MassDEP Geographic Response Plan – 2017 Naushon Island/Hadley Entrance (BB-45) Exercise

May 4, 2017

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.

Rev. April 2013
HSEEP-IP01

EXERCISE OVERVIEW

Exercise Name	2017 Naushon Island GRP Exercise
Exercise Dates	May 4, 2017
Scope	This exercise was a Full Scale Exercise, planned for approximately six hours at Naushon Island, MA and upon the waters of Hadley Harbor and Inner Harbor. Exercise play is limited to Hadley Harbor, Inner Harbor, and the adjacent shoreline.
Mission Area(s)	Response
Core Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications
Objectives	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. Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Assignment List (ICS 201) and implementation of on-site incident management and tactical operations. Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using VHF communications.
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens Naushon Island and Hadley Harbor. Staff from the Naushon Trust and Massachusetts Department of Conservation and Recreation (DCR) will utilize GRP BB-45 to deploy protective booming to protect sensitive resources in Hadley Harbor and the Inner Harbor.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations included:

- Naushon Trust
- Massachusetts Department of Conservation and Recreation (DCR)
- U.S. Coast Guard Sector Southeastern New England (USCG)
- Moran Environmental Recovery (MER)
- Nuka Research and Planning Group, LLC (Nuka Research)

Note: See Appendix B for participant count

Point of Contact

Julie Hutcheson, Oil Spill Program Coordinator
Massachusetts Department of Environmental Protection
Oil Spill Prevention and Response Program
1 Winter St.
Boston, MA 02108
(617) 556-1191
julie.hutcheson@state.ma.us

Training being conducted in the Farm Kitchen on Naushon Island .

Equipment familiarization training being conducted in the vicinity of the Naushon Island ferry dock.

