Back to DOTS homepage | Back to Center for Contaminated Sediments

Comments / Whom to contact Updated May 11, 2001

- DMRP, FVP, LEDO Archived
- Dredging Research Bulletin
- Research Briefs

GUIDANCE DOCUMENTS

- Engineer manuals
- Capping
- Testing Manuals
- Leachate Guidance



United States Environmental Protection Agency

Department of The Army U.S. Army Corps of Engineers EPA842-B-92-008 November 1992

Office of Water (4504F)

Evaluating Environmental Effects of Dredged Material Management Alternatives

-- A Technical Framework





TABLE OF CONTENTS

PREFACE

1.0 INTRODUCTION

- Applicability, background, and regulatory overview
 2.0 OVERVIEW OF DREDGING OPERATIONS AND MANAGEMENT ALTERNATIVES
- Dredging equipment and techniques, transportation and placement
 3.0 FRAMEWORK FOR DETERMINING ENVIRONMENTAL
 ACCEPTABILITY
- Project requirements, identification, screening, and selection of alternatives
 4.0 ASSESSMENT OF OPEN-WATER DISPOSAL

- Technical Framework
- Sediment Quality Guidelines



DATABASES

- Environmental Effects & Dredging and Disposal Literature Database (E2-D2)
- Ocean Disposal Database (ODD)
- Biota Sediment Accumulation Factor Database (BSAF)
- Environmental Residue-Effects Database (ERED)
- Upland Dredged Material Environmental Effects Database (UDMEED)
- Sea Turtle Data Warehouse (STDW)

E2-D2

- Query
- Disclaimer
- Introduction
- Points of Contact
- DOTS
- DredgeLine



Environmental Effects & Dredging and Disposal

U.S. Army Corps of Engineers | Engineer Research and Development Center | Environmental Laboratory | Search EL

Welcome to E2-D2 (Environmental Effects & Dredging and Disposal). E2-D2 is a literature database comprised of technical references covering a diverse range of topics related to environmental effects of dredging and dredged material disposal projects. The database focuses on broad topics such as beneficial uses of dredged material, contaminated sediments, and effects of sediment resuspension and sedimentation on aquatic organisms and their habitats. Much of the technical literature pertaining to dredging and dredged material disposal is found in the "gray" literature, i.e., non-peer-reviewed federal or state agency publications, or proceedings of symposia and specialty conferences. Many other studies of dredging operations are documented in the form of unpublished contract reports frequently held in project files rather than libraries or archives.

(Click here for more information)

Begin Searching



(Your Source For Biota-Sediment Accumulation Factor and Lipid Data)

Technical Point of Contact: Mr. Charlie Lutz E-mail

U.S. Army Corps of Engineers | Engineer Research and Development Center | Environmental Laboratory | Search EL



BSAF Data

- ♦ By Organism
- By Chemical
- ◆ Benthic BSAFs with Statistics

Lipid Data Reference

- By Organism
- Search For A Reference
- Display All References

BSAF Background Information

Environmental Residue – Effects Database (ERED)



Upland Dredged Material Environmental Effects Database (UDMEED)

U.S. Army Corps of Engineers | Engineer Research and Development Center | Environmental Laboratory

The U.S. Army Corps of Engineers Upland Dredged Material Environmental Effects Database (UDMEED) is a compilation of data, taken from the literature, where biological effects and/or tissue contaminant concentrations were measured in the same organism either in contact with, or commonly associated with, dredged material deposited in an upland situation.

- UDMEED Main Search Page
- Introduction
- Bibliography
 - Technical POCs:

Dr. Elly P.H. Best

Charles H. Lutz

Support

Set Preferences



Environmental Laboratory

- Data Coverage
- Application for Management of Dredged Material in Upland Sites
- ▶ The Nature of Toxicological Effects
- Interpreting Bioaccumulation Data
- Acknowledgements





Dredging Operations Technical Support (DOTS) Program

Webdate: February 20, 2004 Comments / Whom to contact Privacy and Security Notice





USACE Sea Turtle Data Warehouse



Home

Introduction

Annual Allowed Takes

View Data By

- · Divisions
- Districts
- Projects
- Turtle Species

Total Cubic Yards

- Fiscal Year Table
- Fiscal Year Graph

Total Turtle Takes

- Takes Graphs
- Fiscal Year
- Calendar Year

Advanced Data Reports

- Takes
- Water Temp

References

Observer Forms

U.S. Army Corps of Engineers | Engineer Research and Development Center | Environmental Laboratory



Maintenance of inland and intracoastal waterways for navigation is essential for national and international trade, job creation, and national security. These waterways also provide hydropower, flood protection, municipal water supply, agricultural irrigation, recreation, and regional development. The US Army Corps of Engineers' role in maintaining and improving these waterways began in 1824 and, today, the Corps maintains over 12,000 miles (19,200 km) of waterways throughout the United States.

Several types of dredges are typically used for excavating sediments to construct new waterways or maintain navigation depths in channels. Cutterhead pipeline, hopper, and mechanical dredges are the three primary types used throughout U.S. waterways. The type used depends on factors such as sediment type, location, environmental considerations, and wave conditions. *More* ...

Dredging Operations

Technical Support Program

U.S. Army Corps of Engineers | Engineer Research & Development Center | Environmental Laboratory



What's New

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Training

Dredging Resources

Education Center

Related Sites

ACCORD

Models

ADDAMS

Set of continually evolving, state-of-the-art, computer-based tools that will increase the accuracy, reliability, and cost-effectiveness of dredged material management activities in a timely manner.

