



**BOUCHARD B120 RELEASE
SHORELINE SEGMENT SUMMARY**

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GeoInsight Project Number 3871-002

SEGMENT IDENTIFICATION: **W1F-05**

SEGMENT NAME: **Mattapoissett Neck West**

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

MAXIMUM DEGREE OF INITIAL OILING: Heavy (Oiling Score: 3.77)

SEGMENT INSPECTION STATUS: Passed IRAC inspection on 08/27/2003.

SITE-SPECIFIC INFORMATION

PHYSICAL CHARACTERISTICS:

Primary Shoreline Type/ Geology:

- 1F: Salt marshes.

Secondary Shoreline Type/ Geology:

- 1C: Mixed sand and gravel (pebble to boulder) and rip rap groins (jetties); and
- 1E: Rocky (bedrock) shorelines.

Hydrogeology:

- Brandt Island Cove is located to the west and Buzzards Bay to the southeast. The majority of the segment is saltwater wetlands.

Bedrock Geology:

- The segment coastline consists of the "Alaskite" bedrock formation. This bedrock consists of mafic-poor gneissic granite commonly containing muscovite.

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

Aquifer: None at segment.

Protected Open Space: None at 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: Adjacent to segment: Buzzards Bay aquatic environment.

Estimated Habitats of Rare Wildlife: 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 marsh. Residential dwellings are located within 500 feet of the segment. A portion of segment is accessible via roadway.

Frequency of Use: Presumably seasonal and 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.

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
05/20/2003	Sporadic splatter stains were observed in the lower and middle intertidal zones near Heading Street. An unspecified area of oil coating and pavement was observed (approximately 5 square meters) coated in oil approximately 51 to 90% in the middle to upper intertidal zone. Heavy staining on rocks and tar patties were observed in the upper intertidal zone on the southern portion of the segment. Another area of oil (approximately 10 by 400 meters) was observed in the lower to middle intertidal zone. Additional cleanup activities were warranted.
05/23/2003	Cleanup crew was on-site during the inspection.

IRAC INSPECTIONS

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

DATE	SUMMARY OF INFORMATION RECORDED BY INSPECTION TEAM
08/27/2003	Minor dried splatter was observed on rock surfaces. 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
08/26/2004	Site reconnaissance: A few "pinches" of dried oil (approximately 0.5-inch diameter) were found and removed from between cobbles and marsh grass in the lower intertidal zone. One marsh sediment sample (W1F05-MS01) was collected from the marsh area at N41°37.531' W70°48.712' and one surface water sample (W1F05-TP01) was collected from a tidal pool at N41°37.621' W70°48.817'. The samples were submitted to a laboratory for EPH analysis.
05/10/2005	Site reconnaissance: A cluster of 10 splatters (approximately less than 1 inch in diameter) and one tarball (approximately 4 inches in diameter) were removed from the channel bank.
06/22/2005	Site reconnaissance: Marsh die-off and algae mats were observed in shoreline marsh. The marsh grass is stunted at approximately 6 inches high. The marsh appeared to be healthy.
09/01/2005	Phase II characterization activities: Splatter (primarily dime- to quarter-size) was observed at three isolated areas at N41°37.649' W70°48.885', N41°37.497' W70°48.693', and N41°37.468' W70°48.636'.
09/02/2005	One splatter was approximately 3 inches in diameter. The splatter was observed in clusters of 3 to 10 at each location, and was scoured to a stain and did not come off to the touch. Two areas of pavement (approximately 3 inches in diameter) were found and removed at N41°37.481' W70°48.668' and N41°37.468' W70°48.636'. The pavement was weathered and did not easily come off to the touch, but had a tacky center when broken apart. Marsh sediment samples (W1F05-P2-M-01, W1F05-P2-M-02, and W1F05-P2-M-03) were collected from three sample locations in the intertidal zone. The samples were composited of three grab samples that were collected from within an approximate 15 foot radius of N41°37.640' W70°48.847',

41°37.586' W70°48.778', and N41°37.505' W70°48.682', respectively. The grab samples at each sample location were composited in a laboratory and analyzed for EPH fractions and PAHS by 8270C/SIM analysis.