Photos courtesy of Nuka Research & Planning Group

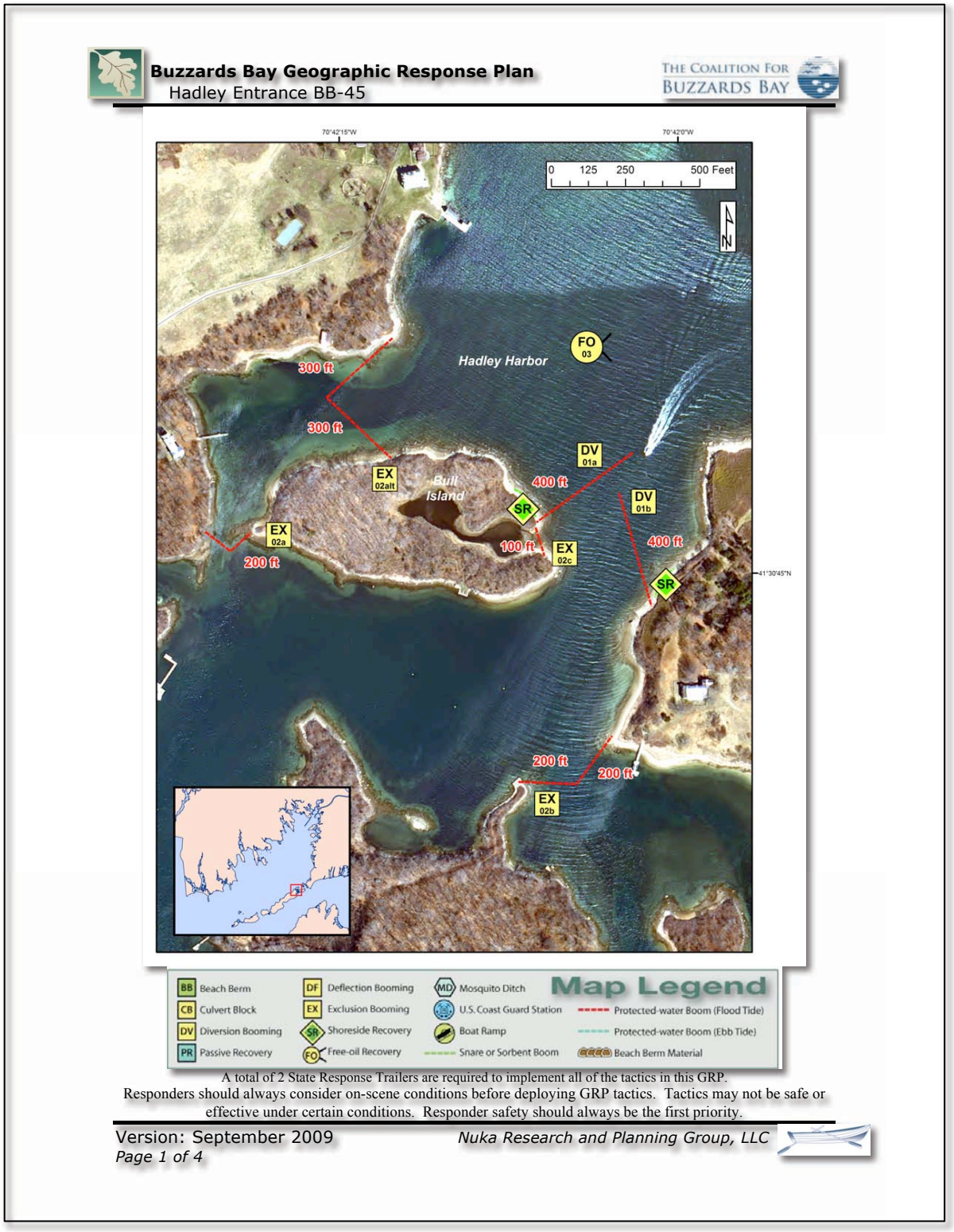


Figure 1. Hadley Entrance GRP

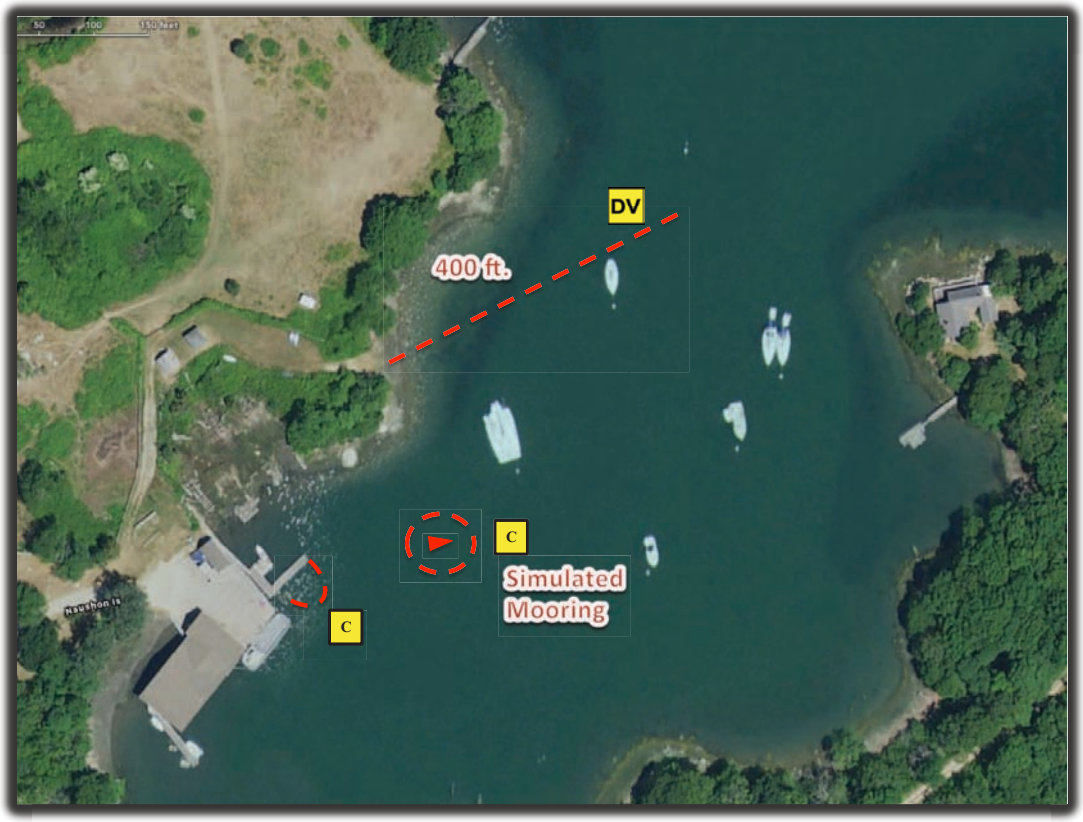


Figure 2. Containment Boom and Diversion Boom Tactics Conducted in Inner Harbor

Naushon Trust staff participates in equipment demonstration.

Photo courtesy of Nuka Research & Planning Group

Exercise participants assemble anchors to be used to secure boom in place.

Photo courtesy of Nuka Research & Planning Group

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 and Safety	P			
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.	Operational Coordination	P			
Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire, police and harbormaster departments using VHF communications	Operational Communications	P			

Ratings Definitions:

- 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.
- 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.
- 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.
- 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).

