



**BOUCHARD B120 RELEASE  
SHORELINE SEGMENT SUMMARY**

5 Lan Drive, Suite 200  
Westford, Massachusetts 01886  
Tel. (978) 692-1114  
Fax (978) 692-1115

GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1E-01**

SEGMENT NAME: **Nye Cove / Strawberry Cove**

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

MAXIMUM DEGREE OF INITIAL OILING: Light (Oiling Score: 1.33)

SEGMENT INSPECTION STATUS: Passed IRAC inspection 08/25/2003.

**SITE-SPECIFIC INFORMATION**

**PHYSICAL CHARACTERISTICS:**

Primary Shoreline Type/ Geology:

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

Secondary Shoreline Type/ Geology:

- 1B: Less utilized, semi-public and private sand beaches; and
- 1F: Salt marshes.

Hydrogeology:

- The segment is located within Nye's Cove. Pine Island Pond is located to the west and Buzzards Bay to the southeast. Portions of the segment are wetlands (including fringing and back barrier salt marsh).

Bedrock Geology:

- Bedrock underlying this segment is identified as undivided granite, gneiss, and schist (Zen, 1983).

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

Aquifer: None at segment.

Protected Open Space: Adjacent to segment.

Public Ground Water Supply Wells: None at segment.

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 and semi-public beach and marsh. Residential dwellings are located within 500 feet of the segment. Portions of segment appear to be accessible via roadway.

Frequency of Use: Presumed to be seasonal and year round residential use.

## **SUMMARY OF INSPECTION ACTIVITIES**

### **WRF INSPECTIONS**

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

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/02/2003	Evidence of wildlife was not observed.
05/07/2003	Sporadic patches of oil were observed between N41°38.950' W70°45.750' and N41°38.670' W70°46.090'. Eighty-one individual birds (14 different species) were observed. Six birds were oiled. Dead birds were not observed.
05/09/2003	Thirty three individual birds (5 species) were observed. Nine birds were oiled. Dead birds were not observed.
05/10/2003	Moderate oiling was observed between N41°38.910' W70°45.750' and N41°38.660' W70°46.090'. Approximately one hundred forty four individual birds (6 different species) were observed. Three birds were oiled. Dead birds were not observed.
05/13/2003	Sporadic patches of oil were observed. Thirty-one individual birds (3 different species) were observed. Dead or oiled birds were not observed.
05/15/2003	Sporadic patches of oil were observed. Twenty-eight individual birds (5 different species) were observed. Dead or oiled birds were not observed.
05/16/2003	Oil observed near western point and near eastern shore along fringing salt marsh. Forty five individual birds (9 different species) were observed. Dead or oiled birds were not observed.
06/03/2003	Fifty-one individual birds (10 different species) were observed. Dead or oiled birds were not observed.

### **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.

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/20/2003	Shellfish tissue samples collected and analyzed.
05/22/2003	Less than 1% surface oil coverage was observed. Sporadic patches of oil were observed. Three oiled jellyfish were observed on the shoreline.
06/09/2003	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
08/25/2003	Splatter and oil mixed with sediment or peat was observed primarily near Angelica Point near N41°38.552' W70°45.883'. The oil in the salt marsh was left untouched and natural attenuation was recommended for these areas to reduce potential damage to the salt marsh habitat due to cleanup activities. 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
06/03/2004	Site reconnaissance: Some splatter (mostly scoured to stain) observed at Angelica Point. Two areas of pavement (approximately 5 by 2 feet and 2-foot square) were observed on salt marsh. An area (approximately 2-foot square) consisting of oil patties mixed with sand and cobble was observed.
07/18/2004	IRA Citizen Report of Oil: Resident in Mattapoisett called GeoInsight to report possible residual B120 oil on the shoreline.
07/19/2004	IRA Citizen Call Field Response: Shoreline inspection at 36 Cove Street in response to the 07/18/2004 call to GeoInsight. A private beach 75% covered in wrack had puddles containing inorganic sheen, not related to oil sheen. Evidence of oil was not observed.
07/27/2004	Site reconnaissance and potential buried oil inspection: A total of 9 trenches (approximately 5 to 10 inches deep and 4 to 8 feet long) were excavated, and 7 areas were raked offshore. Buried oil was not observed. A trace amount of tacky splatter (dime- to quarter-size) was observed on boulders in the upper intertidal zone ranging approximately 5 to 30 feet apart between N41°38.549' W70°45.887' and N41°38.480' W70°45.892'. Patches of pavement (1 to 4 inches in diameter) embedded in the top layer of marsh were observed within a 5-foot square area at N41°38.534' W70°45.891'.
08/24/2004	Marsh sediment sampling activities: One core marsh sample was collected at N41°38.981' W70°45.981'. Evidence of oil was not observed.

