

Introduction to DOTS



Dr. Doug Clarke

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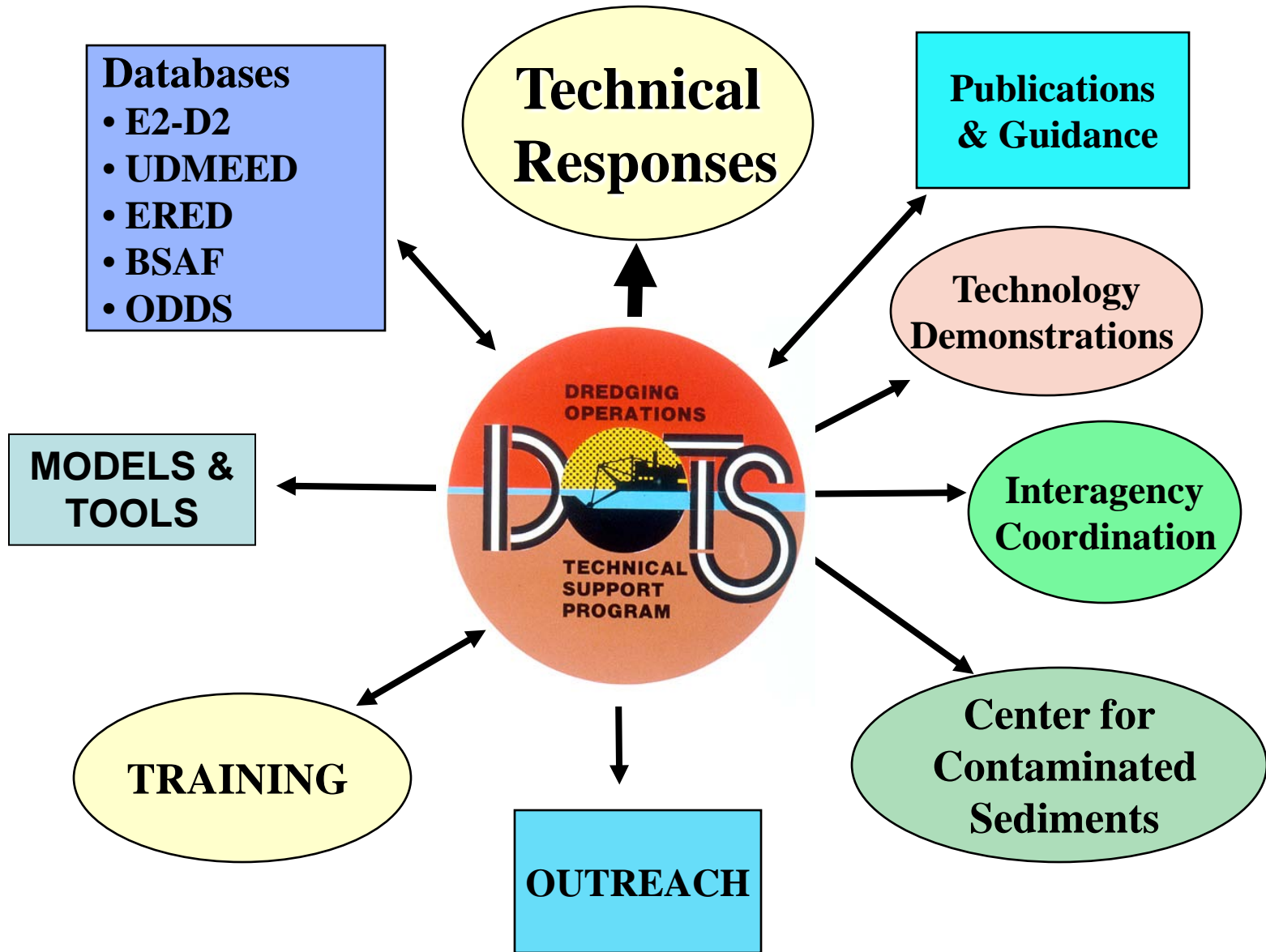
Introduction to DOTS

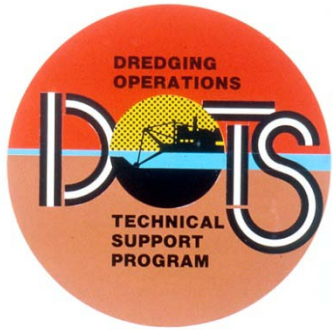
Dredging Operations Technical Support Program

<http://el.erdcl.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**
 - **Detroit, 2010**

Dredging Operations Technical Support Program

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



Program Manager: [Dr. Douglas Clarke](#)

Program Monitor: [Mr. Joseph Wilson](#)

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Dredged Material](#)

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Sediments](#)

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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.

