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# MassDEP Geographic Response Plan – 2019 Nauset (CI-09) Advanced Field Test

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After Action Report

April 5, 2019

The After-Action Report/Improvement Plan (AAR/IP) aligns exercise objectives with preparedness doctrine to include the National Preparedness Goal and related frameworks and guidance. Exercise information required for preparedness reporting and trend analysis is included; users are encouraged to add additional sections as needed to support their own organizational needs.

## EXERCISE OVERVIEW

<b>Exercise Name</b>	2019 Nauset (CI-09) Test and Evaluation
<b>Exercise Date</b>	April 5, 2019
<b>Scope</b>	This exercise was a Full-Scale Exercise, planned for approximately six hours in Eastham and Orleans, MA and upon the waters of Town Cove. Exercise play was limited to Town Cove and the adjacent shoreline in Eastham and Orleans.
<b>Mission Area(s)</b>	Response
<b>Core Capabilities</b>	Environmental Response/Health and Safety, Operational Coordination, Operational Communications
<b>Objectives</b>	<p>Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.</p> <p>Objective 2: Test and evaluate existing Nauset GRP (CI-09) tactics and identify any changes or modifications necessary to achieve goal of excluding oil from Town Cove immediately following an oil spill that impacts Nauset Harbor, Town Cove, and the surrounding area. Test and evaluate personnel and vessel access to Town Cove for boom deployment and other protection measures</p>
<b>Threat or Hazard</b>	Discharge of oil into a navigable waterway
<b>Scenario</b>	An oil spill has occurred that threatens Nauset Harbor, Town Cove and the surrounding waters. Clean Harbors, Inc. will utilize GRP CI-09 to rapidly deploy protective booming to protect sensitive resources in and around Town Cove.
<b>Sponsor</b>	Massachusetts Department of Environmental Protection (MassDEP).
<b>Participating Organizations</b>	Participating organizations will include: <ul style="list-style-type: none"><li>• Brewster Fire Department</li></ul>



- Cape Cod National Seashore
- Clean Harbors, Inc.
- Eastham Fire Department
- Eastham Harbormaster
- MassDEP
- Nuka Research and Planning Group, LLC (Nuka Research)
- Orleans Fire Department
- Sea Tow Cape and Islands
- U.S. Coast Guard Sector Southeastern New England (USCG)\

Note: See Appendix B for participant count



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Clean Harbors and SeaTow Cape & Islands conducts an Operational and Safety Briefing at Goose Hummock prior to equipment deployment



Participants deploy boom from one of three MassDEP oil spill response trailers at the Cove Road boat ramp in Eastham



