

# Palmer's Island Trail and Invasive Species Control Notice of Intent

City of New Bedford  
Conservation Commission  
October 2013

Prepared for:

City of New Bedford Planning Department  
Office of Environmental Stewardship  
133 William Street, Room 303  
New Bedford, MA 02740

*BSC Job #89524.00*

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Prepared by:



349 Route 28, Unit D  
W. Yarmouth, Massachusetts 02673



October 10, 2013

City of New Bedford Conservation Commission  
133 William Street – Room 304  
New Bedford, Massachusetts 02740

349 Main Street  
(Route 28), Unit D  
West Yarmouth  
MA 02673

Tel: 508-778-8919  
800-288-8123  
Fax: 508-778-8966

[www.bscgroup.com](http://www.bscgroup.com)

**RE: Palmer’s Island Trail and Invasive Species Control  
Notice of Intent Application**

Dear Ms. Porter and Members of the Conservation Commission:

BSC Group, Inc. is pleased to submit this Notice of Intent application on behalf of our client, the City of New Bedford Planning Department, for the property known as Palmer's Island. The proposed project involves the creation of maintained trails, installation of educational signage and picnic tables, and management of invasive plant species in the vicinity of proposed trails. Impacts to wetland resource areas are not anticipated as a result of proposed work. The proposed work is intended to improve the interests of onsite wetland resource areas subject to the jurisdiction of the WPA and the Ordinance. For more information, please review the attached supporting documents and site plan. This Notice of Intent application is being submitted in accordance with the Massachusetts Wetlands Protection Act, and the City of New Bedford's Wetland Ordinance.

Enclosed please find the Notice of Intent application and accompanying materials. If you have any questions or require additional information, please contact me at (508)-778 - 8919.

Very truly yours,  
**BSC GROUP, INC.**

Matthew Creighton, PWS  
Project Manager

cc: Department of Environmental Protection, Southeast Regional Office  
20 Riverside Drive, Lakeville, MA 02347

Natural Heritage and Endangered Species Program  
Division of Fisheries and Wildlife  
100 Hartwell Street, Suite 230, West Boylston, MA 01583

Division of Marine Fisheries, Southeast Marine Fisheries Station  
1213 Purchase Street – 3rd Floor, New Bedford, MA 02740-6694

Ingeborg Hegemann, BSC Group, Inc., 33 Waldo Street, Worcester, MA 01608

- Engineers
- Environmental Scientists
- GIS Consultants
- Landscape Architects
- Planners
- Surveyors

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New Bedford, Massachusetts  
Notice of Intent

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# Attachment A

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

WPA FORM 3 – NOTICE OF INTENT



# WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:  
MassDEP File Number  
Document Transaction Number  
New Bedford  
City/Town

**Important:**  
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**Note:**  
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

## A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

<u>Palmer's Island</u>	<u>New Bedford</u>	<u>02744</u>
a. Street Address	b. City/Town	c. Zip Code
Latitude and Longitude:	<u>41d 39m 29.2s</u>	<u>-70d 54m 36.2s</u>
	d. Latitude	e. Longitude
<u>32</u>	<u>1 &amp; 2</u>	
f. Assessors Map/Plat Number	g. Parcel /Lot Number	

2. Applicant:

<u>Jill</u>	<u>Maclean</u>	
a. First Name	b. Last Name	
<u>City of New Bedford Planning Department</u>		
c. Organization		
<u>133 William Street, Room 303</u>		
d. Street Address		
<u>New Bedford</u>	<u>MA</u>	<u>02740</u>
e. City/Town	f. State	g. Zip Code
<u>508-979-1488</u>	<u>508-979-1576</u>	
h. Phone Number	i. Fax Number	j. Email Address

3. Property owner (required if different from applicant):  Check if more than one owner

<u></u>	<u></u>	
a. First Name	b. Last Name	
<u></u>		
c. Organization		
<u></u>		
d. Street Address		
<u></u>	<u></u>	<u></u>
e. City/Town	f. State	g. Zip Code
<u></u>	<u></u>	<u></u>
h. Phone Number	i. Fax Number	j. Email address

4. Representative (if any):

<u>Matthew</u>	<u>Creighton</u>	
a. First Name	b. Last Name	
<u>BSC Group, Inc.</u>		
c. Company		
<u>349 Route 28, Unit D</u>		
d. Street Address		
<u>West Yarmouth</u>	<u>MA</u>	<u>02673</u>
e. City/Town	f. State	g. Zip Code
<u>508-778-8919</u>	<u>508-778-8966</u>	<u>mcreighton@bscgroup.com</u>
h. Phone Number	i. Fax Number	j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

<u>N/A</u>	<u>N/A</u>	<u>N/A</u>
a. Total Fee Paid	b. State Fee Paid	c. City/Town Fee Paid



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## A. General Information (continued)

6. General Project Description:

Installation of maintained trails, educational signage, picnic tables, and invasive plant species management.

7a. Project Type Checklist:

- 1.  Single Family Home
- 2.  Residential Subdivision
- 3.  Limited Project Driveway Crossing
- 4.  Commercial/Industrial
- 5.  Dock/Pier
- 6.  Utilities
- 7.  Coastal Engineering Structure
- 8.  Agriculture (e.g., cranberries, forestry)
- 9.  Transportation
- 10.  Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

1.  Yes  No If yes, describe which limited project applies to this project:

2. Limited Project

8. Property recorded at the Registry of Deeds for:

a. County

b. Certificate # (if registered land)

c. Book

d. Page Number

## B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1.  Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2.  Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet	2. linear feet
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet	2. square feet
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet 3. cubic yards dredged	2. square feet



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## B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input checked="" type="checkbox"/> Bordering Land Subject to Flooding	0 1. square feet 3. cubic feet of flood storage lost	2. square feet 4. cubic feet replaced
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet 2. cubic feet of flood storage lost	3. cubic feet replaced
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) 2. Width of Riverfront Area (check one): <input type="checkbox"/> 25 ft. - Designated Densely Developed Areas only <input type="checkbox"/> 100 ft. - New agricultural projects only <input type="checkbox"/> 200 ft. - All other projects	
3. Total area of Riverfront Area on the site of the proposed project:		_____ square feet
4. Proposed alteration of the Riverfront Area:		
a. total square feet	b. square feet within 100 ft.	c. square feet between 100 ft. and 200 ft.
5. Has an alternatives analysis been done and is it attached to this NOI?		<input type="checkbox"/> Yes <input type="checkbox"/> No
6. Was the lot where the activity is proposed created prior to August 1, 1996?		<input type="checkbox"/> Yes <input type="checkbox"/> No

3.  Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input checked="" type="checkbox"/> Land Under the Ocean	0 1. square feet 2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input checked="" type="checkbox"/> Coastal Beaches	0 1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	1. square feet	2. cubic yards dune nourishment



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## B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input checked="" type="checkbox"/> Coastal Banks	<u>0</u> 1. linear feet	
g. <input checked="" type="checkbox"/> Rocky Intertidal Shores	<u>0</u> 1. square feet	
h. <input checked="" type="checkbox"/> Salt Marshes	<u>0</u> 1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____ 1. square feet	
	_____ 2. cubic yards dredged	
j. <input checked="" type="checkbox"/> Land Containing Shellfish	<u>0</u> 1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	
	_____ 1. cubic yards dredged	
l. <input checked="" type="checkbox"/> Land Subject to Coastal Storm Flowage	_____ 1. square feet	
4. <input type="checkbox"/> Restoration/Enhancement	If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.	
	_____ a. square feet of BVW	_____ b. square feet of Salt Marsh
5. <input type="checkbox"/> Project Involves Stream Crossings		
	_____ a. number of new stream crossings	_____ b. number of replacement stream crossings

## C. Other Applicable Standards and Requirements

### Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/priority\\_habitat/online\\_viewer.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/priority_habitat/online_viewer.htm).

a.  Yes    No   **If yes, include proof of mailing or hand delivery of NOI to:**

**Natural Heritage and Endangered Species Program  
Division of Fisheries and Wildlife  
100 Hartwell Street, Suite 230  
West Boylston, MA 01583**

NHESP 2008  
b. Date of map \_\_\_\_\_



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## C. Other Applicable Standards and Requirements (cont'd)

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.C, and include requested materials with this Notice of Intent (NOI); *OR* complete Section C.1.d, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

### 1. c. Submit Supplemental Information for Endangered Species Review\*

1.  Percentage/acreage of property to be altered:

(a) within wetland Resource Area

\_\_\_\_\_ percentage/acreage

(b) outside Resource Area

\_\_\_\_\_ percentage/acreage

2.  Assessor's Map or right-of-way plan of site

3.  Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work \*\*\*

(a)  Project description (including description of impacts outside of wetland resource area & buffer zone)

(b)  Photographs representative of the site

(c)  MESA filing fee (fee information available at:

[http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_fee\\_schedule.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_fee_schedule.htm)).

Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

*Projects altering 10 or more acres of land, also submit:*

(d)  Vegetation cover type map of site

(e)  Project plans showing Priority & Estimated Habitat boundaries

### d. OR Check One of the Following

1.  Project is exempt from MESA review.

Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, [http://www.mass.gov/dfwele/dfw/nhosp/regulatory\\_review/ mesa/ mesa\\_exemptions.htm](http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/ mesa/ mesa_exemptions.htm); the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)

2.  Separate MESA review ongoing.

\_\_\_\_\_ a. NHESP Tracking #

\_\_\_\_\_ b. Date submitted to NHESP

\* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/dfwele/dfw/nhosp/nhosp.htm>, regulatory review tab). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

\*\* MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



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## C. Other Applicable Standards and Requirements (cont'd)

3.  Separate MESA review completed.  
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.

2. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?

a.  Not applicable – project is in inland resource area only

b.  Yes  No If yes, include proof of mailing or hand delivery of NOI to either:

South Shore - Cohasset to Rhode Island, and the Cape & Islands:

North Shore - Hull to New Hampshire:

Division of Marine Fisheries -  
Southeast Marine Fisheries Station  
Attn: Environmental Reviewer  
1213 Purchase Street – 3rd Floor  
New Bedford, MA 02740-6694

Division of Marine Fisheries -  
North Shore Office  
Attn: Environmental Reviewer  
30 Emerson Avenue  
Gloucester, MA 01930

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.

3. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?

a.  Yes  No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.

b. ACEC

4. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?

a.  Yes  No

5. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?

a.  Yes  No

6. Is this project subject to provisions of the MassDEP Stormwater Management Standards?

a.  Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:

1.  Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)

2.  A portion of the site constitutes redevelopment

3.  Proprietary BMPs are included in the Stormwater Management System.

b.  No. Check why the project is exempt:

1.  Single-family house

**Online Users:**  
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.



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## C. Other Applicable Standards and Requirements (cont'd)

- 2.  Emergency road repair
- 3.  Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

## D. Additional Information

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

**Online Users:** Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

- 1.  USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
- 2.  Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.
- 3.  Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
- 4.  List the titles and dates for all plans and other materials submitted with this NOI.

Palmer's Island Trail and Invasive Species Control

a. Plan Title	
BSC Group Inc.	Craig A. Field, PLS
b. Prepared By	c. Signed and Stamped by
10-08-2013	1" = 50'
d. Final Revision Date	e. Scale
N/A	N/A
f. Additional Plan or Document Title	g. Date

- 5.  If there is more than one property owner, please attach a list of these property owners not listed on this form.
- 6.  Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
- 7.  Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
- 8.  Attach NOI Wetland Fee Transmittal Form
- 9.  Attach Stormwater Report, if needed.