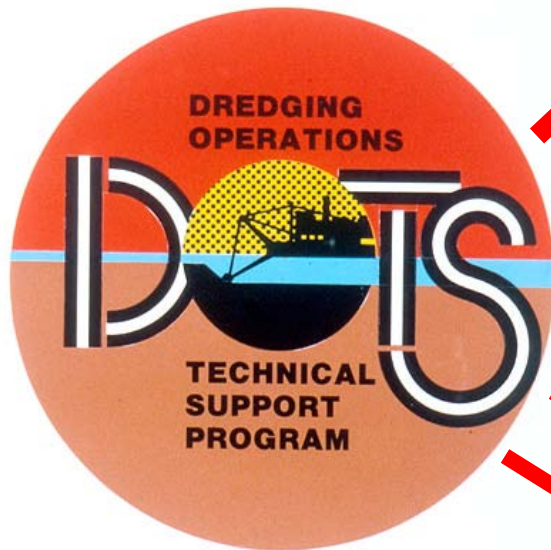


[Take a Trip Through a Dredge!](#)

Search

DOER

Research Links



Dredging Operations and Environmental Research

[U.S. Army Corps of Engineers](#) | [Engineer Research and Development Center](#) | [Warning](#)

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: [Todd S. Bridges](#), Ph.D.
Senior Scientist (Environmental Sciences)
Assistant Program Manager: [Edmond Russo](#),
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

- [James Walker](#),
Navigation Business Line Manager
- [Joseph R. Wilson](#),
Environmental

Local intranet

DMRP
DRP
FVP
LEDO

PUBLICATIONS

- Technical Notes
- Technical Reports
 - DOER – Active
 - DMRP, FVP, LEDO - Archived
- Dredging Research Bulletin
- Research Briefs



Dredging Operations Technical Support

Program

Publications

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

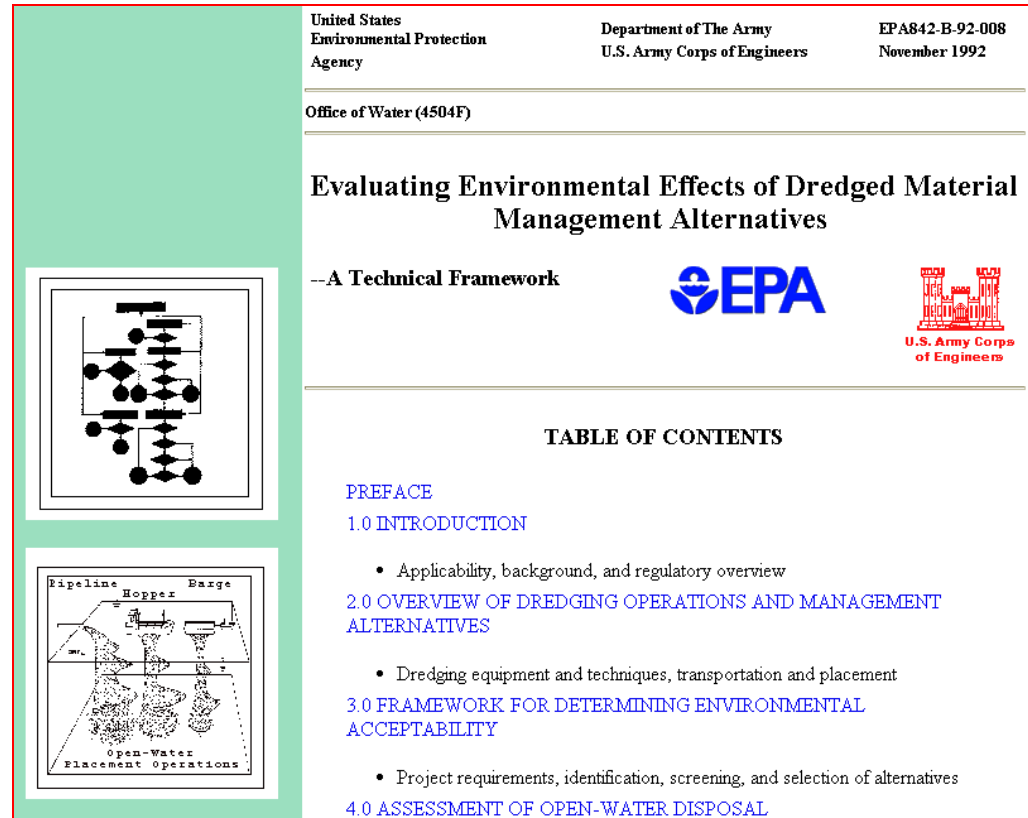
- **Environmental Effects & Dredging and Disposal (E2D2)**
Searchable publications reference database containing reports, journal articles, conference proceedings, and publications available from world-wide sources. The database is updated continuously and contains nearly 4,000 references, including 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