Photos courtesy of Nuka Research & Planning Group

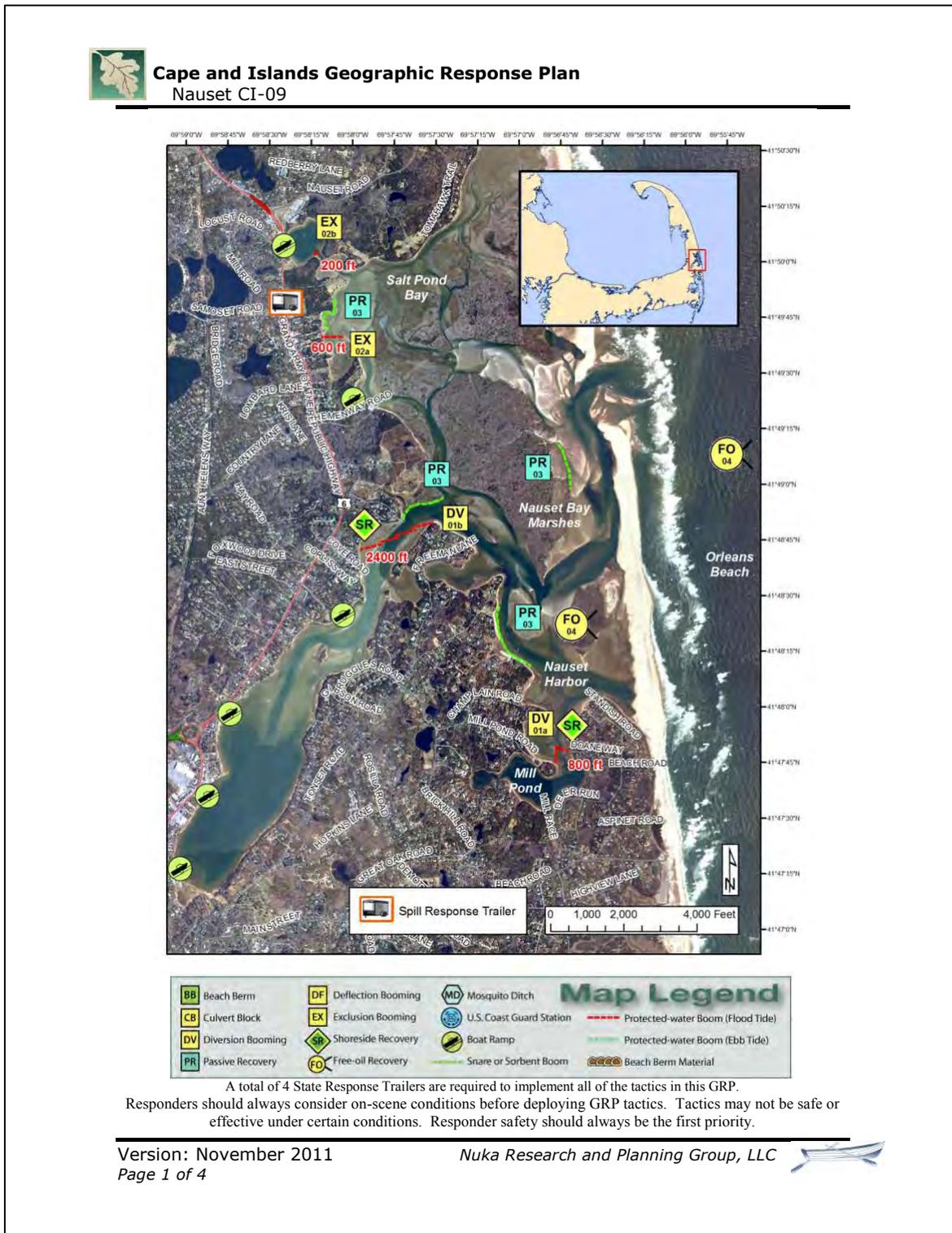


Figure 1. Nauset GRP (CI-09)