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## E. Fees

1.  Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

N/A	N/A
2. Municipal Check Number	3. Check date
N/A	N/A
4. State Check Number	5. Check date
N/A	N/A
6. Payor name on check: First Name	7. Payor name on check: Last Name

## F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant	2. Date
3. Signature of Property Owner (if different)	4. Date
5. Signature of Representative (if any)	6. Date

### For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

### For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

### Other:

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection  
Bureau of Resource Protection - Wetlands

**WPA Form 3 – Notice of Intent**

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N/A	N/A
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<u><i>M. J. [Signature]</i></u> 1. Signature of Applicant	<u>10/30/2013</u> 2. Date
<u><i>[Signature]</i></u> 3. Signature of Property Owner (if different)	<u>10-10-2013</u> 4. Date
<u><i>[Signature]</i></u> 5. Signature of Representative (if any)	<u>        </u> 6. Date

**For Conservation Commission:**

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

**For MassDEP:**

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

**Other:**

If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

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**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
**NOI Wetland Fee Transmittal Form**  
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

**Important:** When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



**A. Applicant Information**

1. Location of Project:

<u>Palmer's Island</u>	<u>New Bedford</u>
a. Street Address	b. City/Town
<u>N/A</u>	<u>N/A</u>
c. Check number	d. Fee amount

2. Applicant Mailing Address:

<u>Jill</u>	<u>Maclean</u>	
a. First Name	b. Last Name	
<u>City of New Bedford</u>		
c. Organization		
<u>133 William Street, Room 303</u>		
d. Mailing Address		
<u>New Bedford</u>	<u>MA</u>	<u>02740</u>
e. City/Town	f. State	g. Zip Code
<u>508-979-1400</u>	<u>508-991-6148</u>	
h. Phone Number	i. Fax Number	j. Email Address

3. Property Owner (if different):

<u></u>	<u></u>	
a. First Name	b. Last Name	
<u></u>		
c. Organization		
<u></u>		
d. Mailing Address		
<u></u>	<u></u>	<u></u>
e. City/Town	f. State	g. Zip Code
<u></u>	<u></u>	<u></u>
h. Phone Number	i. Fax Number	j. Email Address

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

**B. Fees**

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

**Step 1/Type of Activity:** Describe each type of activity that will occur in wetland resource area and buffer zone.

**Step 2/Number of Activities:** Identify the number of each type of activity.

**Step 3/Individual Activity Fee:** Identify each activity fee from the six project categories listed in the instructions.

**Step 4/Subtotal Activity Fee:** Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

**Step 5/Total Project Fee:** Determine the total project fee by adding the subtotal amounts from Step 4.

**Step 6/Fee Payments:** To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.

**B. Fees (continued)**



**Massachusetts Department of Environmental Protection**  
 Bureau of Resource Protection - Wetlands  
**NOI Wetland Fee Transmittal Form**  
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Exempt - Municipal Project			

**Step 5/Total Project Fee:** \_\_\_\_\_

**Step 6/Fee Payments:**

Total Project Fee: \_\_\_\_\_  
 a. Total Fee from Step 5

State share of filing Fee: \_\_\_\_\_  
 b. 1/2 Total Fee **less** \$12.50

City/Town share of filing Fee: \_\_\_\_\_  
 c. 1/2 Total Fee **plus** \$12.50

**C. Submittal Requirements**

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection  
 Box 4062  
 Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

**To MassDEP Regional Office** (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)

# Attachment B

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

PROJECT NARRATIVE

## PROJECT NARRATIVE

### 1.0 INTRODUCTION

Palmer's Island is an island situated in New Bedford Harbor, Massachusetts at the mouth of the Acushnet River abutting the New Bedford hurricane barrier. It is approximately 6 acres in area, with 3,500 feet of coastline around the island. It is named after William Palmer, one of the first settlers of Dartmouth. Public access is available by boat and by foot during low tide via the hurricane barrier maintenance road. Parking is located approximately one half mile from the island. Palmer's Island Lighthouse, a 24ft. tall, rubble stone constructed lighthouse, is a focal point of the island, which boasts a rich history and significance to the city.

Palmer's Island was an internment camp for Native Americans during King Philip's War in 1675-76. The island was "developed" during the whaling era and a hotel & dance floor were built in the 1860's at the southern end of the island. The island became a favorite stop for returning whalers and illegal activities grew rampant. The hotel closed around 1890. An amusement park was built soon afterward, but failed in a few years, and the hotel burned in 1905. During the 1938 Hurricane all structures on the island were washed away with the exception of the lighthouse which remains today.

The proposed project involves an early phase of a long-term plan to restore the island's habitat and to provide public access. The current and future use of the island is as an area for passive recreation and habitat restoration. Goals of the habitat restoration include the removal of the invasive Oriental bittersweet (*Celastrus orbiculatus*) and sweet autumn clematis (*Clematis terniflora*) vines climbing over the native shrub and tree habitat in the northern portion of the island. Another goal is the management of the invasive common reed (*Phragmites australis*) community.

This work is being funded by the New Bedford Harbor Trustee Council for damages to Natural Resources as a result of PCB contamination in the New Bedford Harbor Environment. The Harbor Trustee Council is composed of representatives from the National Oceanic Atmospheric Administration (NOAA), the Department of the Interior (DOI) and the Commonwealth of Massachusetts.

The specific activities that are subject to the jurisdiction under the Massachusetts Wetlands Protection Act and the City of New Bedford Wetlands Ordinance and described in this Notice of Intent (NOI) include the development of footpaths on the island and initiation of invasive vegetation management.

### 2.0 SITE DESCRIPTION

Palmer's Island contains undeveloped open space, the Palmer's Island Lighthouse at its northernmost point, and sections of foundations from buildings that existed in the 19th and early 20th centuries. The island is approximately 6 acres in area and is bordered on all sides by the waters of New Bedford Harbor. During low tide, a sandy spit is exposed which acts as a land bridge allowing pedestrian access from the New Bedford hurricane barrier to the island.

Minimal maintenance has been done throughout the island as is evident by overgrown trails and an abundance of trash that is washed onto the eastern shores by incoming and outgoing tides.

Pedestrian access to Palmer's Island is dependent on tidal stage. For roughly 4-5 hours a day during high tide, pedestrian visitors cannot access or exit the island because the land bridge is under water. The larger issue with this is the potential for people to become trapped on the island if they are unaware of the tide cycle when they cross at low tide. Additionally, when approaching the land bridge from the mainland side, visitors must first clamor down the rock revetment wall of the hurricane barrier. This can be very dangerous when the rocks are slippery and it is easy to lose one's balance on the steep slope. A pedestrian bridge is being proposed in the future to provide safer access to the island.

Trails throughout the island are not well established; appearances suggest that they were informally created by recreational visitors as they meander around the island. In order to access the northern reaches of the island, the walking trails follow the beach on the western side of the island and slick, rocky outcroppings on the eastern side. Similar to the land bridge that provides access, parts of the trail crossing the beach is submerged and unusable during high tide. Many of the island's trails also traverse areas of poison ivy, which could be hazardous to some walkers.

There is currently no signage anywhere on the island describing the history of the island, information about the history of Palmer's Island Lighthouse, or the potential of being trapped on the island because of the tides.

Palmer's Island Lighthouse is not utilized to its full potential. The lighthouse is a valuable piece of New Bedford's history and has the potential of being a large draw for visitors. The condition of its walkway is currently unsafe for pedestrians, and evidence of vandalism likely decreases its appeal and the likelihood of visitation.

However, given the presence of trails it is evident that the island is currently used in some capacity for its recreational amenities, scenic views and history. It is frequented by visitors who use it (as observed during BSC's survey) for dog walking, sun bathing, swimming, fishing, and metal detecting. Walking trails exist throughout most of the island, however due to its narrow geography much of the walking route is again underwater during the rising tide. Trails to the top of a rock outcrop at the southern end of the island exist, but are not well established. There is, however, a rewarding view of New Bedford and Fairhaven from this high point.

Due to the small size of this island, flora and fauna diversity is limited. However, beautiful shorebirds such as the American Oystercatcher (*Haematopus palliatus*) and brilliant songbirds such as the American Goldfinch (*Spinus tristis*) comprise the majority of the avian species found on the island. Most of the island is dominated by salt tolerant plants. However, a large area of common reed extends for roughly 300 feet along the island, and much of the areas higher in elevation are inundated with poison ivy (*Toxicodendron radicans*). The northern end of the island includes an area of beautiful wild flowers made up of rugosa rose (*Rosa rugosa*), and Virginia spiderwort (*Tradescantia virginiana*). Several mature trees exist on the island in addition to the mainly shrub and herbaceous species found there. The prominent trees include Eastern red cedar (*Juniperus virginiana*), American basswood (*Tilia americana*), and red maple (*Acer rubrum*), all of which provide the necessary food and cover habitat for the population of birds to flourish.

Table 1 (below) includes a list of wildlife observed on the island at the time of the site visit. Table 2 (below) is a list of common plant species on the island. See the Shellfish Survey (Attachment F) for information of observed shellfish on the site.

According to the most recent Natural Heritage and Endangered Species Program Priority and Estimated Habitat for Rare Species (2008) map, the vast majority of the island is listed as being in both Estimated and Priority Habitat. According to the Natural Heritage and Endangered Species Program this project will NOT adversely impact habitat of State listed species. It is possible that some short-term impacts to wildlife in general may occur during the actual implementation of the plan due to human disturbance and loss of cover habitat. However, they shall be off -set by the restoration of the native habitats, including native shrub and grassland cover types. Long term disturbance to wildlife may include some minor disturbance due to increased human activity.

A state-regulated Bordering Vegetated Wetland (BVW) is located in the southwest corner of the island. An Isolated Wetland (subject to State? local (only local jurisdiction if it is also State regulated) and federal jurisdiction), which periodically floods during extreme high tides and storms, is located on the western coast of the island.

The jurisdictional wetland resource areas on the site, as defined by the Massachusetts Wetlands Protection Act (WPA) and the City of New Bedford's Wetland Ordinance (the Ordinance) include:

- Land Under the Ocean
- Land Containing Shellfish
- Salt Marsh
- Coastal Bank
- Rocky Intertidal Shores
- Coastal Beach
- Land Subject to Coastal Storm Flowage
- Bordering Vegetated Wetland

### **3.0 PROPOSED WORK**

The purpose of this application is to initiate the first tasks necessary to restore the island habitat and improve public access to and enjoyment of Palmer's Island. Impacts to wetland resource areas are not anticipated as a result of proposed work. The proposed work is intended to improve the interests of onsite wetland resource areas subject to the jurisdiction of the WPA and the Ordinance.

**Installation of Maintained Footpaths, Educational Signage, and Picnic Tables** - The City proposes to establish and maintain footpaths on the island. Proposed paths will extend from the sandy spit on the south to the prominent features of the island, namely the high rocky outcropping at the southern end of the island, and Palmer's Island Lighthouse. The pathways are proposed to be 4'-5' wide in areas where they are not located on the beach. If necessary, trails may be covered with 4" of woodchips. Throughout the trail installation process, the majority of vegetation clearing will be invasive and nuisance species. Impacts to native plant species are expected to be limited, if any. These paths will need regular maintenance in order to keep them safe and prevent the reestablishment of invasive and nuisance vegetation.