GUIDANCE DOCUMENTS

- Engineer manuals
- Capping
- Testing Manuals
- Leachate Guidance
- 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](#)

[Work for Others](#) | [Technology Transfer](#) | [What's New](#)

BSAF Database

(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

- ◆ [By Organism](#)

Reference

- ◆ [Search For A Reference](#)
- ◆ [Display All References](#)



[BSAF Background Information](#)

Environmental Residue – Effects Database (ERED)

The Environmental Residue-Effects Database (ERED)

[U.S. Army Corps of Engineers](#) | [Engineer Research and Development Center](#) | [Environmental Laboratory](#) | [Search EL](#)

The U.S. Army Corps of Engineers/U.S. Environmental Protection Agency Environmental Residue-Effects Database (ERED) is a compilation of data, taken from the literature, where biological effects (e.g., reduced survival, growth, etc.) and tissue contaminant concentrations were simultaneously measured in the same organism. Currently, the database is limited to those instances where biological effects observed in an organism are linked to a specific contaminant within its tissues.

Technical Points of Contact: [Dr. Todd Bridges E-mail](#) [Charlie Lutz E-mail](#)

- ▶ [Quality Assurance/Quality Control Issues](#)
- ▶ [The Nature of Toxicological Effects](#)
- [User Directions](#)
- [Interpreting Bioaccumulation](#)
- [Data Coverage](#)
- [Acknowledgments](#)
- [Dredging Applications](#)

Last Data Update - November 2004

Best Viewed With Internet Explorer 4, SP 2 or higher



[Search the ERED](#)

(No Plug-in needed)



- [ERED Home](#)
- [Search ERED](#)
- [Preferences](#)
- [Bibliography](#)
- [Help](#)
- [Comments](#)

[QUERY](#) [SUMMARY](#) [DETAIL](#) [GRAPH](#) [REFERENCES](#)

Search ERED

Species Scientific Name		Species Common Name	
<input type="text" value="-- All --"/>		<input type="text" value="-- All --"/>	
Analyte Name		<input type="text" value="-- All --"/> <input type="button" value="Synonyms"/>	
<input type="text" value="-- All --"/>		<input type="text" value="-- All --"/>	
Analyte Chemical Class		CAS No	
<input type="text" value="-- All --"/>		<input type="text" value="-- All --"/>	
Effect Class	Toxicity Measure	Exposure Route	
<input type="text" value="-- All --"/>	<input type="text" value="-- All --"/>	<input type="text" value="-- All --"/>	
Species Body Part	Species Start Lifestage		
<input type="text" value="-- All --"/>	<input type="text" value="-- All --"/>		
Species TSN Code			
<input type="text" value="-- All --"/>			

ERED Contains

Results	5955
Studies	1106
Species	239
Analytes	270
Effects	15
Endpoints	72

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](#)

► [Data Coverage](#)

► [Application for Management of Dredged Material in Upland Sites](#)

► [The Nature of Toxicological Effects](#)

► [Interpreting Bioaccumulation Data](#)

► [Acknowledgements](#)

Technical POCs:

Dr. Elly P.H. Best

Charles H. Lutz

[Support](#)

[Set Preferences](#)



Environmental Laboratory



[Dredging Operations Technical Support \(DOTS\) Program](#)

Webdate: February 20, 2004

[Comments / Whom to contact](#)

[Privacy and Security Notice](#)





US Army Corps
of Engineers

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

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

What's New

Research

Databases

Beneficial Uses of
Dredged Material

Publications

Guidance
Documents

Models

Center for
Contaminated
Sediments

Expertise/Contacts
/Research Teams

Training

Dredging Resources

Education Center

Related Sites

ACCORD



Databases

Publications

- [Technical Reports](#)
- [Technical Notes](#)
- [Technical Notes Companion](#)
- [Journal Articles](#)
- [Bulletins](#)
- [Conference](#)
- [Other Reports](#)

