

Thin Layer Placement of Dredged Material – A Web-Based Repository of Resources and Case Studies



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Wild Fyre Group



Outline

- Definition
- Project Need
- Project Objectives
- TLP Website
- TLP GIS-based Map Portal
- Case Studies Demo
- Future Actions



Definition of Thin Layer Placement

- Purposeful placement of dredged material for functional/ecological benefit
- Depends on Project Objectives
 - ▶ Placement depth not restrictively defined
 - ▶ Wetlands nourishment ~ 6 inches thick
 - ▶ Mobile Bay sediment budgeting – 6 to 12 inches
 - ▶ IJburg island creation > 12 inches



Photo from Steve Miller Ellicott Dredges LLC



IJburg – Island Creation (de Leeuw et al. 2002)



Mobile Bay



TLP Website and Database - Project Need

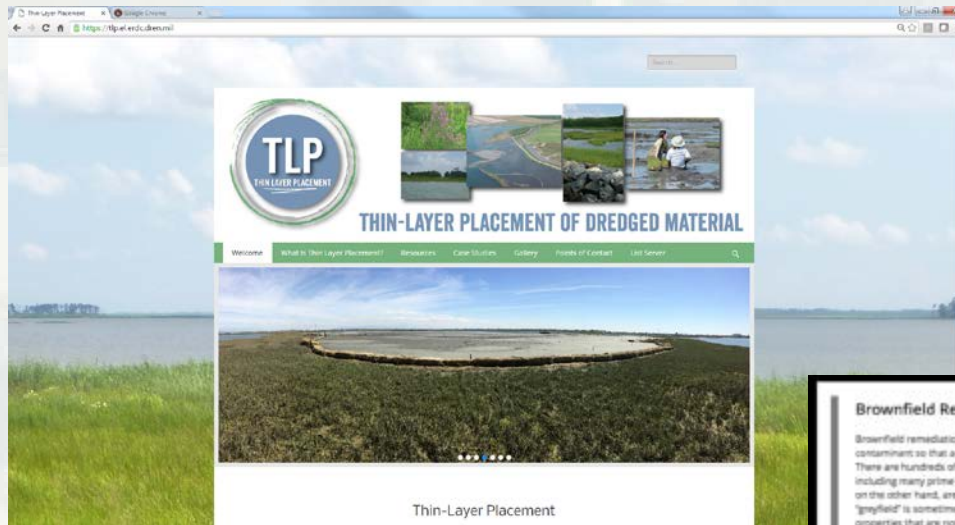
- Information and case studies for TLP not well documented
- Little or no technical guidance available for TLP design or implementation
- Multiple knowledge gaps
- An accessible, consolidated, living information resource is needed



