Duxbury Beach Reservation, Inc. is a 501(c)3 non-profit organization

DUXBURY BEACH RESERVATION, INC.

Duxbury Beach Park Dune & Beach Restoration

Project Overview

Duxbury Beach Reservation, Inc. has a long and successful history of maintaining Duxbury Beach, including extensive dune restoration. This work is undertaken both proactively in vulnerable areas and in response to storm impacts. The only major structure on Duxbury Beach, The Duxbury Beach Park Pavilion, was originally constructed in 1941. Its use for day parking, bath house, and home to Blakeman's Restaurant has been an integral and beloved part of Duxbury Beach. However, with little sediment making its way naturally to Duxbury Beach, the beach and dune are poorly equipped to protect the Pavilion should a storm occur. By adding sand to the dune and beach, this section of barrier beach will be better able to protect the resources and communities behind it, particularly in the face of sea level rise and increased storm impacts.

Project Benefits

- **Strengthen** the barrier beach by adding sand to the beach and dune
- **Lessen likelihood of breaching** by widening the beach and dune
- **Reinforce** the dune by planting beach grass and woody shrubs
- **Protect** the Pavilion, parking lots, saltmarsh, and bay
- **Increase** resilience of Duxbury Beach as sand moves south from the nourished area
- **Improve** knowledge of project success through continued monitoring

How You Can Help

With the community's support, *Party in a Box* raised $214,975 towards this project. DBR also secured $190,000 through a North American Wetlands Conservation Act (NAWCA) grant. We plan to apply for the next round of Coastal Zone Management (CZM) Coastal Resilience grants, which if awarded would cover a large portion of the project cost. However, this will still leave us short of the 39% match needed for the full construction. Community support will help secure the required funds.

Project Costs

Construction Oversight	$29,450
Finalize Survey and Plans	$6,865
Construction and Site Prep	$26,310
Dune and Beach Install and Grading	$1,566,200
Planting of Beach Grass & Shrubs	$4,200
Post Construction Monitoring	$14,770
Public Outreach and Education	$9,200
Estimated Total Project Cost	**$1,656,995**

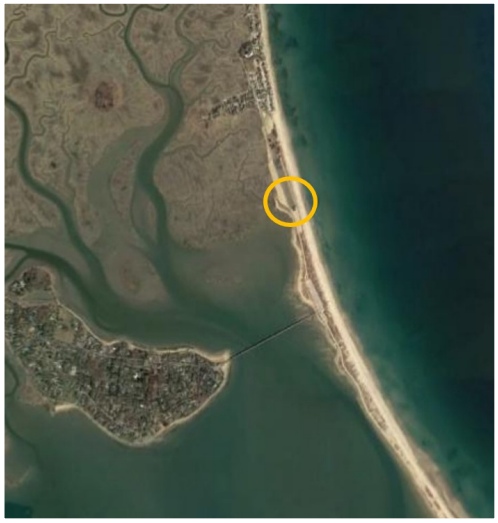
Project Specs

- ⇒ 1,500 linear feet
- ⇒ Add 58,700 cubic yards of compatible material
- ⇒ Elevate crest of dune to 16.5ft NAVD88
- ⇒ Widen dune width to 30ft
- ⇒ Elevate beach berm to 6.5ft NAVD88
- ⇒ Widen beach berm to 70ft
- ⇒ Create slopes 10H:1V or milder
- ⇒ Plant 7,000 culms American Beach Grass 36in on center

Before & After

Restoration Steps

1) Survey the project area for changes
2) Design project to regulations and to increase coastal resilience
3) Permit construction through appropriate agencies
4) Re-survey and confirm grain size and project plans
5) Import & Grade compatible material
6) Improve access pathways
7) Reinstall fencing
8) Plant beach grass and woody shrubs
9) Monitor changes to the dune and beach post construction



Circled area indicates project location

A Look Back...

Historically, many of the attempts to protect the Pavilion and surrounding infrastructure through cement blocks and tie-rods have been unsuccessful. Dune and beach re-nourishment bolsters the natural state of the beach—even when sand is lost, it remains in the system and continues to strengthen the barrier beach.

Dec1992: DBP dunes overwashed

March 2013: Flooding in DBR lot

March 2018: Sand and cobble washed through pathways