



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

Great Lakes Oil Spill Response Capabilities Evaluation

Project Number	FY22_08
Key Words/Tags	Evaluation, Response, Knowledge Gaps
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Servicing Agency or Contractor	RAND Corporation
Research Principal Investigator	Aaron Davenport
Collaborators	N/A
Requesting Agency	USCG GLCOE
Research Award Value	\$350,356.56

Description	<p>Before allocating Great Lakes Oil Spill center of Expertise (GLCOE) funding for expanded research, it was crucial to assess existing knowledge and capability gaps related to oil spill response in the Great Lakes region. This project examined the current scope of oil spill risks in the region, evaluated the roles, capabilities, and resources of response partners, and identified key gaps in preparedness. It also focused on developing strategies to address the unique challenges of oil spill response in freshwater environments, particularly in the presence of ice cover. The goal was to improve response readiness and mitigate risks associated with spills under these complex conditions.</p>
Summary of Findings	<p>RAND Corporation's analysis of oil spill response in the Great Lakes identified several key challenges:</p> <ul style="list-style-type: none">Cold Weather and Ice Coverage: Cold temperatures and seasonal ice complicate spill detection, containment, and recovery, limiting equipment and access to spill sites.



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Complex Hydrodynamics: The unique currents and freshwater dynamics of the Great Lakes make oil spill modeling more difficult than in open water, requiring specialized tools and data.

Limited Resources: Gaps in equipment, trained personnel, and response capabilities, especially in remote areas, may hinder effective spill response.

Data Gaps: A lack of lake-specific environmental data, including hydrodynamic and ice conditions, reduces the accuracy of spill trajectory models.

Mitigation Strategies: Recommended strategies include additional training, specialized cold-weather equipment, and improved data collection

These findings underscore the need for tailored approaches to oil spill response in the Great Lakes, focusing on data, resources, and coordination.

Associated Attachments	
The GLCOE project archive contains original project deliverables. For the most current version, please refer to the Servicing Agency's website.	
Title	Great Lakes Oil Spill Response Capabilities Evaluation
Intended Audience	Great Lakes Responders, Emergency Managers
Publication Date	April 17, 2024
Authors	Aaron C. Davenport, Katherine Anania, Susan A. Resetar, Alexis Levedahl, Liam McLane, Jo Caulkins, & Melissa Bauman
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Description	Final Report providing an assessment of the ability of government agencies and the private sector to collectively respond to spill scenarios relation to Area Contingency Plans, characterizing capabilities and gaps.