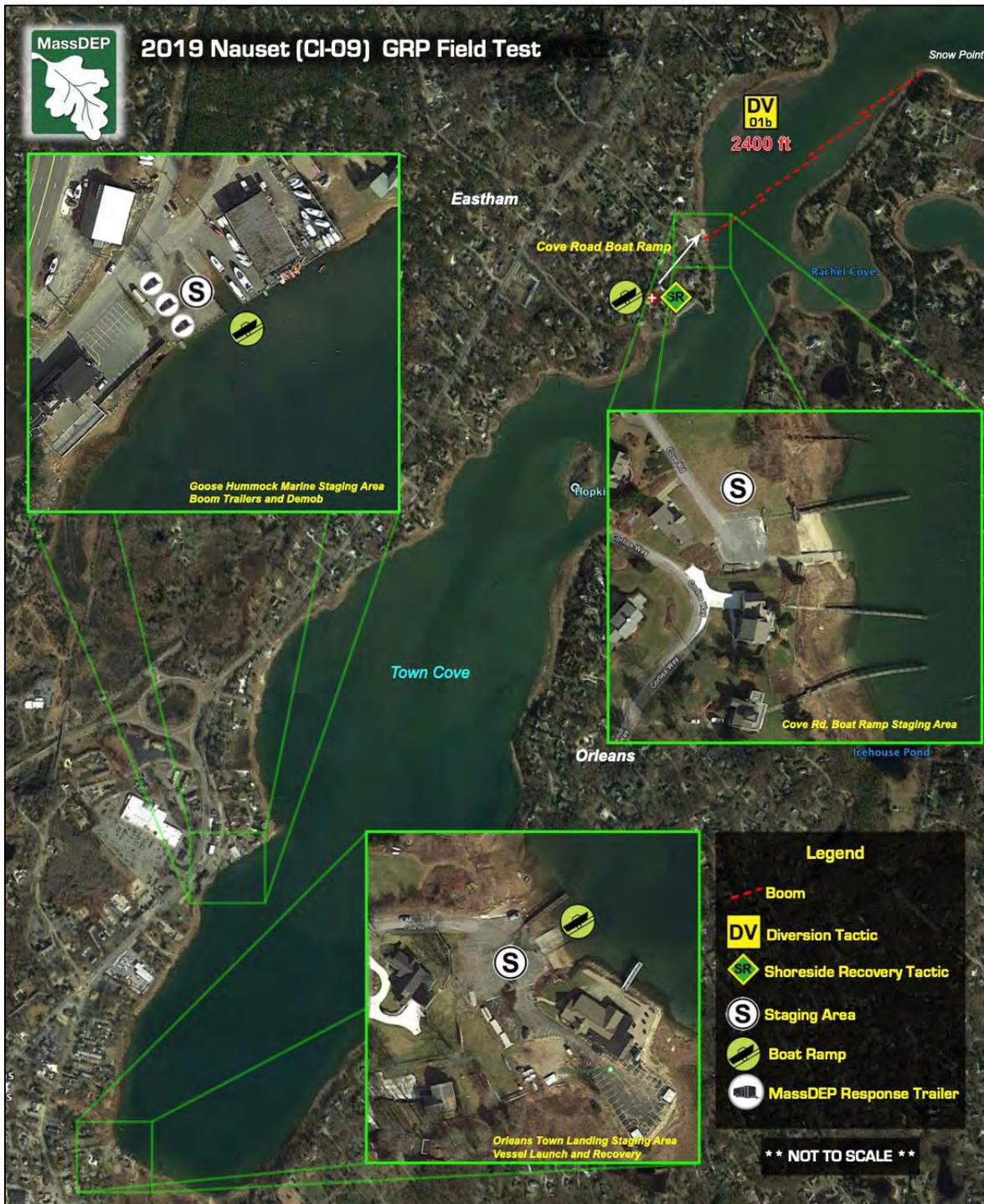


Figure 2. Nauset GRP Test Tactical Map

## ANALYSIS OF CORE CAPABILITIES

Aligning exercise objectives and core capabilities provides a consistent taxonomy for evaluation that transcends individual exercises to support preparedness reporting and trend analysis. Table 1 includes the exercise objectives, aligned core capabilities, and performance ratings for each core capability as observed during the exercise and determined by the evaluation team. Table 2 includes compiled data from the Exercise Evaluation Guide (EEG) including the organizational capability targets, associated critical tasks, and observations as observed during the exercise and determined by the evaluation team.

Objective	Core Capability	Performed without Challenges (P)	Performed with Some Challenges (S)	Performed with Major Challenges (M)	Unable to be Performed (U)
Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics.	Environmental Response/Health & Safety		S		
Test and evaluate existing Nauset GRP (CI-09) tactics and identify any changes or modifications necessary to achieve goal of excluding oil from Town Cove immediately following an oil spill that impacts Nauset Harbor, Town Cove, and the surrounding area. Test and evaluate personnel and vessel access to Town Cove for boom deployment and other protection measures	Natural and Cultural Resources	P			
<p><b>Ratings Definitions:</b></p> <ul style="list-style-type: none"> <li>• Performed without Challenges (P): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>• Performed with Some Challenges (S): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s) and did not negatively impact the performance of other activities. Performance of this activity did not contribute to additional health and/or safety risks for the public or for emergency workers, and it was conducted in accordance with applicable plans, policies, procedures, regulations, and laws. However, opportunities to enhance effectiveness and/or efficiency were identified.</li> <li>• Performed with Major Challenges (M): The targets and critical tasks associated with the core capability were completed in a manner that achieved the objective(s), but some or all of the following were observed: demonstrated performance had a negative impact on the performance of other activities; contributed to additional health and/or safety risks for the public or for emergency workers; and/or was not conducted in accordance with applicable plans, policies, procedures, regulations, and laws.</li> <li>• Unable to be Performed (U): The targets and critical tasks associated with the core capability were not performed in a manner that achieved the objective(s).</li> </ul>					