Notes:

1. GeoInsight did not receive IRA citizen calls pertaining to this segment.
2. EPH = Extractable Petroleum Hydrocarbons.
3. PAH = Polynuclear Aromatic Hydrocarbons.
4. SIM = Selected Ion Monitoring.

TABLE 1
SAMPLE SUMMARY
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: W1F-05
Mattapoisset Neck West, Mattapoisset

Sample ID	Date Collected	Matrix	Analysis	Laboratory	Sampling Program	Sample Location Coordinates		Sample Location Description	Comments
						Latitude	Longitude		
W1F05-TP-01	8/26/2004	Water	EPH PAH	GAI	MCP-At Risk Phase II	N41°37.622'	W70°48.817'	Tidal Pool	Grab
W1F05-MS01		Sediment				N41°37.519'	W70°48.712	Marsh Sediment	Composite sample
W1F-05-P2-M-01	9/1/2005	Sediment	EPH PAH	GAI	MCP-Phase II Site Assessment	N41°37.637'	W70°48.844'	Marsh Sediment	Composite sample
W1F-05-P2-M-02						N41°37.585'	W70°48.778'		
W1F-05-P2-M-03						N41°37.506'	W70°48.681'		
DDD-P2-05						N41°37.506'	W70°48.681'		Duplicate

NOTES:

1. GAI: Groundwater Analytical, Inc.

TABLE 2
SUMMARY OF ANALYTICAL RESULTS
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: W1F-05
Mattapoissett Neck West, Mattapoissett

Analyte	W1F05-TP01		Water Quality Standards	
	Water (Marsh Tidal Pool)			
	8/26/2004			
EPH			MADEP VPH/EPH Surface Water Guideline	NOAA SQuiRT Ambient Water Quality Criteria Maximum Concentration
C ₉ -C ₁₈ Aliphatic Hydrocarbons	ND(500)		1,800	NA
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	ND(500)		2,100	NA
C ₁₁ -C ₂₂ Aromatic Hydrocarbons	ND(150)		See Note Below	NA
PAH by GC/MS-SIM by method 8270C				
Naphthalene	ND(0.5)		NA	2,350
2-Methylnaphthalene	ND(0.5)		NA	300
Acenaphthylene	ND(0.5)		NA	300
Acenaphthene	ND(0.5)		NA	970
Fluorene	ND(0.5)		NA	300
Phenanthrene	ND(0.5)		NA	7.7
Anthracene	ND(0.5)		NA	300
Fluoranthene	ND(0.5)		NA	40
Pyrene	ND(0.5)		NA	300
Benzo(a)anthracene	ND(0.1)		NA	300
Chrysene	ND(0.1)		NA	300
Benzo(b)fluoranthene	ND(0.1)		NA	300
Benzo(k)fluoranthene	ND(0.1)		NA	300
Benzo(a)pyrene	ND(0.1)		NA	300
Indeno(1,2,3-c,d)pyrene	ND(0.1)		NA	300
Dibenzo(a,h)anthracene	ND(0.1)		NA	300
Benzo(g,h,i)perylene	ND(0.1)		NA	300

NOTES:

1. Results in ug/l (micrograms per liter).
2. EPH: Extractable Petroleum Hydrocarbons.
3. ND(x): Constituent not detected at practical quantitation limits 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. NA: Not Applicable.
7. Highlighted values exceed applicable standards.
8. Effects for C11-C22 Aromatic Hydrocarbons may be seen at less than the EPH reporting limit.
9. MADEP: Massachusetts Department of Environmental Protection.
10. VPH: Volatile Petroleum Hydrocarbons.