**TABLE 1**  
**SAMPLE SUMMARY**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1E-01**  
**Nye Cove/Strawberry Cove**

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
PCMA-QH-1-A, B and C	5/20/2003	Tissue	PAH	B&B	NRDA Pre-Assessment	N41°38.942'	W71°45.092'	Near Angelica Point	Shellfish-Quahog
PCMA-QH-2-A,B,and C	6/9/2003					N41°38.942'	W71°45.092'		
W1E-01-C05	8/24/2004	Sediment	PAH EPH	B&B GAI	MCP- At Risk Phase II	N41°38.981'	W70°45.985'	Near Angelica Point	Marsh Core

NOTES:

1. B&B: B&B Laboratories.
2. GAI: Groundwater Analytical, Inc.

**TABLE 2**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1E-01**  
**Nye Cove/Strawberry Cove**

Analyte	PCMA-QH-1-A, B, and C	PCMA-QH-2-A, B, and C
	Quahog	Quahog
	5/20/2003	6/9/2003
<b>EPH</b>		
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	NS	NS
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons	NS	NS
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons	NS	NS
<b>PAH by GC/MS-SIM by method 8270C</b>		
Naphthalene	<b>0.0018</b>	<b>0.0033</b>
2-Methylnaphthalene	<b>0.0022</b>	<b>0.0030</b>
Acenaphthylene	<b>0.0001j</b>	<b>0.0001j</b>
Acenaphthene	<b>0.0003j</b>	<b>0.0005</b>
Fluorene	<b>0.0003j</b>	<b>0.0002j</b>
Phenanthrene	<b>0.0043</b>	<b>0.0009</b>
Anthracene	<b>0.0002</b>	<b>0.0001j</b>
Fluoranthene	<b>0.0045</b>	<b>0.0012j</b>
Pyrene	<b>0.0127</b>	<b>0.0024</b>
Benzo(a)anthracene	<b>0.0092</b>	<b>0.0012</b>
Chrysene	<b>0.0368</b>	<b>0.0067</b>
Benzo(b)fluoranthene	<b>0.0053</b>	<b>0.0011</b>
Benzo(k)fluoranthene	<b>0.0030</b>	<b>0.0009</b>
Benzo(a)pyrene	<b>0.0037</b>	<b>0.0007</b>
Indeno(1,2,3-c,d)pyrene	<b>0.0009</b>	<b>0.0004j</b>
Dibenzo(a,h)anthracene	<b>0.0003j</b>	<b>0.0001j</b>
Benzo(g,h,i)perylene	<b>0.0010</b>	<b>0.0006</b>
<b>Total PAH</b>	<b>1.020</b>	<b>0.168</b>

NOTES:

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

**TABLE 2 (continued)**  
**SUMMARY OF ANALYTICAL RESULTS**  
**BUZZARDS BAY, MASSACHUSETTS**  
**SEGMENT: W1E-01**  
**Nye Cove/Strawberry Cove**

