



# Environmental Compliance History

**AAPA QPI Project Managers Workshop**

December 2008

# Agenda

- Project Definition
- Potential Impacts
- Permit History
- Mitigation Activities
- Discussion

# Project Definition

- Dredging - 248 acres of submarine bottoms to 50 ft bmsl ( $\sim 5.5 \text{ MM m}^3$ ) to be discharged at ODMDS.
- Fill - 59 acres of wetlands adjacent to the Port of Ponce.
- Development - 132 acres of a previously undeveloped upland adjacent to the port for value-added activities.
- Inland navigation channel - length of 3,000 feet, average width of 800 ft, and a navigation depth of 50 feet below mean sea level (bmsl) ( $3.4 \text{ MM m}^3$ ).



# Permit History

Local EIS (JCA)	✓ May 22, 2004
Coastal Zone Management Program (JP)	✓ May 28, 2004
Water Quality Certificate (JCA)	✓ August 26, 2004
Site Location Approval (JP)	✓ August 27, 2004
US ARMY Corps of Engineers Permit <ul style="list-style-type: none"><li>✓ Section 10 Rivers &amp; Harbors Act</li><li>✓ Section 103 Marine Protection, Research and Sanctuaries Act</li><li>✓ Section 404 Clean Water Act</li></ul>	✓ February 5, 2005