Table 2 (continued)
SUMMARY OF ANALYTICAL RESULTS
BUZZARDS BAY, MASSACHUSETTS
SEGMENT: W1F-05
Mattapoissett Neck West, Mattapoissett

Analyte	W1F05-MS01	W1F05-P2-M-01	W1F05-P2-M-02	W1F05-P2-M-03	DDD-P2-05	MCP Method 1 Standards			Effects Range-Low Benchmarks Marine Sediments
	Marsh Sediment	Marsh Sediment	Marsh Sediment	Marsh Sediment	Marsh Sediment	S-1 / GW-1	S-1 / GW-2	S-1 / GW-3	ER-L
	8/26/2004	9/1/2005	9/1/2005	9/1/2005	9/1/2005				
EPH									
C ₉ -C ₁₈ Aliphatic Hydrocarbons	ND(59)	ND(47)	ND(44)	ND(34)	ND(37)	1,000	1,000	1,000	NA
C ₁₉ -C ₃₆ Aliphatic Hydrocarbons	ND(59)	ND(47)	ND(44)	ND(34)	ND(37)	2,500	1,000	1,000	NA
C ₁₁ -C ₂₂ Aromatic Hydrocarbons	ND(59)	ND(47)	ND(44)	ND(34)	ND(37)	200	800	800	NA
PAH by GC/MS-SIM by method 8270C									
Naphthalene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	0.008j	4	100	100	0.160
2-Methylnaphthalene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	4	500	500	0.070
Acenaphthylene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	100	100	100	0.044
Acenaphthene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	20	1,000	1,000	0.016
Fluorene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	400	1,000	1,000	0.019
Phenanthrene	0.009j	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	700	1,000	100	0.240
Anthracene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	1,000	1,000	1,000	0.085
Fluoranthene	0.020	ND(0.016)	ND(0.015)	ND(0.011)	0.010j	1,000	1,000	1,000	0.600
Pyrene	0.010j	ND(0.016)	ND(0.015)	ND(0.011)	0.008j	700	700	700	0.665
Benzo(a)anthracene	0.009j	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	0.7	0.7	0.7	0.261
Chrysene	0.011j	ND(0.016)	0.008j	ND(0.011)	ND(0.012)	7	7	7	0.384
Benzo(b)fluoranthene	0.011j	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	0.7	0.7	0.7	NA
Benzo(k)fluoranthene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	7	7	7	NA
Benzo(a)pyrene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	0.7	0.7	0.7	0.430
Indeno(1,2,3-c,d)pyrene	ND(0.020)	ND(0.016)	0.012j	0.008j	0.011j	0.7	0.7	0.7	NA
Dibenzo(a,h)anthracene	ND(0.020)	ND(0.016)	0.019	ND(0.011)	ND(0.012)	0.7	0.7	0.7	0.063
Benzo(g,h,i)perylene	ND(0.020)	ND(0.016)	ND(0.015)	ND(0.011)	ND(0.012)	1,000	1,000	1,000	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 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. MCP: Massachusetts Contingency Plan.
7. ER-L: Effects Range Low (Long and Morgan 1991).
8. NA: Not Applicable.
9. Highlighted values exceed applicable standards.



