

AREAS OF CONCERN AND THE GREAT LAKES LEGACY ACT



What is an Area of Concern (AOC)?

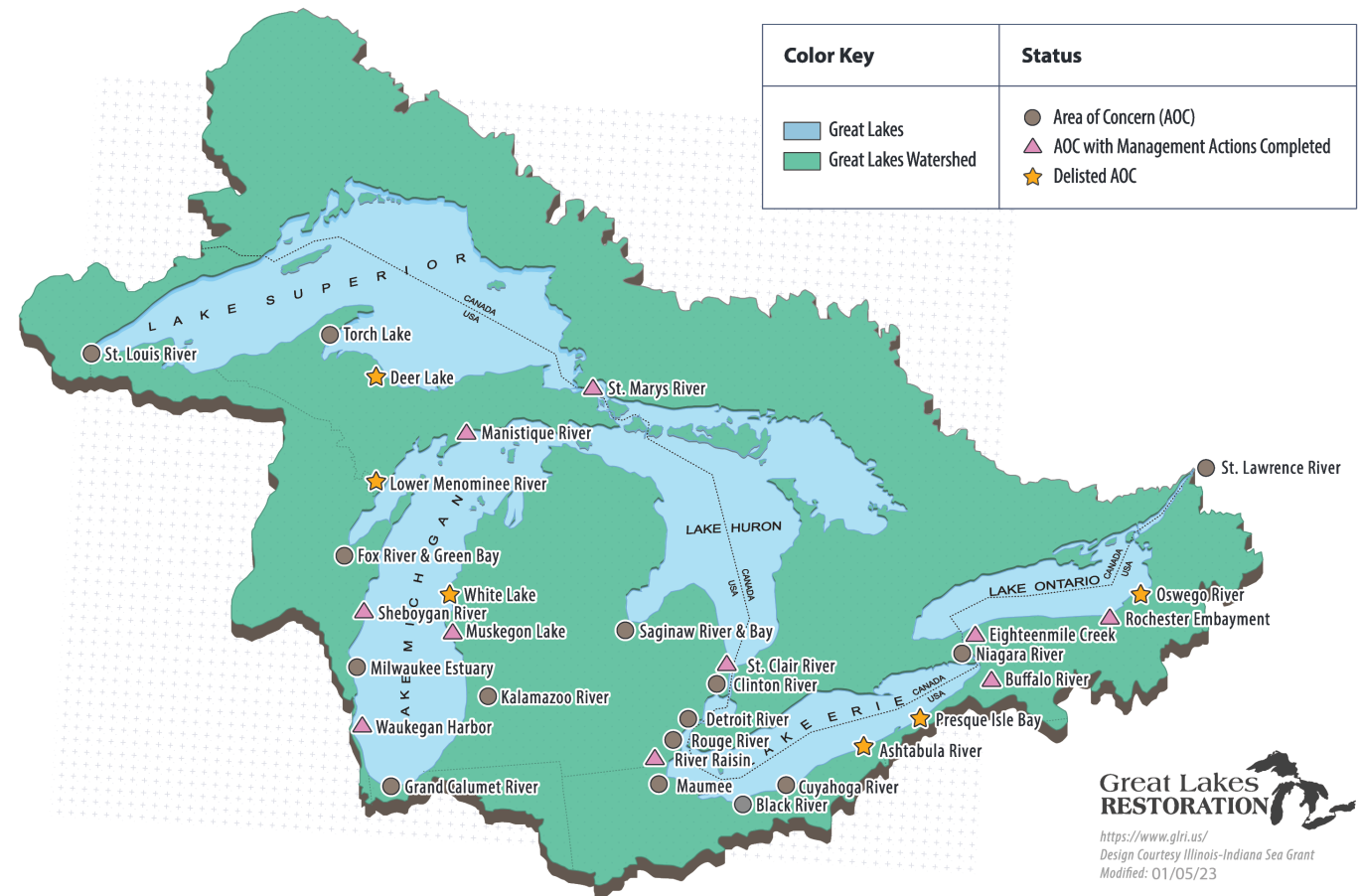
The Great Lakes Water Quality Agreement (GLWQA) designated 43 areas of severe environmental degradation as Areas of Concern (AOCs) in 1987

26 of the 43 designated AOCs are in U.S. (5 shared with Canada)
6 U.S. AOCs have been delisted to date

U.S. EPA's Great Lakes National Program Office (GLNPO) oversees the AOC Program

Great Lakes Restoration Initiative (GLRI) Provides the federal funding for AOC work

U.S. Great Lakes Areas of Concern



What is the Great Lakes Legacy Act (GLLA)?

GOAL: Accelerate the pace of sediment remediation in U.S. Areas of Concern (AOCs)

MECHANISM: Use partnerships as an innovative approach to cost share the work

- **Cost Sharing Program** for the remediation of contaminated sediments in Areas of Concern
- **Requires a Non-Federal Partner** willing to contribute at least 35% of project costs
- U.S. EPA's Great Lakes National Program Office (**GLNPO**) oversees the AOC Program (including GLLA)
- Signed into law in 2002
- Funded by the Great Lakes Restoration Initiative (**GLRI**)
- Non-regulatory, voluntary/cooperative program

GLLA authorizes clean up of contaminated sediments in U.S. AOCs

34

Remediation projects completed

6.9 million

Cubic yards of contaminated sediment remediated

Over 150

Acres of habitat restored

~ \$1.2 billion

Completed, underway and/or signed AOC projects

~ \$510 million

Contributed by non-federal partners

6

Ongoing remediation projects

Numbers updated June 2023



GLLA Sites Moving Towards Success

- Milwaukee
- Grand Calumet River
- Detroit River
- Rouge River
- Niagara River
- Maumee
- Torch Lake



Keys to Progress: Non-Federal funding; Partnerships between local stakeholders, industry, state, federal, and local agencies; Flexibility; Local buy-in; Sustained commitment and energy; State agency investments

A Historic Opportunity

- Great Lakes Restoration Initiative
 - Approx \$100M/yr of base funding to AOCs
- Bipartisan Infrastructure Law (BIL)
 - Add'l \$200M/yr 2022-2026
 - Focus of additional funding will be on AOCs, including GLLA projects
- Lots of new resources, but a lot of work remaining



Taking the Next Step – Now!