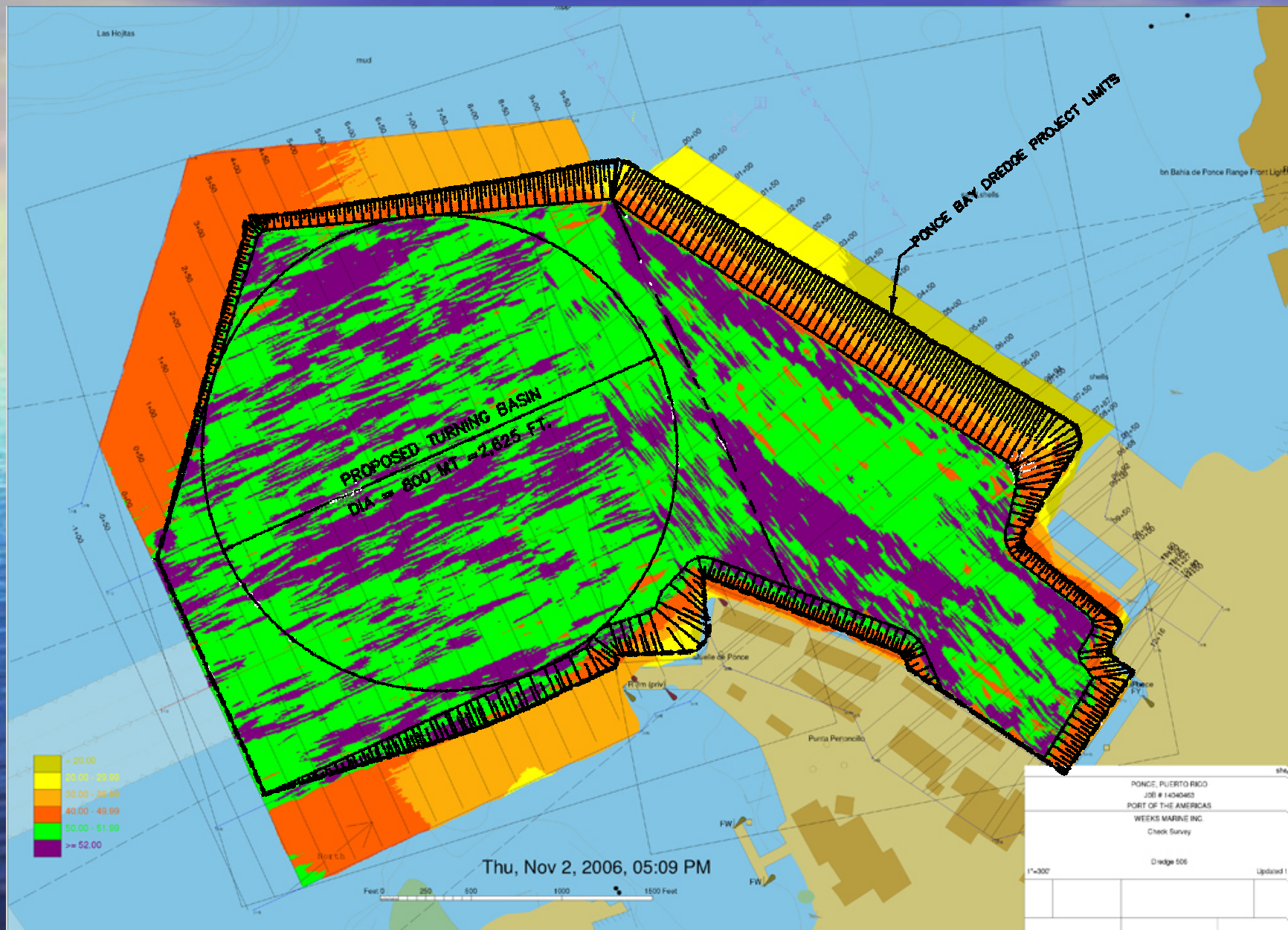






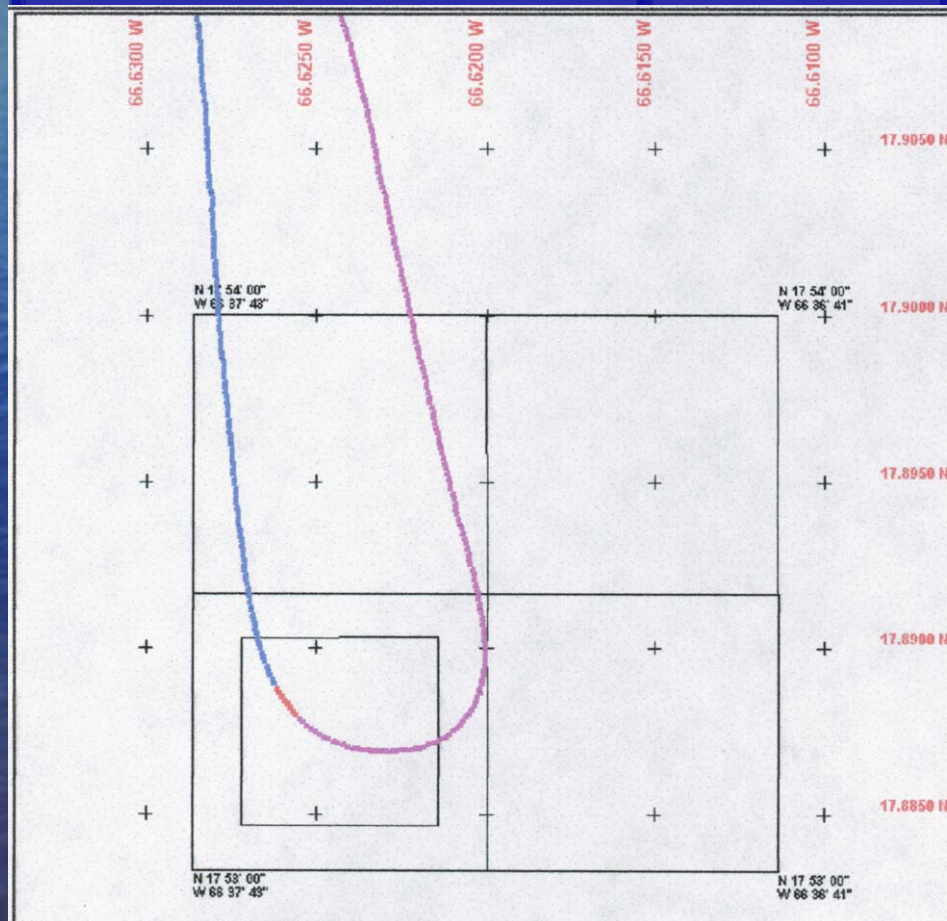

# Actual Bathymetry

November 20, 2006



# ADISS Report

ADISS		2005 Ponce Harbor Maintenance Dredging	
Trip Information:		Placement Information:	
Trip #:	2351	Placement Start:	Placement End:
Tug:	Tug Robert	Time:	10/23/2006
Scow:	W256	Time:	5:56:57 AM
Bin Volume:	4000 cu yd	Lat:	17.888777
Start Time:	10/23/2006	Lat:	17.887974
	4:48:51 AM	Long:	-66.626134
		Long:	-66.625561