To complement the paths, interpretive signage is proposed detailing the history and focal points of the island, as well as warning visitors of the incoming tides, nuisance plants, and invasive

species management activities. These signs would be placed at the parking area on Gifford Street, at the entrance to the island, and adjacent to the Palmer's Island Lighthouse. Sign installation will not impact habitat or wetland resource areas. See Attachment G, Educational Signage, for proposed signage information, installation detail, and locations. Picnic tables are also proposed in the existing fire pit area and further north. Due to the disturbed nature of the fire pit area, no adverse impacts to wetland resource areas are expected to occur from the installation of picnic tables.

**Vegetation Management Plan** – Palmer's Island supports a diversity of habitats, both coastal and freshwater. Native coastal scrub shrub habitat covers the interior portions of the island, and Bayberry (*Myrica pensylvanica*) bushes are extremely abundant. A small Eastern red cedar grove is situated at the northern end of the island. Deciduous trees are also interspersed within the coastal shrub habitat. Meadow habitat is also present at the northern end of the island. Seaside goldenrod (*Solidago sempervirens*) is common throughout the island. Poison ivy is also abundant throughout the island. These habitats provide excellent cover and food for songbirds and the abundant Eastern Cottontail (*Sylvilagus floridanus*).

As pockets of open space are created from invasive plant removal, native plants should be planted to return the area to a natural coastal habitat and prevent other invasive plants from re-colonizing the area (See Table 3 for Recommended Plantings). All plantings require the approval of the MA Historical Commission. Additionally, it may be necessary to seed disturbed areas to prevent erosion and ensure wildlife habitat is maintained. Seed mixes such as the *New England Conservation/Wildlife Mix*, *New England Coastal Salt Tolerant Grass Seed Mix*, and *New England Wetmix* may be utilized depending on the location needing to be seeded.

Common reed (*Phragmites australis*) is found in the isolated vegetated wetland, containing brackish water, on the west coast of the island. It is the most prominent of the invasive species on the island and occupies an area of approximately 33,575 square feet (s.f.). During extreme high tides and storms, water mixes from the Harbor to the common reed freshwater wetland. The entire common reed stand is proposed to be treated, removed, and managed. Although the stand has the potential to expand to the north and south, its expansion is limited in its seaward expansion by the higher salt concentrations. Treating common reed consists of using a ultra low flow sprayer to treat the vegetation with glyphosate herbicide, such as AquaPro (Rodeo). Glyphosate is safe to use in and around water and is effective in managing common reed. Upon completion switchgrass (*Panicum virgatum*) plugs shall be planted which are tolerant of salt and flooded conditions.

Oriental bittersweet (*Celastrus orbiculatus*), and sweet autumn clematis (*Clematis terniflora*) are growing rampant over native vegetation. Bittersweet is located on the northeastern area of the island climbing on the grove of Eastern red cedar trees, and Clematis is found in many areas across the island but mostly on the northern side. Because the vines are growing over the native vegetation, they have to be carefully removed by hand using pruning shears. The other noted invasive species, multi-flora rose (*Rosa multiflora*) and Morrow's honeysuckle (*Lonicera morrowii*), are not as thickly established but are scattered throughout the Island. Treating oriental bittersweet and sweet autumn clematis consists of cutting the vines and dipping the stems in a glyphosate solution to kill the roots.

Cow parsnip (*Heracleum maximum*) which, although native, is considered a nuisance plant due to its potential for skin irritation in susceptible individuals, exists as a large population in the thickly

vegetated, low-lying point of the southern area of the island. Poison Ivy, another nuisance plant, can be found over much of the island.

A detailed invasive species management plan has been developed as part of the long-term planning and management of the Island. As noted above, specific species targeted in this plan include common reed, Oriental bittersweet, sweet autumn clematis, and the native nuisance species Poison Ivy and Cow Parsnip.

In order to protect the native species on the island, and to encourage diversity, the management of these species is critical.

For more information, please refer to the invasive species management plan (included as Attachment I) for maintenance of species in the vicinity of the proposed pathways and site plans attached.

**Table 1. - Wildlife observed on Palmer's Island**

<b>Birds</b>	
<b>Common Name</b>	<b>Scientific Name</b>
Red Winged Blackbird	<i>Agelaius phoeniceus</i>
Mallard	<i>Anas platyrhynchos</i>
Great Egret	<i>Ardea alba</i>
Great Blue Heron	<i>Ardea herodias</i>
American Oystercatcher	<i>Haematopus palliatus</i>
Barn Swallow	<i>Hirundo rustica</i>
American Herring Gull	<i>Larus argentatus smithsonianus</i>
Greater Black-backed Gull	<i>Larus marinus</i>
Song Sparrow	<i>Melospiza melodia</i>
Northern Mockingbird	<i>Mimus polyglottos</i>
Osprey	<i>Pandion haliaetus</i>
House Sparrow	<i>Passer domesticus</i>
Double Crested Cormorant	<i>Phalacrocorax auritus</i>
American Goldfinch	<i>Spinus tristis</i>
Tree Swallow	<i>Tachycineta bicolor</i>
Greater Yellowlegs	<i>Tringa melanoleuca</i>
American Robin	<i>Turdus migratorius</i>
<b>Crustaceans</b>	
Atlantic Rock Crab	<i>Cancer irroratus</i>
<b>Chelicerata</b>	
Horseshoe Crab	<i>Limulus polyphemus</i>
<b>Mammals</b>	
Norway Rat	<i>Rattus norvegicus</i>
Eastern Cottontail	<i>Sylvilagus floridanus</i>
<b>Mollusks</b>	
Eastern Oyster	<i>Crassostrea virginica</i>
Ribbed Mussel	<i>Geukensia demissa</i>
Common Periwinkle	<i>Littornia littorea</i>
Rough Periwinkle	<i>Littornia saxatilis</i>

Quahog	<i>Mercenaria mercenaria</i>
Soft-shell Clam	<i>Mya arinaria</i>

**Table 2. – Common Plant Species on Palmer's Island**

Common Name	Scientific Name	Invasive/Nuisance
Red Maple	<i>Acer rubrum</i>	Neither
White Tansy	<i>Achillea ptarmica</i>	Neither
Common Yarrow	<i>Achillea millefolium</i>	Neither
Meadow Garlic	<i>Allium canadense</i>	Neither
Wormwood	<i>Artemisia spp.</i>	Neither
Gray Birch	<i>Betula populifolia</i>	Neither
Sea Rocket	<i>Cakile edentula</i>	Neither
Bittersweet	<i>Celastrus orbiculatus</i>	Invasive
Sweet Autumn Clematis	<i>Clematis terniflora</i>	Native Aggressive
Green Ash	<i>Fraxinus pennsylvanica</i>	Neither
Rockweed	<i>Fucus vesiculosus</i>	Neither
Bedstraw	<i>Galium spp.</i>	Neither
Cow Parsnip	<i>Heracleum maximum</i>	Nuisance
High-tide Bush	<i>Iva frutescens</i>	Neither
Red Cedar	<i>Juniperus virginiana</i>	Neither
Beach Pea	<i>Lathyrus japonicus</i>	Neither
Oxeye Daisy	<i>Leucanthemum vulgare</i>	Neither
Privet Bush	<i>Ligustrum spp.</i>	Neither
Seaside Lavender	<i>Limonium carolinianum</i>	Neither
Morrow's Honeysuckle	<i>Lonicera morrowii</i>	Invasive
Bayberry	<i>Myrica pensylvanica</i>	Neither
Sensitive Fern	<i>Onoclea sensibilis</i>	Neither
Virginia Creeper	<i>Parthenocissus quinquefolia</i>	Neither
Common Reed	<i>Phragmites australis</i>	Invasive
Bigtooth Aspen	<i>Populus grandidentata</i>	Neither
Pin Cherry	<i>Prunus pensylvanica</i>	Neither
Black Oak	<i>Quercus velutina</i>	Neither
Staghorn Sumac	<i>Rhus typhina</i>	Neither
Multiflora Rose	<i>Rosa multiflora</i>	Invasive
Rugosa Rose	<i>Rosa rugosa</i>	Neither
Virginia Rose	<i>Rosa virginiana</i>	Neither
Red Raspberry	<i>Rubus hispidus</i>	Neither
Curly Dock	<i>Rumex crispus</i>	Neither
Glasswort	<i>Salicornia spp.</i>	Neither
Cat Briar	<i>Smilax glauca</i>	Neither
Bull Briar	<i>Smilax rotundifolia</i>	Neither
Climbing Nightshade	<i>Solanum dulcamara</i>	Neither
Seaside Goldenrod	<i>Solidago sempervirens</i>	Neither
Saltmarsh Chordgrass	<i>Spartina alterniflora</i>	Neither

Saltmeadow Chordgrass	<i>Spartina patens</i>	Neither
American Basswood	<i>Tilia americana</i>	Neither
Poison Ivy	<i>Toxicodendron radicans</i>	Nuisance
Virginia Spiderwort	<i>Tradescantia virginiana</i>	Neither
Sea Lettuce	<i>Ulva spp.</i>	Neither
Common Mullien	<i>Verbascum thapsus</i>	Neither

**Table 3. – Possible Plantings for Palmer's Island**

Common Name	Scientific Name	Indicator Status	Off Center/Height
Virginia Rose	<i>Rosa virginiana</i>	Upland	5' OC /5' tall
Bearberry	<i>Arctostaphylos uva-ursi</i>	Upland	5' OC / 1' tall
Sweetfern	<i>Comptonia peregrine</i>	FACU	3' OC /2' tall
Creeping Juniper	<i>Juniperus horizontalis</i>	Upland	3-5'OC/ 1' tall
Beach Plum	<i>Prunus maritima</i>	Upland	5-8' OC /5' tall
Northern Bayberry	<i>Myrica pensylvanica</i>	FAC	4-6' OC /9' tall
Groundsel Tree	<i>Baccharis halimifolia</i>	FACW	4-6' OC /6' tall
Eastern Red Cedar	<i>Juniperus virginiana</i>	FACU	8-10' OC /35' tall
Black Oak	<i>Quercus velutina</i>	Upland	25'OC /60' tall
Hightide Bush	<i>Iva frutescens</i>	FACW	3' OC /5-10' tall
American Beachgrass	<i>Ammophila breviligulata</i>	Upland	18'' OC/ 1-2' tall
Little Bluestem	<i>Schizachyrium scoparium</i>	FACU	3' tall
Switchgrass	<i>Panicum virgatum</i>	Upland	6' tall
Panic Grass	<i>Panicum capillare</i>	Upland	
New England Aster	<i>Symphyotrichum novae-angliae</i>	Upland	1' OC /1' tall
Seaside Goldenrod	<i>Solidago sempervirens</i>	Upland	1-8' tall
Purple Lovegrass	<i>Eragrostis spectabilis</i>	Upland	OC varies/1.5' tall
Indiangrass	<i>Sorghastrum nutans</i>	FACU	3-7' tall
Saltmarsh Cordgrass	<i>Spartina alterniflora</i>	Intertidal OBL	18'' OC /2-3' tall
Saltmeadow Cordgrass	<i>Spartina patens</i>	FACW	18'' OC/ 1' tall
Seaside Lavender	<i>Limonium latifolium</i>	FAC	2' tall
Saltgrass	<i>Distichlis spicata</i>	FACW	1.5-3' tall
Conservation Seed Mix	Various	Various	0.5-6' tall

#### **4.0 FIVE TO TEN YEAR MANAGEMENT PLAN**

In order to maintain the newly installed trails, signage, and respond to invasive species re-establishment, it is critical to monitor the conditions of the site after improvements occur. Once initial management activities conclude, the monitoring teams will monitor their respective portions of the Island, specifically the trail locations, for the presence of any newly establishing invasive, native aggressive, and/or nuisance species.

