



MassDEP Geographic Response Plan – 2019 Buttermilk Bay (BB- 27)/Bourne GRP Exercise

After Action Report
October 3, 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

Exercise Name	2019 Buttermilk Bay (BB-27)/Bourne GRP Exercise
Exercise Date	October 3, 2019
Scope	This exercise was a Full-Scale Exercise, planned for approximately six hours in Bourne, MA and upon the waters of Buzzards Bay. Exercise play is limited to Buzzards Bay in the vicinity of the Cohasset Narrows and Taylor Point Marina and the adjacent shoreline.
Mission Area(s)	Response
Core Capabilities	Environmental Response/Health and Safety, Operational Coordination, Operational Communications.
Objectives	<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: Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through execution of an Incident Briefing (ICS 201) and implementation of on-site incident management and tactical operations.</p> <p>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 and UHF communications.</p>
Threat or Hazard	Discharge of oil into a navigable waterway
Scenario	An oil spill has occurred that threatens Buzzards Bay, the Cape Cod Canal, Buttermilk Bay and the Taylor Point Marina. The Bourne and Sandwich Fire Departments and Harbormaster staffs will utilize GRP BB-27 to deploy boom to protect sensitive resources in Taylor Point Marina and the surrounding area.
Sponsor	Massachusetts Department of Environmental Protection (MassDEP).

Participating Organizations

Participating organizations will include:

- Bourne Fire Department (BFD)
- Bourne DNR/Harbormaster (BHM)
- Sandwich Fire Department (SFD)
- Sandwich Harbormaster (SHM)
- MassDEP
- 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

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Bourne and Sandwich participants attend oil spill 101 classroom session