- The Time is NOW - BIL Funding Runs out in 2026!
- Massive undertaking
- *“If we fail, at least we should fail while daring greatly”* (Teddy R.)
- Project Partnerships between private, local, state, tribal, and federal entities
- Success breeds Success
- AOC Conference 12-14 Sep 2023 (Green Bay, WI)

GREAT LAKES DREDGING TEAM ANNUAL MEETING CHICAGO DISTRICT UPDATE

Kristine Meyer
Chief, Lake Michigan Project Office

6 September 2023



Cat Island DMDF, WI



Milwaukee CDF, WI



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DREDGING STATUS

RECENT

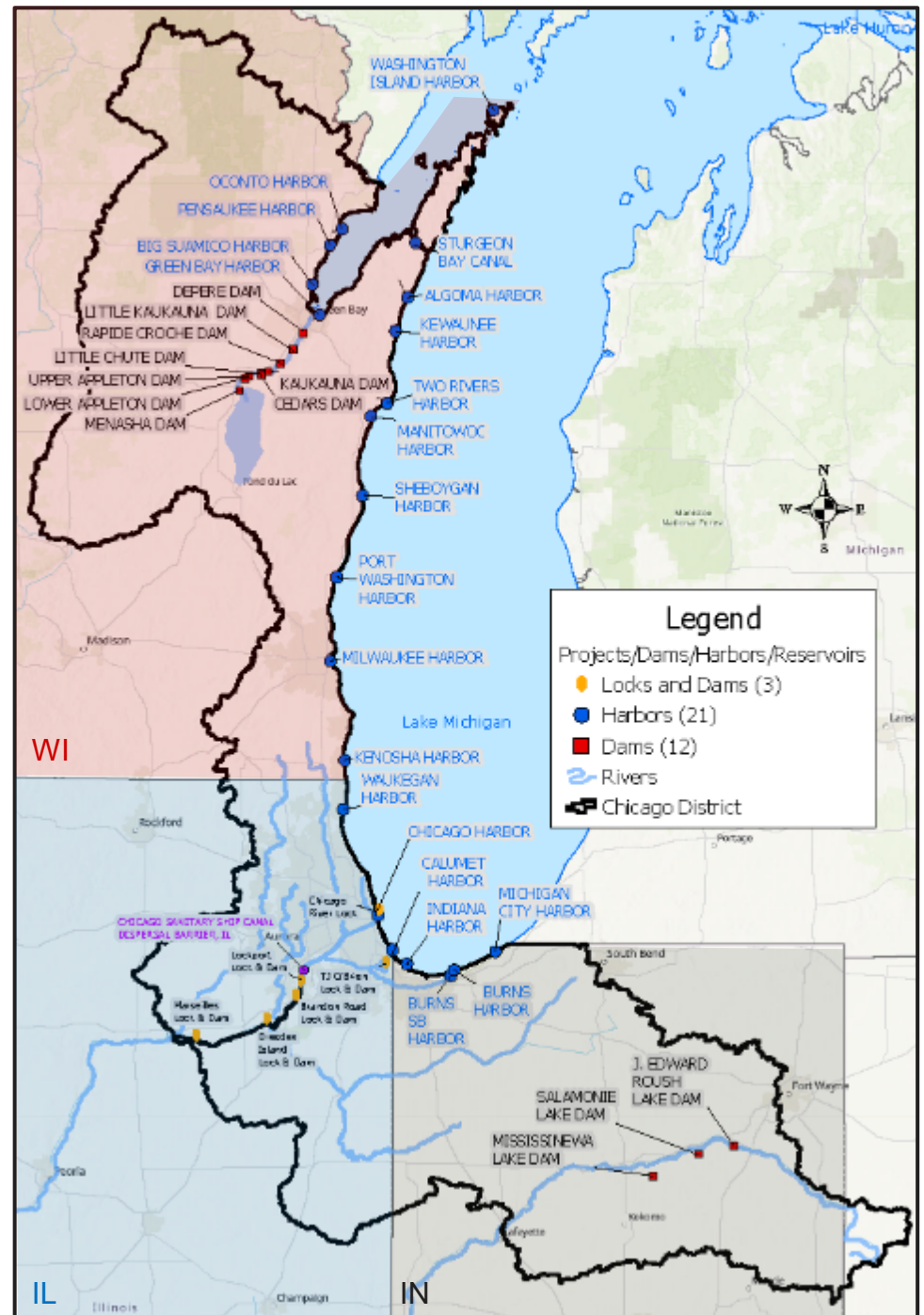
- Sturgeon Bay (FY22)
- Green Bay (FY22, annually)
- Calumet (FY22, bi-annually)
- Burns Waterway (FY22, bi-annually)
- Michigan City (FY22)

