USCG D9 Updates

RRT 5 FALL MEETING – OCTOBER 2021

- Great Lakes National Center of Expertise (GL NCOE)
- Environmental Sensitivity Index (ESI) Maps – new for St. Marys & St. Lawrence River
- Research & Development updates
- Low-cost remotely operated vehicle (ROV-LC) program
- Endangered Species Act Biological Evaluation (ESA BE) for Region 5

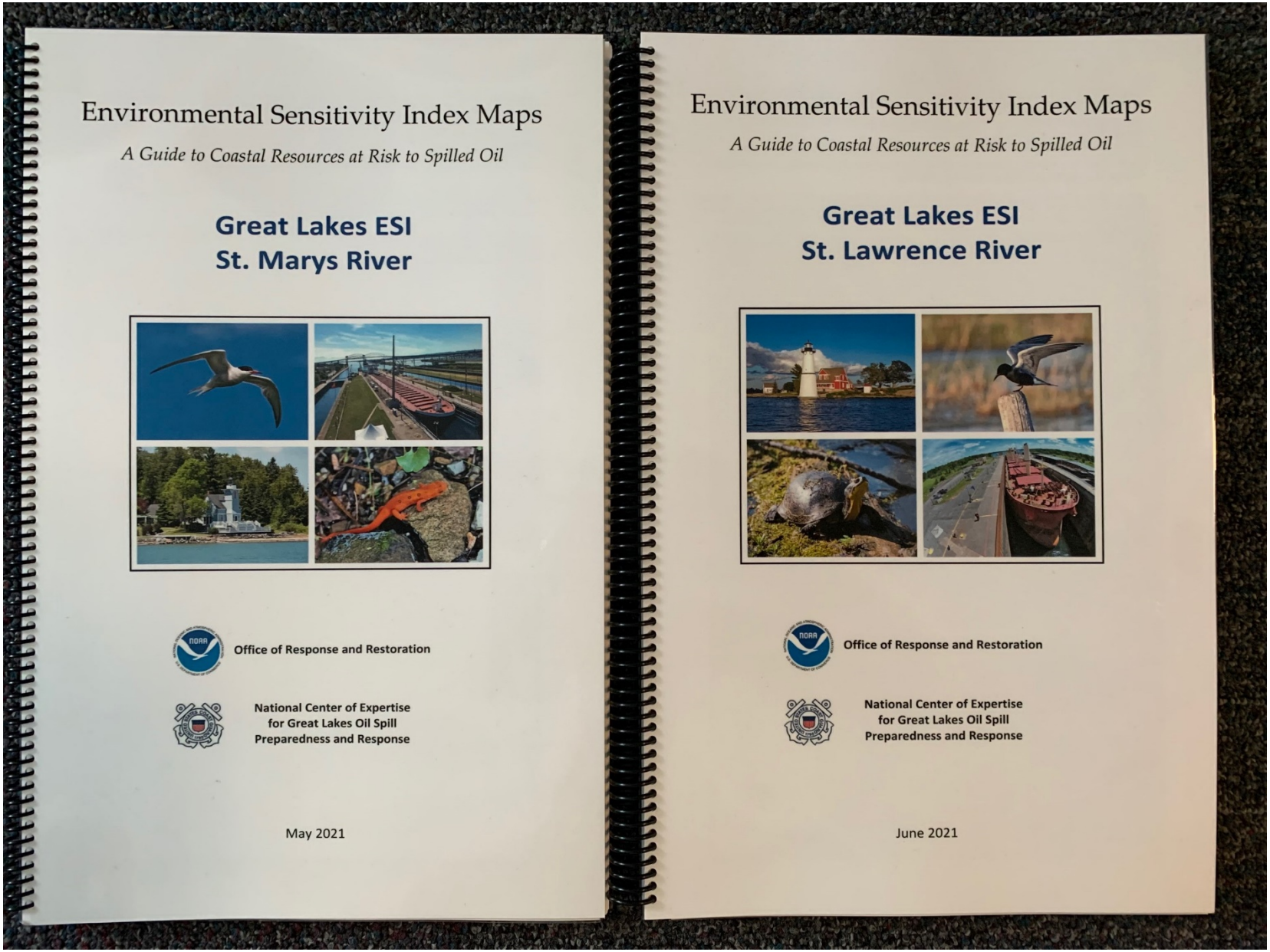
Center of Expertise for Great Lakes Oil Spill Preparedness & Response (GL NCOE)