Analyte	W1E-01-C05	MCP Method 1 Standards			Effects Range-Low Benchmarks Marine Sediments
	Marsh Core Sediment	S-1 / GW-1	S-1 / GW-2	S-1 / GW-3	ER-L
	8/24/2005				
<b>EPH</b>					
C <sub>9</sub> -C <sub>18</sub> Aliphatic Hydrocarbons	ND(73)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	NA
C <sub>19</sub> -C <sub>36</sub> Aliphatic Hydrocarbons	ND(73)	<b>2,500</b>	<b>2,500</b>	<b>2,500</b>	NA
C <sub>11</sub> -C <sub>22</sub> Aromatic Hydrocarbons	ND(73)	<b>200</b>	<b>800</b>	<b>800</b>	NA
<b>PAH by GC/MS-SIM by method 8270C</b>					
Naphthalene	ND(0.025)	<b>4</b>	<b>40</b>	<b>500</b>	<b>0.160</b>
2-Methylnaphthalene	<b>0.008 j</b>	<b>4</b>	<b>500</b>	<b>500</b>	<b>0.070</b>
Acenaphthylene	ND(0.025)	<b>100</b>	<b>100</b>	<b>100</b>	<b>0.044</b>
Acenaphthene	ND(0.025)	<b>20</b>	<b>1,000</b>	<b>1,000</b>	<b>0.016</b>
Fluorene	ND(0.025)	<b>400</b>	<b>1,000</b>	<b>1,000</b>	<b>0.019</b>
Phenanthrene	<b>0.0012 j</b>	<b>700</b>	<b>1,000</b>	<b>100</b>	<b>0.240</b>
Anthracene	ND(0.025)	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.085</b>
Fluoranthene	<b>0.017 j</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.600</b>
Pyrene	<b>0.017 j</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	<b>0.665</b>
Benzo(a)anthracene	<b>0.006 j</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>0.261</b>
Chrysene	<b>0.006 j</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>0.384</b>
Benzo(b)fluoranthene	<b>0.012 j</b>	<b>7</b>	<b>7</b>	<b>7</b>	NA
Benzo(k)fluoranthene	ND(0.025)	<b>70</b>	<b>70</b>	<b>70</b>	NA
Benzo(a)pyrene	<b>0.008 j</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>0.430</b>
Indeno(1,2,3-c,d)pyrene	<b>0.008 j</b>	<b>7</b>	<b>7</b>	<b>7</b>	NA
Dibenzo(a,h)anthracene	ND(0.025)	<b>0.7</b>	<b>0.7</b>	<b>0.7</b>	<b>0.063</b>
Benzo(g,h,i)perylene	<b>0.006 j</b>	<b>1,000</b>	<b>1,000</b>	<b>1,000</b>	NA

NOTES:

1. Results in mg/Kg (milligrams per kilogram).
2. EPH: Extractable Petroleum Hydrocarbons.
3. ND(x): Constituent not detected at practical quantitation limits (PQL) noted in parentheses.
4. PAH by GC/MS-SIM: Polynuclear Aromatic Hydrocarbon analysis by Gas Spectrometry with Selected Ion Monitoring.
5. j: Estimated concentration/ detected below standard laboratory reporting limits.
6. Bold values exceed laboratory PQL.
7. MCP: Massachusetts Contingency Plan.
8. ER-L: Effects Range Low (Long and Morgan 1991).
9. NA: Not Applicable.