Table 1. Summary of Core Capability Performance

Core Capability	Organizational Capability Target	Associated Critical Tasks	Observation Notes
Environmental Response/ Health and Safety	**Overview of Response Equipment**	• Access Mass DEP Trailer • Identify boom and sorbents • Connect boom together • Connect towing bridle to boom • Connect components of anchor system together	• **Performed without Challenges (P)** • All skills successfully demonstrated during the exercise • MassDEP trailers were readily accessible. All response equipment readily available and in good condition. Special thanks to MER for visiting the trailers in advance to inspect them and addressed several problems with mouse infestation, ensuring the equipment was readily available for the exercise participants. • Slide hammers were in the trailers on the island and greatly increased the safety of deploying the shore anchor. • Revised trailer hands-on demonstration program was very effective in engaging exercise participants. The use of multiple stations gave everyone the opportunity to use the equipment in the trailer. • There were no mid anchor points on any of the 18 inch boom. Recommend that anchor points be installed by MER or the boom be replaced.
	Basic Booming Operations	• Transport and tow boom. • Anchoring and Connecting boom to shore • *Safe* vessel and crew operations. (Refer to ICS-208)	• **Performed With Some Challenges (S)** • All operations conducted in a safe manner. • **Area for improvement:** Carrying extra bridles in the boat would have made some of the booming operations simpler and transitions between strategies go smoother. • **Area for improvement:** Some personnel on pier were not wearing PFD's. Safety Officer and several personnel pointed this out and PFD's were obtained from the trailer for shore personnel. • Response vessel (21' skiff) did an excellent job of towing sections of boom. They were deployed seamlessly by pulling off the beach. This was done easily and safely and directed by the shore team on the pier. • Recovery of all boom conducted very safely.
	Implement Tactics in GRP	Containment Boom (pier)	• **Performed without Challenges (P)** • The 21' skiff rapidly boomed off a small vessel along a pier. Shore team on the pier did an excellent job of securing boom to the pier and coordinating operations with the skiff. • **Best practice**: a bridle was made with polypropylene line by looping it around the end connector, tension member and ballast chain to secure the line closer to the pier than the bridle. • Shore teams were aware that sausage boom would be an effective way to seal the area between the pier and the end connectors of the boom. • **Best practice:** 50 feet of 12" anchor boom used. Anchor point created on 12" boom using a shackle pinned into the ballast chain through a small cut in the boom shell. This enabled a single length of boom to form a properly shaped

			containment boom around the vessel on the pier
		Containment boom (mooring)	• **Performed without Challenges (P)** • Boat driver for 21' skiff did an outstanding job by quickly circling the simulated boat at mooring. This maneuver (dubbed the Quinn maneuver) would have quickly prevented leaking oil from spreading from the simulated vessel while anchors were being set. • Trip lines were used to adjust anchors for the containment boom tactic, greatly facilitating adjustments. • IC did an excellent job of directing that additional boom be used for containment to provide additional anchor points for containment strategy.
		Diversion Boom	• **Performed without Challenges (P)** • DV-01b was not implemented due to time constraints. Diversion boom off the beach adjacent to the MassDEP trailer in Inner Harbor was exercised instead (see figure 2). • Outstanding job by trailer/shore team in implementing shore anchor. Anchor successfully sustained a significant amount of force while boom was being pulled offshore and held without an issue. Shore anchor was close together and that seemed to work as well as one more spaced out. • Trip lines were used to great effect to adjust the anchor position. • Good communications between skiff and shore team to pull boom offshore.
		General Comments	• During the Initial Planning meeting, the currency of the Naushon and Pasque Oil Spill Response Plan was questioned. Upon review, the plan is in need of either updating or taking the information in it and integrating that into existing GRP's. • Contact information for Naushon Trust staff on the Hadley Entrance GRP (BB-45) needs to be updated. Also recommend that contact info for all GRP's in the Elizabeth Islands be reviewed for accuracy. • While not used, Naushon Trust staff has established several pre-positioned shore side anchor points. These represent a best practice allowing for rapid deployment of boom tactics in advance of an oil spill impacting the shores of Naushon Island.
Operational Coordination	**Create and Execute An Assignment List (ICS 201)**	• Fill out ICS 201 • Assignments in ICS 201 are followed and on-scene adjustments. • Participants demonstrate command and control of exercise	• **Performed without Challenges (P)** • IC seamlessly managed the departure of Massachusetts DCR staff prior to the trailer demonstration due to an actual emergency. • Naushon Trust boat crew and shore teams worked well together to conduct all boom deployments and perform all tasks. • IC did an outstanding job of controlling the exercise and all response efforts. All tasking clear and concise. Personnel were used effectively to accomplish all tasks.