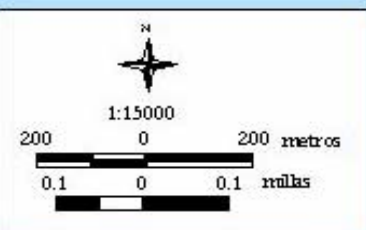




# Dredging Facts/ Accomplishments

- 2007 Outstanding Engineering Project Award– PR Board of Engineers and Surveyors
- USGS – Provided support through joint agreement with POA
- ADDISS – Resulted in successful monitoring and mitigation tool for contractor performance





#### Leyenda:

- Área de Impacto
- Hidrografía
- Hipsografía
- Habitáculos Bénticos
  - Fango
  - Fango-*Halophila*
  - Halodule*
  - Hierbas Marinas y Macroalgas

Habitáculo Bénticos	Área (m <sup>2</sup> )	Porcentaje de Cobertura
Fango	892,326.47	61.34
Fango- <i>Halophila</i>	503,975.23	34.64
<i>Halodule</i>	33,852.80	2.33
Hierbas Marinas y Macroalgas	24,642.82	1.69
<b>Total</b>	<b>1,454,797.32</b>	<b>100.00</b>



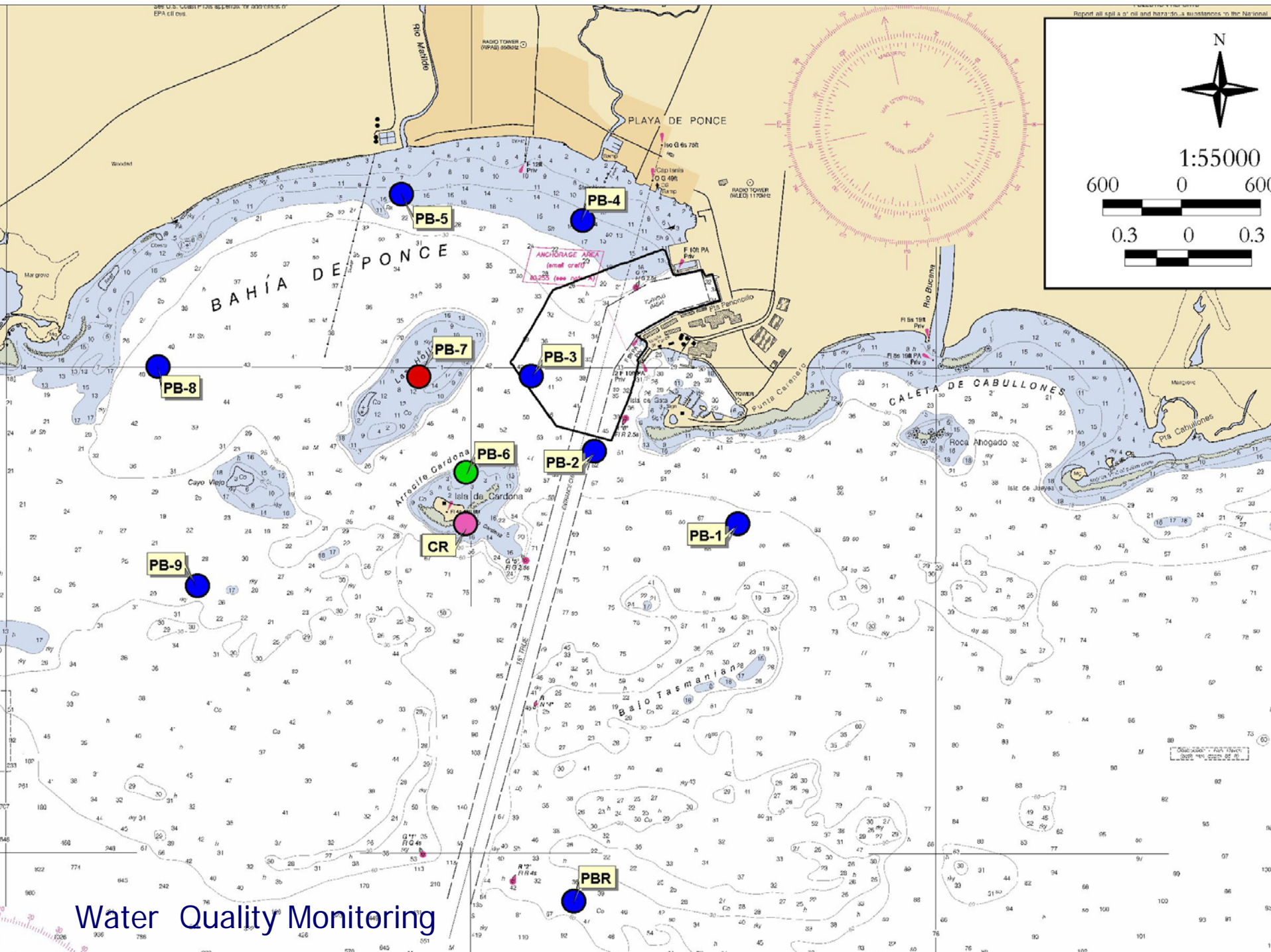
Fuente: García-Saiz, 2003.