ESTABLISHMENT UPDATE

Frank E. LoBiondo 2018 Coast Guard Authorization Act

- Directed establishment of GL NCOE, established functions & location criteria, provided initial funding
- Purpose is to assess technologies, identify gaps, conduct R & D, educate & train, standardize Great Lakes techniques
- Homeland Security Operations and Analysis Center (HSOAC) establishment plan study & site visits completed
- **Final site selection and staffing discussions currently in progress. Expect decision and notifications by end of CY 2021**

Two ESI Updates Completed



Behavior of Diluted Bitumen (Dilbit) in Fresh Water

4204

Mission Need: Enhanced decision-making for response to dilbit spills in the fresh water environment.

Objectives

- Provide the U.S. Coast Guard (CG) Federal On-Scene Coordinators with decision–making guidance as they relate to the fate and transport of dilbit in the freshwater environment.
- Study the behavior (density and weathering) and response tools of dilbit spills in the freshwater environment.

Notes

- Supported by Great Lakes Restoration Initiative and Oil Spill Liability Trust Fund resources.
- Leverage CG Research and Development Center Project 4705: Oil Sands Products Spill Response.
- Collaborate with the International Institute for Sustainable Development's Experimental Lakes Area and U.S. Department of Energy labs.

Sponsor: CG-MER, CG D9

Stakeholder(s): EPA Great Lakes Nat'l Program Office/Pollution Response Office, LANT-54, NOAA

RDC Research Lead: Benedette Adewale, PhD

CG-926 Domain Lead: Ms. Karin Messenger

Anticipated Transition: Knowledge Product
Influence Tactics, Techniques & Procedures

Project Timeline / Key Milestones

Project Start: 1 Oct 20	
Literature Review Complete	Feb 21
Literature Review – Diluted Bitumen in the Fresh Water Environment (Report)	**Mar 21** ★
Dilbit Test Plan Complete	Apr 21
CRREL Dilbit Weathering Warm Weather Test Complete	Jun 21
CRREL Dilbit Weathering Cold Weather Test C	**Nov 8-21 CRREL**
Dilbit Oil Analysis Complete	Jan 22
Guidance Document - Behavior of Diluted Bitumen in the Fresh Water Environment (Report)	**May 22** ★
Project Completion: May 22	

Freshwater In-Situ Oil Burn Research

47041

Mission Need: Improve In-Situ Burn (ISB) knowledge base to supplement oil spill response options.

Objectives

- Evaluate best practices for operational use of ISB in multiple environments, including fresh water and areas with vegetation.
- Develop methods to conduct ISB smoke-plume monitoring that improve sampling accuracy and responder safety.
- Provide reference guidance for Federal On Scene Coordinator and Regional Response Team use.

Notes

- Multiple funding sources including Oil Spill Liability Trust Fund and Great Lakes Restoration Initiative.
- Partner with academia and national labs to ensure result visibility and access.