Incident Commander and other participants prepare for boom deployment



Photos courtesy of Nuka Research & Planning Group

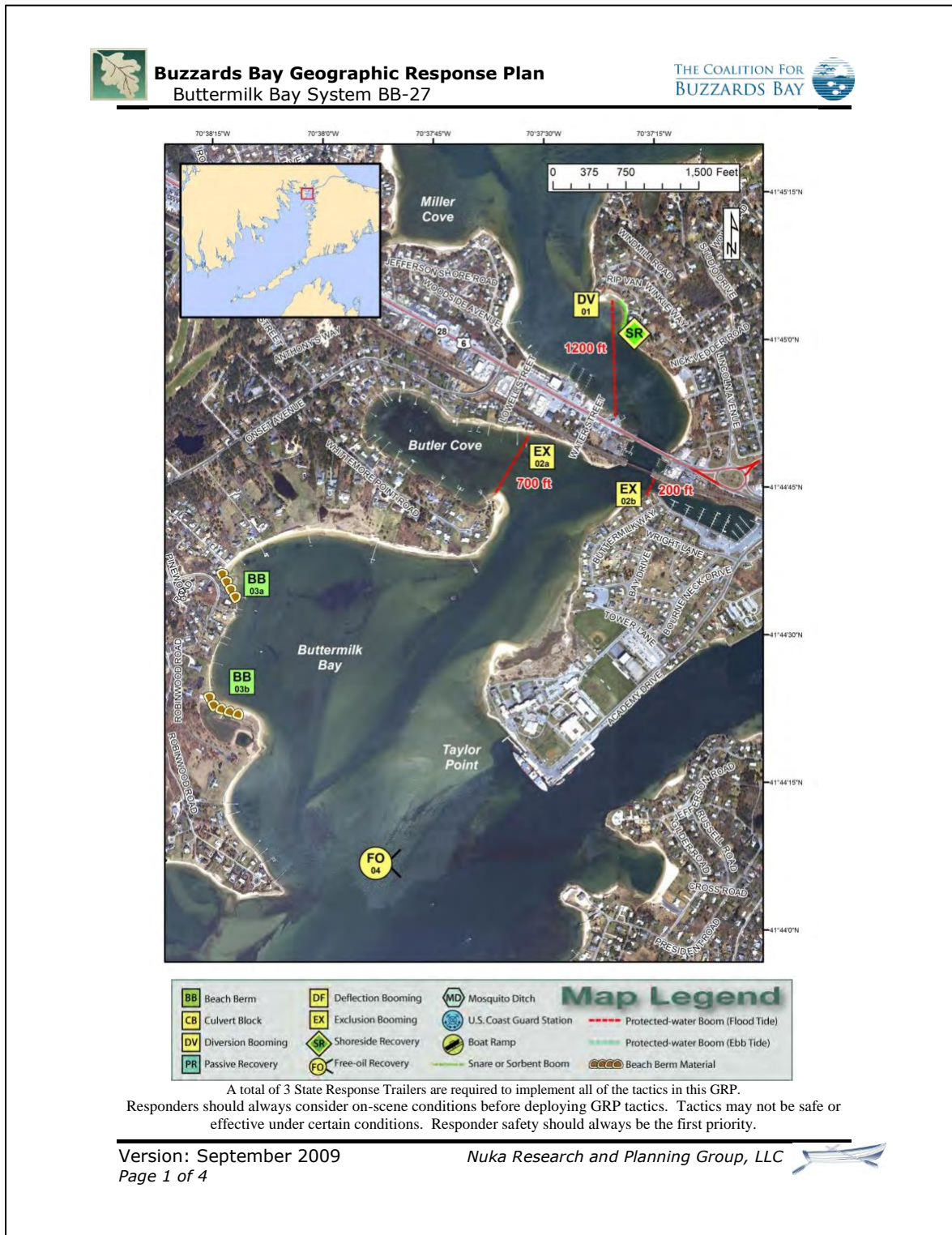


Figure 1. Lewis Bay GRP (CI-13)