If any new species are identified as invasive or potentially invasive, an Individual Species Control Plan should be developed similar to those of the existing invasive species, and treatment should begin immediately. Please see Section 9 of the Invasive Species Control Plan (included in Attachment I) for monitoring, documentation, and early detection and assessment of invasive species. Monitoring may be done any time of year, however, for identification purposes, it is recommended that monitoring is conducted during the spring or summer when plants are flowering.

An Annual Monitoring Report will be submitted to the City of New Bedford Conservation Commission each monitoring year. All observations documented during the monitoring year, including the discovery of new potential invasive species, will be compiled and summarized in order to inform the City of the level of success (stable, decreasing, or increasing population status) gained through the current treatment and monitoring activities. Monitors should utilize the Monitoring Data Sheet, (Appendix C of The Invasive Species Control Plan (Attachment I)) to support their visual observations. It is recommended that monitoring of invasive species is performed along with the City's biannual trash pickup on the Island.

To prevent the buildup of litter on Palmer's Island, the city will continue its bi-annual trash cleanups. More frequent trash cleanups may be scheduled in the future, if necessary.

If feasible, kiosks will be installed in approximately 5 years. For maintenance purposes, installation should occur after the installation of the pedestrian bridge. Additional signs may be installed in the future if conditions allow. Future signage possibilities include, but are not limited to: native flora and fauna, and Island history.

# Attachment C

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

ABUTTER INFORMATION AND NOTIFICATION

Olivia Barney Administrative Assistant to the Board of Assessors of the City of New Bedford, do hereby certify that the names and addresses as identified on the attached "Abutters List" are duly recorded and appear on the most recent tax.

Date: 9/18/13

SUBJECT PROPERTY: MAP 32 LOTS

land 2

LOCATION Palmers Island

OWNER'S NAME City of New Bedford

MAILING ADDRESS 133 William St. New Bedford, MA 02740

CONTACT PERSON Sandy Douglas

TELEPHONE NUMBER 508-991-6188

REASON FOR REQUEST

Notice of Intent for Conservation

Commission

\_\_\_\_\_

Certified Abutters List

Prepared For **New Bedford Conservation Commission**

(Direct and Indirect Abutters Within 100 Foot Radius)

**Abutters List For Plot 32 Lots 1 & 2 (Palmer's Island)**

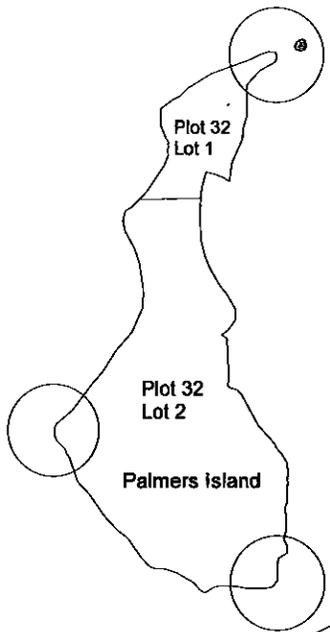
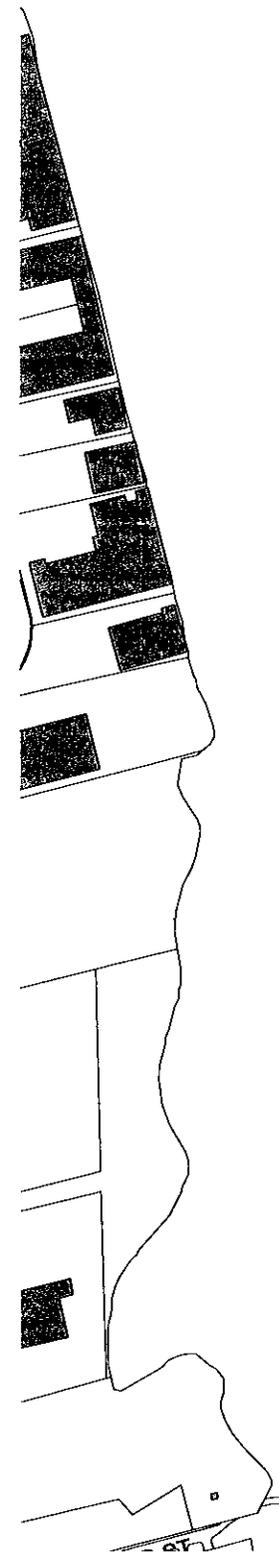
U.S Corps of Engineers  
Maureen McCabe, Real Estate Div.  
696 Virginia Rd.  
Concord, MA. 01742

Date:

September 18, 2013



Ray Khalife-Compliance Officer  
New Bedford-Inspectional Services (DIS)

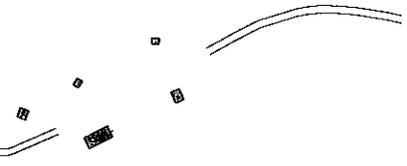


Plot 32  
Lot 1

Plot 32  
Lot 2

Palmer's island

GIFFORD FOREST



**Notification to Abutters Under the Massachusetts Wetlands Protection Act**

*In accordance with the second paragraph of Massachusetts General Law Chapter 131, Section 40, you are hereby notified of the following:*

- A. The name of the applicant is  
The City of New Bedford
- B. The Applicant has filed a Notice of Intent with the Conservation Commission For the municipality of New Bedford, MA seeking permission to remove, fill dredge or alter an Area Subject to Protection Under the Wetlands Protection Act (General Laws Chapter 131, Section 40). The Notice of Intent may also only pertain to work within 100' of an Area Subject to Protection Under the Act. Please see D & E below to find out more about the application.
- C. The location of the lot where the activity is proposed is Assessor's Map 32  
Lot(s) 1 & 2 ; street address (if applicable) Palmer Island
- D. Copies of the Notice of Intent may be examined at the New Bedford Conservation Commission Office -- Room 304 of City Hall, 133 William St., New Bedford between the hours of 8:30 AM and 4:00 PM Monday through Friday. For more information, call 508-991-6188.
- E. Copies of the Notice of Intent may be obtained from either (check one) the applicant \_\_\_\_\_ or the applicant's representative X by calling this number 508-778-8919 between the hours of 8:00a and 4:00p on the following days of the week Monday-Friday.
- F. Information regarding the date, time and place of the public hearing may be obtained from New Bedford Conservation Commission by calling 508-991-6188 between the hours of 8:00 AM and 4:00 PM Monday through Friday

**Note:** Notice of the Public Hearing, including its date, time and place shall be published at least (5) days in advance in The Standard Times.

**Note:** Notice of the public Hearing, including the date, time and location shall be posted in City Hall not less than forty-eight (48) hours in advance.

**Note:** you may also contact your local Conservation Commission or the MADEP Southeast Regional Office @ 508-946-2700 for more information about this Notice or the Wetlands Protection Act.

70°54'30"W



70°54'30"W

Scale: 1:6,000  
1 inch = 500 feet

0 250 500  
Feet

**PALMER'S ISLAND, NEW BEDFORD, MA**  
100ft. Abutters Map

Source:  
USGS 2008-2009  
MA GIS 2012

# Attachment D

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

REPRESENTATIVE PHOTOGRAPHS



Naturally formed spit providing pedestrian access during low tide.



Rocky outcropping that is the high point of the island, a feature of the island included in the pathway layout.



Large population of Common Reed to be managed.

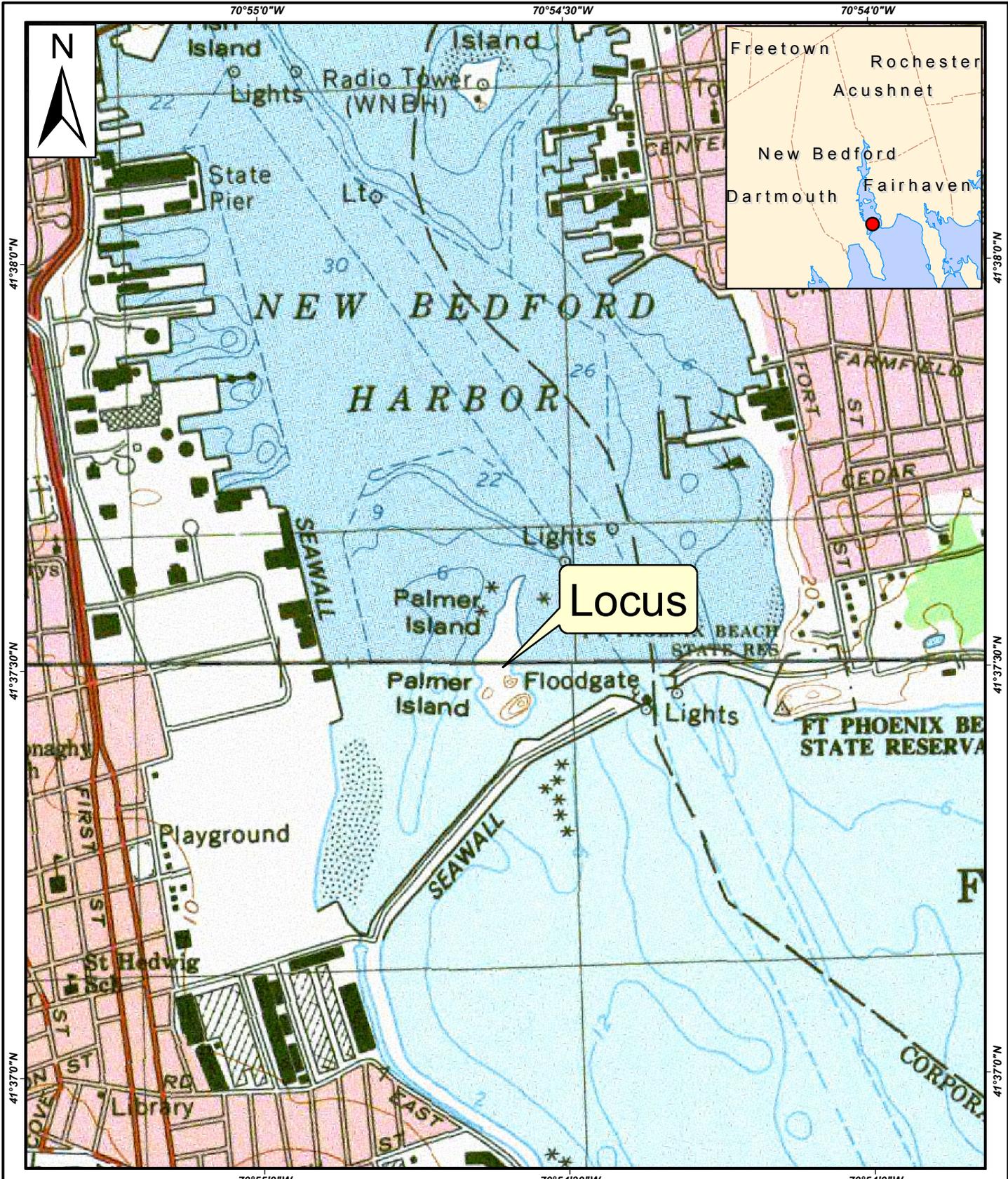


Palmer's Island Lighthouse. A historically rich focus point on the north tip of the island could be a draw for visitors.

