



**BOUCHARD B120 RELEASE  
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1F-09**

SEGMENT NAME: **Mattapoisett Harbor North**

SEGMENT LOCATION: **Mattapoisett, Massachusetts** (*Map attached*)

MAXIMUM DEGREE OF INITIAL OILING: Moderate (Oiling Score: 1.00)

SEGMENT INSPECTION STATUS: Passed IRAC criteria endpoints on 08/21/2003.

**SITE-SPECIFIC INFORMATION**

**PHYSICAL CHARACTERISTICS:**

Primary Shoreline Type/ Geology:

- 1B: Less utilized semi-public and private sand beaches.

Secondary Shoreline Type/ Geology:

- 1C: Mixed sand and gravel (pebble to boulder) and rip rap groins (jetties); and
- 1F: Salt marshes.

Hydrogeology:

- Mattapoisett River is located to the west, Eel Pond is located behind (northwest) the segment, and Mattapoisett Harbor and Buzzards Bay are located to the southeast. The central portion of the segment is a high yield aquifer and salt marshes are located to the west.

Bedrock Geology:

- Bedrock underlying the eastern portion of this segment is identified as “Alaskite” bedrock formation. This bedrock consists of mafic poor gneissic granite commonly containing muscovite. Bedrock underlying the western portion of this segment is identified as “Granite of the Fall River Pluton” bedrock formation, which consists of light gray medium-grained biotite granite that intrudes gneiss and schist bedrock (Zen, 1983).

**ENVIRONMENTAL SENSITIVE RECEPTORS (Identified within 500 feet of segment):**

Aquifer: At segment: MADEP-designated medium yield aquifer.

Protected Open Space: At segment.

Public Ground Water Supply Wells: None at segment. A Zone II is located approximately 2,500 feet northwest, and an IWPA is located approximately 3,500 feet northwest.

Public Surface Water Supply Wells: None at segment.

Areas of Critical Environmental Concern (ACEC): None at segment.

Vernal Pools: None at segment.

Priority Habitats of Rare Species: At segment and adjacent to segment: Buzzards Bay aquatic environment.

Estimated Habitats of Rare Wildlife: At segment and adjacent to segment: Buzzards Bay aquatic environment.

Floodplains: At segment: 100-year floodplain.

**HUMAN SENSITIVE RECEPTORS** (Identified within 500 feet of segment):

Segment Use: Private beaches. Residential dwellings are located within 500 feet of the segment.

A portion of segment is accessible via roadway.

Frequency of Use: Year round residential use.

### **SUMMARY OF INSPECTION ACTIVITIES**

#### **WRF INSPECTIONS**

(Wildlife Field Reconnaissance- Shoreline or On-Water Observations; Bird Transect Study.)

WRF inspections pertaining to this segment were not conducted.

#### **NRDA FIELD ACTIVITIES SUMMARY**

(Natural Resource Damage Assessment)

Note: Includes Shoreline Cleanup Assessment Team (SCAT) inspections and activities. SCAT forms were completed by field inspection teams working under the direction of Unified Command.

<b>DATE</b>	<b>SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM</b>
05/03/2003	Heavy oiling, including large tarballs and sheen along Little River toward beginning of Mishaum Point was observed. Oil coated wrack observed in along the high tide line near Eel Pond. One dead seal observed. One oiled bird was observed.
05/06/2003	Shellfish tissue samples collected and analyzed.
05/09/2003	Heavy and pooled oil observed near Reservation and Holly Trails. Tarballs and tar patties also observed. The observed surface oil coverage is 11% to 50%. Additional cleanup activities were warranted.
05/16/2003	Oiled wrack was observed near Eel Pond sand beach west of Mattapoissett Town Wharf. Surface oil coverage was approximately 1% to 10%. Lightly oiled wrack and oil coated gravel observed near jetties, between jetties, and adjacent to Eel Pond River.
05/19/2003	Oil residue coating, tarballs, and tar patties were observed in the middle intertidal zone with approximately 1% to 10% surface oil coverage. Oiled booms were observed. Noted that oil spotting increased toward Eel Pond and most of the beaches near Eel Pond had tarballs and tar patties.
05/22/2003	Sporadic oil staining with 10% surface oil coverage was observed along shoreline, primarily between the inlet and the salt marsh on the golf course. Some oiled jellyfish were observed.
06/10/2003	Shellfish tissue samples collected and analyzed.
07/10/2003	Shellfish tissue samples collected and analyzed.
08/27/2003	Shellfish tissue samples collected and analyzed.
10/23/2003	Shellfish tissue samples collected and analyzed.