CURRENT

- Green Bay (FY23)

FUTURE

- Milwaukee (FY24)
- Big Suamico (FY24)
- Green Bay (FY24)
- Kenosha (FY24)
- Waukegan (FY24)
- Calumet (FY24, potentially delayed)
- Indiana (FY24, potentially delayed)
- Burns Small Boat (FY24)
- Burns Waterway (FY24)
- Michigan City (FY24)



DREDGED MATERIAL MANAGEMENT PLANS (DMMP)

Manitowoc/Two Rivers

- Manitowoc CDF receives approximately 20,000-40,000 CY every 2-3 years
- CDF has approximately 60,000 CY of capacity remaining
- Complete sampling Fall 2023
- Sampling results used to refine assessment of CDF capacity/alternatives/beneficial use options

Kewaunee

- Kewaunee CDF receives approximately 30,000 CY every 3-5 yrs
- Project team recently determined that there is sufficient space in the existing CDF to accommodate next 20 years of dredging using management measures; this proposal is being finalized internally and with local stakeholders
- Complete sampling Fall 2023 to help focus beneficial use assessment

FACILITY UPDATE

Cat Island Dredged Material Disposal Facility (DMDF)

- Receives approximately 150,000 CY annually
- Approximately 1,560,000 CY of capacity remaining
- Completed 408 Categorical Permission and Environmental Assessment in July 2023

Milwaukee DMDF

- Receives approximately 30,000-40,000 CY every 3-4 yrs
- Approximately 376,000 CY of capacity remaining
- Construction of Milwaukee Estuary Dredged Material Management Facility (DMMF) by Milwaukee Municipal Sanitary District ongoing
- Internal discussions regarding planning and budgeting for DMMP in future years



FACILITY CONSTRUCTION ACTIVITIES

Chicago Area Confined Disposal Facility (CDF) at Calumet Harbor

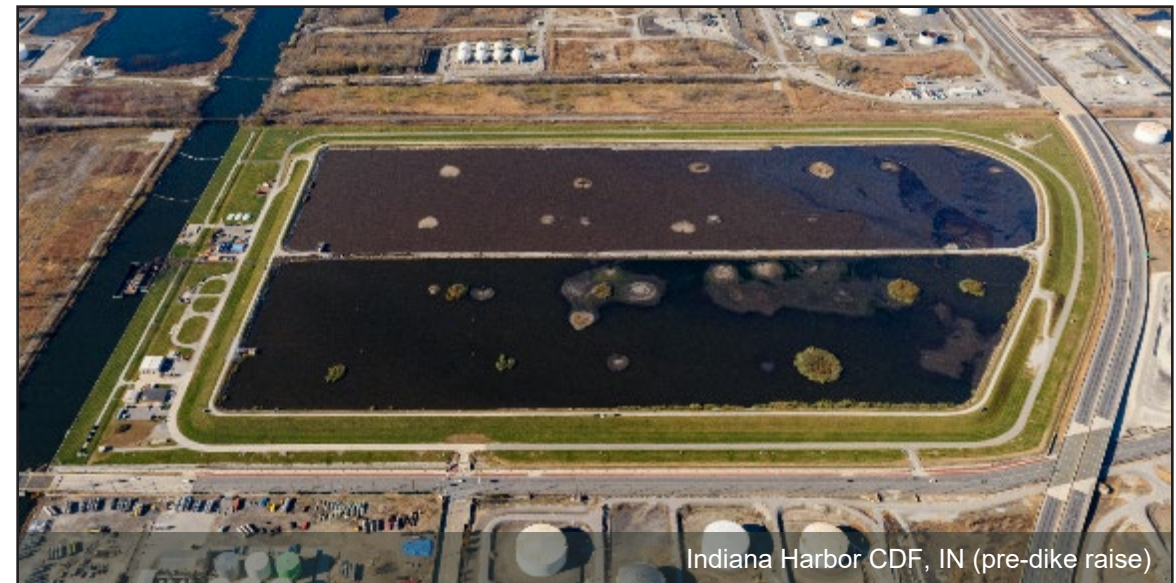
- Phase I berm construction contract awarded in July 2022 (\$13.2M)
- Planned DMDF vertical expansion project on hold pending court case and State of Illinois permitting
- Continuing work on Beneficial Use of Dredged Material (BUDM) Plan



Chicago Area CDF, IL

Indiana Harbor and Canal CDF

- Dike raise Phase 2 underway
- CDF vertical expansion will add 25-40 years of additional dredging and 3.1M cubic yards of capacity (+180%)
- Construction anticipated to be completed June 2024, there is potential for further construction delays



Indiana Harbor CDF, IN (pre-dike raise)