Sponsor: EPA Great Lakes Nat'l Program Office, CG-MER

Stakeholder(s): CG-721, NSF, EPA, BSEE, D9, RRT5

RDC Research Lead: LT Liz Murphy

CG-926 Domain Lead: Ms. Karin Messenger

Anticipated Transition: Knowledge Product
Influence Tactics, Techniques, & Procedures

Project Timeline / Key Milestones

Project Start: 1 Oct 18	
Mesoscale Freshwater Burns Complete	19 Jul 19 ✓
Large-scale Freshwater Burns Complete	25 Oct 19 ✓
Freshwater In-Situ Oil Burning (Report)	**Jan 21** ★
Remote Air Monitoring Market Research Complete	Jan 21
Remote Air Monitoring Process Framework Complete	Feb 21
Test Plan for Remote Air Monitoring Complete	Mar 21
Air Monitoring During ISB – Event 1 Complete	Apr 21
Air Monitoring During ISB – Event 2 Complete	**Oct 25-28 CRREL**
Remote Air Monitoring Technology Evaluation (Report)	**Feb 22** ★
Project Completion: Feb 22	**May 2022**

Nearshore and Inland Evaluation of the Estimated Recovery System Potential (ERSP) Calculator

4710

Mission Need: ERSP calculator to include response systems for nearshore/inland operating environment.

Objectives

- Determine if an enhanced version of the existing offshore ERSP calculator provides improved efficiency for planning and response to oil spills.
- Validate ERSP calculator functionality and usefulness using a prestigious national panel to conduct an independent review of the enhanced calculator.

Notes

- Oil Spill Liability Trust Fund funding.
- Partnership with Bureau of Safety and Environmental Enforcement (BSEE).

Sponsor: CG-MER	**Stakeholder(s):** BSEE, AREA-54
RDC Research Lead: Mr. Alexander Balsley, P.E.	**CG-926 Domain Lead:** Ms. Karin Messenger
Anticipated Transition: Product *Fielded Prototype*	

Project Timeline / Key Milestones

Project Start: 1 Oct 16

Feasibility Workshop Completed	21 Jun 17 ✓ ★
Feasibility of Extending the ERSP Calculator for Nearshore and Inland Waterways (Report)	**20 Sep 17** ✓ ★
Inland ERSP Preliminary Factors, Requirements and Conceptual Model (Report)	**14 Nov 19** ✓ ★
Inland ERSP Operational Environment Calculator (Design Document)	**29 Jun 20** ✓ ★
Initial Development of Inland ERSP Calculator Complete	May 21
National Academy of Sciences (NAS) Review Complete	Nov 21
NAS Response Review of Inland ERSP (White Paper)	**Apr 22** ★
NAS Recommended ERSP Calculator Updates Complete	May 23
Inland Evaluation of the ERSP Calculator (Prototype & User Guide)	**Aug 23** ★

Project Completion: Aug 23

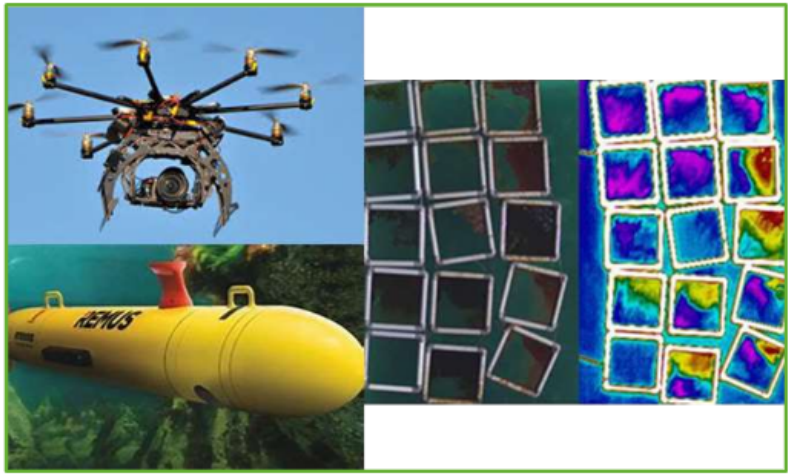
Advancing UAS and AUV Capabilities to Characterize Water Column and Surface Oil in Ice Environments

4711

Mission Need: Technologies to detect and characterize oil spills in ice environments.

Objectives

- Coordinate and conduct multi-agency lab and field tests to gain better understanding of aerial and underwater sensor capability in characterizing oil on the surface or in the water column in ice conditions.
- Determine remote vehicle telemetry capability to transfer sensor data to on-scene responders or Incident Command as actionable information.