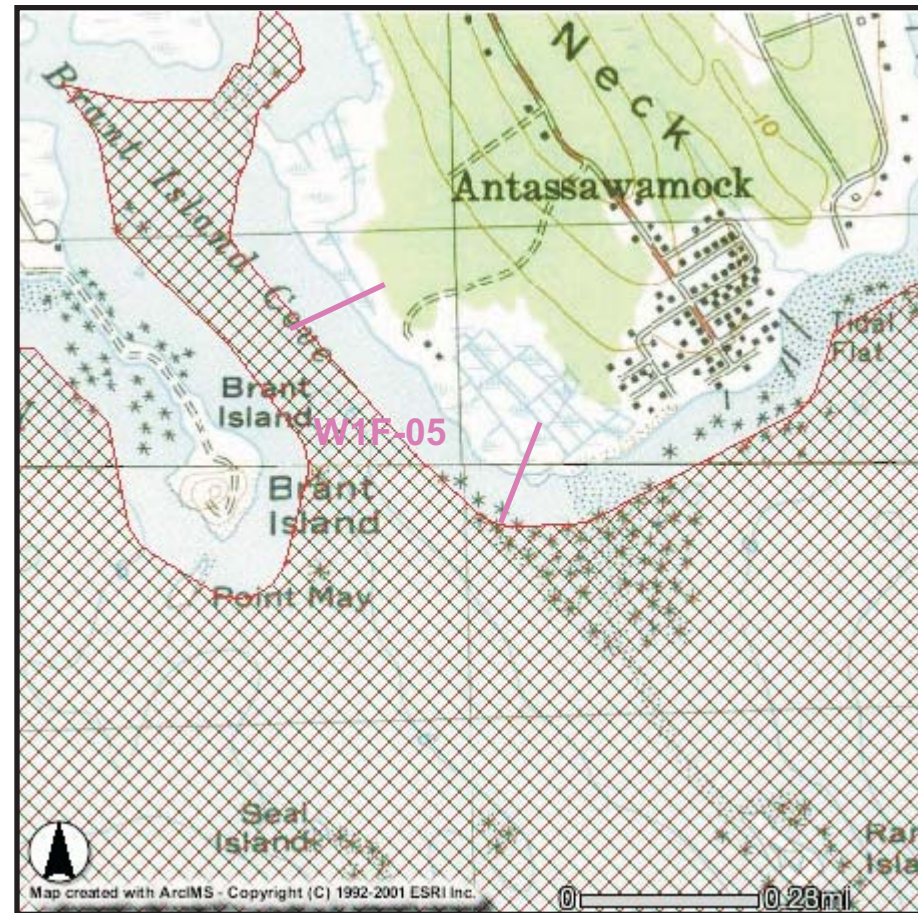
W1F-05

0 125 250 500 Feet

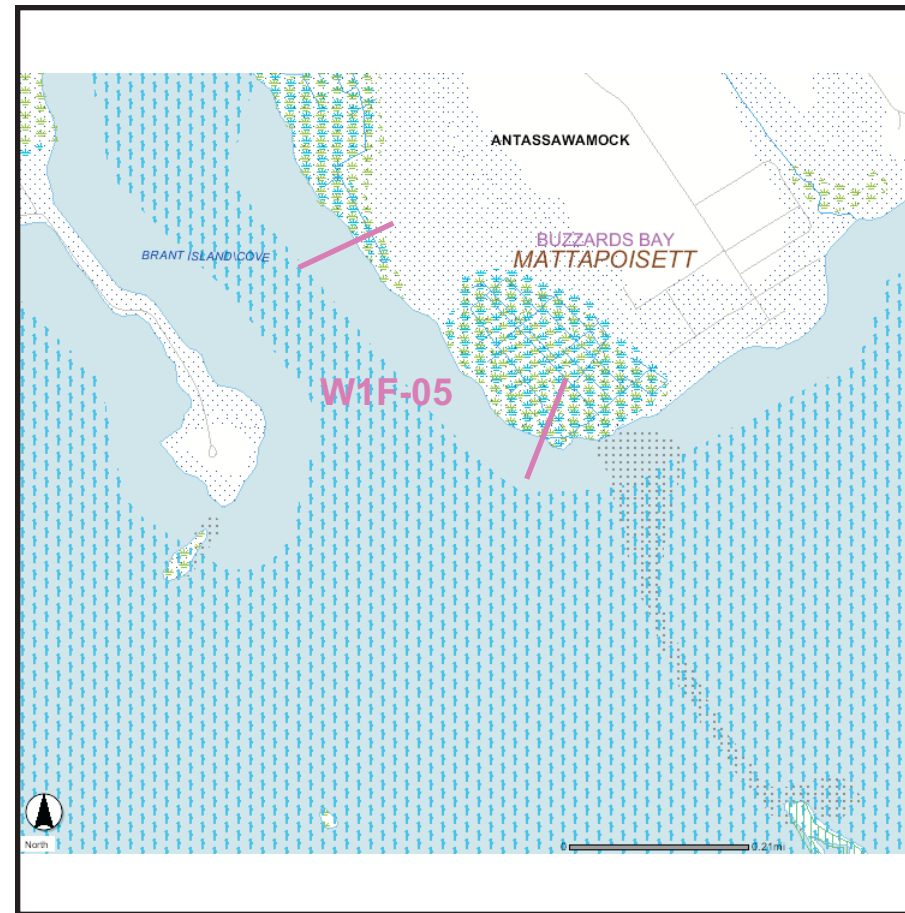


E N T R I X
W1F-05
Mattapoisett Neck West
Bouchard B No. 120 Oil Spill
Buzzards Bay, MA