Photo from Steve Miller Ellicott Dredges LLC

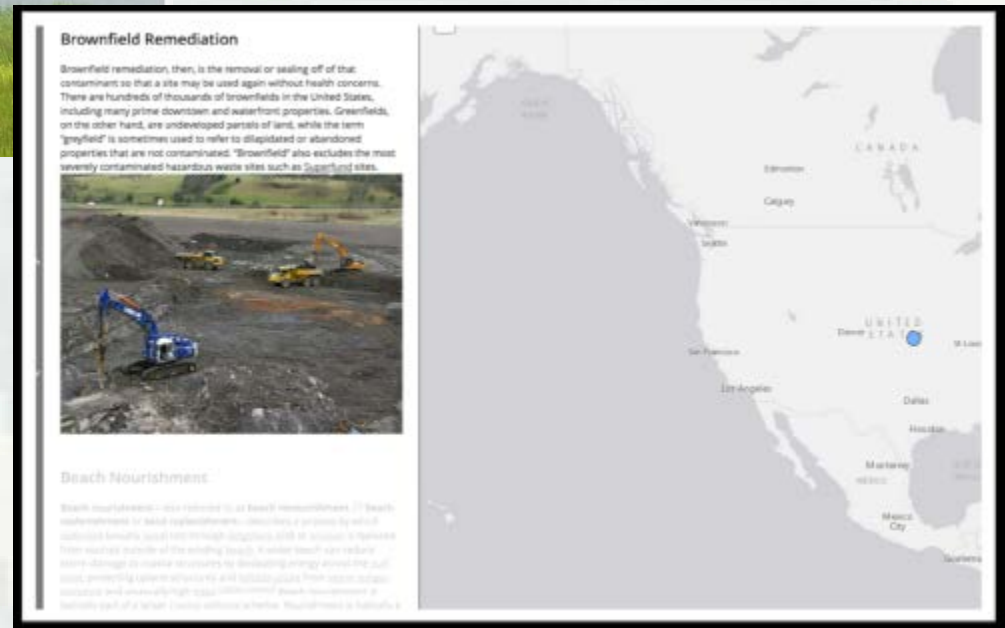


TLP Tools



Website

Map Portal



Website and Database Primary Objectives

- Aggregate the current state of knowledge regarding thin layer placement of dredged material
- Consolidate literature/references pertaining to all project phases – from design to post-construction monitoring
- Provide centralized, accessible, and consolidated resource for case studies
- Provide a basis for guidance development



Website and Database

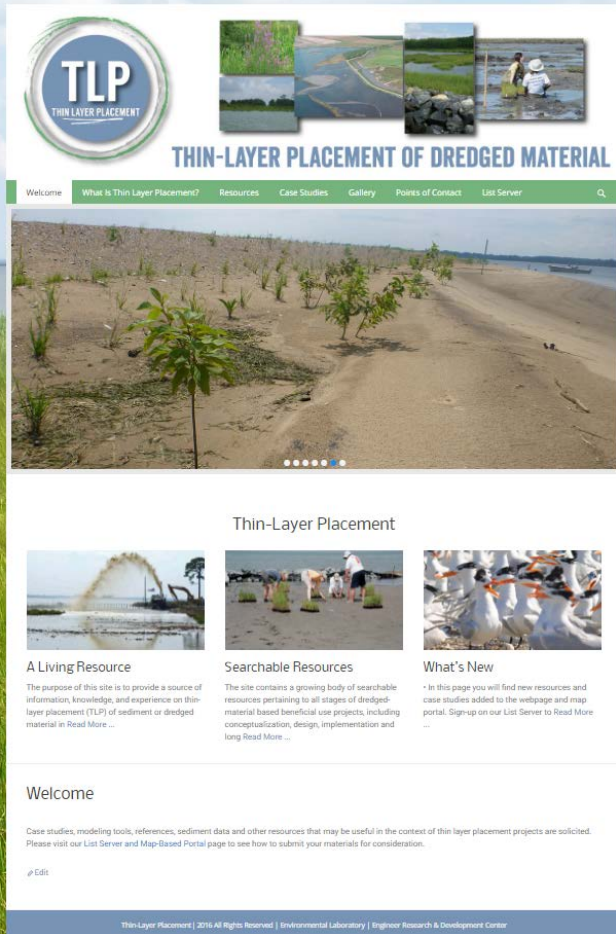
Secondary Objectives

- Provide a vehicle for collection of case studies worldwide
- Create an engaging and user friendly product
- Create a database that was compatible with the USACE data integration initiative