## Navigation Channel: Benthic Habitats

# Mitigation Activities

- Submerged Habitat Conservation Program
  - Monitoring during dredging
    - Manatee Watch Program
    - Sediment & Turbidity Monitoring
    - Physicochemical Water Quality
    - Benthic Habitats
  - Mooring buoy installation
  - Underwater Trail at Isla Caja de Muerto
  - Public Education and Outreach

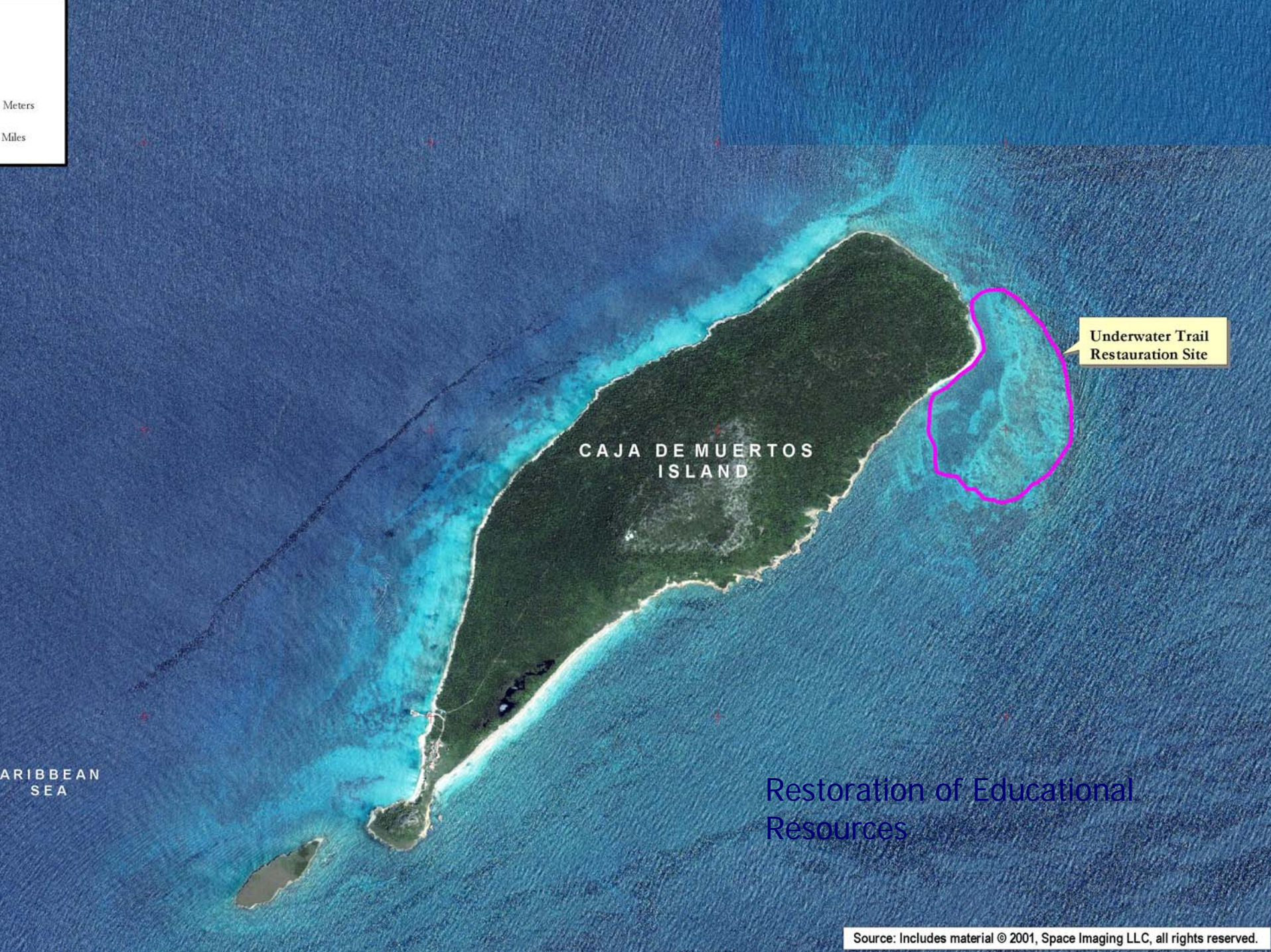




Water Quality Monitoring



Meters  
Miles



CAJA DE MUERTOS  
ISLAND

Underwater Trail  
Restauration Site

CARIBBEAN  
SEA

Restoration of Educational  
Resources

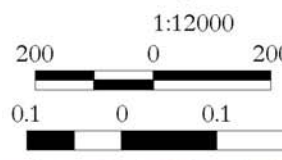


# Mitigation Activities

- La Esperanza Farm
  - Preservation of mitigation site
  - Enhancement of upland areas
  - Sand dune vegetation restoration
  - Habitat Conservation



# PRESERVATION



Area = 534.1 acres

Area = 57.5 acres

## Legend:



Proposed Mitigation A

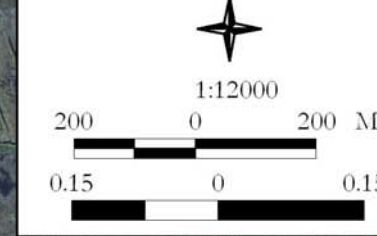


# Mitigation Activities


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  - Preservation of mitigation site
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  - Habitat Conservation



# ENHANCEMENT



## Legend:

 Proposed Mitigation Park

## Resources:

-  Beaches
-  Herbaceous Wetlands
-  Mangrove
-  Mangrove Canal
-  Open Water
-  Salt Flat