# Attachment E

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

SITE FIGURES



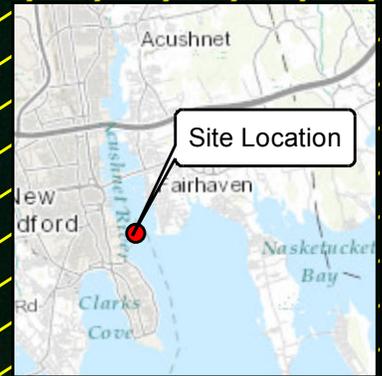
Scale: 1:12,000  
1 inch = 1,000 feet

0 500 1,000  
Feet

**PALMER'S ISLAND, NEW BEDFORD, MA**  
Locus Map

Source:  
USGS 1982-1990

70°54'30"W



41°37'30"N

41°37'30"N



**Legend**

 NHESP Priority & Estimated Habitats

70°54'30"W

Scale: 1:3,000  
1 inch = 250 feet

0 125 250  
Feet

**PALMER'S ISLAND, NEW BEDFORD, MA**  
Estimated and Priority Habitats Map

Source:  
USGS 2008-2009  
NHESP 2004-2012



70°54'30"W



41°37'30"N

41°37'30"N



**Legend**

**Flood Zones**

- AE
- VE

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

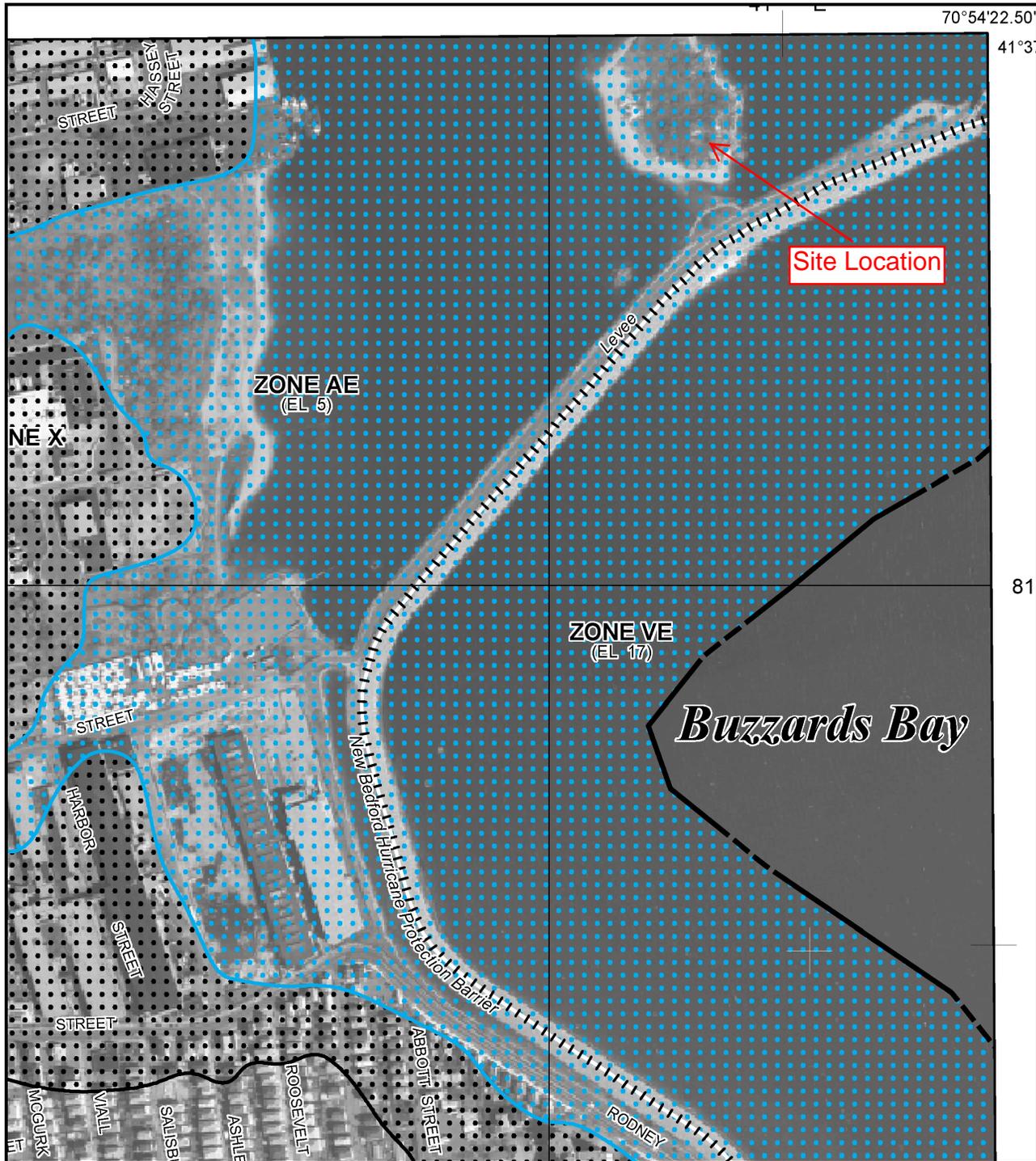
70°54'30"W

Scale: 1:3,000  
1 inch = 250 feet

0 125 250  
Feet

**PALMER'S ISLAND, NEW BEDFORD, MA**  
FEMA Q3 Flood Zones Map

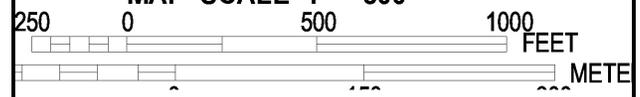
Source: -USGS: 1990  
-FEMA 2012



70°54'22.50"  
41°3'



MAP SCALE 1" = 500'



Site Location

**LEGEND**

SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD

The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.

- ZONE A No Base Flood Elevations determined.
- ZONE AE Base Flood Elevations determined.
- ZONE AH Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR Special Flood Hazard Area formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99 Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.  
ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

# New Bedford Harbor

**ZONE AE**  
(EL 5)

**Site Location**

STREET  
MASSEY  
STREET

249048 M

70°54'22"



MAP SCALE 1" = 500'



NFIP

PANEL 0393F

NATIONAL FLOOD INSURANCE PROGRAM

**FIRM**  
FLOOD INSURANCE RATE MAP  
BRISTOL COUNTY,  
MASSACHUSETTS  
(ALL JURISDICTIONS)

**PANEL 393 OF 550**

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
FAIRHAVEN, TOWN OF	250054	0393	F
NEW BEDFORD, CITY OF	255216	0393	F

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.



**MAP NUMBER**  
25005C0393F

**EFFECTIVE DATE**  
JULY 7, 2009

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at [www.msc.fema.gov](http://www.msc.fema.gov)

# Attachment F

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

SHELLFISH SURVEY

## **SHELLFISH SURVEY DESCRIPTION**

### **1.0 INTRODUCTION**

On May 30, 2013, Matthew Creighton, PWS, and Nathan Cristofori, WPIT, of BSC Group (BSC) conducted a shellfish survey from the Mean High Water (MHW) line into Land Under the Ocean of New Bedford Harbor off the land of Palmer Island in New Bedford (the Site). The purpose of the survey was to evaluate shellfish habitat, shellfish species, and shellfish population in selected locations of the island.

### **2.0 SITE DESCRIPTION**

Palmer Island in New Bedford is bordered by New Bedford Harbor on the west, north and east sides, and the New Bedford Hurricane Barrier on the south. The site is undeveloped aside from Palmer Island Light, a lighthouse on the northern end of the island that is no longer in use. The following resource areas exist at the site:

- Land Under the Ocean
- Land Containing Shellfish
- Coastal Beach
- Rocky Intertidal Shore
- Salt Marsh
- Bordering Vegetated Wetland
- Land Subject to Coastal Storm Flowage (Zone A8, Elevation 10)

### **3.0 SHELLFISH INVENTORY**

In order to pertinent data regarding the ecology of the island, BSC conducted a shellfish survey on the morning of May 30, 2013. The weather was clear, light occasional winds, and temperatures in the 80s. The survey commenced as the tide approached Mean Low Water and was completed as the tide began to rise above Mean Low Water toward Mean High Water.

Transect 1 – Located at the southern end of the island in the area exposed during low tide, and is covered once the tide begins to come in, cutting the island off from the hurricane barrier.

Transect 2 – Located on the southwestern part of the island that is a sandy beach; approximately 200 feet northwest of Transect 1.

Transect 3 – Located on the western point of the island where there is tidal flats that meet a rocky outcropping during low tide; approximately 200 feet north of Transect 2.

Transect 4 – Located approximately 350 feet north of Transect 3 on the western side of the island, adjacent to the pathway that crosses the island at the limit of the area of Phragmites.

Transect 5 - Located on the eastern side of the island, approximately 500 feet north of Transect 1, and 300 feet east of transect 3, in the beach alcove flanked by rocky outcroppings.

For more information, please refer to BSC's shellfish survey map, which details the locations of each transect.

Transect #1 contained 5 plots, Transects #2, #4, and #5 contained 2 plots, and Transect #3 contained 3 plots. Each plot was excavated to an area of approximately 3 feet by 3 feet. For Transect #1, Plot #1 was sampled at -1.0 Mean Low Water (MLW), Plot #2 was sampled at

MLW, Plot #3 was sampled approximately 50 feet east of Plot #2 within the intertidal flat, Plot #4 was sampled on the high point of the land bridge connecting the island with the hurricane barrier, and Plot #5 was sampled at -1.0 MLW on the eastern side of this connecting way. For Transects #2, #4 and #5, Plot #1 was sampled at -1.0 MLW Plot #2 was sampled at Mean High Water (MHW). Transect #3 contained 3 plots; Plot #1 was sampled at -1.0 MLW, Plot #2 was sampled approximately 40 feet east of Plot #1 within the tidal flats, and Plot #3 was sampled approximately 40 feet east of Plot #2 at MHW. Each plot was excavated approximately 1 foot deep by 3 feet long by 3 feet wide to sample for Quahogs (*Mercenaria mercenaria*) and Soft Shell Clams (*Mya arenaria*) using either a standard Clam Rake or a Quahog Rake. Each shellfish discovered in the plot was recorded then replaced back into the plot from which it came from.

The table below identifies the shellfish discovered within the plots along the 4 Transects:

**Table 1 – Shellfish Inventory**

Station – Description	Shellfish	Substrate and Other Observations
<b>Transect 1</b>		
T1P1 – -1.0 MLW	5 Quahogs, (4 cherry stones, 1 seed)	Sandy Silt
T1P2 – 20ft. east of T1P1	5 Quahogs, (4 cherry stones, 1 seed)	Sandy Silt
T1P3 – 50ft. east of T1P2 in low point of tidal flats	10 Quahogs, (10 seeds)	Sandy Silt
T1P4 – Sand bar of land bridge	None	Sand
T1P5 – -1.0 MLW on eastern side of land bridge	24 Quahogs (16 cherry stones, 8 seeds), 3 Soft Shell Clams	Sandy Silt
<b>Transect 2</b>		
T2P1 – -1.0 MLW	1 Quahog (1 cherry stone)	Sand
T2P2 – MHW	None	Sand
<b>Transect 3</b>		
T3P1 – -1.0 MLW	8 Quahog (2 cherry stones, 6 seeds)	Stony Silty Sand
T3P2 – 40ft. east of T3P1 in tidal flats	4 Quahogs (3 cherry stones, 1 seed), 7 Soft Shell Clams	Stony Sand
T3P3 – 40ft. east of T3P2 at MHW	None	Sand
<b>Transect 4</b>		
T4P1 – -1.0 MLW	1 Quahog (1 seed)	Stony Sand
T4P2 – MHW	None	Sand
<b>Transect 5</b>		
T5P1 – -1.0 MLW	2 Quahog (2 cherry stones)	Stony Sand
T5P2 – MHW	None	Stony Sand
<b>TOTAL NUMBER OF OBSERVATION PLOTS = 14</b> <b>TOTAL NUMBER OF QUAHOGS = 60</b> <b>TOTAL NUMBER OF SOFT SHELL CLAM = 10</b> <b>TOTAL NUMBER OF BAY SCALLOPS = 0</b> <b>TOTAL NUMBER OF OYSTERS = 0</b>		

**4.0    SUMMERY**

BSC's shellfish survey identified the following:

- A substantial shellfishery exists on the site.
- Although this area is contaminated with PCB's and is closed to shellfishing, shellfish appear not to be affected by PCB contaminates, and continue to propagate.