- Fact sheet
- Demo

TrophicTrace: A Tool for Assessing Risks from Trophic Transfer of Sediment-Associated Contaminants

TrophicTrace is an ExcelTM add-in that provides a spreadsheet tool for calculating the potential human health and ecological risks associated with bioaccumulation of contaminants in dredged sediments.



Environmental Laboratory



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Publications

- Technical Reports
- Technical Notes
- Technical Notes Companion
- Journal Articles
- Bulletins
- Conference
- Other Reports

Fact Sheets

- · Research
- · Project
- ERDC

Models

- · Aquatic Plant
- Dredged Material
- Health Risk Assessment
- Landfill
- Water Quality
- Other

Information Systems

Dredged Material Disposal Management Models

Model	Application Programs		Description	Download Self- extracting, Executable files	Download Document Files
ADDAMS: (readme.1st) (Info) (Y2K Compliance) POC: Paul Schroeder	C D F	Settling Test Tool	Tool to Aid Conduct of Settling Test and Setup	SetForm.xls	SetPro.pdf
		Windows CDF Version 1.0	Integrated CDF Design Module (SETTLE and DYECON)	Not Yet Available	
		DOS SETTLE Version 3.0	Design of Confined Disposal Facilities (CDFs) for Suspended Solids Retention and Initial Storage Requirements	zsettle.exe	ee-06-18.pdf
		DOS DYECON Version 3.0	Determination of Hydraulic Retention Time and Efficiency of CDFs	zdyecon.exe	ee-06-17.pdf
		CDFATE Version 1.0	Computation of Mixing Zone Size or Dilution for Continuous Discharges	zcdfate.exe (DOS Version) zcdfatew.exe (Windows Version)	cdfate.pdf
		PSDDF Version 2.1	Evaluation of Consolidation, Compression, and Desiccation of Dredged Fill for Determining Long-Term Storage Requirements	zpsddf.exe	View <u>on-line</u> or download <u>psddf.exe</u>
	E F	Windows EFFLUENT Version 1.0 (1/07/00)	Combined effluent pathway evaluation module (EFQUAL and LAT-E).	zefluent.exe	





Help

Create Output

Chemicals

Environment

Invertebrates

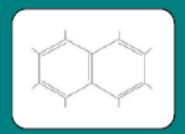
Fish

Human Exposure

Mammals

Avian

PCBs (Total)



Add New

Edit

Delete

Home

Detail

Child Angler



Add New

Edit

Delete

Home

Detail

Summer Flounder



Add New

Edit

Defete

Home

Detail



Capabilities
Expertise
Guidance Documents
Technology Transfer
Case Studies & Projects
Related Sites

Local related links:

- · DOER
- DOTS
- · Environmental Chemistry
- Hazardous Waste

Center for Contaminated Sediments

U.S. Army Corps of Engineers | Engineer Research and Development Center
Environmental Laboratory | Search EL

Todd S. Bridges, Ph.D., Director

The U.S. Army Corps of Engineers Center for Contaminated Sediments serves as a clearinghouse for technology and expertise concerned with contaminated sediments. The Center's mission is to advance the development and application of sound science and engineering principles and technology in the assessment and management of contaminated sediments. The Center pursues this mission through sponsoring development of new initiatives and innovative technologies, organizing and sponsoring technical workshops and symposia, and working on contaminated sediment projects with other organizations within the Corps, Department of Defense, other federal and state agencies, academia, and the private sector.

With more than two decades of experience in various aspects of identifying, delineating, assessing, remediating, and managing contaminated sediments, Corps engineers and scientists are on the cutting edge of research in this important area. This expertise is a direct result of research and development activities funded in support of the Corps' navigation mission and reimbursable work related to site assessment and cleanup for other elements within the U.S. Department of Defense, the U.S. Environmental Protection Agency, and others.

CCS support to the Superfund Sediment Resource Center

Work for Others | What's New

Educational Outreach

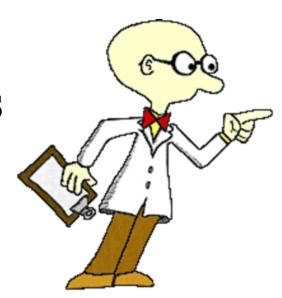


Objectives

- Promote understanding of navigation and dredging
- Create a Corps-Classroom connection

Target Users

- K-12+ Students
- Teachers
- Home Schoolers
- Corps Employees



Site Components

- Unit lessons
- Classroom activities
- Demos and Experiments
- Interactive quiz games
- Young Engineer's Club
- Corps and government links
- Teacher resources
- Education links



http://el.erdc.usace.army.mil/dots

Web Master – Ginny Dickerson, 601-634-4261

- E2-D2 Doug Clarke, 601-634-3770
- ODD Charlie Lutz, 601-634-2489
- BSAF Charlie Lutz, 601-634-2489
- ERED Charlie Lutz, 601-634-2489
- Trophic Trace Igor Linkov, 617-233-9869
- UDMEED Elly Best, 601-634-4246
- ADDAMS Models Paul Schroeder, 601-634-3709
- Outreach Site Dena Dickerson, 601-634-3772
- T&E Species Dena Dickerson, 601-634-3772