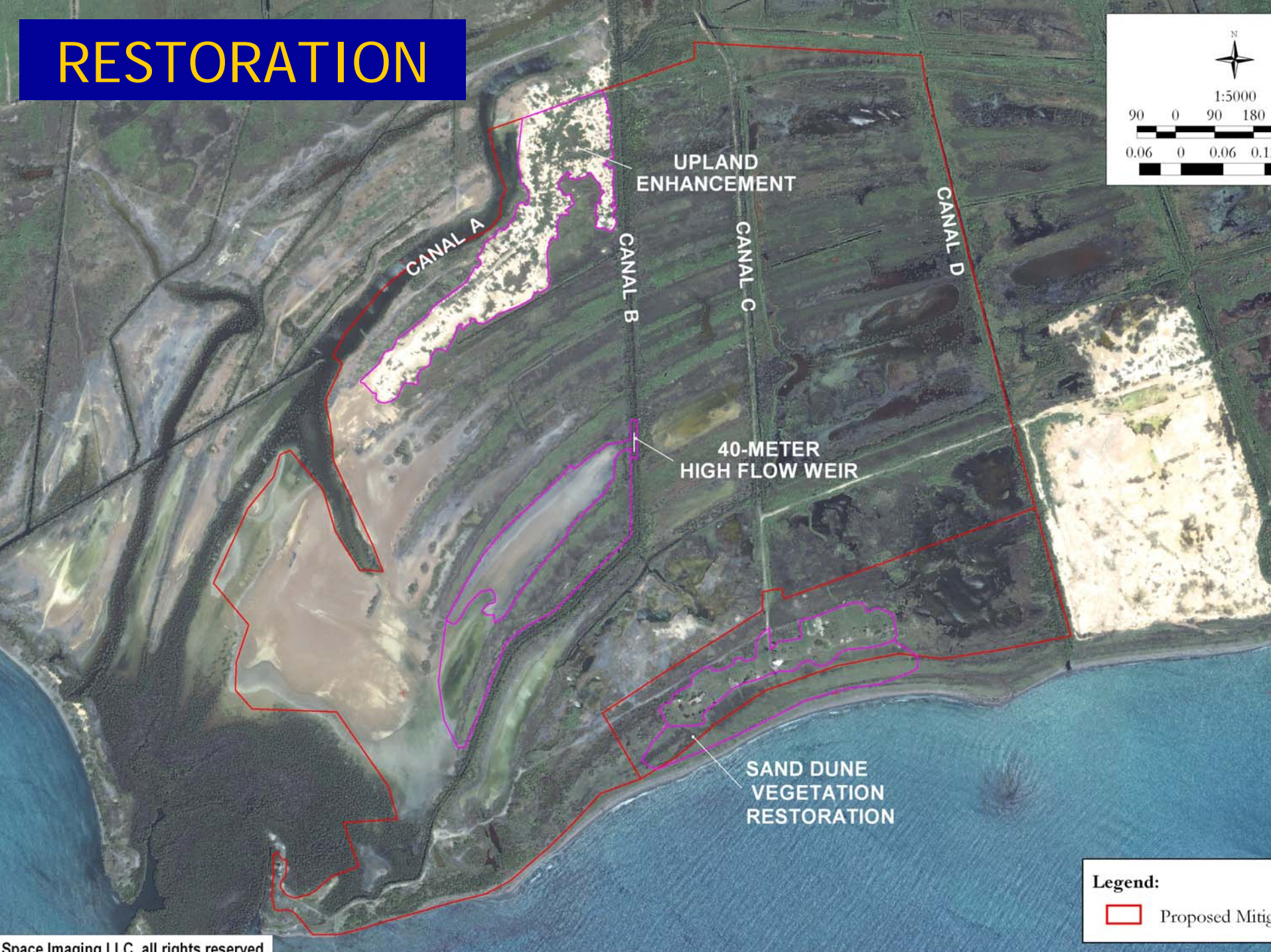


# Mitigation Activities

- La Esperanza Farm
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  - Habitat Conservation



# RESTORATION



Legend:

 Proposed Mitigation









# Mitigation Activities

- La Esperanza Farm
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  - Enhancement of upland areas
  - Sand dune vegetation restoration
  - Habitat Conservation

# Habitat Conservation

- Gorrión chicharra  
*Ammodramus savanarum*  
*borinquensis*





# Habitat Conservation

- Playero aliblanco  
*Tringa semipalmata*





# Habitat Conservation

- Múcaro real  
*Asio flammeus*



# Habitat Conservation

- Ostrero  
*Haematopus palliatus*





# Habitat Conservation

- Chorlo marítimo  
*Charadrius wilsonii*



# Habitat Conservation

- Lagartijo ponceño  
*Anolis poncensis*





# Habitat Conservation

- Cobana Negra  
*Stahlia monosperma*



# Habitat Conservation

- Uva Playera  
*Coccoloba uvifera*







# Discussion / Questions