

South Shore Geographic Response Plan – Site Survey for Green Harbor & South River  
Thursday, June 16<sup>th</sup>, 2011

Attendees:

Michael DiMeo – Marshfield Harbormaster  
Paul Taber – Marshfield Emergency Management  
Julie Hutcheson – MassDEP  
RJ Lindsey – Coast Guard  
Joe Cronin – Coast Guard  
Elise DeCola – Nuka Research & Planning Group

Vessel:

Green Harbor and New Inlet were surveyed using a vessel owned by the Marshfield Harbormaster. South River was surveyed by U.S. Coast Guard vehicle.

Weather:

High overcast, winds around 10-15kts from the southwest.

Tactics:

**Site SS-10 (South River)**

DV-01 & alt

Deploy boom across the entrance to the South River at Truant's Island. Shoreside recovery can be set up on the western shore (Truant's Island). This tactic would be most efficient with an east/northeast wind. This would be the primary strategy to establish as this is the first opportunity to prevent oil from moving into the South River. In order to set up this tactic, an all-terrain vehicle (ATV) would be required to access the beach on the east side, as there is no road access down to the beach. In the event that DV-01 fails, another option would be to divert oil to the Truant's Island near the mouth of South River. Boom may be towed from the South River Yacht Yard.

EX-02

Deploy two segments boom across the river at the South River Yacht Yard at the end of Webster Street. This would prevent oil from migrating further into South River. There is a small boat ramp located here where boom could be deployed. It may be possible to establish shoreside recovery at this location.

EX-03

Deploy two segments of boom across the river, south of the river at Revere Street. This tactic could be combined with DV-02, in the event of a spill that originates at the bridge or in the marina. This would also prevent oil from moving further down South River.

EX-04

Deploy two segments of boom across the river at Garfield Street. In the event that all other tactics fail, this would be the last line of defense against oil migrating further down the river and entering the sensitive marsh system at the head of South River.

The location of these two exclusion tactics could be modified based on the spill origination point.

### **SS-12 (Green Harbor)**

DV-01

Deploy a segment of boom across the mouth of Green Harbor at a steep angle. Shoreside recovery may be established on the fine sand beach along E Street and Water Street. This would be the first line of defense against oil entering the harbor.

EX-02

Deploy boom across the entrance to the small lagoon near Bay Ave. This would protect the marsh system located behind Beach Street.

### Tide Gates

There are three tide gates located within Green Harbor, which are typically used for flood control. In the event of a spill, these act as very effect exclusion tactics. To close each of the tide gates (one located at Dyke Road and two more located along Town Pier Road. These have all been indicated on the attached map.), contact the Department of Public Works. To prevent oil from reaching the tide gates, it may be possible to deploy boom in front of each of the tide gates.

### Other considerations:

#### **SS-10**

- The current opening, New Inlet, is very dynamic with a lot of shoaling and sand flats at low tide. The shoaling combined with the exposure to the open water of Massachusetts Bay makes sea states very rough there, with breaking waves and standing waves common. Boom deployment in the area of the New Inlet opening would be unsafe and ineffective.
- There is a considerable amount of shellfishing that exists in South River as well as high recreational use.
- The diversion tactics located at the mouth of the river may need to be altered if wind direction changes.
- There is better road access on the Truant's Island side than on the Humarock side.
- There is good access and a small boat ramp near the South River Yacht Yard that could be used for recover or to load boom off a trailer. There is also a boat ramp located at 11 Ridge Road.
- There are two major spill considerations for South River. One being from outside the river, from a tanker or other vessel. The other possibility of a spill would originate from a tanker truck crossing over one of the bridges in South River. Home heating oil trucks regularly travel over the 2 bridges that go over the South River.

**SS-12**

- Green Harbor is fairly protected, even from Northeastern storms.
- There is a possibility of spills originating from outside and within the harbor. Spills originating in the harbor may come from the gasoline or diesel docks located in Green Harbor. There are many large fishing and recreational vessels that dock in the mooring fields in the harbor, which could also be a source of a spill.
- There are two large bridges located within Green Harbor which could allow oil to enter the harbor waters in the event of a truck rollover.
- Green Harbor feeds an extensive marsh system and there is a great deal of commercial and private development in the Brant Rock region that is vulnerable to flooding during high tide or storm surge events. For this reason, there are several tide gates in place that may play an important role in spill response, as they can close off the back marsh in the event of a spill just as they would during a storm surge/flood event.
- The harbor entrance experiences quite a bit of shoaling and is dredged frequently. The sediment deposition will vary by season/year and the satellite photo may not be 100% accurate, need to assess conditions on-scene.
- In the attached image, the 2 tide gates are adjacent to Town Pier Rd. The tide gate near the sewage treatment plant has a manual control. The department of public works would be the primary contact to close the gates. It takes about 45 min to close the Dyke Rd gate so immediate notification is critical. Use police # for 24-hr notification.

70°43'30"W

70°43'0"W

70°42'30"W

70°42'0"W

70°41'30"W

70°41'0"W

SR = Shoreside Recovery

BR = Boat Ramp

DV = Diversion Booming

EX = Exclusion Booming

DV-01

SR

SR

DV-01alt

EX-02

BR

EX-03

BR

EX-04

42°10'0"N

42°9'30"N

42°9'0"N

42°8'30"N

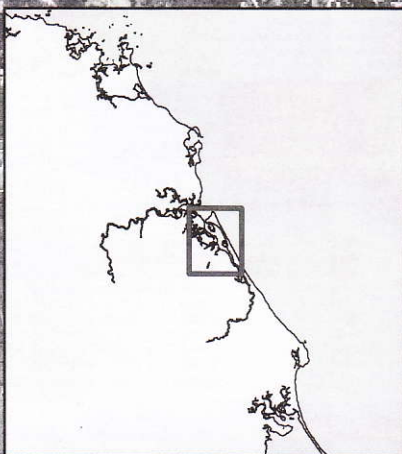
42°8'0"N

42°7'30"N



SS-10

0 0.125 0.25 0.5 Miles



70°40'30"W

70°40'0"W

70°39'30"W

70°39'0"W

70°38'30"W

● = Tide Gate

● SA = Site Access

● SR = Shoreside Recovery

● BR = Boat Ramp

EX = Exclusion Booming

DV = Diversion Booming

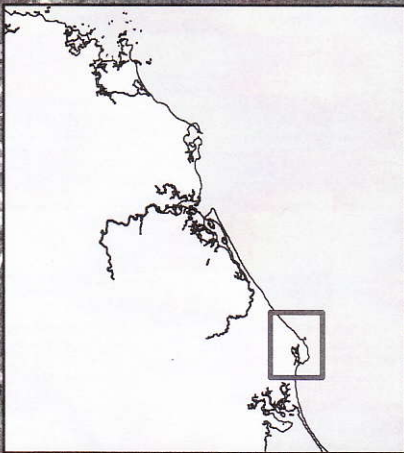
42°6'30"N

42°6'0"N

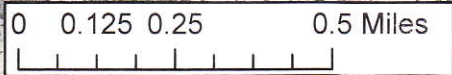
42°5'30"N

42°5'0"N

42°4'30"N



# SS-12



EX-02

SA

BR

SR

DV-01