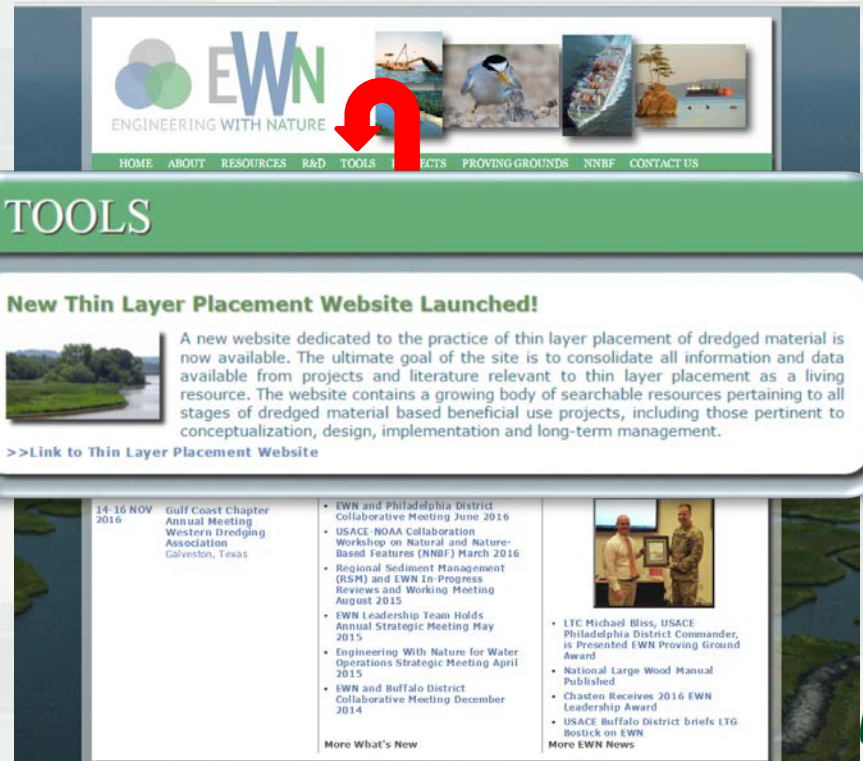


TLP Website - Access

<https://tlp.el.erdc.dren.mil/>



www.engineeringwithnature.org/



TLP Map Portal

Key Features of the Redesign:

- ▶ **User-centered Design – intuitive and easy-to-use**
 - A more intuitive, easy-to-use interface
- ▶ **Login Options: LinkedIn Credentials or Email Log-in**
 - Login using email and password
 - Broader Access for Corps and non-Corps users
 - Connect your LinkedIn account to pull-in your professional profile
- ▶ **A Community of TLP Professionals**
 - Create a user profile and populate your professional information using LinkedIn or the user profile dashboard



TLP Map Portal

Key Functionality:

► Draw Polygons: Unlimited Points vs. Setting a point

- Easily draw your project area by plotting unlimited points. All geo-location information is captured including dimensions and longitude/latitude, etc.