**IRAC INSPECTIONS**

(Unified Command Immediate Response Action Completion inspections and activities.)

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
08/21/2003	Sporadic splatter removed. Segment met IRAC criteria endpoints.

**MCP FIELD ACTIVITIES SUMMARY**

(Massachusetts Contingency Plan inspections and activities under the direction of the Licensed Site Professional-of-Record.)

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/06/2004	IRA citizen report of oil: Citizen of 1 Goodspeed Island called GeoInsight to report oil found on private beach.
05/07/2004	IRA citizen call field response: Tacky oil was observed on cobbles in the upper intertidal zone along approximately 200 yards of the sandy beach. Some tar patties (approximately 2 to 6 inches in diameter) were found. Trace splatter was observed on boulders above upper intertidal zone. Additional cleanup activities were warranted.
05/07/2004	Cleanup activities: Approximately 600 pounds of oil-impacted sediment and oiled cobbles were removed. Additional cleanup activities were not warranted.

**TABLE 1**  
**SAMPLE SUMMARY**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1F-09**  
**Mattapoisett Harbor North, Mattapoisett**

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
EEHH-OY-1-N	5/6/2003	Tissue	PAH	B&B	NRDA-Pre-Assessment	N41°39.388'	W71°10.984'	Eastern mouth of Eel Pond	Shellfish-Oyster
EEHH-OY-1-N (Dup)									
EEHH-OY-2-A, B, and C	6/10/2003								
EEHH-OY-3-A, B, and C	7/10/2003								
EEHH-OY-4-A, B, and C	08/27/2003								
EEHH-OY-5-A, B, and C	10/23/2003								
MHHH-QH-1-A	5/6/2003					N41°35.629'	W71°9.121'	Mattapoisett Harbor	Shellfish-Quahog
MHHH-QH-2-A, B, and C	6/10/2003								
MEHH-SS-1-A	5/6/2003								
MEHH-SS-2-A, B and C	7/10/2003					N41°39.230'	W71°10.696'	Mouth of East Pond in Mattapoisett Harbor	Shellfish-Softshell clam

NOTES:

1. B&B: B&B Laboratories.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1F-09**  
**Mattapoissett Harbor North, Mattapoissett**