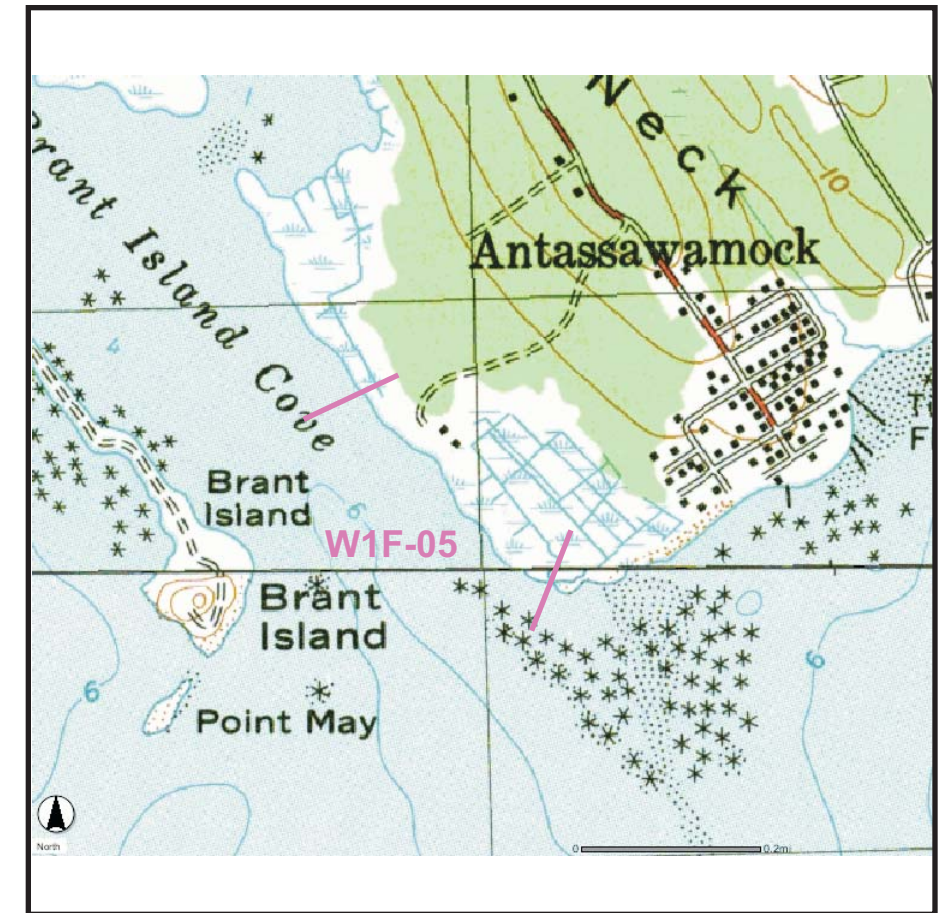
NATURAL HERITAGE AND ENDANGERED SPECIES MAP



2IE PRIORITY RESOURCE MAP



TOPOGRAPHIC MAP













































LEGEND


 NHESP 2005 MA PRIORITY HABITATS FOR STATE-PROTECTED RARE SPECIES

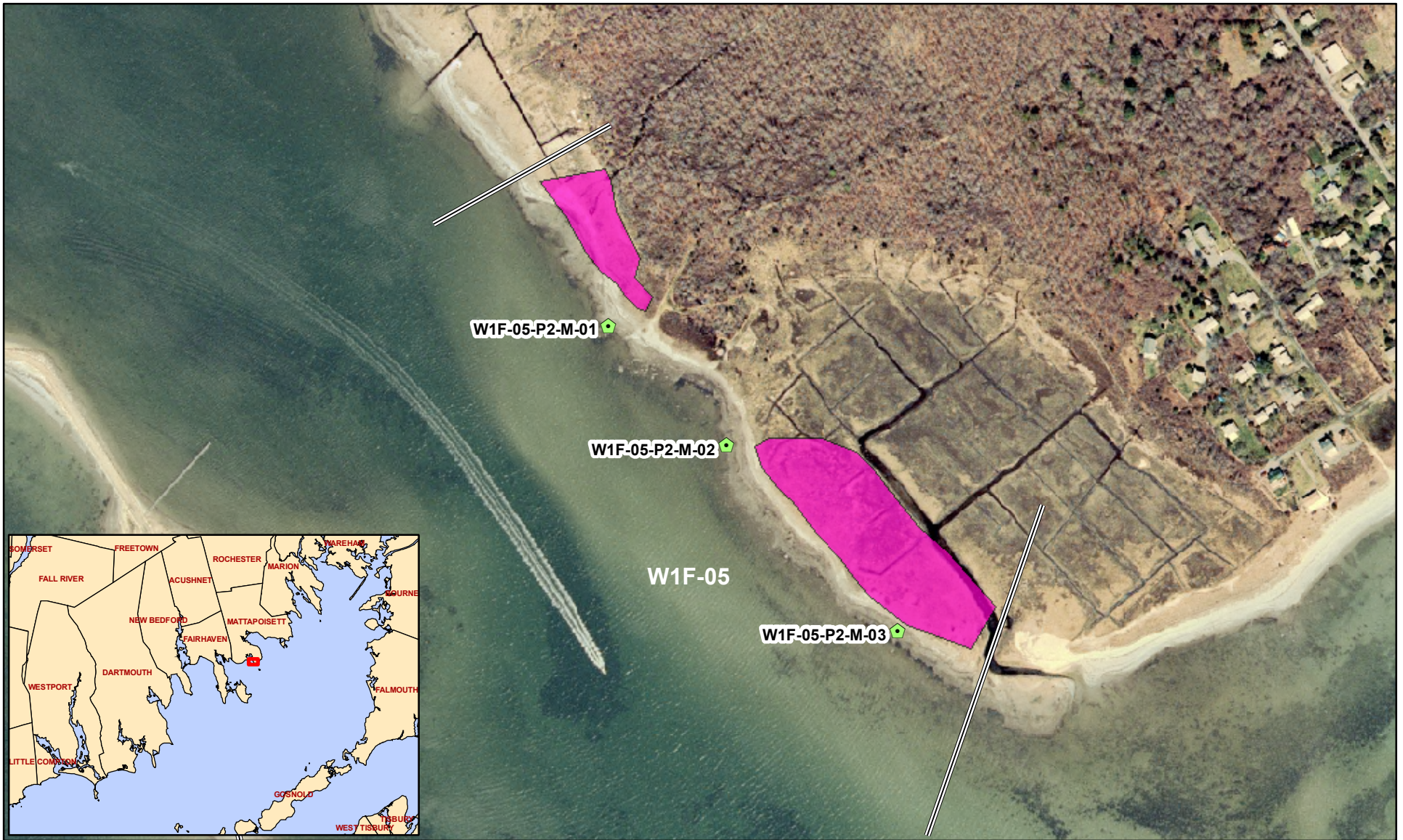
 NHESP 2005 MA ESTIMATED HABITATS OF RARE WILDLIFE

DEP MCP 21e Map Legend





-  Zone IIs
 -  IWPA's
 -  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
 -  Non Potential Drinking Water Source Area
 -  HIGH YIELD
 -  MEDIUM YIELD
 -  FEMA Floodplains
 -  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
 -  TRAIL