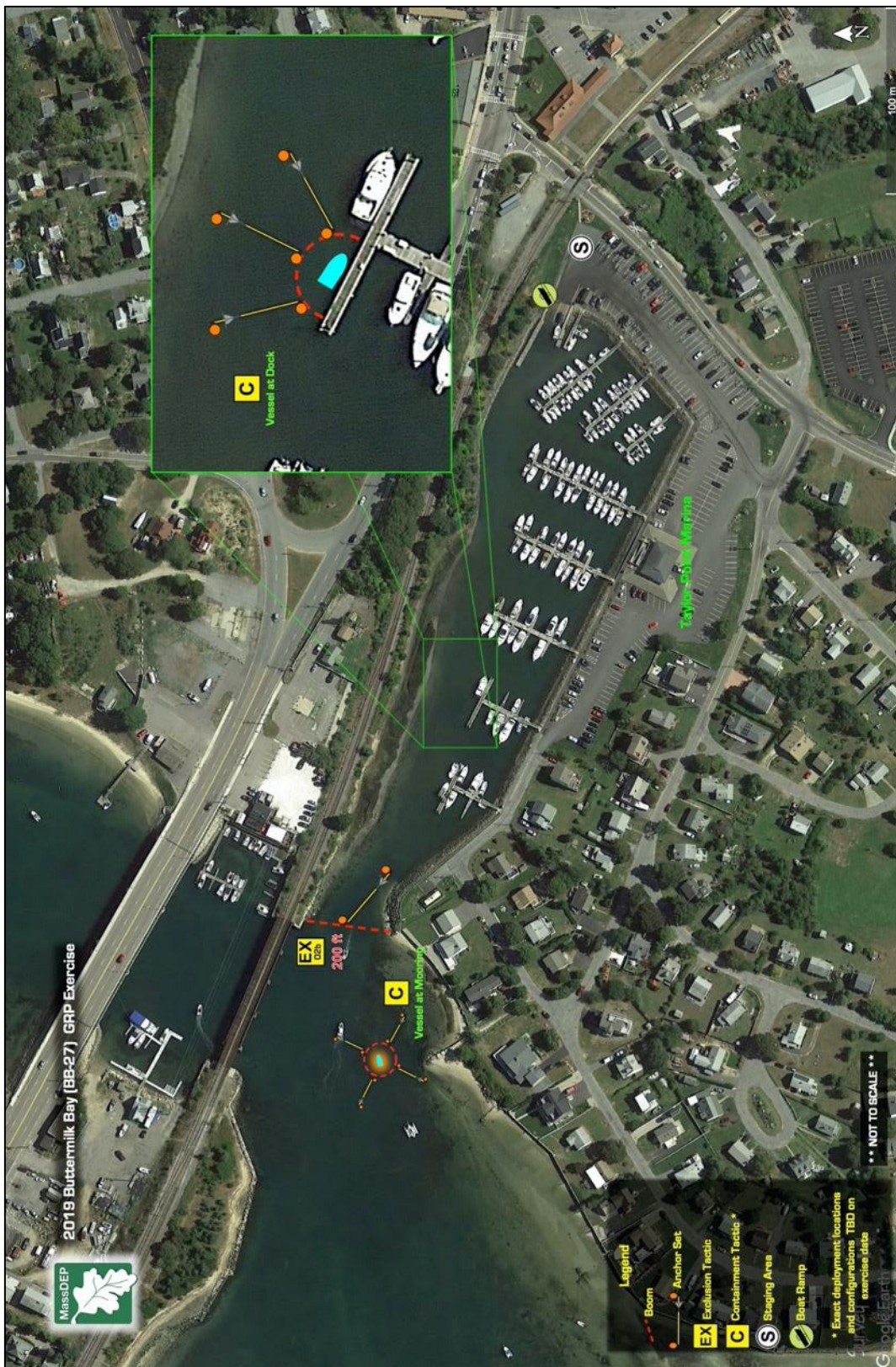


Figure 2. Exercise Tactics Map

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 and Safety	P			
Demonstrate the ability to assemble a spill response organization utilizing Incident Command System (ICS) principles through 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 harbor master departments using VHF and UHF communications	Operational Communications	P			
Ratings Definitions: <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> Access Mass DEP Trailer Identify boom and sorbents Connect boom together Connect towing bridle to boom Connect components of anchor system together 	<ul style="list-style-type: none"> Performed Without Challenges (P) All equipment was readily available in both trailers. Participation during hands-on training at multiple stations was excellent.
	Basic Booming Operations	<ul style="list-style-type: none"> Transport and tow boom. Anchoring and Connecting boom to shore Safe vessel and crew operations. (Refer to ICS-208) 	<ul style="list-style-type: none"> Performed Without Challenges (P) Anchoring requirements were quickly determined once on-scene and anchor systems were configured and set-up quickly and efficiently. Boom towing and anchoring were conducted safely. During deployment, permanent anchoring points in the form of eye bolts were discovered along the stone seawall at the railroad bridge on the north side of the entrance to Taylor Point Marina. These fixed anchor points were used to quickly secure the boom. An anchoring point on the south end of the Taylor Point Marina entrance was quickly established using the double rebar technique that was demonstrated and practiced during the trailer-side training. Safety practices for working around the water were followed. Boat operators were able to maneuver successfully during boom deployment to avoid active vessel traffic. Deployment of exclusion boom at entrance to Taylor Point Marina was safely and effectively performed by several boat crews. The BFD 14' small boat was delayed in getting underway due to in improperly secured fuel hose but this was eventually rectified allowing the vessel to complete assigned tasking.
	Implement Tactics in GRP	<ul style="list-style-type: none"> Deploy exclusion boom in accordance with GRP 	<ul style="list-style-type: none"> Performed Without Challenges (P) While the exclusion boom strategy (EX-02b) was deployed as depicted in GRP, testing its efficacy using an oil surrogate (peat moss) could not be completed as the tide had shifted (flood to ebb) by the time the boom was deployed and secured.