W1E-01

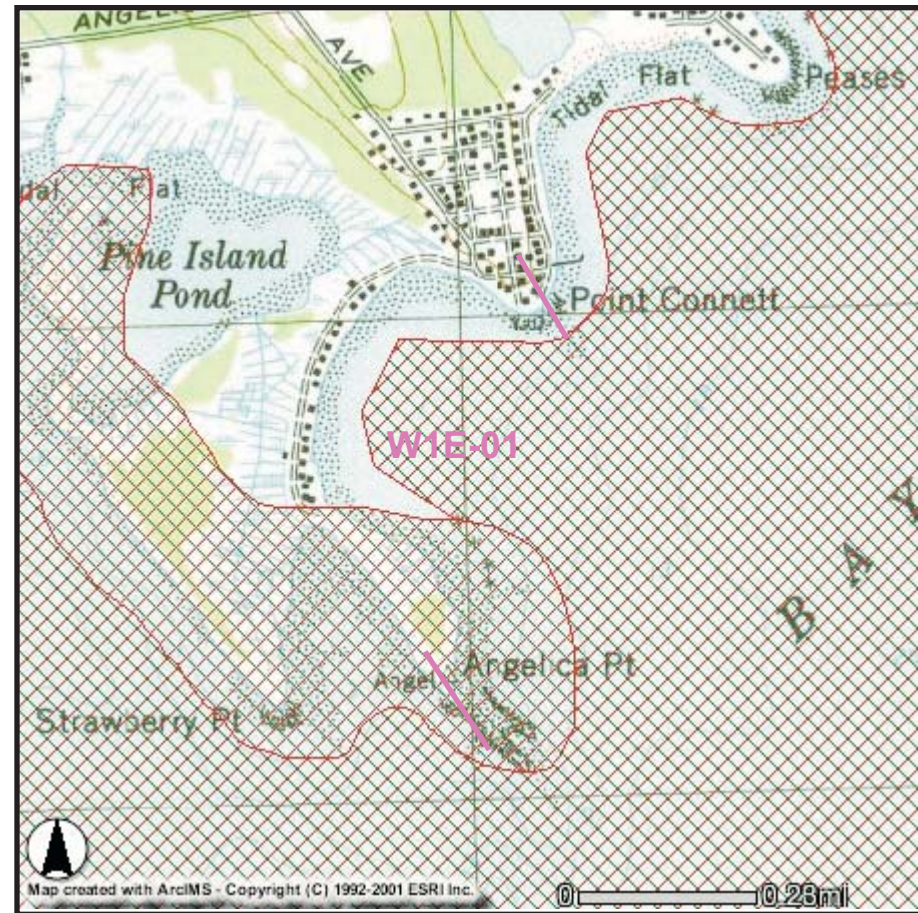


0 250 500 1,000 Feet

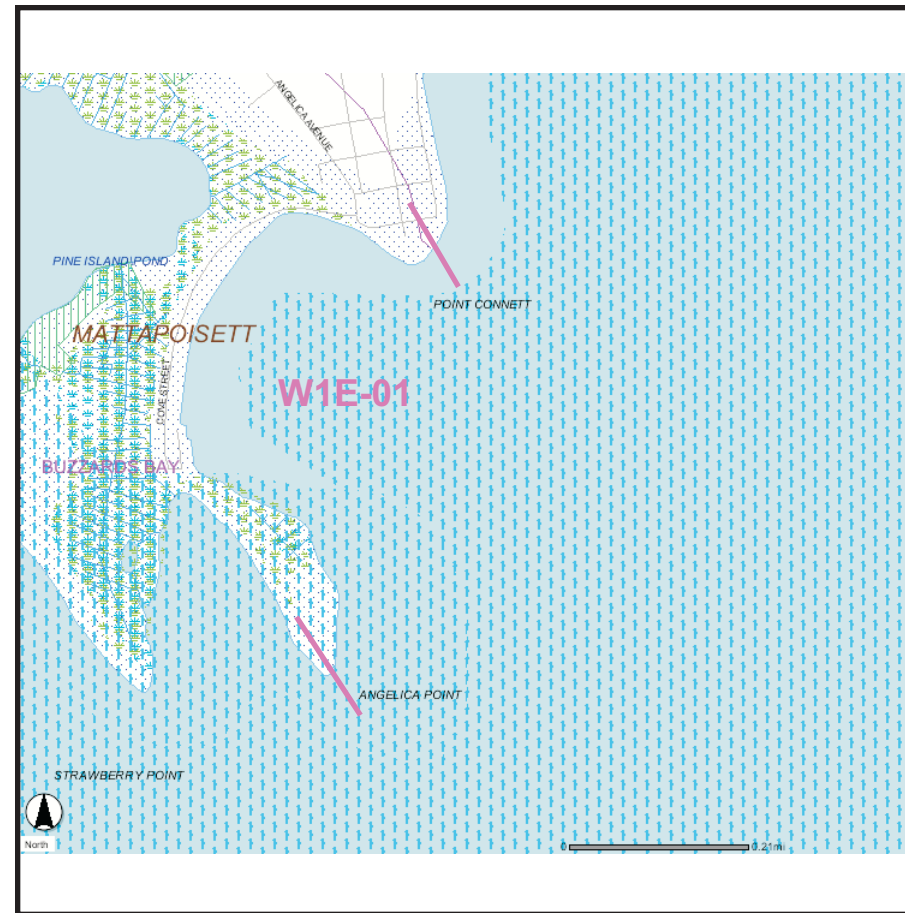


**E N T R I X**  
W1E-01  
Nye Cove/Strawberry Cove  
Bouchard B No. 120 Oil Spill  
Buzzards Bay, MA

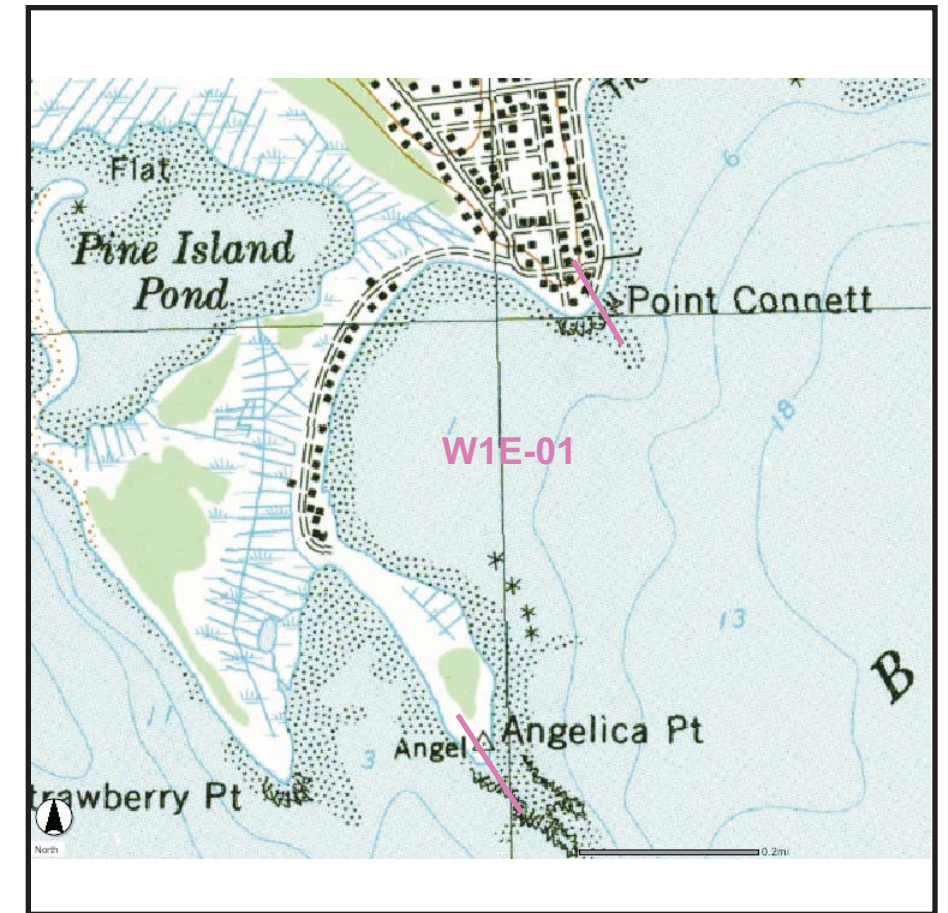
NATURAL HERITAGE AND ENDANGERED SPECIES MAP



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

-  Zone IIs
  -  IWPAs
  -  Zone A
  -  Sole Source Aquifers
  -  Solid Waste Sites
  -  Protected Openspace
  -  ACECs
  -  NHESP Estimated Habitat of Rare Wildlife in Wetland Areas
  -  Certified Vernal Pools 2003 NHESP
  -  Subbasins
  -  Mass Major Basins
  -  DEP Region
  -  Town Arcs
  -  County Boundaries
-  HIGH YIELD
  -  MEDIUM YIELD
  -  HIGH YIELD
  -  MEDIUM YIELD
  -  100 YEAR FLOODPLAIN
  -  WATER
  -  RESERVOIR
  -  WETLANDS
  -  SALT WATER WETLANDS
