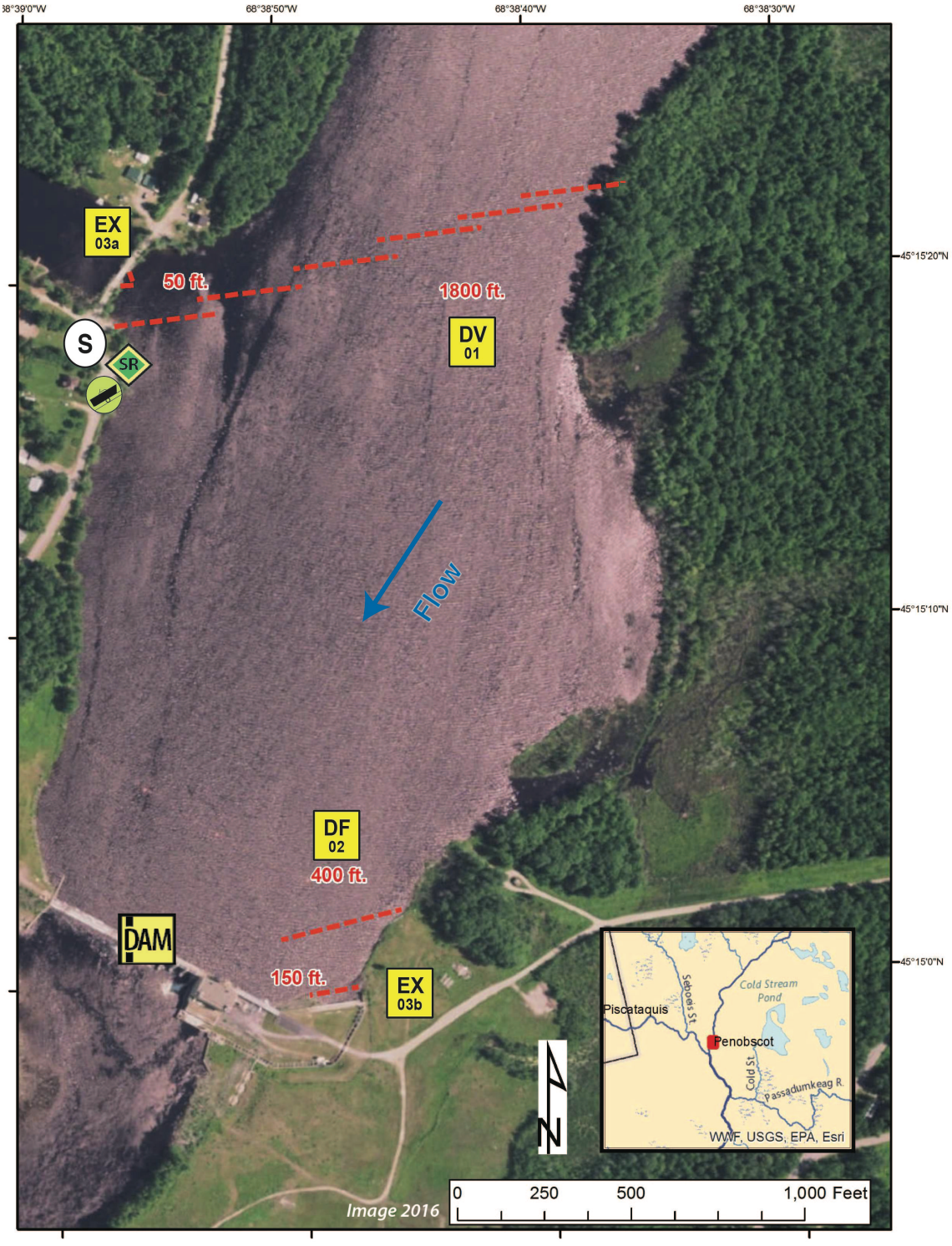

LEGEND

- Boat Ramp
- CB Culvert Block
- DAM Dam
- DF Deflection Booming
- DV Diversion Booming
- EX Exclusion Booming
- PR Passive Recovery
- Protected-water Boom
- SR Shoreside Recovery
- S Staging Area
- Railroad
- Water Treatment Facility

2,400 ft. of boom and associated equipment 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.

Nuka Research and Planning Group, LLC
Data Sources: Nuka Research & Planning Group, LLC, US EPA Region 1

ID	Location and Description	Response Strategy	Implementation
PR-03-01 DV	**West Enfield/Howland** Howland Boat Ramp Lat. 45° 15.344'N Lon. 68° 38.788'W	**Divert and Collect – Shoreside** Position boom in the identified configuration to intercept oil before it migrates further downriver and divert oil to riverbank for recovery. Consider source location and river flow patterns when selecting tactics and deployment strategies. Adjust the angle and length of boom depending on oil trajectory, river flow rate, and wind.	Deploy 1,800 ft. of 12" – 18" boom in a in a cascade array (6-300 ft sections) at the proper angle to divert incoming oil to the collection site. Set up shoreside recovery systems. Deploy passive recovery using sorbents at collection point to minimize leakage. Adjust the angle and length of boom and the shoreside collection site depending on oil trajectory. When implementing the Diversion tactic, responders must ensure that skimming systems and temporary oil storage devices are available to implement the shoreside recovery tactic. Tend as necessary based on river flow conditions.
PR-03-02 DF	**Howland Dam** Fishway Lat. 45° 15.029'N Lon. 68° 38.811'W	**Deflection** Deflect oil away from fishway located on eastern side of dam.. Adjust the angle and length of boom depending on oil trajectory, river flow rate, and wind.	Deploy 400 ft section of 12" – 18" boom, anchored at the shoreline and at 200ft, to deflect oil away from fishway located on eastern side of dam and EX-03a. Tend as necessary based on river flow conditions.