Operational Coordination	Create and Execute an Assignment List (ICS 201)	<ul style="list-style-type: none"> • Fill out ICS 201 • Assignments in ICS 201 are followed and on-scene adjustments. • Participants demonstrate command and control of exercise 	<ul style="list-style-type: none"> • Performed Without Challenges (P) • The IC clearly outlined an intended operations plan and personnel assignments were made for shoreside and vessel teams. • Coordination between shoreside and vessel teams was good.
Operational Communications	Effectively Communicate Using VHF equipment	<ul style="list-style-type: none"> • Create Communications Plan • Communicate with other participants using organic VHF equipment 	<ul style="list-style-type: none"> • Performed without Challenges (P) • The established communications plan was followed and communications, using VHF Channel 67 and voice communications when appropriate, were clear, concise, and timely throughout the exercise.

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: Participation and coordination by the Bourne and Sandwich Fire Departments and Harbormaster staffs was excellent and all departments worked well together.

Strength 2: Participation during hands-on training at multiple stations was excellent.

Strength 3: Boom towing and anchoring were conducted safely. Boat crews and shore teams quickly determined best anchoring methods using both fixed shoreside points and responder-established shoreside anchor points using equipment available in the MassDEP trailer.

Areas for Improvement

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

Area for Improvement 1: While the exclusion boom strategy (EX-02b) was deployed as depicted in GRP, testing its efficacy using an oil surrogate (peat moss) could not be completed as the tide had shifted (flood to ebb) by the time the boom was deployed and secured.

Reference: Exercise Plan

Analysis: On-water deployment operations did not commence early enough before high tide to allow for testing of the exclusion boom strategy with an oil surrogate. Exercise planners should allow for more time in the schedule to conduct all other exercise training elements and deployment preparation while still allowing ample time to conduct on-water deployment and oil surrogate testing.

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: Overall operational coordination between exercise players was effective and well communicated.

Areas for Improvement

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

Area for Improvement 1: N/A

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, harbor masters, 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: The established communications plan was followed and communications, using VHF Channel 67 and voice communications when appropriate, were clear, concise, and timely throughout the exercise. No hardware or infrastructure issues encountered.

Areas for Improvement

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

Area for Improvement 1: N/A

Reference: N/A

Analysis: N/A

Bourne FD and DNR vessel prepare for boom deployment



Photo courtesy of Nuka Research & Planning Group

Bourne DNR effectively tows boom section near entrance to Taylor Point Marina. Sandwich Harbormaster and Bourne DNR support vessels stand by

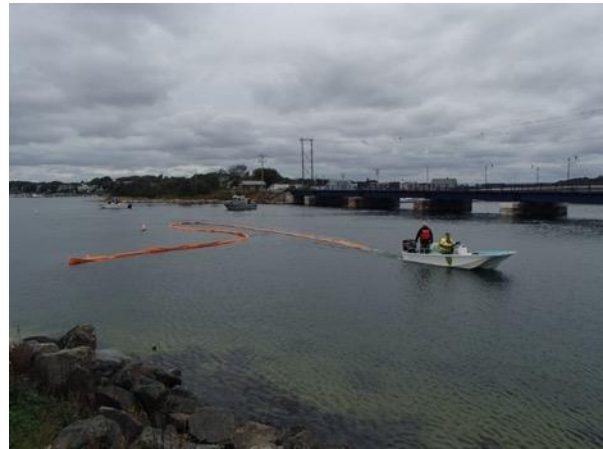


Photo courtesy of Nuka Research & Planning Group

Exclusion boom successfully deployed at entrance to Taylor Point Marina



First responders utilize rebar to establish a shoreside boom anchoring point



Photos courtesy of Nuka Research & Planning Group

APPENDIX A: IMPROVEMENT PLAN

This IP has been developed specifically for the municipalities of Bourne and Sandwich following the MassDEP GRP Exercise conducted on October 3, 2019.