► Story Maps: Upload Rich Media and Documents

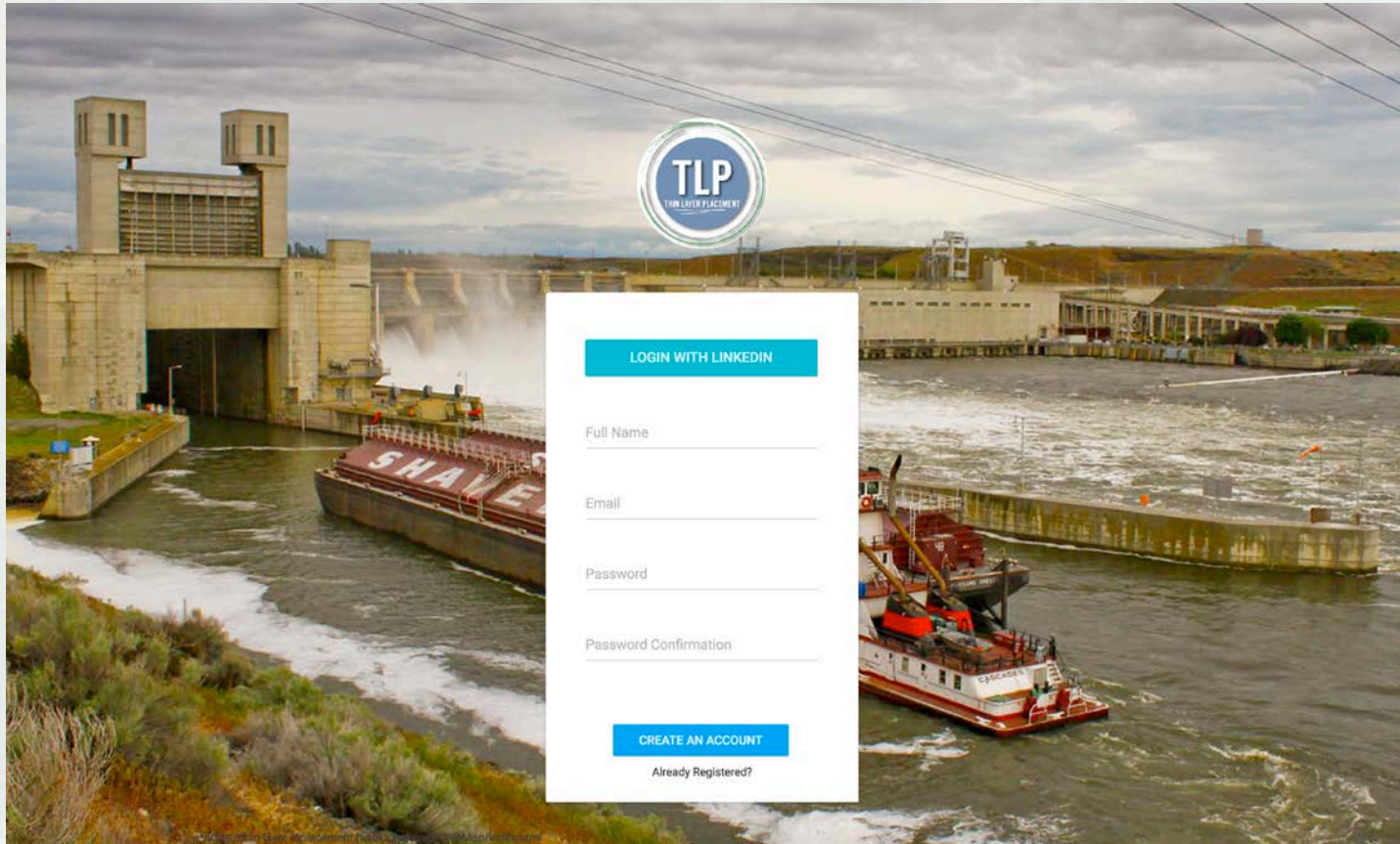
- Easily add and remove photos, video links, reports, and other documents from your case study project information area

► Import/Export Data: Easily Upload & Access

- The **Application Programming Interface (API)**: Easily share data for any TLP case study (or all) with approved web applications. Pull raw data for any case study via our online API web service



TLP Map Portal



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TLP Map Portal

The screenshot displays the TLP Map Portal interface. At the top, there are tabs for different project types: Sediment Remediation, Brownfields Remediation, Shoreline Stabilization, Beach Nourishment, and Dredged Material Disposal. Below these tabs, three project thumbnails are shown: 1. Gulf Rock, 2. Fowl River, and 3. Mississippi Sound. The main map area shows a map of the United States and Canada, with a pop-up window for the Mississippi Sound project. The pop-up window contains a satellite image of the Mississippi Sound and a text description: "Mississippi Sound channel improvements required removal of 1 MCY from the channel (maintenance material) that were subsequently placed in a thin layer with thickness ≤ 12 in. in three, 300-acre disposal areas along the west side of the channel. Similarly, 1 MCY of new work material was removed and placed in a thin layer with thickness ≤ 12 in. in three". The interface also includes a sidebar with a search bar and a list of project areas, and a bottom section for map measurements.

1. General Information

OVERVIEW

PROJECT NAME: PROJECT TYPE: BEACH NOURISHMENT PROJECT STATUS: New

OVERVIEW

IF OTHER PROJECT TYPE IS SELECTED, OR MULTIPLE PROJECT TYPES APPLY TO THE SITE PLEASE LIST AND DESCRIBE HERE

PROJECT AREA

Map(Measurements)

Mississippi Sound

Mississippi Sound channel improvements required removal of 1 MCY from the channel (maintenance material) that were subsequently placed in a thin layer with thickness ≤ 12 in. in three, 300-acre disposal areas along the west side of the channel. Similarly, 1 MCY of new work material was removed and placed in a thin layer with thickness ≤ 12 in. in three



What case study data is being captured?