PR-03-03
EX
	Howland/Enfield
	(a) Merrill Brook
	Lat. 45° 15.336'N
	Lon. 68° 38.936'W
	(b) Howland Dam
	Fishway
	Lat. 45° 14.997'N
	Lon. 68° 38.812'W
		Exclusion
		Set boom across entrances to creeks, inlets, coves and near water treatment facilities to prevent oil from migrating into sensitive areas and critical infrastructure.
		
		Adjust the angle and length of boom depending on oil trajectory, river flow rate, and wind.
			For (a) deploy 50 ft of 12" – 18" boom in the identified pattern to prevent oil from entering the Penobscot River from Merrill Brook or from the Penobscot River into Merrill Brook.
			
			For (b) deploy 150 ft of 12" – 18" boom in the identified pattern to prevent oil from entering the fishway located on eastern side of dam.
			
			Secure with anchor stakes on shore and anchors in river. Deploy passive recovery using sorbents at attachment points to minimize leakage.
			
			Tend as necessary based on river flow conditions.

PR-03 SR	Same as PR-03-01	**Shoreside Recovery -** Remove spilled oil that has been diverted to the designated recovery site accessible from shore.	Deploy skimming system(s) appropriate for the operating environment and temporary oil storage system in designated location. Oil spill contractor resources will be required to implement Shoreside Recovery tactics.

ID	Response Resources	Staging Area Site Access	Resources Protected	Special Considerations
PR-03-01 DV	**Deployment** ***Equipment (All sites)*** 1,800 ft 12" – 18" boom 1 anchor system 2 anchor stakes (doubled at each shoreside anchor point) 1 shoreside recovery system ***Vessels*** 2 skiffs ***Personnel/Shift*** 8 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders) **Tending** ***Vessels*** 1 skiff ***Personnel/Shift*** 4 total (1 vessel operator + 1 responder per vessel, 2 shoreside responders)	**Howland Boat Ramp** - 92 Penobscot Ave., Howland, ME.	**Fish/ Birds -** Atlantic Salmon, Inland Wading Birds & Waterfowl Habitat **Threatened/Endangered Species-**Habitat of Special Concern, Threatened Species Habitat **Cultural-** Historical/Archaeological Sites, Native American Tribal Lands **Habitat-** Sand &Gravel Aquifers, Wetlands **Human use-**,Boat Ramp, Infrastructure, Lock & Dam	River conditions including flow rate and water depth vary depending on time of year and heavy rain and/or snowfall. Survey site prior to deployment and modify deployment tactics and techniques as appropriate based on observed river conditions. If ice is present GRP tactics and strategies must be reevaluated. Vessel operators should have local knowledge and experience operating in riverine environments. Site surveyed: 04/13/16. **Field tested: not yet.**
PR-03-02 DF	**Deployment** ***Equipment (All sites)*** 400 ft 12" – 18" boom 1 anchor system 2 anchor stakes (doubled at each shoreside anchor point) ***Vessels*** 1 skiff ***Personnel/Shift*** Same as PR-03-01 **Tending** Same as PR-03-01	Same as PR-03-01 and Howland Dam access road near 1197 Main Rd. (Route 2), West Enfield, ME. (Access authorization may be required through the Penobscot River Restoration Trust).	Same as PR-03-01	Same as PR-03-01
PR-03-03 EX	**Deployment** ***Equipment (All sites)*** 200 ft 12" – 18" boom 1 anchor systems 8 anchor stakes (doubled at each shoreside anchor point) 300 ft of snare or sorbent boom ***Vessels/Personnel*** Same as PR-03-02.	Same as PR-03-01 and PR-03-02	Same as PR-03-01	Same as PR-03-01
PR-03 SR	**Deployment** ***Equipment (All sites)*** 1 shoreside recovery system ***Vehicles*** 1 truck or truck with trailers ***Personnel/Shift**** 2-5 shoreside responders (depending on recovery system and hours of operation)	Same as PR-03-01	Same as PR-03-01	Same as PR-03-01

Site Photographs and Contact Information

View of Stanford Dam from the Howland Boat Ramp.

Howland boat ramp. Site of DV-01 and EX-03a

View east from the shoreside recovery location looking in the direction of DV-01.

Entrance into Merrill Brook (EX-03a) from the Penobscot River.

Contact Information:

Howland Fire Department: 207-732-3600
Howland Water/Sewer Department: 207-732-3767
Howland Emergency Management: 207-732-3513
Maine DEP (Oil Spill): 800-482-0777
Maine DEP (HazMat Spill): 800-452-4664
Maine Dept of Inland Fisheries & Wildlife (Bangor): 800-432-7381
Maine Dept. of Marine Resources: 207-941-4449
Maine Historic Preservation Commission: 207-287-2132
Maine Drinking Water Program: 207-557-4214
Penobscot River Restoration Trust: 207-430-0114
Penobscot Nation Water Resource Manager: 207-356-5168
National Response Center: 800-424-8802

If oil or hazardous material spills threaten or occur at or near Penobscot Nation lands, contact the Penobscot Nation Dispatch at (207) 817-7358

Kennebec and Penobscot River GRPs have been incorporated into EPA Region One's Inland Area Contingency Plan (ACP) and is available at the following website: **https://nrtqa.ert.org/site/doc_list.aspx?site_id=38** or accessed via QR reader-enabled smartphones by scanning the QR code at right.