70°54'30"W



41°37'30"N

41°37'30"N



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

70°54'30"W

Scale:  
1 inch = 175 feet

0 90 180  
Feet

**PALMER ISLAND, NEW BEDFORD, MA**  
Approximate Shellfish Plot Locations

Source:  
USGS 2008-2009

# Attachment G

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

EDUCATIONAL SIGNAGE

## **1.0 Introduction:**

To compliment the pedestrian trails on Palmer's Island, interpretive signage is proposed detailing the history and focal points of the island, as well as warning visitors of the incoming tides, nuisance plants, and invasive management activities. Currently, no signage is found throughout the island. Signage is proposed at following three locations:

- 1) The parking area off of Gifford Street
- 2) The entrance of the island
- 3) Immediately adjacent to Palmer's Island Light House

Please see the associated figure "Proposed Informational Signage Locations" included within this attachment for a visual of these locations. Draft signage language is included below.

## **2.0 Installation:**

Signage will be installed using a mixture of hand tools and manpower. Initially, a post hole digger will be utilized to excavate a narrow hole, in which the metal sign post will be placed. Afterward, the signs will be hammered into the ground. To further ensure long term stability the holes will be backfilled and compacted.

## **3.0 Draft Language:**

### **3.1 History of Palmers Island**

Palmers Island, approximately 6 acres, is located at the mouth of the Acushnet River. On May 31<sup>st</sup> 1602, English explorer Bartholomew Gosnold first surveyed the island during his exploration of New Bedford Harbor. The island was later named after William Palmer, one of the first settlers of Dartmouth. Palmers Island served as an internment camp for members of the Wampanoag Tribe during King Philip's War in 1675-76. The island was "developed" during the whaling era and a hotel & dance floor were built in the 1860's. Local whalers often visited the island upon their return from sea and illegal activities unfolded at the hotel, which burned in 1905. During the 1938 hurricane all remaining structures on the island were washed away with the exception of the lighthouse.

### **3.2 Habitat Restoration on Palmers Island**

Habitat restoration on Palmers Island is being funded by the Harbor Trustee Council in response to damages to Natural Resources as a result of PCB contamination in the New Bedford Harbor Environment. The current and future use of the island is for passive recreation, and habitat restoration will focus on the removal of the invasive vines climbing over the native shrub and tree habitat in the northern portion of the island. Oriental Bittersweet and Sweet Autumn Clematis are growing rampant over native vegetation. Although Poison Ivy also dominates certain upland habitats on the island, control will focus on areas along trails because Poison Ivy provides valuable wildlife

habitat, with a variety of birds eating the berries and catching insects in the dense growth.

### **3.3 Palmers Island Passive Recreation**

Please stay on the designated trails as shown on this map.

Fishing and shell fishing are prohibited on the island due to the contamination of the harbor with PCB's. Hunting is also prohibited on the island. Please be aware of the Poison Ivy, ticks and mosquitoes on the island. Remember you are sharing the island with native plants and animals, so dress appropriately. Check the tide chart to be sure you are out on the island at low tide. At high tide the access from the sand-spit at the southern end is covered with water and is treacherous to cross.

### **3.4 Palmers Island Lighthouse**

The lighthouse was commissioned during the peak of the whaling era to guide ships into the harbor. It was first lit on August 30, 1849 and is considered one of the most picturesque in New England. Many improvements have been made to the lighthouse including the construction of a wooden tower on the east side to house a massive bronze fog bell. The wooden tower was burned by arsonists in 1966. The most famous lighthouse keeper was Arthur Small who served from 1922 until the hurricane of 1938. During the hurricane Small was swept away and his wife Mabel attempted a rescue. Small survived the storm but his wife drowned. Upon completion of the Hurricane Barrier in 1966 the lighthouse was deemed obsolete. The City of New Bedford acquired the island and lighthouse in 1978.



**Legend**

- Proposed informational signage locations

Source: Esri, DigitalGlobe, GeoEye, I-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Scale: 1:6,000  
 1 inch = 500 feet

0 250 500  
 Feet

**PALMER'S ISLAND, NEW BEDFORD, MA**  
 Proposed Informational Signage Locations

Source:  
 USGS 2008-2009

# Attachment H

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

PROOF OF MAILING

- Natural Heritage & Endangered Species Program
- Division of Marine Fisheries

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Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.11	

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 Div. of Marine Fisheries - Marine Station  
 Street, Apt. No. or PO Box No. *213 Purchase St. - 3rd Fl.*  
 City, State, ZIP+4 *New Bedford MA 02740-6694*

PS Form 3800, August 2006 See Reverse for Instructions

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Postage	\$ .46	Postmark Here
Certified Fee	3.10	
Return Receipt Fee (Endorsement Required)	2.55	
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$ 6.11	

Sent To: *Natural Heritage + Endangered Species*  
 Div. of Fisheries 100 Hartwell St.  
 Street, Apt. No. or PO Box No. *Suite 230 West Boylston*  
 City, State, ZIP+4 *MA 01583*

PS Form 3800, August 2006 See Reverse for Instructions

# Attachment I

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

INVASIVE SPECIES MANAGEMENT PLAN

# INVASIVE SPECIES CONTROL PLAN

## PALMER'S ISLAND NEW BEDFORD, MASSACHUSETTS

*October 2013*



*Prepared by:*



33 WALDO STREET  
WORCESTER, MA 01608

*Prepared For:*



CITY OF NEW BEDFORD  
PLANNING DEPARTMENT  
133 WILLIAMS STREET  
NEW BEDFORD, MA 02740

*BSC PROJECT NUMBER: 89524.00*

## INVASIVE SPECIES CONTROL PLAN

### 1.0 Introduction

The Massachusetts Invasive Plant Advisory Group (MIPAG) gathers and maintains information on the presence, distribution, ecological impacts and management of invasive species in Massachusetts. In May 2013, BSC Group Inc. (BSC) Wetland Scientists conducted a site visit on Palmer's Island ("the project site") in New Bedford, Massachusetts. In conducting this fieldwork, BSC identified species within the immediate vicinity of the proposed pedestrian paths classified as invasive, native aggressive, and nuisance. BSC observed two species on the project site that are listed by the Massachusetts Invasive Plant Advisory Group (MIPAG) as invasive. Additionally, one species was identified as a native aggressive, and two species were identified as nuisances (see Table 1.1 below).

**Table 1.1: Species of Concern on Palmer's Island**

Species Identified	Location on Site	Invasive	Native Aggressive	Nuisance
Oriental Bittersweet ( <i>Celastrus orbiculatus</i> )	Northern portion of the island.	X		
Common Reed ( <i>Phragmites australis</i> )	Dense thicket in the center of the island which stretches for roughly 300 feet north to south.	X		
Sweet Autumn Clematis ( <i>Clematis terniflora</i> )	Northern portion of the island.		X	
Cow Parsnip ( <i>Heracleum maximum</i> )	Southern portion of the island, west of the existing trail.			X
Poison Ivy ( <i>Toxicodendron radicans</i> )	Present on trails. Widespread throughout the site.			X

The other noted invasives, Multi-flora Rose (*Rosa multiflora*), and Morrow's Honeysuckle (*Lonicera morrowii*), are not in the immediate vicinity of proposed pedestrian paths, but are scattered throughout the island. These species are not addressed in this control plan.

According to MIPAG, there are several criteria that are indicative of invasive species in Massachusetts. These include:

- Rapid and widespread dispersion and establishment in minimally managed habitats.
- Have the biologic potential for dispersing over spatial gaps away from site of introduction.

- Have the biologic potential for existing in high numbers away from intensively managed artificial habitats.
- Species must be non-indigenous to Massachusetts

The following sections of this report describe the ecological and human threats posed by each of the species outlined in the above Table 1.1. This is followed by recommended control plans for each species.

## **2.0 Site Description**

Palmer's Island is situated at the mouth of the Acushnet River abutting the New Bedford hurricane barrier in New Bedford Harbor, Massachusetts. It is approximately 6 acres in area, with 3,500 feet of coastline around the island. Palmer's Island contains undeveloped open space, the Palmer's Island Lighthouse at its northernmost point, and sections of foundations from buildings that existed in the 19th and early 20th centuries. Existing trails around the island appear to be created by recreational visitors as they meander around the island. These trails are not well established and pass through populations of Poison Ivy. Access to the island is informal and trails are not improved or maintained. An abundance of trash was noted, washed onto the eastern shores by incoming tides.

Palmer's Island is a small island and floral and faunal diversity is limited. However, the island supports both coastal and freshwater habitats. Freshwater scrub shrub habitat covers the interior portions of the island, with bayberry bushes being abundant. A small eastern red cedar grove is situated at the northern end of the island along with an area of wild flowers made up of Rugosa Rose (*Rosa rugosa*), and Virginia Spiderwort (*Tradescantia virginiana*). A large population of Common Reed (*Phragmites australis*) stretches for roughly 300 feet along the western coast of the island and much of the areas higher in elevation are inundated with Poison Ivy (*Toxicodendron radicans*). Several mature trees exist on the island, which are interspersed with herbaceous vegetation. The prominent trees include Red Cedars (*Juniperus virginiana*), American Basswood (*Tilia americana*), and Red Maple (*Acer rubrum*), all of which provide the necessary habitat for the population of birds to flourish. Nevertheless, due to the unmanaged nature of the island, invasive species are thriving, growing rampant over native vegetation and onto the informal pedestrian trails.

A Bordering Vegetated Wetland (BVW) is located in the southwest corner of the island. An Isolated Wetland, which periodically floods during high tide, is located on the western coast of the island.

## **3.0 Oriental Bittersweet (*Celastrus orbiculatus*)**

### **3.1 Ecological Impacts**

Oriental Bittersweet is listed by the MIPAG as an invasive species. It is a rapidly spreading deciduous vine with yellow fruits that split to reveal showy bright red seeds. It prefers a sunny

location, and typically grows at the edges of fields. Bittersweet vines grow upward quickly, easily overtopping other species and forming dense stands that shade out native vegetation. Oriental Bittersweet's winding stems often twist around native trees and shrubs, strangling them by constricting the flow of plant fluids. Once the Bittersweet vines have become firmly established, they typically girdle and weigh down canopy trees, making them more susceptible to damage by wind, snow and ice storms.

The Oriental Bittersweet is most densely concentrated in the northeastern portion of the island where it is growing rampant over a grove of native Red Cedar (*Juniperus virginiana*) trees. However, there is scattered growth at other locations. BSC scientists noticed that the density of Bittersweet could pose a serious threat to canopy trees and underlying species at this location. As with any invasive species, Bittersweet can become increasingly aggressive, undergoing growth spurts and quickly establishing dominance of the vegetative biomass to the detriment and decline of the native vegetation in the area. For this reason, management of Oriental Bittersweet on the project site should be given highest priority and should be treated and controlled as soon as possible.