**Table 1. Summary of Core Capability Performance**

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
<b>Environmental Response/ Health and Safety</b>	<b>Overview of Response Equipment</b>	<ul style="list-style-type: none"> <li>• Access Mass DEP Trailer</li> <li>• Identify boom and sorbents</li> <li>• Connect boom together</li> <li>• Connect towing bridle to boom</li> <li>• Connect components of anchor system together</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Performed Without Challenges (P)</b></li> <li>• All skills successfully demonstrated during the exercise</li> <li>• MassDEP trailers (Towns of Brewster, Eastham, and Orleans) were readily accessible. All response equipment was available and in good condition. <b>Recommendation:</b> Some responders suggested that box cutter or folding knife for cutting lines, waders, boom patch kit and extra shackles be added to trailers.</li> <li>• Senior Fire Department personnel did an outstanding job coordinating movement of individual trailers to the Cove Rd. boat ramp and offload of boom and equipment in support of deployment.</li> <li>• All operations conducted safely.</li> </ul>
	<b>Basic Booming Operations</b>	<ul style="list-style-type: none"> <li>• Transport and tow boom.</li> <li>• Anchoring and Connecting boom to shore</li> <li>• Safe vessel and crew operations. (Refer to ICS-208)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Performed Without Challenges (P)</b></li> <li>• Trailer personnel displayed excellent teamwork in unloading, prepping, and handing-off boom to boats from boat ramp.</li> <li>• Contractor vessels did an excellent job of towing and transporting boom both during deployment from the Cove Rd. boat ramp to the deployment site as well as upon demobilization from the deployment site to Orleans Town Landing (2 NM).</li> <li>• All contractor vessels operated effectively and safely in the vicinity of Snow Point where there are extensive shallows and flats (even at high tide). Crews were active in spotting and keeping their vessels away from shallows and rocks as they deployed the boom.</li> <li>• Safety vessel (Eastham FD) and officer did an excellent job.</li> </ul>
	<b>Implement Tactics in GRP</b>	<ul style="list-style-type: none"> <li>• Diversion Boom (DV-01b)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Performed with Some Challenges (S)</b></li> <li>• IC effectively controlled exercise. Clean Harbors and SeaTow strike teams were for the most part well organized though exercise controllers noted that there were some minor communication challenges between Clean Harbors and SeaTow boat crews during the deployment that can likely be attributed to the fact that these personnel may not have worked together before. <b>Recommendation:</b> Clean Harbors and SeaTow should explore opportunities to conduct joint training should the need arise to work together during an actual incident or even routine on-water operations.</li> <li>• Due to the strong flood current and relatively low horsepower of one of the contractor boats being used for the deployment, there was some difficulty in positioning and anchoring some of the boom sections. <b>Recommendation:</b> This deployment again emphasizes the importance of utilizing vessels with adequate horsepower and handling characteristics to deploy containment boom, even smaller protected water boom like that provided in MassDEP</li> </ul>

			trailers. In this case, use of the particular vessel in question may have been based on available resources on the date of the field deployment
<b>Natural and Cultural Resources</b>	<b>Protect sensitive environmental and economic resources in Town Cove</b>	<ul style="list-style-type: none"> <li>Personnel and vessel access to Snow Point and entrance to Town Cove.</li> </ul>	<ul style="list-style-type: none"> <li><b>Performed without Challenges (P)</b></li> <li>Locations throughout Town Cove (both in Eastham and Orleans) offer ample and adequate facilities from which to stage and deploy equipment.</li> <li>The Cove Rd. boat ramp proved adequate for deployment despite the steepness of the ramp and narrow access road (Cove Rd. can only accommodate single vehicle traffic). Limitations at Cove Rd. include the fact that it is a private way and extensive outreach between MassDEP and the Cove Rd. Homeowners Association and individual residents was required prior to (and during) the exercise. In an actual incident, use of Cove Rd. will likely require coordination between MassDEP, local municipalities, and the Homeowners Association to overcome potential long-term issues associated with use of private property.</li> <li>Large-scale printout of the GRP/Tactics Map was extremely useful to all participants during the operational and safety brief.</li> </ul>

Table 2. Summary of Organizational Capability Targets and Associated Critical Tasks

The following sections provide an overview of the performance related to each exercise objective and associated core capability, highlighting strengths and areas for improvement.