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	Testing of deployed strategy using an oil surrogate (peat moss) could not be completed due to tide shift (flood to ebb).	Exercise planners must schedule exercises on favorable tide days to allow ample time for on-water deployment and oil surrogate testing prior to tide changes.	Planning	Nuka Research	Mike Popovich	01/01/20	12/31/20

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

APPENDIX B: EXERCISE PARTICIPANTS

Participating Organizations	
Town of Bourne, MA	Participant Count
Bourne Fire Department	16
Bourne DNR/Harbormaster	5
Town of Sandwich, MA	
Sandwich Fire Department	2
Sandwich Harbormaster	3
TOWN PARTICIPANTS	26
Federal	
United States Coast Guard	2
State	
Massachusetts Department of Environmental Protection (MassDEP)	3
Nuka Research and Planning Group, LLC (contractor for MassDEP)	2
Moran Environmental Recovery (contractor for MassDEP)	2
TOTAL	35

APPENDIX C: EXERCISE EVALUATION FORM



MassDEP Geographic Response Plan (GRP) Exercise and Testing Program

Participant Feedback Form

1 Strongly disagree	2 Mildly disagree	3 Neutral	4 Mildly agree	5 Strongly agree
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Please use the above rating scale to answer the questions for each of the following topics.

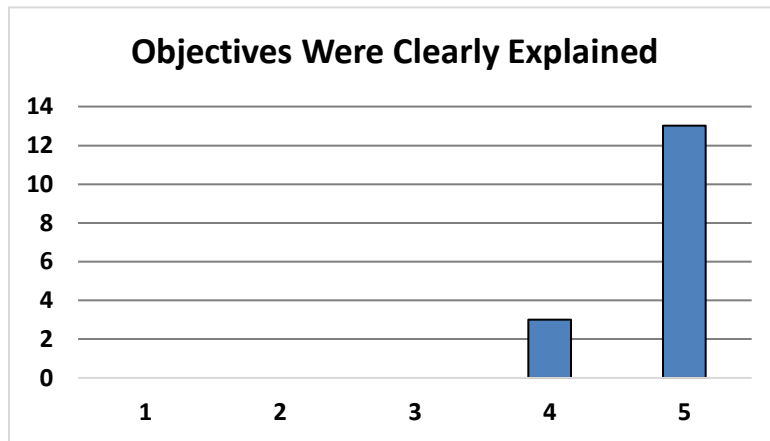
The objectives were clearly explained and the exercise met those objectives.	1 2 3 4 5
Comments:	
The material appropriately challenged me and the pace of instruction was correct.	1 2 3 4 5
Comments:	
The instructor(s) did an excellent job.	1 2 3 4 5
Comments:	
I found the classroom to be a comfortable 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.

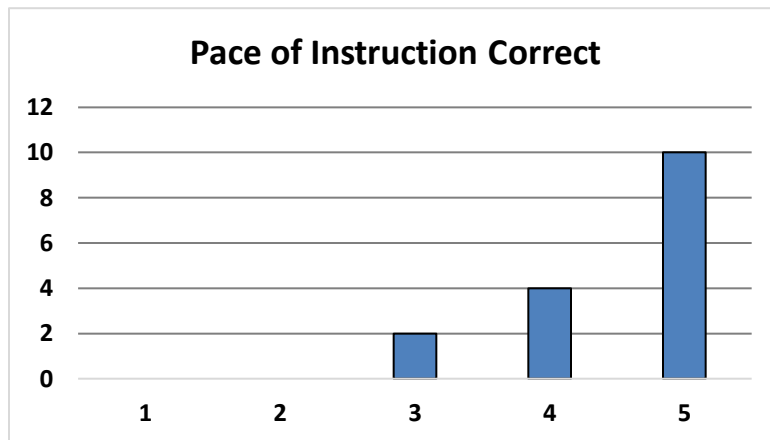
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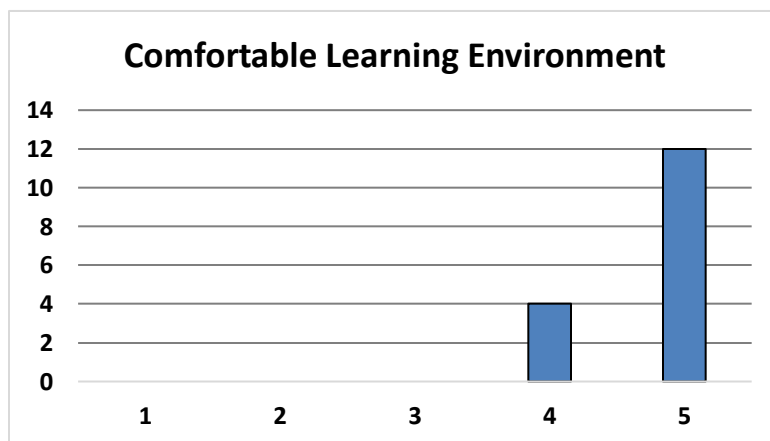
Student Feedback Summary