 **QUESTIONS?**

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DREDGED MATERIAL MANAGEMENT – DETROIT DISTRICT UPDATES

Detroit District

2023 GLDT Meeting
Sault Ste Marie, MI
September 2023



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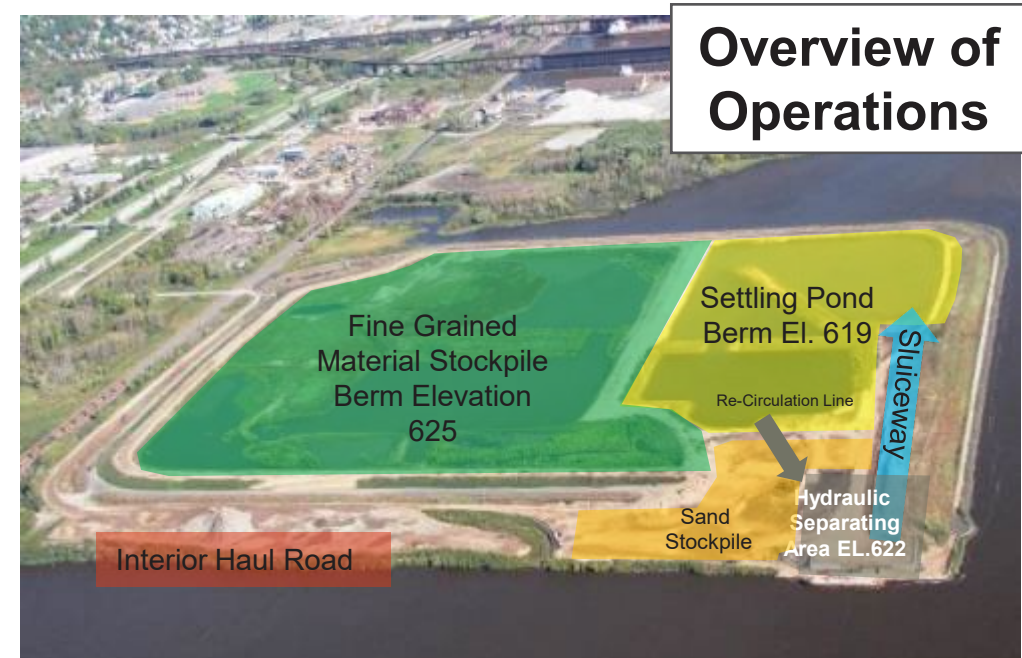
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ERIE PIER, DULUTH

Erie Pier Beneficial Reuse

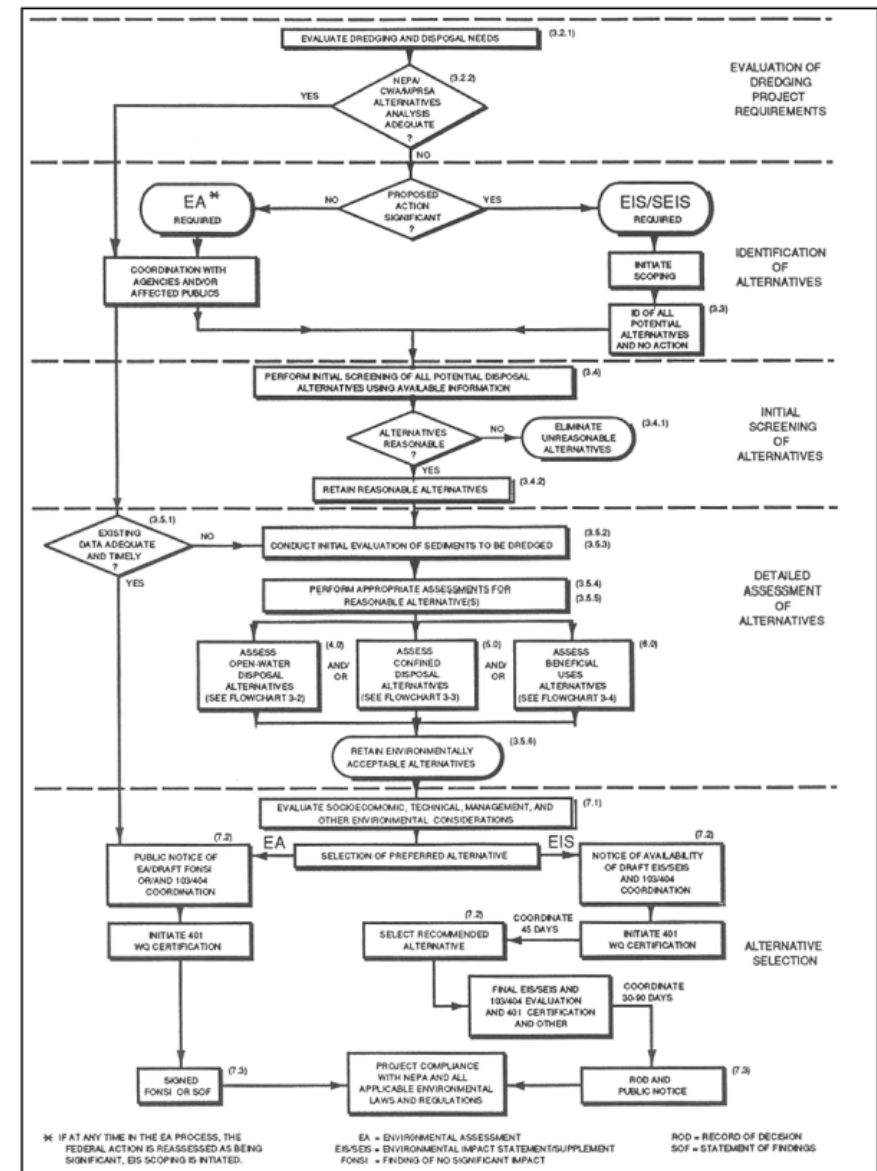
- Approximately 110k CY of material is dredged annually from Duluth-Superior harbor
- Erie Pier site is utilized to place dredged material from Duluth/Superior Harbor.
 - Site built in 1979
 - Designed capacity of 1M CY and 10 year life span.
- Site expansions over the years. Over 4M CY material placed, 850k CY beneficially utilized.
 - Estimated 4-5 years remaining life span
- Together with Duluth Seaway Port Authority, Erie Pier works as a reuse facility
 - Material hydraulically sorted, washed, and separated
 - Washing process is an efficient method to reserve site capacity