  -  FLATS SHOALS
  -  PERENNIAL
  -  INTERMITTENT
  -  SHORELINE
  -  MAN MADE SHORE
  -  DAM
  -  AQUEDUCT
-  LIMITED ACCESS HIGHWAY
  -  MULTILANE HWY, NOT LIMITED ACCESS
  -  OTHER NUMBERED HWY
  -  MAJOR ROAD - COLLECTOR
  -  MINOR STREET OR ROAD, RAMP
  -  TRACK
  -  TRAIL
  -  PIPELINE
  -  POWERLINE
  -  TRAIN



		PROJECT: B120 OIL SPILL		
		LOCATION: NYE COVE/STRAWBERRY COVE BUZZARDS BAY, MA		
TITLE: PHASE II SUPPORTING MAPS				
DESIGNED: LAC	DRAWN: JKB	CHECKED: KDT	APPROVED: MJW	FIGURE #: <b>W1E-01</b>
SCALE: AS SHOWN	DATE: 01/25/06	FILE: 3871W1E-01	PROJECT #: 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

0 250 500 Feet



**E N T R I X**

**W1E-01**  
**Nye cove/Strawberry Cove,**  
**Mattapoissett**  
**Comprehensive Activities**  
**Bouchard B No. 120 Oil Spill**  
**Buzzards Bay, MA**