Analyte	EEHH-OY-1-N	EEHH-OY-1-N	EEHH-OY-2-A, B,	EEHH-OY-3-A, B,	EEHH-OY-4-A, B,
	Oyster	(Dup) Oyster	and C	and C	and C
	5/6/2003	5/6/2003	Oyster 6/10/2003	Oyster 7/10/2003	Oyster 8/27/2003
<b>PAH by GC/MS-SIM by method 8270C</b>					
Naphthalene	<b>0.0034</b>	<b>0.0030</b>	<b>0.0039</b>	<b>0.0031</b>	<b>0.0047</b>
2-Methylnaphthalene	<b>0.0089</b>	<b>0.0078</b>	<b>0.0042</b>	<b>0.0023</b>	<b>0.0046</b>
Acenaphthylene	<b>0.0003j</b>	<b>0.0003j</b>	<b>0.0003j</b>	<b>0.0003j</b>	<b>0.0004j</b>
Acenaphthene	<b>0.0023</b>	<b>0.0019</b>	<b>0.0006</b>	<b>0.0004</b>	<b>0.0015</b>
Fluorene	<b>0.0047</b>	<b>0.0044</b>	<b>0.0005</b>	<b>0.0005</b>	<b>0.0009</b>
Phenanthrene	<b>0.0557</b>	<b>0.0594</b>	<b>0.0038</b>	<b>0.0028</b>	<b>0.0035</b>
Anthracene	<b>0.0028</b>	<b>0.0028</b>	<b>0.0007</b>	<b>0.0005</b>	<b>0.0005</b>
Fluoranthene	<b>0.0180</b>	<b>0.0199</b>	<b>0.0100</b>	<b>0.0108</b>	<b>0.0101</b>
Pyrene	<b>0.0657</b>	<b>0.0673</b>	<b>0.0100</b>	<b>0.0101</b>	<b>0.0070</b>
Benzo(a)anthracene	<b>0.0346</b>	<b>0.0344</b>	<b>0.0114</b>	<b>0.0091</b>	<b>0.0047</b>
Chrysene	<b>0.0927</b>	<b>0.0958</b>	<b>0.042</b>	<b>0.0122</b>	<b>0.0089</b>
Benzo(b)fluoranthene	<b>0.0117</b>	<b>0.0112</b>	<b>0.0121</b>	<b>0.0078</b>	<b>0.0092</b>
Benzo(k)fluoranthene	<b>0.0028</b>	<b>0.0030</b>	<b>0.0032</b>	<b>0.0022</b>	<b>0.0026</b>
Benzo(a)pyrene	<b>0.0083</b>	<b>0.0078</b>	<b>0.0017</b>	<b>0.0012</b>	<b>0.0012</b>
Indeno(1,2,3-cd)pyrene	<b>0.0008</b>	<b>0.0009</b>	<b>0.0009</b>	<b>0.0010</b>	<b>0.0014</b>
Dibenzo(a,h)anthracene	<b>0.0007</b>	<b>0.0007</b>	<b>0.0006</b>	<b>0.0003j</b>	<b>0.0003j</b>
Benzo(g,h,i)perylene	<b>0.0011</b>	<b>0.0011</b>	<b>0.0009</b>	<b>0.0009</b>	<b>0.0014</b>
<b>Total PAH</b>	<b>3.674</b>	<b>3.849</b>	<b>0.812</b>	<b>0.282</b>	<b>0.188</b>

NOTES:

1. Results in mg/Kg (milligrams per kilogram).
2. ND(x): Constituent not detected at practical quantitation limits (PQL) noted in parentheses.
3. PAH by GC/MS-SIM: Polynuclear Aromatic Hydrocarbon analysis by Gas Chromatography/Mass Spectrometry with Selected Ion Monitoring.
4. j: Estimated concentration/ detected below standard laboratory reporting limits.
5. Bold values exceed laboratory PQL.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1F-09**  
**Mattapoissett Harbor North, Mattapoissett**