DREDGED MATERIAL PRELIMINARY ASSESSMENTS

- Detroit District received funding for preliminary assessments for 7 harbors
- Preliminary Assessments are the first step in determining long term dredged material placement plans
- These assessments address dredging needs, disposal capabilities, capacities of disposal areas, environmental compliance requirements, potential for beneficial usage of dredged material and indicators of continued economic justification
- The Preliminary Assessment documents the continued viability of the federal navigation project and availability of sediment placement capacity to accommodate 20 years of maintenance dredging.
- Federal Standard documented
- If sufficient capacity is not met, a Management Plan is required

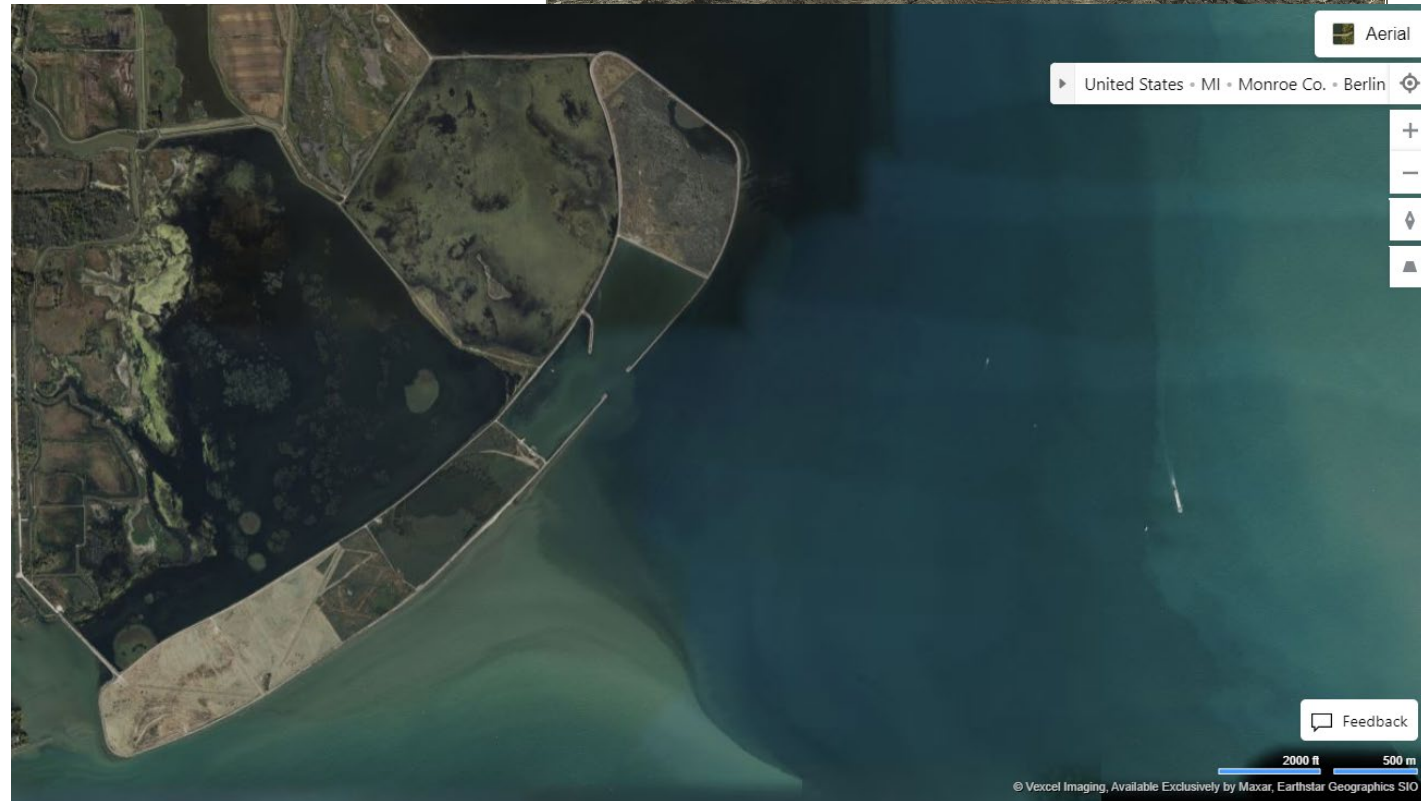




OPERATIONAL R&D PROJECT

Dredged Material Remediation Research Opportunity

- Working with USACE Engineering & Research Development Center
- FY25 funding request for initial year work
- Investigate potential economical in-situ remediation technologies and implementation strategies to reduce bioavailability of contaminants in dredged material.
- To make dredged material suitable for beneficial reuse.
- Utilize Pointe Mouillee CDF, Detroit River as pilot to allow for future beneficial reuse of dredged material.