### **3.2 Control Plan**

The Oriental Bittersweet on the project site will be controlled by licensed herbicide applicators using the "Cut Stem and Treat" (CST) method<sup>1</sup>. This will entail cutting each vine stem close to the ground, then applying a U.S. EPA approved herbicide like Rodeo directly to the exposed cuts. A licensed applicator can use a paintbrush or sponge to immediately brush the herbicide on the freshly cut vines. This will kill the roots of the cut plants. Cutting the vines of Oriental Bittersweet without killing the roots or applying a herbicide, will stimulate vigorous spreading regrowth. If large pockets are created as a result of the removal of Oriental Bittersweet, the area should be seeded or native plants should be planted to eliminate the potential for erosion, for re-seeding by invasive or nuisance species and to help return the island to its natural coastal habitat.

Treatment of Oriental Bittersweet should take place, after the plant flowers and before going to seed in the fall, when plants are translocating nutrients to the roots. Management of Oriental Bittersweet should be repeated for several years, until the City of New Bedford feels the population is under control. The need for additional treatment will be determined by the success of initial treatment and findings in future monitoring reports.

Due to the historic aspect of this site, the Massachusetts Historical Committee has recommended all invasive plants be removed by the CST method or using a low flow sprayer. This will reduce soil disturbance at the site.

---

<sup>1</sup> All chemicals discussed in this report will be handled by only licensed herbicide applicators that have been formally approved to handle and apply herbicides under the regulations of both the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Agriculture (DAR). Due to the location of Palmer's Island, the herbicide Triclopyr will not be used because of its solubility in water which can be toxic to fish and other aquatic invertebrates. Specifically, the trade name *Rodeo* (a form of glyphosate) will be used due to the presence of inland and coastal wetland resource areas onsite. It is imperative that licensed herbicide applicators follow all mixing and application instructions and wear recommend personal protective gear and clothing.

#### **4.0 Common Reed (*Phragmites australis*)**

##### **4.1 Ecological Impacts**

Common Reed is listed by the MIPAG as an invasive species. It is a perennial, wetland grass that can grow to 15 feet in height. Leaves of Common Reed are fairly long (20-50 centimeters). The flowers form bushy panicles in the summer. Common Reed has a dense network of roots which can travel downward several feet. It can tolerate moderate shade, but prefers open spaces and is most successful when growing in full sun. Common Reed typically creates tall, dense stands which alters hydrology, degrades wetlands, and coastal areas by crowding out native plants and animals. The tall stands are especially detrimental for sun loving native plants.

Common Reed is the most prominent of the invasives on Palmers Island. It is found in a vegetated wetland on the west coast of the island, where it stretches for roughly 300 feet north to south and into adjacent uplands. This stand of Common Reed has crowded out native species in both upland and wetland habitats. Common Reed cannot tolerate high salt concentrations and therefore the growth of this population is inherently limited by tides and salt spray. The current stand is not as tall or dense as typical populations due to the brackish water where the stand has established. For that reason, it is assumed that the exposure to salt conditions is already controlling the reed to some extent.

##### **4.2 Control Plan**

The population of Common Reed to be managed is approximately 1,050 s.f. in area and has the potential to expand to the north and south. As noted above, it is limited in its seaward expansion by the higher salt concentrations. To control the Common Reed population vegetation managers should apply Rodeo in late summer or early fall after the plant has flowered by foliar spray method, using a low flow applicator to minimize impacts to adjacent native vegetation. Several treatments may be appropriate to prevent the deep roots from re-sprouting.

This treatment program will take place until the City of New Bedford feels the population is under control. The need for additional treatment will be determined by the success of initial treatment and the findings in the future monitoring reports. Once the population is reduced individual stems resprouting can be treated using the above mentioned CST method.

#### **5.0 Sweet Autumn Clematis (*Clematis terniflora*)**

##### **5.1 Ecological Impacts**

Sweet Autumn Clematis is native to Asia, but is regularly cultivated in gardens in North America. It grows as a vine and has white flowers which bloom in the fall. It is known to be invasive in some parts of the country, but is not listed in Massachusetts. Sweet Autumn Clematis has a pleasant fragrance which attracts pollinating bees, birds, and other insects.

Although not listed as invasive by the MIPAG, Sweet Autumn Clematis acts as an invasive species on the project site due to the island's small size and limited diversity. It is abundant in the northern portion of the island where it is growing intermixed with the Oriental Bittersweet. Although it appears the Clematis will not grow as aggressively as Oriental Bittersweet, it is still covering a substantial amount of native shrubs and trees, and should be treated.

## **5.2 Control Plan**

Since Sweet Autumn Clematis is growing intermixed with Oriental Bittersweet the treatment will be the same for each species. Because the vines are growing over the native vegetation, vegetation managers will attempt to carefully remove parts of the population by hand using the CST method. This will entail cutting each vine stem close to the ground, then applying a U.S. EPA approved herbicide like Rodeo directly to the exposed cuts. Licensed applicators should use a paintbrush or sponge to immediately brush the herbicide on the freshly cut vines. This will kill the roots of the cut plants. The pulled vines and fruits should be bagged and disposed of in a landfill to prevent seed dispersal. If larger pockets are created as a result of the removal of Clematis, the area should be seeded or native plants should be planted to eliminate the potential for erosion, for re-seeding by invasive or nuisance species and to help return the island to its natural coastal habitat.

Treatment of Sweet Autumn Clematis will take place, in the early fall after the plant has flowered and before it goes to seed, when plants are translocating nutrients to the roots. This treatment will take place until the City of New Bedford feels the population is under control. The need for additional treatment will be determined by the success of initial treatment and the findings in the future monitoring reports.

## **6.0 Cow Parsnip (*Heracleum maximum*)**

### **6.1 Ecological & Human Impacts**

Cow Parsnip is the only member of the genus *Heracleum* that is native to North America. It is a tall herb and can reach heights of six to seven feet. The flowers are white and grow in five petal umbels at the top of the stalk and are often flat. Cow Parsnip ordinarily grows in disturbed areas and mountainous regions. Like other members of the hogweed family, Cow Parsnip can cause skin irritation. Contact with phototoxins from the sap of Cow Parsnip followed by exposure to sunlight can cause severe skin blistering and sunburns. Burns can range from being quite mild to second degree burns.

Cow parsnip is limited mostly to a low-lying area in the southern portion of the island, west of the existing trail.

### **6.2 Control Plan**

To eliminate the possibility of impacts to non-target native species associated with airborne drift of sprayed herbicides, spraying will not be used to treat Cow Parsnip on the island. The control method will be the same as Bittersweet and Clematis using the CST method. Precaution should be

taken by vegetation managers when cutting Cow Parsnip. All areas of the skin should be covered (e.g. gloves, long sleeves, goggles). It is recommended that removal work is done in the evening hours when the sun is low in the sky, reducing exposure to ultraviolet light.

The cut plants will either be disposed of in a landfill or collected and placed in brushpiles as cover for birds.

This treatment will take place until the City of New Bedford feels the population is under control and at a safe distance from the public locations on the island. Additionally, signage describing the plant and its potential for toxic irritation can guide the public away from non-public areas. The need for additional treatment will be determined by the success of initial treatment and the findings in the future monitoring reports.

## **7.0 Poison Ivy (*Toxicodendron radicans*)**

### **7.1 Ecological & Human Impacts**

Poison Ivy is a native species, as it grows throughout most of North America. It is a woody vine with compound leaves comprised of three leaflets. Small clusters of green flowers emerge in June or July. Many bird species enjoy the small white berries as food, and in the process spread the seed to new areas. It can tolerate a wide breadth of habitat conditions and can be found in wooded areas, edges of wooded areas, coastal areas, exposed rocky areas, and disturbed areas. It may grow as a shrub or vine. The vines produce rootlets that tightly attach to objects and other plants. The roots can extend for several yards from the parent plant. Poison Ivy causes a rash when touched by human skin. The rash is a result of a sensitivity humans have to an oily resin called urushiol, which is found in the leaves, stems and roots of Poison Ivy.

Poison Ivy is scattered throughout upland areas on the project site. BSC wetlands scientists noted areas higher in elevation are inundated with Poison Ivy. While Poison Ivy does not appear to threaten other native vegetation on the island, its proximity to the existing trails poses a problem for visitors of the island.

### **7.2 Control Plan**

Since the Poison Ivy is widespread on the project site, ranging from scattered individuals to dense stands, a combination of different treatments will be used. Vegetation managers should wear protective clothing to minimize contact with the sap of the plant. Products such as MultiShield may be applied prior to anticipated exposure; Tecnu Soap may be used to cleanse exposed skin afterward. Treatment may be performed any time of year, but is most effective May through July, while the plants are flowering and before going to seed. Poison Ivy should be removed from all public areas on the island (e.g. trails and picnic areas.)

Vegetation managers will apply Rodeo as foliar spray to the Poison Ivy. Care should be taken to avoid impact to desirable native species. For well established populations, it is likely that more than one treatment will be needed. For Poison Ivy vines that have attached to trees, the CST method will be used. The plant's sap can remain active for approximately 5 years on dead Poison

Ivy plants. For this reason, all Poison Ivy debris should be collected and removed from public areas. Following treatment, trails will be vigilantly monitored for any re-sprouting. If re-sprouting occurs, vines should be cautiously pruned back. Seedlings should be sprayed with Rodeo or cut and treated.

Poison Ivy provides excellent wildlife value for native birds. The berries serve as nutritious food during fall migration and winter. Additionally, many birds forage for insects in the vines of Poison Ivy. Therefore, depending on field conditions, Poison Ivy remains that have not been sprayed, may be collected and placed in brushpiles for birds (granted it is a safe distance from public locations on the island) or placed in bags and disposed of at a landfill.

This treatment will take place until the City of New Bedford feels the population is under control and at a safe distance from the public locations on the island. The need for additional treatment will be determined by the success of initial treatment and the findings in the future monitoring reports.

## 8.0 Recommended Native Seed Mixes and Plantings

As pockets of open space are created from invasive plant removal, native plants should be planted to return the area to a natural coastal habitat, and prevent other invasives from re-colonizing (See Table 8.1 for Recommended Plantings). Additionally, it may be necessary to seed disturbed areas to prevent erosion and provide habitat value to wildlife. Seed mixes such as the *New England Conservation/Wildlife Mix*, *New England Coastal Salt Tolerant Grass Seed Mix*, and *New England Wetmix* may be utilized depending on the site location where seeding is necessary. As recommended by the National Oceans and Atmospheric Administration, the large stand of Phragmites should be replanted with Switchgrass Plugs, planted 6" deep and 18" on center. This should be monitored for establishment in the flooded area and adjusted as needed with additional vegetation.