Analyte	EEHH-OY-5-A, B, and C	MHHH-QH-1-A	MHHH-QH-2-A, B, and C	MEHH-SS-1-A	MEHH-SS-2-A, B, and C
	Oyster	Quahog	Quahog	Softshell Clam	Softshell Clam
	10/23/2003	5/6/2003	6/10/2003	5/6/2003	7/10/2003
<b>PAH by GC/MS-SIM by method 8270C</b>					
Naphthalene	<b>0.0015</b>	<b>0.0014j</b>	<b>0.0021</b>	<b>0.0031</b>	<b>0.0028</b>
2-Methylnaphthalene	<b>0.0008j</b>	<b>0.0018</b>	<b>0.0021</b>	<b>0.0053</b>	<b>0.0020</b>
Acenaphthylene	<b>0.0004</b>	<b>0.0002j</b>	<b>0.0001j</b>	<b>0.0003j</b>	<b>0.0002j</b>
Acenaphthene	<b>0.0003j</b>	<b>0.0004</b>	<b>0.0003j</b>	<b>0.0010</b>	<b>0.0003j</b>
Fluorene	<b>0.0004j</b>	<b>0.0007</b>	<b>0.0002j</b>	<b>0.0018</b>	<b>0.0003j</b>
Phenanthrene	<b>0.0027</b>	<b>0.0113</b>	<b>0.0008</b>	<b>0.0279</b>	<b>0.0017</b>
Anthracene	<b>0.0008</b>	<b>0.0003</b>	<b>0.0002</b>	<b>0.0008</b>	<b>0.0003</b>
Fluoranthene	<b>0.0079</b>	<b>0.0056</b>	<b>0.0029</b>	<b>0.0171</b>	<b>0.0050</b>
Pyrene	<b>0.0056</b>	<b>0.0094</b>	<b>0.0028</b>	<b>0.0278</b>	<b>0.0050</b>
Benzo(a)anthracene	<b>0.0025</b>	<b>0.0031</b>	<b>0.0008</b>	<b>0.0087</b>	<b>0.0035</b>
Chrysene	<b>0.0096</b>	<b>0.0142</b>	<b>0.0052</b>	<b>0.0295</b>	<b>0.0062</b>
Benzo(b)fluoranthene	<b>0.0044</b>	<b>0.0029</b>	<b>0.0024</b>	<b>0.0036</b>	<b>0.0027</b>
Benzo(k)fluoranthene	<b>0.0015</b>	<b>0.0012</b>	<b>0.0010</b>	<b>0.0031</b>	<b>0.0008</b>
Benzo(a)pyrene	<b>0.0004</b>	<b>0.0011</b>	<b>0.0005</b>	<b>0.0034</b>	<b>0.0007</b>
Indeno(1,2,3-cd)pyrene	<b>0.0006</b>	<b>0.0005j</b>	<b>0.0007</b>	<b>0.0009</b>	<b>0.0006</b>
Dibenzo(a,h)anthracene	<b>0.0002j</b>	<b>0.0001j</b>	<b>0.0001j</b>	<b>0.0003j</b>	<b>0.0002j</b>
Benzo(g,h,i)perylene	<b>0.0008</b>	<b>0.0006</b>	<b>0.0007</b>	<b>0.0011</b>	<b>0.0008</b>
<b>Total PAH</b>	<b>0.121</b>	<b>0.564</b>	<b>0.131</b>	<b>1.309</b>	<b>0.145</b>

NOTES:

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5. Bold values exceed laboratory PQL.