Fact Sheets

- [Research](#)
- [Project](#)
- [ERDC](#)

Models

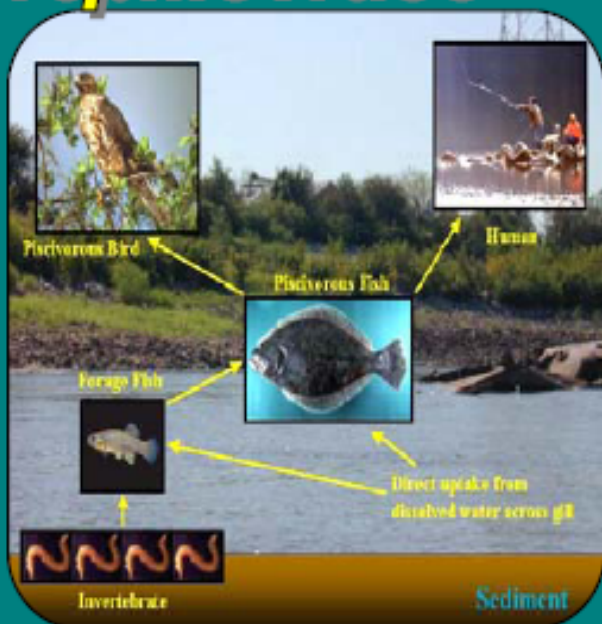
- [Aquatic Plant](#)
- [Dredged Material](#)
- [Health Risk Assessment](#)
- [Landfill](#)
- [Water Quality](#)
- [Other](#)

Information Systems

Dredged Material Disposal Management Models

Model	Application Programs	Description	Download Self-extracting, Executable files	Download Document Files
ADDAMS: (readme.lst)  (Info) (Y2K Compliance) POC: Paul Schroeder	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	zcd fate.exe (DOS Version) zcd fatew.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 on-line or download psddf.exe
EFFLUENT (1/07/00)	Windows EFFLUENT Version 1.0	Combined effluent pathway evaluation module (EFQUAL and LAT-E).	zeffluent.exe	

Trophic Trace



Help

Create Output

Chemicals

Environment

Invertebrates

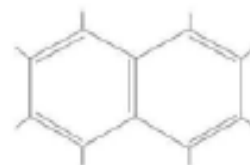
Fish

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

Delete

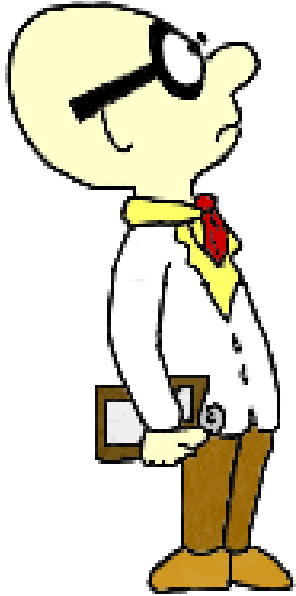
Home

Detail

Educational Outreach

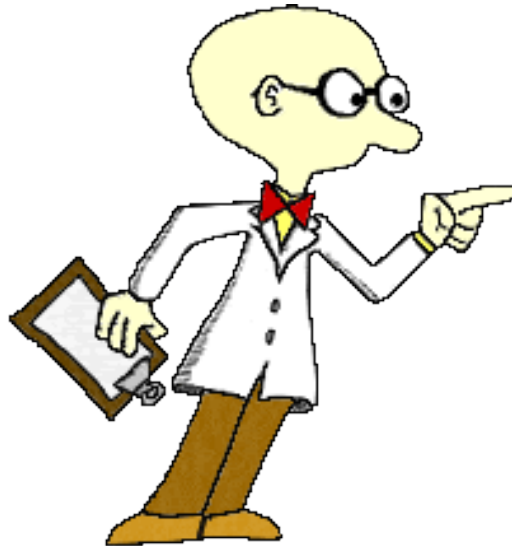
Objectives

- 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 – Charlie Lutz, 601-634-2489**
- **ADDAMS Models – Paul Schroeder, 601-634-3709**
- **Outreach Site - Dena Dickerson, 601-634-3772**
- **T&E Species – Dena Dickerson, 601-634-3772**