## **Objective 1: Demonstrate the ability to deploy oil spill equipment from one or more MassDEP pre-positioned oil spill response trailers utilizing common Geographic Response Plan (GRP) tactics**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

### **Core Capability 1: Environmental Response/Health and Safety**

#### **Strengths**

The full capability level can be attributed to the following strengths:

**Strength 1:** The Incident Commander did an excellent job directing and coordinating vessel and shoreside assets.

**Strength 2:** Senior Fire Department personnel did an outstanding job coordinating movement of individual trailers to the Cove Rd. boat ramp and offload of boom and equipment in support of deployment.

**Strength 3:** Overall, contractor vessel strike teams did an excellent job towing and positioning 2,400 ft of boom in an area known for strong tidal currents and shallow water.

#### **Areas for Improvement**

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** To improve communications and effectiveness of joint operations, Clean Harbors and SeaTow Cape & Islands should explore opportunities to conduct joint training should the need arise to work together during an actual incident or even routine on-water operations.

**Area for Improvement 2:** Ensure vessels used for deployment are equipped with engines of adequate horsepower and are the appropriate type and size for deployment based on the prevailing conditions in the area, the amount and type of boom being deployed, and the overall tactical configuration being implemented. This deployment again emphasizes the importance of utilizing vessels with adequate horsepower and handling characteristics to deploy containment boom, even smaller protected water boom like that provided in MassDEP trailers. In this case, use of the particular vessel in question may have been based on available resources on the date of the field deployment

**Area for Improvement 3:** Some responders suggested that box cutter or folding knife for cutting lines, waders, boom patch kit and extra shackles be added to trailers. Consider adding additional equipment to each trailer to enhance responder capabilities and readiness.

**Reference:** N/A

**Analysis:** N/A

**Objective 2: Test and evaluate existing Nauset GRP (CI-09) tactics and identify any changes or modifications necessary to achieve goal of excluding oil from Town Cove immediately following an oil spill that impacts Nauset Harbor, Town Cove, and the surrounding area. Test and evaluate personnel and vessel access to Town Cove for boom deployment and other protection measures**

The strengths and areas for improvement for each core capability aligned to this objective are described in this section.

**Core Capability 2: Natural and Cultural Resources**

**Strengths**

The full capability level can be attributed to the following strengths:

**Strength 1:** By and large, locations throughout Town Cove (both in Eastham and Orleans) offer ample and adequate facilities from which to stage and deploy equipment.

**Areas for Improvement**

The following areas require improvement to achieve the full capability level:

**Area for Improvement 1:** Use of Cove Rd. boat ramp for staging/boom launch and as a shoreside recovery location.

**Reference:** N/A

**Analysis:** While the DV-01b diversion tactic was successfully tested and proven to be a potentially effective tactic when deployed at this location, and the Cove Rd. boat ramp proved adequate as a staging and deployment site, the private nature of the road, boat ramp area and beach may prove problematic for use both as a staging/deployment site and as a shoreside oil recovery location.

The “Special Considerations” section of the tactics table for the DV-01b strategy on the CI-09 GRP should be updated to include additional information regarding use of and potential limitations at Cove Rd and the associated boat ramp. The table below reflects the content of the current “Special Considerations” section of the GRP and proposed new verbiage.