Operational Communications	**Effectively Communicate Using VHF equipment**	• Create Communications Plan • Communicate with other participants using organic VHF equipment	• **Performed without Challenges (P)** • Communications were excellent between the IC, 21' skiff and shore/trailer teams. • Staff used VHF radios with pre-programmed channels (Kenwood TK-2312) that served as internal communications for normal operations of the Naushon Trust staff. Channel 17 was not one preprogrammed into the radios but since this particular system can accommodate 128 channels, it should have the capability to program Channel 17. **Recommendation**: program Channel 17 into Naushon Trust Staff radios to ensure compatibility with other agencies when responding to a marine oil spill. • Given the close proximity of strike teams, voice communications were used more often than VHF communications. Voice communications were sufficient for most aspects of this evolution as the vessel and shore/pier teams were able to work closely together. Wind and ambient noise were also not a factor, further facilitating verbal communications. When used, VHF communications were very effective.

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: Participants from the Naushon Trust along with MassDEP, Nuka Research and Moran Environmental worked well together to complete assigned tasks.

Strength 2: The use of stations during the trailer demonstration was effective in facilitating increased student participation during the trailer equipment demonstration.

Strength 3: The response vessel (21' skiff) did an excellent job of towing sections of boom and setting anchors.

Areas for Improvement

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

Area for Improvement 1: Personal Floatation Devices (PFD's) must be worn by all personnel working on or near the water.

Reference: Exercise Safety Message/Plan (ICS-208)

Analysis: Overall, the performance of the Naushon Trust staff during this exercise was outstanding. Several best practices were identified including the following:

- Pre-positioned shore anchors.
- Fashioning a bridle out of polypropylene line.
- Circling the simulated moored vessel to deploy containment boom.
- Effective use of trip lines to maneuver anchors into position.

The only area for improvement was safety. Some personnel participating in the exercise did not wear PFD's while working on the pier to secure boom during the containment boom portion of the exercise. This situation was identified by several exercise participants and corrected by the Incident Commander

Objective 2: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through development and execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.

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

Core Capability 2: Operational Coordination

Strengths

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

Strength 1: The Incident Commander did an outstanding job of controlling the exercise and all response efforts. All tasking was clear and concise. Personnel were used effectively to accomplish all tasks

Areas for Improvement

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

Area for Improvement 1: None

Reference: N/A

Analysis: N/A

Objective 3: Demonstrate the ability to effectively communicate between multiple local, state, and federal agencies including fire departments, police departments, harbormasters, and other state and federal first responders using VHF communications

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

Core Capability 3: Operational Communications

Strengths

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

Strength 1: • Communications were excellent between the Incident Commander, 21' skiff and shore/trailer teams. Given the close proximity of strike teams, voice communications were used more often than VHF communications. Voice communications were sufficient for this evolution as the vessels were able to work close to the pier, to shore, and to each other. Wind and ambient noise were also not a factor, further facilitating verbal communications. When used, VHF communications were very effective.

Areas for Improvement

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

Area for Improvement 1: Exercise participants did not use VHF-FM channel 17.

Reference: N/A.

Analysis: Naushon Trust staff use VHF radios with pre-programmed channels (Kenwood TK-2312) that served as internal communications for their day-to-day operations. Channel 17 was not preprogrammed into the radios but since this particular system can accommodate 128 channels, it should able to program Channel 17. It is recommended that Channel 17 be programmed to ensure compatibility with other agencies when responding to a marine oil spill.

Naushon Trust staff complete a pier side containment booming tactic using a rope bridle.

Photo courtesy of Nuka Research & Planning Group

Containment boom being deployed around a simulated vessel on a mooring ball.

Photo courtesy of Nuka Research & Planning Group

Rebar shore anchor holds boom in place while it is being anchored in place offshore

Diversion boom being pulled offshore by Naushon Trust 21' skiff.

Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the Naushon Trust following the MassDEP GRP Exercise conducted on May 4th, 2017.

