



North Shore Geographic Response Plan

Salem Harbor NS-25



BB Beach Berm	DF Deflection Booming	MD Mosquito Ditch	Map Legend
CB Culvert Block	EX Exclusion Booming	U.S. Coast Guard Station	
DV Diversion Booming	SR Shoreside Recovery	Boat Ramp	
PR Passive Recovery	FO Free-oil Recovery	Snare or Sorbent Boom	
		Beach Berm Material	
			Protected-water Boom (Flood Tide)
			Protected-water Boom (Ebb Tide)






A total of 5 State Response Trailers are required to implement all of the tactics in this GRP. Responders should always consider on-scene conditions before deploying GRP tactics. Tactics may not be safe or effective under certain conditions. Responder safety should always be the first priority.





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ID	Location and Description	Response Strategy	Implementation
NS-25-01 	Salem Harbor (a)Naugus Head Lat. 42°31'18"N Lon. 70°51'36"W (b)Winter Island Lat. 42°31'39"N Lon. 70°51'55"W (alt)Folger Point Lat. 42°30'55"N Lon. 70°52'2"W	Divert and Collect - Shoreside Place and anchor sections of protected water boom at the proper angle to the current to divert the oil to the identified shoreside collection locations.	Deploy anchors and boom with skiffs. For (a) & (b) place 6x200-ft sections of 18" boom in a cascading fashion angled as shown in the diagram to divert incoming oil to the collection sites at Naugus Head and Winter Island. Set anchors every 200 ft. If (a) cannot be deployed, use (alt) tactic. For (alt) place 1,000 ft of 18" boom angled as shown in the diagram to divert incoming oil to the collection site at Folger Point. Set anchors every 200 ft. Tend throughout the tide.
NS-25-02 	Salem Harbor (a)Juniper Cove Lat. 42°31'56"N Lon. 70°52'5"W (b)Cat Cove Lat. 42°31'32"N Lon. 70°52'24"W (c)South River Lat. 42°30'56"N Lon. 70°53'2"W	Exclusion Exclude oil from entering the coves and river to minimize the extent of oiled shoreline.	Deploy anchors and boom with skiffs. For (a) place 400 ft of 18" boom directly across the entrance to Juniper Cove. Set anchors every 200 ft. Use passive recovery at attachment points to minimize leakage. For (b) place 1,100 ft of 18" boom directly across Cat Cove. The boom attachment must be able to rise/fall with the tide to maintain a seal. Anchors should be set every 200 ft. Use passive recovery at attachment points to minimize leakage. For (c) set 800 ft of 18" boom in a semi-circle shape at the entrance to the South River as shown in diagram. Set anchors every 200 ft to hold boom away from the shore. The boom attachment must be able to rise/fall with the tide to maintain a seal. Use passive recovery at attachment points to minimize leakage. Tend throughout the tide.
NS-25-03 	Salem Harbor Cat Cove Hatchery Lat. 42°31'44"N Lon. 70°52'16"W	Culvert Block Close gate to hatchery water intake to prevent oil from entering pond.	Coordinate closing of hatchery water intake with Salem State College.
NS-25-04 	Various Locations	Passive Recovery Place passive recovery tactics along the shoreline to minimize the impact and collect oil.	Place and anchor snare or sorbent boom along the shoreline to collect oil. See diagram for suggested locations. Replace as necessary to maximize the recovery.
NS-25-05 	Salem Harbor	Free-Oil Recovery Maximize free-oil recovery in the offshore & nearshore environment of Salem Harbor depending on spill location and trajectory.	Deploy free-oil recovery strike teams upwind and up current of the port area. Use aerial surveillance to locate incoming slicks. Ensure that responders have experience with on-water free-oil recovery. Stay in main channels during low tide.