Notes

- Oil Spill Liability Trust Fund funding.
- Partnerships with Cold Regions Research and Engineering Laboratory (CRREL), Woods Hole Oceanographic Institute (WHOI), U.S. Department of Homeland Security (DHS) Science and Technology Directorate (S&T) Office of University Programs (OUP), National Oceanic and Atmospheric Administration, Bureau of Safety and Environmental Enforcement, and U.S. Environmental Protection Agency.

Sponsor: CG-MER	**Stakeholder(s):** CG-5RI, D1, D9, D17, ADAC, NOAA OR&R, WHOI, MBARI, DHS S&T OUP
RDC Research Lead: Mr. Alexander Balsley, P.E.	**CG-926 Domain Lead:** Ms. Karin Messenger
Anticipated Transition: Product *Fielded Prototype*	

Project Timeline / Key Milestones

Project Start: 23 Jan 20	
Interagency Reimbursable Work Agreement with NOAA Complete	3 Jun 20 ✓
Phase 1: Unmanned Aircraft System (UAS)/Autonomous Underwater Vehicle (AUV) Tests at CRREL Complete	Apr 21
Laboratory Results and Way Ahead (Brief)	**Jun 21** ★
UAS/AUV Lab Experiments Results (Report)	**Aug 21** ★
Field Exercise Planning Complete	Nov 21
Phase 2: UAS/AUV Systems Field Testing in Great Lakes or Arctic Complete	Dec 21
Data Schema for Data Stream Export Complete	Mar 22
UAS/AUV Systems Field Exercise Integration (Report)	**May 22** ★
Project Completion: May 22	

Low-cost Remotely Operated Vehicles

- CG ALCOAST 338/20 authorized low-cost remotely operated vehicles (ROV-LC) for Coast Guard units
- D9/GL NCOE funding used to procure Deep Trekker ROV-LC for D9, sectors, MSU/MSD, cutters
- Optical camera, depth to approximately 225’
- For sub-surface discharge source detection, contaminant tracking, impacts assessment, vessel damage assessment
- Conducting initial training Q1 FY2022

Endangered Species Act (ESA) BE

EnviroScience Project No.: 13921
Monthly Progress Report

USCG: REGION 5 REGIONAL CONTINGENCY PLAN/AREA CONTINGENCY PLANS FOR THE RESPONSE TO SPILLS OF OIL AND HAZARDOUS SUBSTANCES IN FRESH WATER

REPORT DATE	October 14, 2021	PREPARED BY	Becca Winterringer

STATUS SUMMARY/WORK COMPLETE TO DATE

Work completed to date has been associated with administrative tasks while awaiting comments on the Draft BE.