Table 8.1 – Recommended Native Plantings for Palmers Island

Common Name	Scientific Name	Indicator Status	Off Center/Height
Virginia Rose	<i>Rosa virginiana</i>	Upland	5' OC / 5' tall
Bearberry	<i>Arctostaphylos uva-ursi</i>	Upland	5' OC / 1' tall
Sweetfern	<i>Comptonia peregrine</i>	FACU	3' OC / 2' tall
Creeping Juniper	<i>Juniperus horizontalis</i>	Upland	3-5' OC / 1' tall
Beach Plum	<i>Prunus maritima</i>	Upland	5-8' OC / 5' tall
Northern Bayberry	<i>Myrica pensylvanica</i>	FAC	4-6' OC / 9' tall
Groundsel Tree	<i>Baccharis halimifolia</i>	FACW	4-6' OC / 6' tall
Eastern Red Cedar	<i>Juniperus virginiana</i>	FACU	8-10' OC / 35' tall
Black Oak	<i>Quercus velutina</i>	Upland	25' OC / 60' tall
Hightide Bush	<i>Iva frutescens</i>	FACW	3' OC / 5-10' tall
American Beachgrass	<i>Ammophila breviligulata</i>	Upland	18" OC / 1-2' tall
Little Bluestem	<i>Schizachyrium scoparium</i>	FACU	3' tall
Switchgrass	<i>Panicum virgatum</i>	Upland	18" OC / 6' tall
Panic Grass	<i>Panicum capillare</i>	Upland	
New England Aster	<i>Symphotrichum nova-</i>	Upland	1' OC / 1' tall

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	<i>angliae</i>		
Seaside Goldenrod	<i>Solidago sempervirens</i>	Upland	1-8' tall
Purple Lovegrass	<i>Eragrostis spectabilis</i>	Upland	OC varies/1.5' tall
Indiangrass	<i>Sorghastrum nutans</i>	FACU	3-7' tall
Saltmarsh Cordgrass	<i>Spartina alterniflora</i>	Intertidal OBL	18" OC /2-3' tall
Saltmeadow Cordgrass	<i>Spartina patens</i>	FACW	18" OC/ 1' tall
Seaside Lavender	<i>Limonium latifolium</i>	FAC	2' tall
Saltgrass	<i>Distichlis spicata</i>	FACW	1.5-3' tall

## **9.0 Early Detection and Assessment for New Incursions of Invasive Species**

In addition to controlling the Invasive Species currently present on site, this Plan accounts for the indefinite monitoring, documentation, and management of any establishing populations of invasive species found on site. Early detection and an efficient management response is one of the most effective ways to contain invasive species before they become widespread. Complete eradication or successful management of an invasive plant population is usually only possible when the population is relatively small.

Invasive plant invasions often follow a typical pattern. Seeds or rhizomes are brought to the site by means of wildlife, visitors, stormwater runoff, machinery, contaminated materials etc. and new individuals attempt to establish themselves. The persistence of these new individuals is tenuous because of unsuitable habitat or low population levels. Only after time or soil disturbance does a small population suddenly expand. Control efforts are most effective and likely to succeed during this initial establishment phase. Thus the early detection of newly arriving, potentially invasive plant species is an essential component of a control program.

## **9.1 Monitoring**

In order to respond rapidly to a potential invasive species establishment, it is critical to know which species are appearing on site and the extent of their occurrences. After initial management activities occur, the monitoring teams will monitor their respective portions of the island for the presence of any newly establishing invasive, native aggressive, and nuisance species. The monitoring team may be made up of volunteers under the direct supervision of a knowledgeable expert. Monitoring will occur indefinitely twice a year until all problem species are under control. It is recommended that monitoring of invasive species is performed along with the City's biannual trash pickup. Monitoring may be done any time of year, however, for identification purposes; it is recommended that monitoring is conducted during the spring or summer when plants are in flower and in bloom.

If the monitoring teams are not able to positively identify a suspected invasive in the field they can access up to date reliable scientific and management information, such as the Invasive Plant Atlas of New England (IPANE) or [www.mipag.net](http://www.mipag.net). IPANE hosts a web accessible atlas of invasive plant species present in the New England Region and promotes early detection and response. Their website can assist in accurately identifying any species of concern. If the species is identified as invasive or potentially invasive an Individual Species Control Plan should be developed similar to those of the existing invasive species, and treatment should begin immediately.

## **9.2 Documentation**

If any new invasions are suspected, the monitoring teams will carefully document the species characteristics and locations. Detailed documentation of all invasive, native aggressive, and nuisance species observed on site will aid in the success of follow-up treatment. Basic information will be collected and recorded during each monitoring event. This information will include the following:

- Name of the species or a description of its physical characteristics to be used for identification purposes.
- Degree of establishment
- Location of the occurrence on the island, including reference points which will assist in pinpointing the location for return visits.

During each monitoring year, treatment teams will record whether each species, currently existing or newly established, is decreasing, stable, or increasing. Also, any changes in management techniques will be described in detail and re-assessed the following year.

## **9.3 Annual Monitoring and Control Treatment Summary Reports**

An Annual Monitoring Report will be submitted to the City of New Bedford Conservation Agent each monitoring year. All observations documented during the monitoring year, including the discovery of potential invasives, will be compiled and summarized in order to inform the City of the level of success (stable, decreasing, or increasing population status) gained through the current treatment and monitoring activities. Monitors should utilize the Monitoring Data Sheet, (Appendix C) to support their observations.

### **Prepared by:**

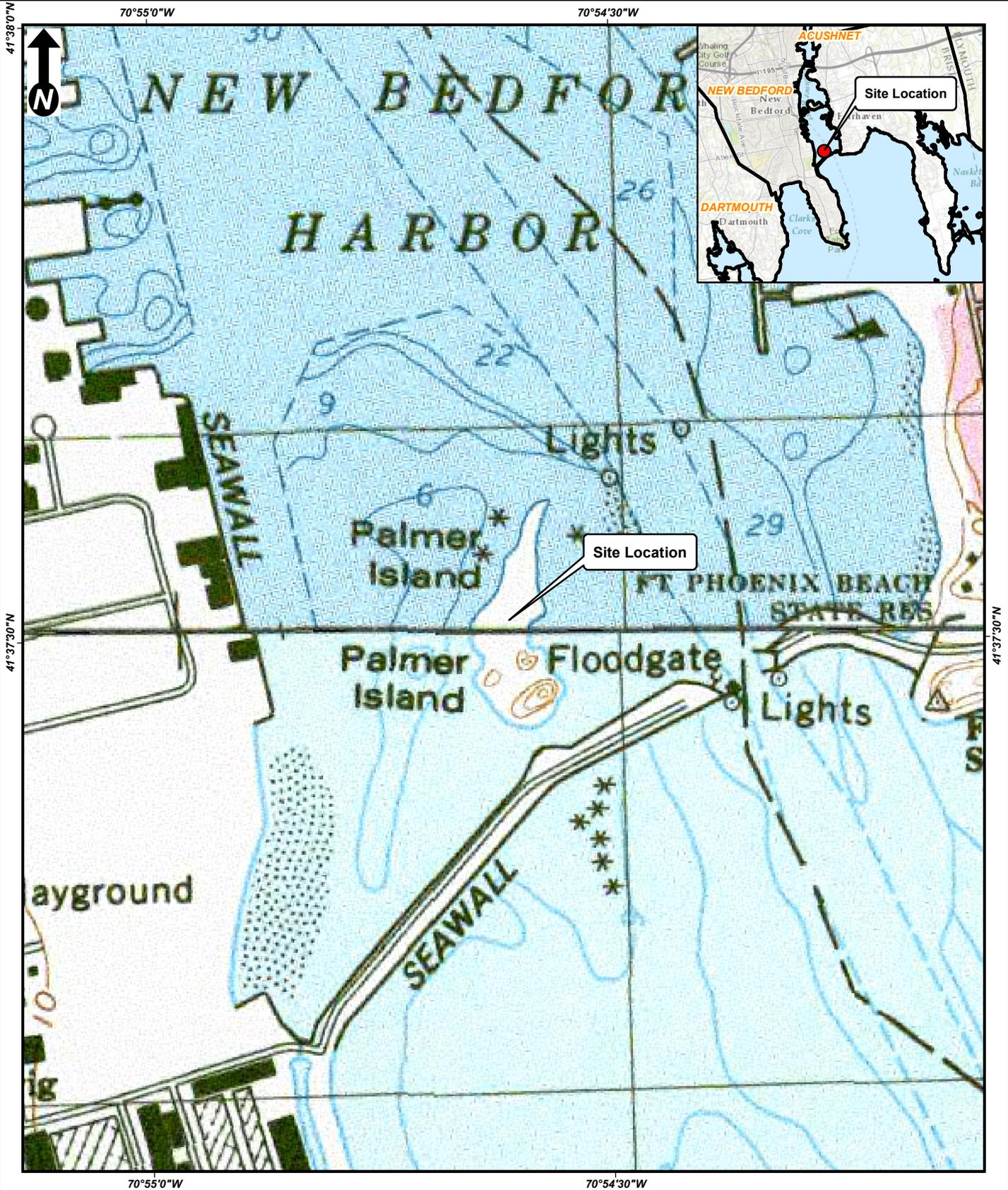
Matthew A. Waldrip, CESSWI, Environmental Scientist  
33 Waldo Street Worcester, MA 01608

### **Revised by:**

Ingeborg E. Hegemann, PWS, Principal  
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# **APPENDIX A**

## **FIGURES**



Scale:  
1:8,000  
(page size: 8.5 X 11)  
0 250 500  
Feet

**PALMERS ISLAND**  
**USGS Site Location Map**  
**New Bedford, MA**



Source: USGS, 1982-1990; MassGIS, 2008  
Service Layer Credits: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, Geobase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community



**APPENDIX B**

**SPECIES PHOTOS**



Oriental bittersweet (*Celastrus orbiculatus*)  
Photo courtesy of IPANE



Common Reed (*Phragmites australis*)  
Photo courtesy of IPANE

## Appendix B: Species Photographs

Invasive Species Control Plan

Palmer's Island, New Bedford, Massachusetts

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Sweet Autumn Clematis (*Clematis terniflora*)  
Photo courtesy of Clemson University



Cow Parsnip (*Heracleum maximum*)  
Photo courtesy of Stevens County Noxious Weed Control Board

#### Appendix B: Species Photographs

Invasive Species Control Plan

Palmer's Island, New Bedford, Massachusetts

Page 2 of 3



Poison Ivy (*Toxicodendron radicans*)

Photo courtesy of Poison Ivy, Oak, and Sumac Information Center

**Appendix B: Species Photographs**

Invasive Species Control Plan

Palmer's Island, New Bedford, Massachusetts

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**APPENDIX C**

**MONITORING DATA SHEET**

MONITORING DATE & TIME:

**Appendix C: Invasive Plant Monitoring Data Sheet**

INVASIVE SPECIES CONTROL PLAN  
PALMER'S ISLAND  
NEW BEDFORD, MASSACHUSETTS

MONITOR NAME(S)/QUALIFICATIONS: \_\_\_\_\_

OBSERVATIONS:

SPECIES	LOCATION ONSITE	DEGREE OF ESTABLISHMENT (newly established, decreasing, stable, or increasing)	OBSERVATIONS/RECOMMENDATIONS

SPECIES	LOCATION ONSITE	DEGREE OF ESTABLISHMENT (newly established, decreasing, stable, or increasing)	OBSERVATIONS/RECOMMENDATIONS

- *A copy of this Monitoring Sheet should be submitted to the City of New Bedford Conservation Agent to accompany the Monitoring Report. It is recommended that photos are submitted along with the monitoring report to support field observations.*
- *If you are unable to positively identify a suspected invasive in the field, up to date reliable scientific and management information is available online. Resources such as the Invasive Plant Atlas of New England (IPANE) or [www.mipag.net](http://www.mipag.net) hosts a web accessible atlas of invasive plant species present in the New England Region.*

*I certify that this document and all attachments are true and were prepared under my direction or supervision.*

SIGNED: \_\_\_\_\_

DATE: \_\_\_\_\_

# Attachment J

Palmers Island Trail and Invasive Species Control  
New Bedford, Massachusetts  
Notice of Intent

SITE PLAN