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ERDC UPDATES

**Great Lakes Dredging Team Annual Meeting
Sault Ste. Marie, MI
September 6, 2023**

Karen Keil

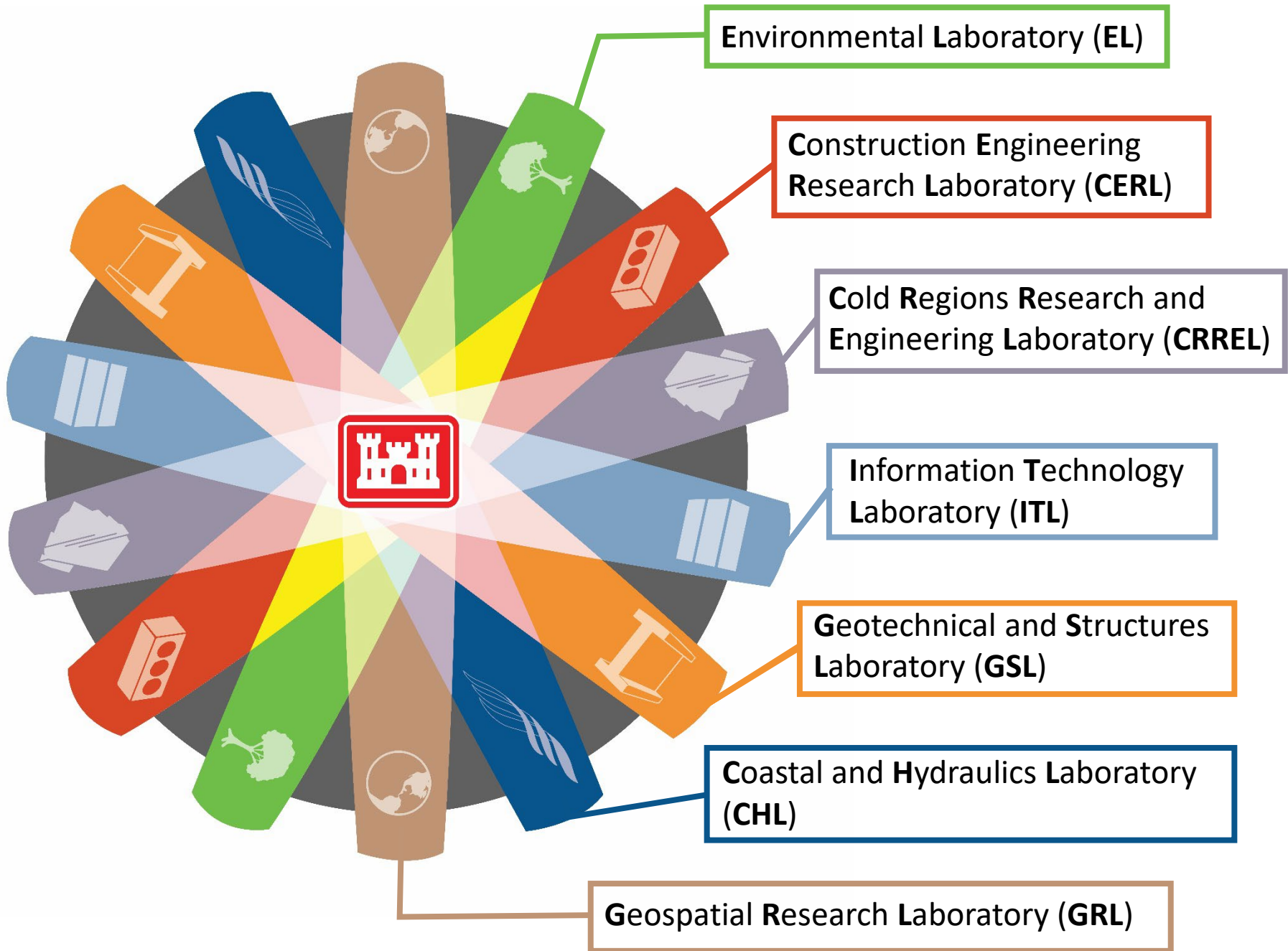


**US Army Corps
of Engineers**

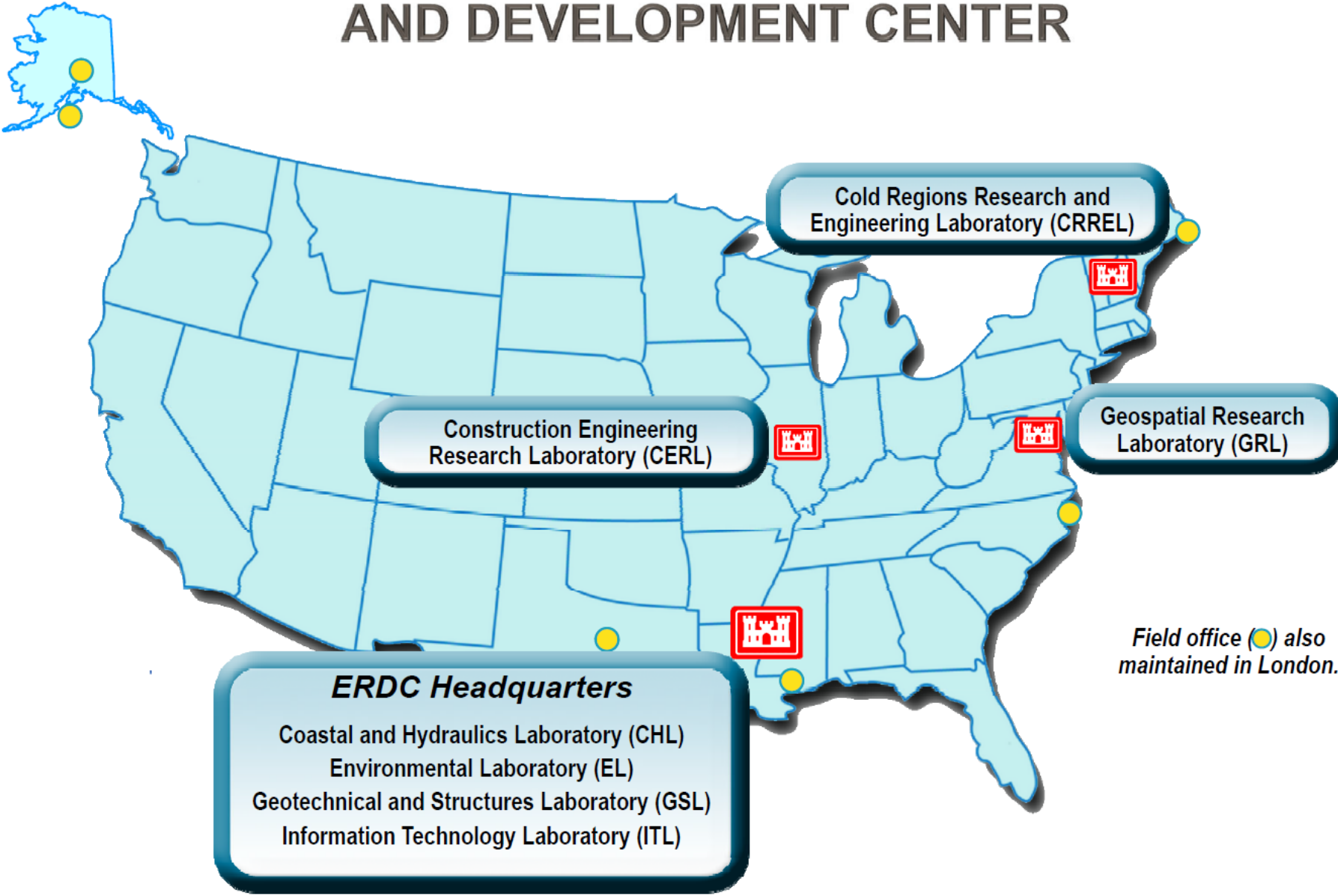


ERDC
ENGINEER RESEARCH & DEVELOPMENT CENTER

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MISSISSIPPI RIVER FLOOD OF 1927

Courtesy of Bea Neill



USACE Research and Development Strategy



<https://www.erdc.usace.army.mil/About/USACE-Research-and-Development-Strategy-2022/>

The Strategy identifies the current **Top Ten USACE R&D Priorities** to address the Nation's toughest challenges with multi-disciplinary solutions.



Mitigate and Adapt to Climate Change



Win Future Wars



Modernize Our Nation's Infrastructure



Support Resilient Communities



Enable Smart and Resilient Installations



Ensure Environmental Sustainability and Resilience



Secure Reliable Installation Energy



Revolutionize and Accelerate Decision-Making



Improve Cyber and Physical Security



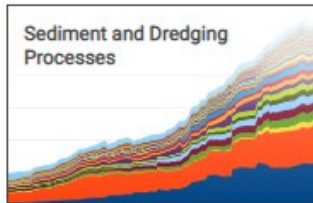
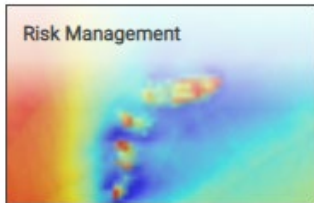
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Dredging Operations and Environmental Research Program

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

Focus Areas



The screenshot shows the homepage of the Dredging Operations and Environmental Research (DOER) Program website. The header includes navigation links for "DOER Program", "Projects +", "Resources +", and "Contact Us". The main banner features the DOER logo, the title "Dredging Operations and Environmental Research", and the affiliation "U.S. Army Corps of Engineers". Below the banner is a navigation sidebar with icons for home, menu, and email. The main content area includes a "Discover" section titled "The DOER Program" and a "Connect" section titled "Program Leaders".

Discover

The DOER Program