W1F-09



0 250 500 1,000 Feet

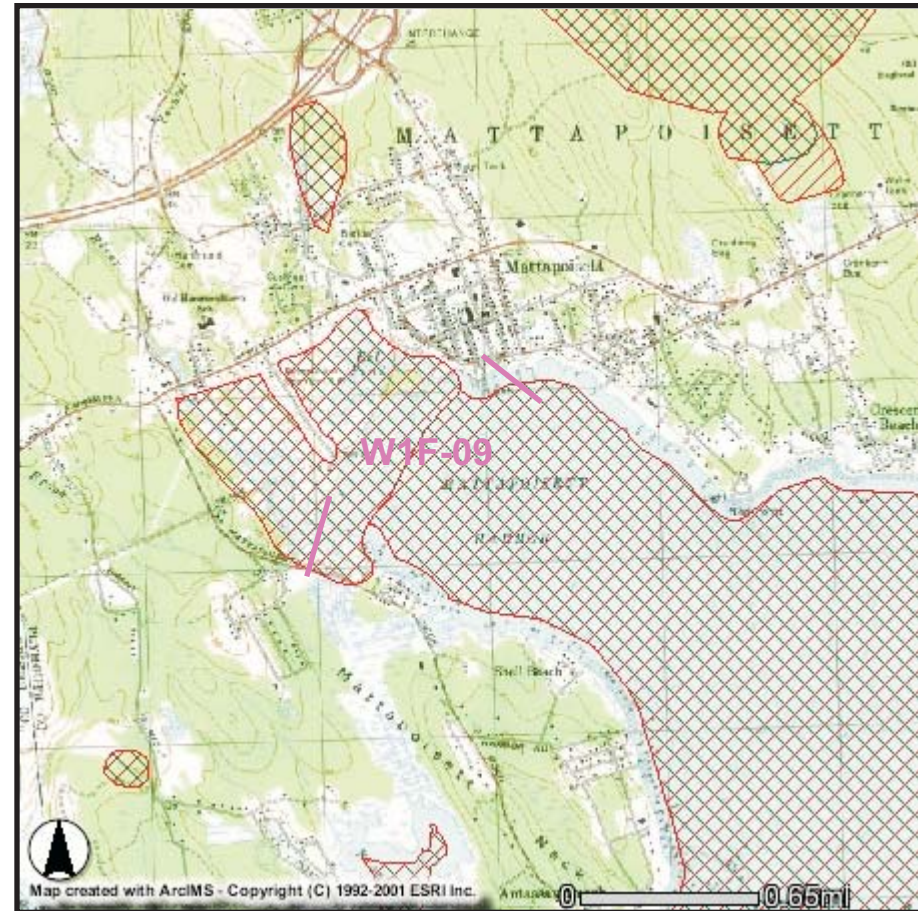


**E N T R I X**

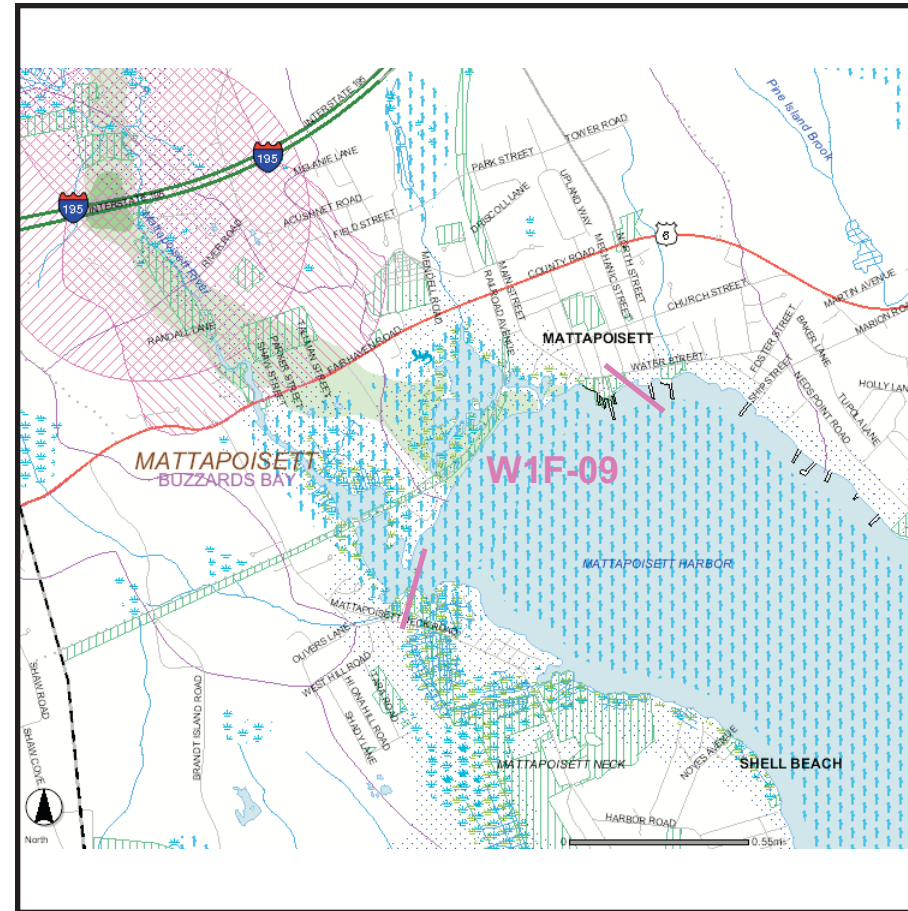
**W1F-09**  
**Mattapoissett Harbor North**  
**Bouchard B No. 120 Oil Spill**  
**Buzzards Bay, MA**