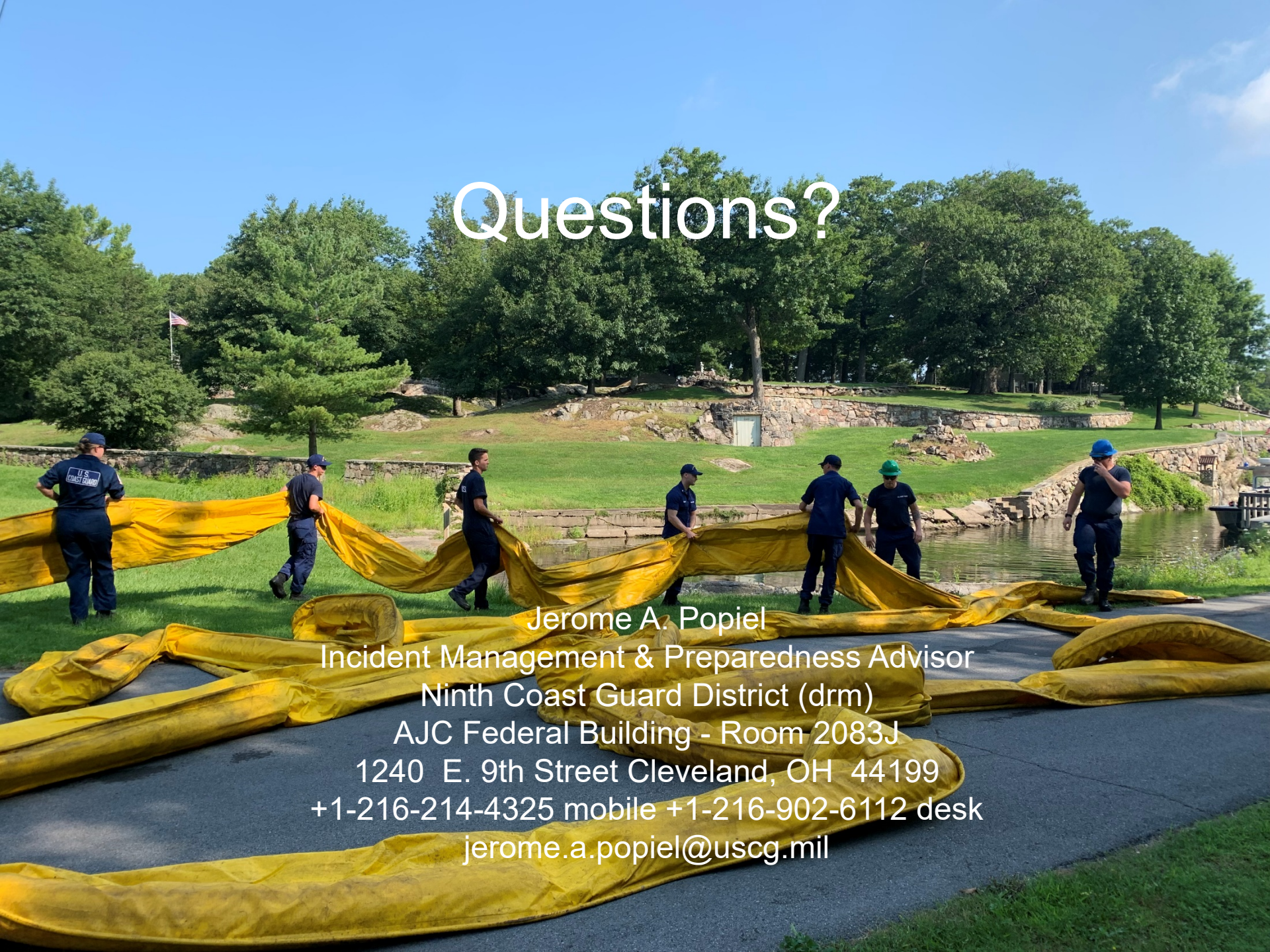
TECHNICAL PROGRESS

Progress since July has been mostly associated with administration and working on editorial features of the DRAFT BE such as developing the List of Acronyms, inserting in-line text inserts/figures, and Glossary of Terms. Comments were received by the ESA Workgroup the week of 8/9/2021. Comments are being organized and reviewed for updating the BE where needed.

DELIVERABLE/TASK SCHEDULE

Item	%Complete	Date Due	Notes
Kick-off Meeting	100	10/14/2020	Minutes Accepted/Final
Framework Document	100	11/20/2020	Submitted
Government review and comment period on Framework Document	100	12/4/2020	Issues resolved/ task complete
Draft BE	100	6/3/2021	BE Document submitted 6/25/2021
Government review and comment period on Draft BE		~~7/3/2021~~ 8/6/2021	Date amended per revised submission date
Final BE			
BE Administrative Record			

December 2021


Questions?
Jerome A. Popiel
Incident Management & Preparedness Advisor
Ninth Coast Guard District (drm)
AJC Federal Building - Room 2083J
1240 E. 9th Street Cleveland, OH 44199
+1-216-214-4325 mobile +1-216-902-6112 desk
jerome.a.popiel@uscg.mil