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## Blish Point Dredge Sediment Containment Basin Stabilization Using Bio-Engineering Techniques Barnstable, MA



# **FUNDED IN PART BY:**







## PROJECT OBJECTIVE

• Short-term stabilization of eroding historic earthen dredge sediment containment basin (dune) using bio-engineering techniques to prevent fine-grained, dewatered dredge sediment material from migrating onto Millway Beach and into the Barnstable Harbor navigation channel.

• Selected system life expectancy = ±5 to 7 years

• Will allow the Town time to secure necessary funding to identify, design, permit and implement a long-term management solution.





400 Feet

100 200

MARLEY THERE

Graphic from Blish Point Shoreline Change Analysis & Study Scope Development Report dated June 2015.



FY14 MA CZM Green Infrastructure for Coastal Resilience Pilot Grant Program

PROJECT PURPOSE: To stabilize the existing dune system that contains dewatered dredge sediments and provide storm and flood protection to State & Town owned/managed public infrastructure and thus concurrently preserve the intended functions of the coastal resource and public access and use of Barnstable Harbor, Blish Point & Millway Beach

#### Legend

Public Shore Protection Structure Private Shore Protection Structure Town Property MA State Property

### **Blish Point Dredge Sediment Containment Basin**











April 2006 - Erosion along north face and west corner of basin



2008-2009 Harbor dredging utilized Containment Basin. Repairs made to west corner, nourishment placed along north face and entire basin was replanted with beach grass.



#### Failed 2009 repair of west corner



## SIGNIFICANT STORM IMPACTS 2012-2015

#### **October 2012 Superstorm Sandy**



### February 2013 Nor'easter "Nemo"



#### January 2015 Nor'easter "Juno"







### **BIO-DEGRADABLE STABILIZATION SYSTEM**





Bottom Terrace (Base Bag)







Mid-Upper Terrace

Construction Photographs



## **BEFORE & AFTER PHOTOGRAPHS**





## **PROJECT COST SUMMARY**

Engineering, Perr	mitting & Construct	tion Oversight :
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**Construction:** 

### TOTAL PROJECT COSTS:

\*includes re-design and additional permitting efforts due to storm damage resulting from winter storm "Juno" in January 2015.

	TOTAL COST		TOWN		MA CZM	
ENGINEERING, PERMITTING & CONSTRUCTION OVERSIGHT	\$	60,000	\$	60,000	\$	-
CONSTRUCTION	\$	295,000	\$	108,500	\$	186,500
TOTAL COST	\$	355,000	\$	168,500	\$	186,500
COST SHARE (%)	100		47.5		52.5	



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\$ 60,000\*

\$295,000

\$355,000

## **KEYS TO SUCCESSFUL PROJECT IMPLEMENTATON:**

Project & Funding Support by MA CZM

✤ Team Approach ⇒ Partnering

## Exceptional Contractor Performance

**NETCO Construction Project Managers, Inc.** 

✤ Overall System Performance – T.B.D.