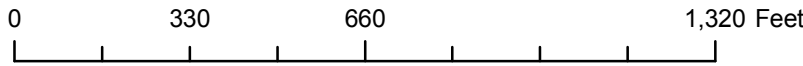


		PROJECT:		
		B120 OIL SPILL		
TITLE:		LOCATION:		
		MATTAPoisETT NECK WEST BUZZARDS BAY, MA		
PHASE II SUPPORTING MAPS				
DESIGNED:	DRAWN:	CHECKED:	APPROVED:	FIGURE #:
LAC	JKB	KDT	MJW	WIF-05
SCALE:	DATE:	FILE:	PROJECT #:	
AS SHOWN	01/25/06	3871WIF-05	3871-002	



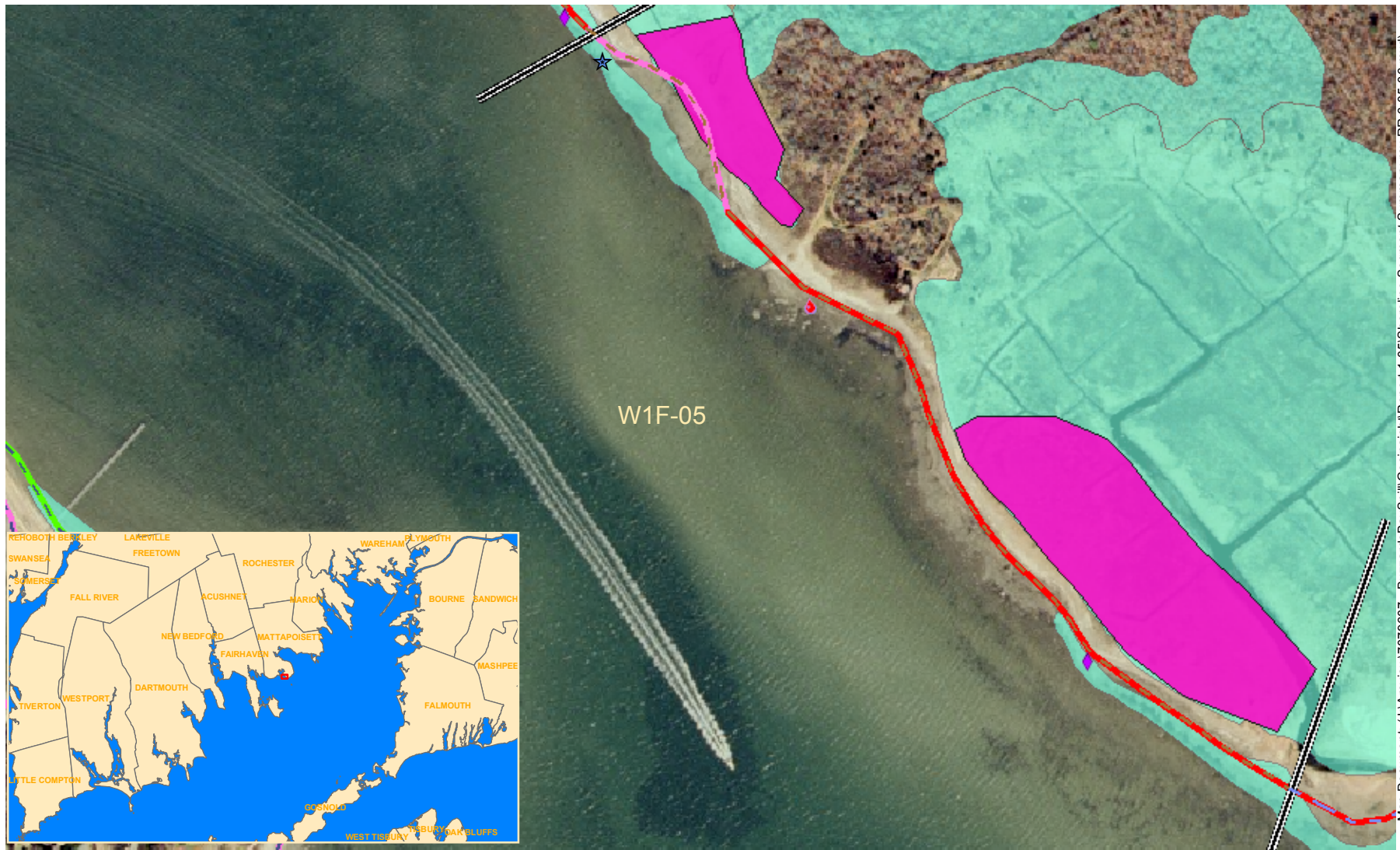
Legend

-  Intertidal Sampling Location
-  Marsh Sampling Location
-  Subtidal Sampling Location
-  Visual Inspection of Marsh Area



ENTRIX

**Phase II Sampling
W1F-05
Mattapoissett Neck West
Bouchard B No. 120 Oil Spill
Buzzards Bay, MA**