Comments: None

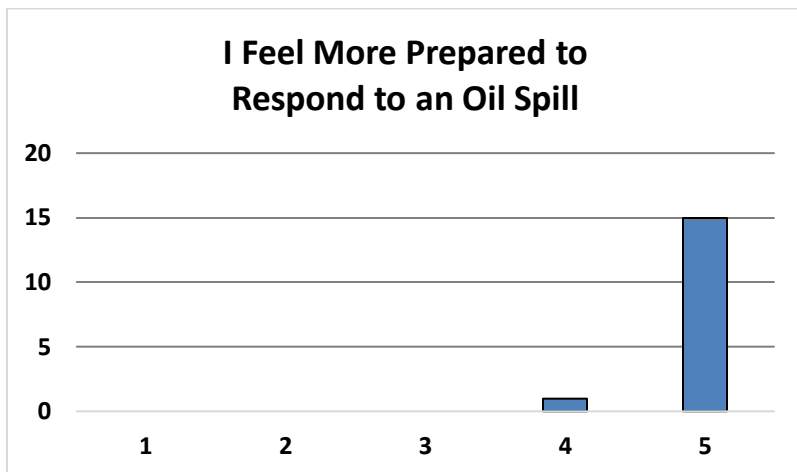


Comments: None

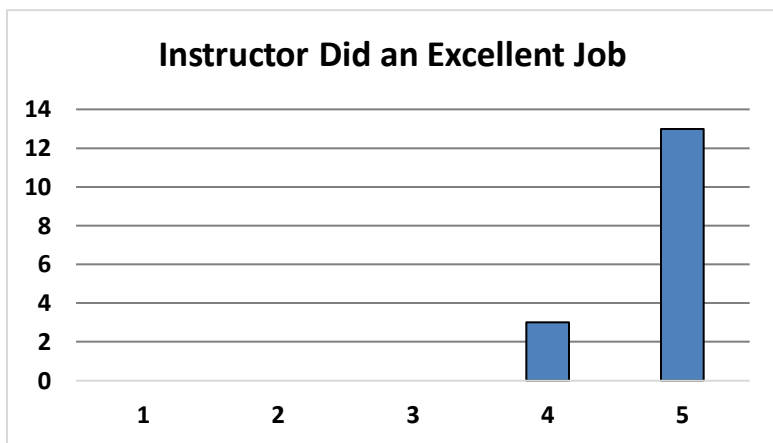


Comments: None

Comments: None



Comments: None



The best thing about this training was...

"Incident training; Hands-On (x5); Practical Application; Boat Work; Hands-On trailer exercise and field deployment; Hands-On with phases; Great learning experience; Overall experience gained in deployment & understanding; Instruction; Practical evolution & review; Practical exercise"

This training could be improved by...

"More boat time; More time/2-days/more of a challenge; One additional evolution"