The Dredging Operations and Environmental Research Program (DOER) 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 knowledge and technology for cost-effective operation, evaluation or risks associated with management alternatives, and environmental compliance.

Connect

Program Leaders

DOER Program Manager
Alan J. Kennedy, Research Biologist
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DOER Assistant Program Manager
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Engineering **With Nature**

<https://ewn.erdc.dren.mil/>



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Sustainable Collaboration

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Engineering With Nature® is the intentional alignment of natural and engineering processes to efficiently and sustainably deliver economic, environmental, and social benefits through collaboration.

MORE INFO >

DOER and EWN currently funded research tasks

- Improving aquatic beneficial use of dredged material placement practices in the Great Lakes
- Field performance of activated carbon amendments as a function of the application
- Improved BUDM Laboratory Methods for Low Stress Consolidation and Erodibility
- Characterization of the Spread of Fine-Grained Sediments following Beneficial Use of DM Placement*
- Rapid Tool Development to Support Nearshore Placement of Dredged Sediment*
- Beneficial Use Comprehensive Benefits Tool*
- On-site, On-demand Contaminant Monitoring and Reduction for Dredging Operations using 3D Printed Deployable Structures
- In Situ Beneficial Use of Contaminated Sediments: Leveraging Dredged Sediment for Enhancing Aquatic Habitats and other Benefits*
- Innovative EWN Construction Techniques*
- Innovative Placement Techniques and Sediment Monitoring*
- Beneficial Use of Dredged Material at Woodtick Peninsula for Coastal Wetland Creation and Protection



U.S. Coast Guard Great Lakes Oil Spill Center of Expertise

PURPOSE

- The GLCOE is a non-operational body with a legislative mandate to conduct research in the domain of oil spill response.
- The GLCOE's purpose is to operationalize innovative ideas that improve freshwater and icy water oil spill responses.