Map Document: (J:\Arview\7079607 - BuzzardsBaySpill\Geoinsight\Report 1-05\Shoreline Segment Summary rev RR 6-05-06.mxd)

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



ENTRIX

W1F-05
Mattapoisett Neck West,
Mattapoisett
Comprehensive Activities
Bouchard B No. 120 Oil Spill
Buzzards Bay, MA

Segment: W1F-05 Mattapoisett Neck West
Mattapoisett, MA
Phase II Sampling: September 2, 2005



Photo 1: Overview of shoreline type.

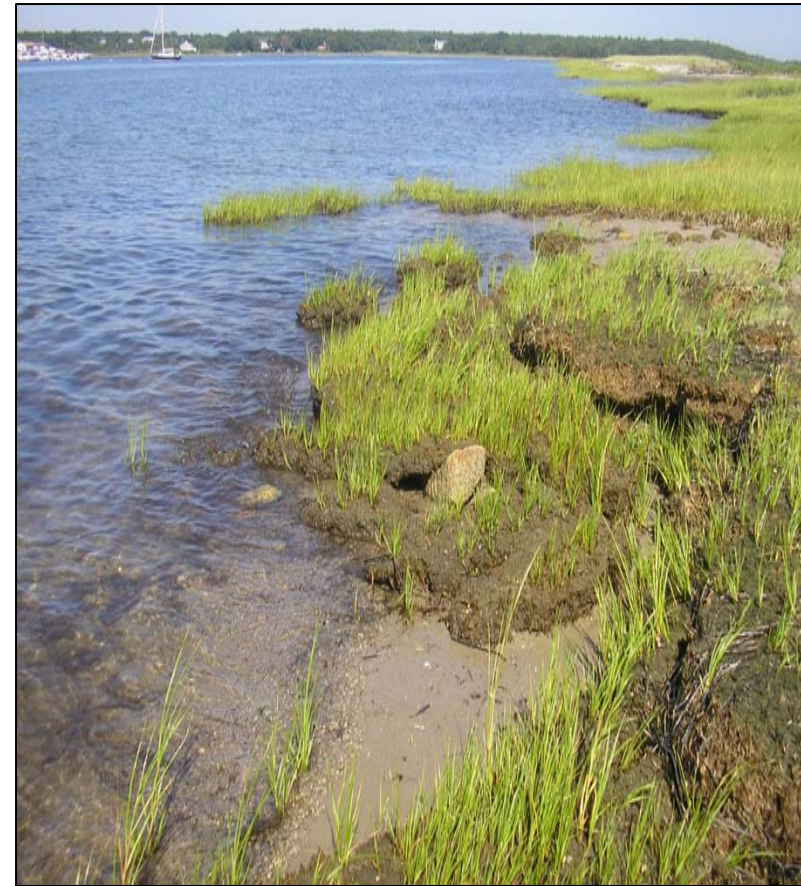


Photo 2: Overview of shoreline type.

Segment: W1F-05 Mattapoissett Neck West
Mattapoissett, MA
Phase II Sampling: September 2, 2005



Photo 3: Splatter observed on boulder.



Photo 4: Channel running through marsh segment.