NATURAL HERITAGE AND ENDANGERED SPECIES MAP



2IE PRIORITY RESOURCE MAP



TOPOGRAPHIC MAP

















































LEGEND


 NHESP 2005 MA PRIORITY HABITATS FOR STATE-PROTECTED RARE SPECIES

 NHESP 2005 MA ESTIMATED HABITATS OF RARE WILDLIFE

DEP MCP 21e Map Legend

- |   |   |   |   |
|---|---|---|---|
| <ul style="list-style-type: none"> <li> Zone IIs</li> <li> IWPA's</li> <li> Zone A</li> <li> Sole Source Aquifers</li> <li> Solid Waste Sites</li> <li> Protected Openspace</li> <li> ACECs</li> <li> NHESP Estimated Habitat of Rare Wildlife in Wetland Areas</li> <li> Certified Vernal Pools 2003 NHESP</li> <li> Subbasins</li> <li> Mass Major Basins</li> <li> DEP Region</li> <li> Town Arcs</li> <li> County Boundaries</li> </ul> | <ul style="list-style-type: none"> <li> HIGH YIELD</li> <li> MEDIUM YIELD</li> <li> Non Potential Drinking Water Source Area</li> <li> HIGH YIELD</li> <li> MEDIUM YIELD</li> <li> FEMA Floodplains</li> <li> 100 YEAR FLOODPLAIN</li> </ul> | <ul style="list-style-type: none"> <li> WATER</li> <li> RESERVOIR</li> <li> WETLANDS</li> <li> SALT WATER WETLANDS</li> <li> FLATS, SHOALS</li> <li> Rivers and Streams</li> <li> PERENNIAL</li> <li> INTERMITTENT</li> <li> SHORELINE</li> <li> MAN MADE SHORE</li> <li> DAM</li> <li> AQUEDUCT</li> </ul> | <ul style="list-style-type: none"> <li> EOT-OTP Roads</li> <li> LIMITED ACCESS HIGHWAY</li> <li> MULTILANE HWY. NOT LIMITED ACCESS</li> <li> OTHER NUMBERED HWY</li> <li> MAJOR ROAD - COLLECTOR</li> <li> MINOR STREET OR ROAD, RAMP</li> <li> Tracks and Trails MHD</li> <li> TRACK</li> <li> TRAIL</li> <li> Transmission Lines</li> <li> PIPELINE</li> <li> POWERLINE</li> <li> TRAIN</li> </ul> |
|---|---|---|---|



		PROJECT:		
		B120 OIL SPILL		
TITLE:		LOCATION:		
		MATTAPoisETT HARBOR NORTH BUZZARDS BAY, MA		
PHASE II SUPPORTING MAPS				
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:
LAC	JKB	KDT	MJW	
SCALE:	DATE:	FILE:	PROJECT #:	WIF-09
AS SHOWN	01/25/06	3871WIF-09	3871-002	





**Trench Location**

- 11/2004
- 10/2004
- 09/2004
- 08/2004
- 07/2004
- 06/2004
- 04/2004
- 03/2004
- 01/2004
- 12/2003
- 11/2003
- 10/2003
- 09/2003

- ✿ Nearshore Subtidal Sediment Sampling Location 2004
- ✿ Deep Subtidal Sediment Sampling Location 2004
- ✿ Subtidal Sediment Sampling Location 2003
- ▲ Qualitative Shellfish Surveys 2004
- ◆ Marsh Sampling Location 2004
- ◆ Marsh Core Sampling Location 2004
- Water Sampling Location 2004
- Water Sampling Location 2003
- ★ Intertidal Sediment Sampling Location 2003
- ★ Intertidal Sediment Sampling Location 2004

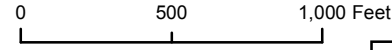
- ◆ Shellfish Sampling Location
- ▲ Chain Drag Location 2003
- ▲ Chain Drag Location 2004
- Lobster Pot Sampling Location 2003
- Absorbent Pad Sampling Location 2003
- Dive Sites
- Wetlands
- Nests
- Vernal Pool
- NHESP 2003 Priority Habitats for State-Protected Rare Species

**OILING**

- NO DATA
- CLEAN
- VERY LIGHT
- LIGHT
- MEDIUM
- HEAVY

**IRAC ESI**

- Public-Private Sand Beach (1A/1B)
- Mixed Sand and Gravel (1C)
- Marsh (1F)
- Rocky Shoreline (1E)
- Riprap, Groin, Jetty (1D)
- Visual Inspection of Marsh Area



ENTRIX

**W1F-09**  
**Mattapoisett Harbor North,**  
**Mattapoisett**  
**Comprehensive Activities**  
**Bouchard B No. 120 Oil Spill**  
**Buzzards Bay, MA**