Core Capability	Issue/Area for Improvement	Corrective Action	Capability Element[1]	Primary Responsible Organization	Organization POC	Start Date	Completion Date
Core Capability 1: Environmental Response/Health and Safety	1. Implement Tactics in GRP	Update contact information for Naushon Trust staff on the Hadley Entrance GRP (BB-45) and other relevant GRP's.	Planning	Nuka Research	Mike Popovich	6/1/17	12/15/17
Core Capability 1: Environmental Response/Health and Safety	2. Implement Tactics in GRP	Update the Naushon and Pasque Oil Spill Response Plan.	Planning	Nuka Research	Mike Popovich	TBD	TBD
Core Capability 1: Environmental Response/Health and Safety	3. Overview of Response Equipment	There were no mid anchor points on any of the 18 inch boom. Recommend that anchor points be installed by MER or the boom be replaced.	Equipment	MER	John Duponte	11/15/17	4/1/18
Core Capability 1: Environmental Response/Health and Safety	4. Transport and tow boom.	Include carrying extra bridles and/or use of rope as an extra bridle in boats in the classroom instruction.	Training	Nuka Research	Mike Popovich	6/1/17	12/15/17
Core Capability 1: Environmental Response/Health and Safety	5. Anchoring and Connecting boom to shore	Include technique of installing additional anchor points in boom with shackle in classroom instruction.	Training	Nuka Research	Mike Popovich	6/1/17	12/15/17
Core Capability 3: Operational Communications	1. Communicate with Channel 17 VHF-FM	Recommend Naushon Trust Staff Program radios to use Channel 17 VHF-FM	Equipment	Naushon Trust Staff	TBD	TBD	TBD

[1] Capability Elements are: Planning, Organization, Equipment, Training, or Exercise.

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Naushon Trust	**Participant Count**
Naushon Trust Staff	**15**
Town of Gosnold, MA	
TOWN PARTICIPANTS	**15**
Federal	
United States Coast Guard (USCG)	**3**
State	
Massachusetts Department of Environmental Protection (MassDEP)	**2**
Massachusetts Department of Conservation and Recreation	**3***
Nuka Research and Planning Group, LLC (contractor for MassDEP)	**3**
Moran Environmental Recovery (contractor for MassDEP)	**2**
TOTAL	**28***

20% of first responders reported having previous GRP exercise experience.

* Massachusetts Department of Conservation and Recreation Staff had to depart during the classroom portion of the exercise to respond to an actual emergency.

APPENDIX C: EXERCISE EVALUATION FORM

MassDEP
Geographic Response Plan (GRP)
Exercise and Testing Program

Participant Feedback Form

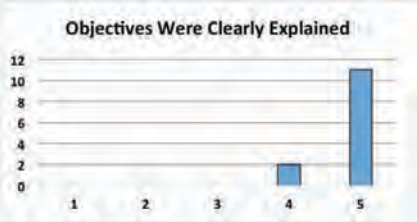
Please use the above rating scale to answer the questions for each of the following topics.

The objectives were clearly explained and the exercise met those objectives.	**1 2 3 4 5**
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	**1 2 3 4 5**
Comments:	
The instructor(s) did an excellent job.	**1 2 3 4 5**
Comments:	
I found the classroom to be a comfortable learning environment.	**1 2 3 4 5**
Comments:	
I feel more prepared to respond to an oil spill than I did before this exercise.	**1 2 3 4 5**
Comments:	
The best thing about this training was_____.	
This training could have been improved by _____.	

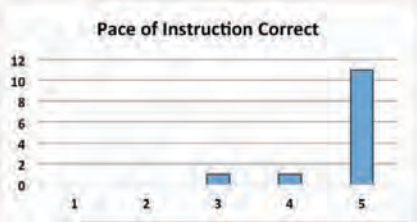
Please use the back of the sheet if you need more room for comments.

(Rev 2016)

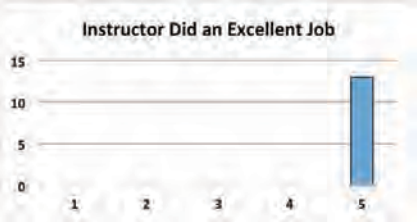
Student Feedback Summary



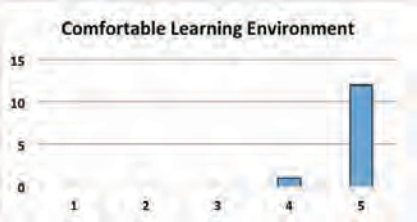
Student Comments: "Good job!"



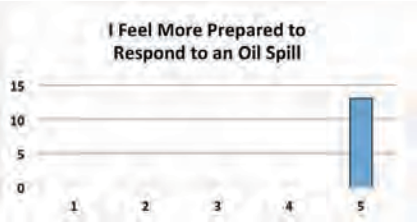
Comments: "Pace was fine. It wasn't challenging"



Comments: None.



Comments: "Classroom and hands-on"



Comments: "Yes. For sure; Hands on with the equipment was great"

The best thing about this training was… "Getting practice when things go wrong; Rotating groups, showing steps, examples; Practical training; Interaction; Really everything!; The details; Learning how to be prepared & teamwork; Meeting the responders and DEP"

This training could be improved by…. "Longer."