Sections

- General Information
- Project Cost
- Containment Structures
- Pre-construction
- Design & Planning
- Construction
- Post-construction
- Monitoring
- Regulatory Aspects
- Lessons Learned

New! Upload projects using Excel

Average Sediment Properties

Enter the average properties of the sediment here and upload data for individual data samples, composites, etc. either from your workstation or from SAGA.

Material Type

Enter the average properties of the sediment here and upload data for individual data samples, composites, etc. either from your workstation or from SAGA.

SEDIMENT TYPE & COMPOSITION ▼

Sediment Type & Composition

Enter the average properties of the sediment here and upload data for individual data samples, composites, etc. either from your workstation or from SAGA.

SEDIMENT TYPE & COMPOSITION ▼

Chemistry Values

Enter the average properties of the sediment here and upload data for individual data samples, composites, etc. either from your workstation or from SAGA.

SEDIMENT CHEMISTRY ▼




How do I create a new case study?

Easy and User-friendly:

1. Create an Account
2. Create a New Case Study
3. Assign Contributors
4. Begin Inputting Information
5. Await Publishing Approval

PROJECT AREA

Map(Measurements)



Address Information

LONGITUDE	LATITUDE	SIZE OF AREA
-77.03652979999998	38.8976763	
COUNTRY	STATE	
COUNTY	CITY	USACE DISTRICT
		Alaska

SIZE OF AREA UNIT

☐ Cubic Yards ☐ Cubic Meters ☐ Acres ☐ Hectare ☐ Square Feet ☐ Square Meters

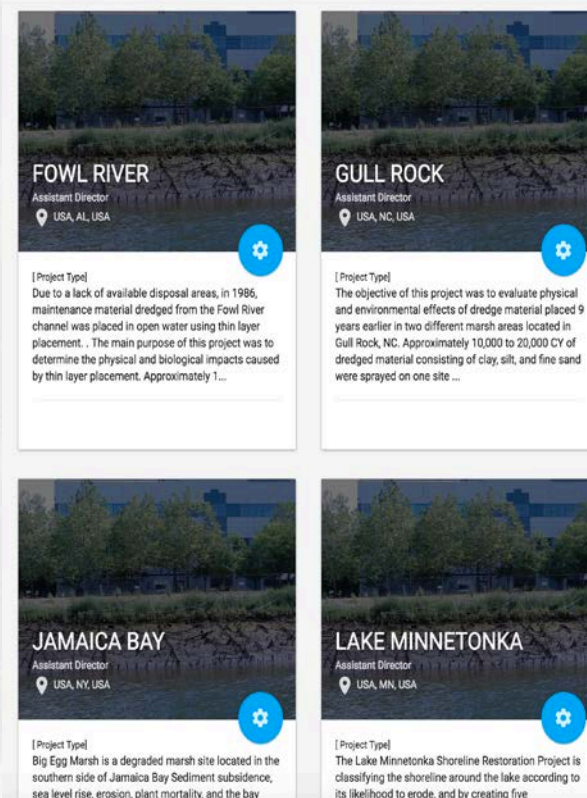
SUBMIT FORM CANCEL



What else can I do on the TLP website?

Join our Community!

1. **Improved:** Interactive Map
2. **New:** Create User Profile
3. **New:** Case Study Directory
4. **New:** Case Study Profile Page
5. **Coming:** TLP Media Library



FAQs: How do I get help if I need it?

Fast Answers!

1. Site-wide Guidance Text
2. Form Tool Tips
3. Online FAQ Section



Future products and enhancements

- Website forum
- TLP Newsletter
- Enhanced search tool
- Enhanced case study page
- New case studies, resources, and photos will
- be added every quarter
- Formalized guidance for the practice of thin layer placement



How can I contribute?

- Case studies, models, construction methods and other relevant information that may be useful to practitioners are solicited.
- Sign up on our **List Server** and **Map Portal**

<https://t1p.el.erdc.dren.mil/list-server-and-map-portal/>



Please contact us!

- **Website registration and contributions**

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Questions?



Photo from Kirk Gilligan, Seal Beach NWR Manager



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