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ID	Response Resources	Staging Area Site Access	Resources Protected	Special Considerations
NS-25-01 	Deployment Equipment (Sites a & b) 2400 ft 18" boom 22 anchor systems 2 anchor stakes 2 shoreside recovery systems 1000 ft of snare or sorbent boom Vessels 2 skiffs Personnel/Shift 8 total (1 vessel operator + 1 responder per vessel, 4 shoreside responders) Tending Vessels 1 skiff Personnel/Shift 4 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders)	Staging Area: Salem Fire Station, 48 Lafayette St; From Rt 128 (exit 25) to Rt 114 S to Norman St to Lafayette St. Site Access: (a) From Rt 1A/Rt 114/Lafayette St to Pleasant St to Village St to W Shore Dr to Green St to Cloutmans Ln to Edgemere Rd. (b) From Rt 1A/Bridge St to Webb St to Fort Ave to Winter Island Rd. (alt) Same as NS-27-01a, but take Dodge Rd then Liberty Rd after W Shore Dr. Chart 13275-1	Birds – Seabirds Invertebrates – Shellfish, Urchins Habitat – Tidal Flats, Beach, Rocky Shore Human Use – Boat Ramp, Marina, Water Intake, Port/Harbor	Tide range 7 – 11 ft. Vessel master should have local knowledge. Large number of recreational vessels. Developed shoreline with riprap, pier pilings, docks and floats. Moored vessels may need to be moved. Entire site surveyed: 06/02/09. Tested: not yet.
NS-25-02 	Deployment Equipment (All locations) 2300 ft 18" boom 9 anchor systems 6 anchor stakes Vessels 2 skiffs Personnel/Shift Same as DV-01 Tending Vessels 1 skiff Personnel/Shift Same as DV-01	Site Access: (a) From Rt 1A/Bridge St to Webb St to Fort Ave to Columbus Ave to Bay View Ave. (b) Same as NS-25-01b (c) From Rt 1A/Lafayette St to Leavitt St.	Same as NS-25-01.	*There are two Water Intakes located at the Dominion Salem Harbor Station and Cat Cove Marine Research Station.
NS-25-03 	N/A	Site Access: From Rt 1A/Bridge St to Webb St to Fort Ave.	Human Use - Hatchery	Coordinate with Salem State College.
NS-25-04 	Deployment Equipment 1200 ft of snare or sorbent boom 12 anchor stakes Personnel/Shift 4 shoreside responders	Site Access: Same as NS-25-01.	Same as NS-25-01.	Same as NS-25-01.
NS-25-05 	Deploy multiple free-oil recovery strike teams as required to maximize interception of oil before it impacts sensitive areas.	Site Access: Vessel Platform Via marine waters. Chart 13275-1	Same as NS-25-01.	Vessel master should have local knowledge. Free-oil recovery should only be attempted if conditions permit and by experienced responders.





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Site Photographs and Contact Information



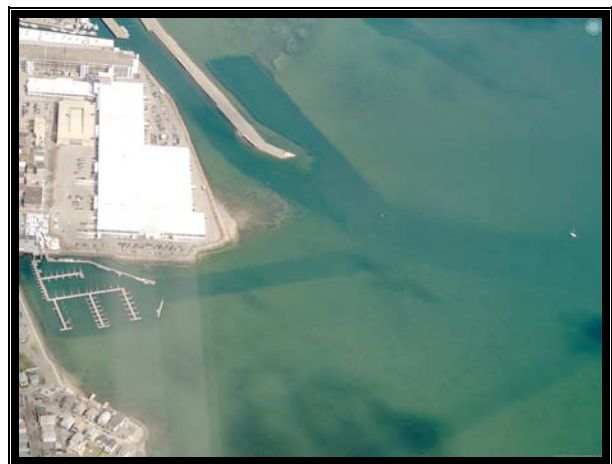
Winter Island (Waikiki Beach) collection site at mid-tide on 02 June 2009. View looks west.



Winter Island. MassDEP, 14 April 2009.



Salem Power Plant shoreside recovery location at mid-tide on 02 June 2009. View looks west.



Entrance to South River. MassDEP, 14 April 2009.



Mouth of South River at mid-tide on 02 June 2009. View looks west.

Contact Information:

Salem Fire Department: 978-744-1235
Salem Harbormaster: 978-741-0098
Salem DPW: 978-744-3302
Salem Sound Coastwatch: 978-741-7900
U.S.C.G. Station Gloucester: 978-283-0705
Mass Division of Marine Fisheries: 617-626-1520
Environmental Police: 800-632-8075
Marblehead Harbormaster: 978-631-2386

Mutual Aid is available from other communities within the Buzzard's Bay GRP region that have state response trailers. More information can be found on the following MassDEP web site: <http://www.mass.gov/eea/agencies/massdep/cleanup/marine/#5>

Additional information regarding State Response Trailers, including locations and inventories can be found here: <http://www.mass.gov/eea/agencies/massdep/cleanup/marine/oil-spill-training-and-equipment-resources.html>