HISTORY

- **2016** – Congress required Coast Guard to prepare an oil spill response assessment in the Great Lakes
- **2018** – The report informed Section 807 of the Coast Guard Authorization Act of 2018, directing the establishment of the Great Lakes National Center of Expertise for Oil Spill Preparedness and Response (GLCOE)
- **2018** – Senator Peters secured \$4.5M for the Great Lakes Center of Expertise initiative.
- **2020** – Homeland Security Operational Analysis Center made recommendations for short/long-term progress and logistics, including staffing positions, partnerships, and site locations.
- **2022-2023** – Active Duty and three Civilian positions staffed.

SEC. 807. [14 U.S.C. 313 note] CENTER OF EXPERTISE FOR GREAT LAKES OIL SPILL SEARCH AND RESPONSE.

(a) **IN GENERAL.**—Not later than 1 year after the date of enactment of this Act, the Commandant of the Coast Guard shall establish a Center of Expertise for Great Lakes Oil Spill Preparedness and Response (referred to in this section as the “Center of Expertise”) in accordance with section 313 of title 14, United States Code, as amended by this Act.

(b) **LOCATION.**—The Center of Expertise shall be located in close proximity to—

(1) critical crude oil transportation infrastructure on and connecting the Great Lakes, such as submerged pipelines and high-traffic navigation locks; and

(2) an institution of higher education with adequate aquatic research laboratory facilities and capabilities and expertise in Great Lakes aquatic ecology, environmental chemistry, fish and wildlife, and water resources.

(c) **FUNCTIONS.**—The Center of Expertise shall—

(1) monitor and assess, on an ongoing basis, the current state of knowledge regarding freshwater oil spill response technologies and the behavior and effects of oil spills in the Great Lakes;

(2) identify any significant gaps in Great Lakes oil spill research, including an assessment of major scientific or technological deficiencies in responses to past spills in the Great Lakes and other freshwater bodies, and seek to fill those gaps;

(3) conduct research, development, testing, and evaluation for freshwater oil spill response equipment, technologies, and techniques to mitigate and respond to oil spills in the Great Lakes;

(4) educate and train Federal, State, and local first responders located in Coast Guard District 9 in—

(A) the incident command system structure;

(B) Great Lakes oil spill response techniques and strategies; and

(C) public affairs; and

(5) work with academic and private sector response training centers to develop and standardize maritime oil spill response training and techniques for use on the Great Lakes.

(d) **DEFINITION.**—In this section, the term “Great Lakes” means Lake Superior, Lake Michigan, Lake Huron, Lake Erie, and Lake Ontario.

SITE LOCATIONS



Lake Superior State University (LSSU)

- Critical crude oil transportation infrastructure on and connecting the Great Lakes, such as submerged pipelines and high-traffic navigation locks
- An institution of higher education with adequate aquatic research facilities, capabilities, and expertise in Great Lakes aquatic ecology, environmental chemistry, fish and wildlife, and water resources
- Center for Freshwater Research and Education: open to public

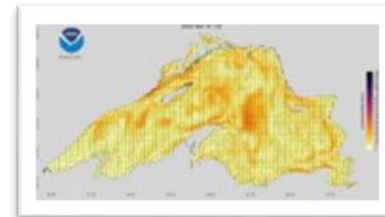
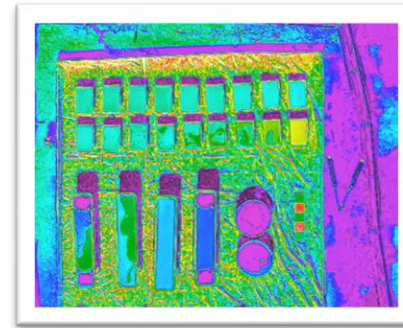
NOAA Great Lakes Environmental Research Laboratory (GLERL)

- Hosts key partners such as NOAA's National Ocean Service, Marine Sanctuary Program, National Marine Fisheries Service, Great Lakes Regional Collaboration Team, Great Lakes Sea Grant, and the International Association for Great Lakes Research.
- CIGLR - Cooperative Institute for Great Lakes Research
 - 10 Universities, 2 NGOs, & 3 businesses
 - Lead Collaborator - University of Michigan



HIGHLIGHTED PROJECTS FY21-23

- Oil Spill Modeling
- ROV/UAS support within USCG District 9
- Great Lakes Environmental Sensitivity Index (ESI) Maps
- Detection of Oil in Ice with Unmanned Systems
- Spills of Opportunity
- NOAA Environmental Response Management Application (ERMA) enhancements
- Great Lakes Spill Response Capability and Gap Analysis
- Federal On-Scene Coordinator (FOSC) Ice Guide
- Remote Sensing of Oil in Low-Light Conditions
- Partners: NOAA, USCG District 9, USCG Academy, LSSU, and more



2024 CALL FOR PROPOSALS

- Theme 1: Freshwater Oil Spill Preparedness
 - Detection of submerged oil, In situ oil sensors, Non-conventional oil (Fate, behavior, and transport)
- Theme 2: Freshwater Oil Spill Response
 - Decanting, Advance freshwater or frozen water recovery applications, Collection and recovery of suspended and submerged oil, Uncrewed Systems
- Theme 3: Alternative Response Measures' Application in Freshwater
 - Shoreline cleaners, Spill herding agents, Bioremediation, Special Monitoring of Applied Response Technologies – Assess potential in situ burn SMART protocol application in the Great Lakes
- Over 30 submissions

QUESTIONS?

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