<b>Special Considerations – Current Verbiage</b>	<b>Special Considerations – Proposed Verbiage</b>
<p>Vessel master should have local knowledge.</p> <p>Entire site surveyed: 10/11/07.</p> <p>Federal and State listed threatened wildlife may be present, particularly from March through August, limiting site access. Coordinate with CCNS, USFWS, and the Mass. Natural Heritage and Endangered Species Program.</p> <p>Use caution in sandy dunes during months when plovers are present. Nesting areas may include beaches, sand spits, foredunes, and washover areas in dunes. Consult with USFWS as early as possible regarding shoreline collection areas and access plans.</p> <p>Use caution operating in nearshore areas when Roseate Terns are foraging. Consult with USFWS as early as possible.</p> <p>Tested: not yet</p>	<p>Vessel master should have local knowledge.</p> <p>Entire site surveyed: 10/11/07.</p> <p>Federal and State listed threatened wildlife may be present, particularly from March through August, limiting site access. Coordinate with CCNS, USFWS, and the Mass. Natural Heritage and Endangered Species Program.</p> <p>While DV-01b is a proven/tested strategy, and the location is one of few sites available to protect this highly sensitive area, careful consideration and pre-planning is required before staging/deploying at Cove Rd. Cove Rd. and the associated boat ramp are private. Cove Rd. is a narrow, single lane road. The staging area is small and the boat ramp is steep. Coordination with the town of Eastham and the Cove Rd. homeowner’s association is critical.</p> <p>Tested: DV-01b tested <b>04/05/19</b></p>

Clean Harbors and SeaTow Cape & Islands vessels work with shoreside personnel to tow boom to deployment site



Photo courtesy of Nuka Research & Planning Group

Clean Harbors and SeaTow Cape & Islands vessels work together to deploy diversion boom at the entrance to Town Cove between Snow Point in Orleans and the Cove Rd. Boat ramp in Eastham



Photo courtesy of Nuka Research & Planning Group

Peat Moss is deployed to simulate spilled oil and test the effectiveness of the DV-01b tactic



The DV-01 tactic proves effective. No entrainment occurred despite strong currents



Photos courtesy of Nuka Research & Planning Group

## APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for Clean Harbors Inc., SeaTow Cape & Islands and the municipalities of Brewster, Eastham and Orleans following the MassDEP GRP Exercise conducted on April 5, 2019.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element <sup>1</sup>	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	Vessel Strike Team Communications	Clean Harbors and SeaTow Cape & Islands should explore opportunities to conduct joint training should the need arise to work together during an actual incident or even routine on-water operations.	Training	Clean Harbors/SeaTow Cape & Islands	Harry Davidson	06/01/19	12/31/20
Core Capability 1: Environmental Response/Health and Safety	Add additional equipment to MassDEP oil spill response trailers	Consider adding waders, boom patch kit and extra shackles to each trailer to enhance responder capabilities and readiness.	Equipment	MassDEP	Julie Hutcheson	06/01/19	12/31/20
Core Capability 2: Natural and Cultural Resources	Use of Cove Rd./boat ramp as staging/shoreside recovery location	Revise CI-09 GRP document "Special Considerations" section for the DV-01b strategy to provide additional information on use of Cove Rd. and boat ramp as staging deployment site.	Planning	Nuka Research	Mike Popovich	06/01/19	12/31/19

<sup>1</sup> Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

## APPENDIX B: EXERCISE PARTICIPANTS

Participating Organization	Participant Count
Clean Harbors, Inc.	8
Sea Tow Cape and Islands	5
Brewster Fire Department	2
Eastham Fire Department	4
Eastham Harbormaster	1
Orleans Fire Department	3
MassDEP	3
U.S. Coast Guard Sector Southeastern New England (USCG)	3
Cape Cod National Seashore	2
Nuka Research and Planning Group, LLC (Nuka Research)	2
<b>TOTAL</b>	<b>33</b>

## Appendix C: Exercise Equipment

Organization	Equipment Type	Description (length, horsepower, spec capability)
SeaTow	Vessel	27' Naiad/400HP- M/V PATROL
	Vessel	25' Brunswick/500HP - M/V RESCUE IV
Clean Harbors	Vessel	24' Sea Ark/90HP
Eastham FD	Vessel (Safety)	20' RHIB/90HPx2 - MARINE 153
	MassDEP Trailer	1,000' – 12/18" curtain boom, anchors, ancillary equipment
Brewster FD	MassDEP Trailer	1,000' – 12/18" curtain boom, anchors, ancillary equipment
Eastham HM	Vessel	18 ft McKee
Orleans FD	MassDEP Trailer	1,000' – 12/18" curtain boom, anchors, ancillary equipment