

## DUXBURY BEACH RESERVATION, INC.



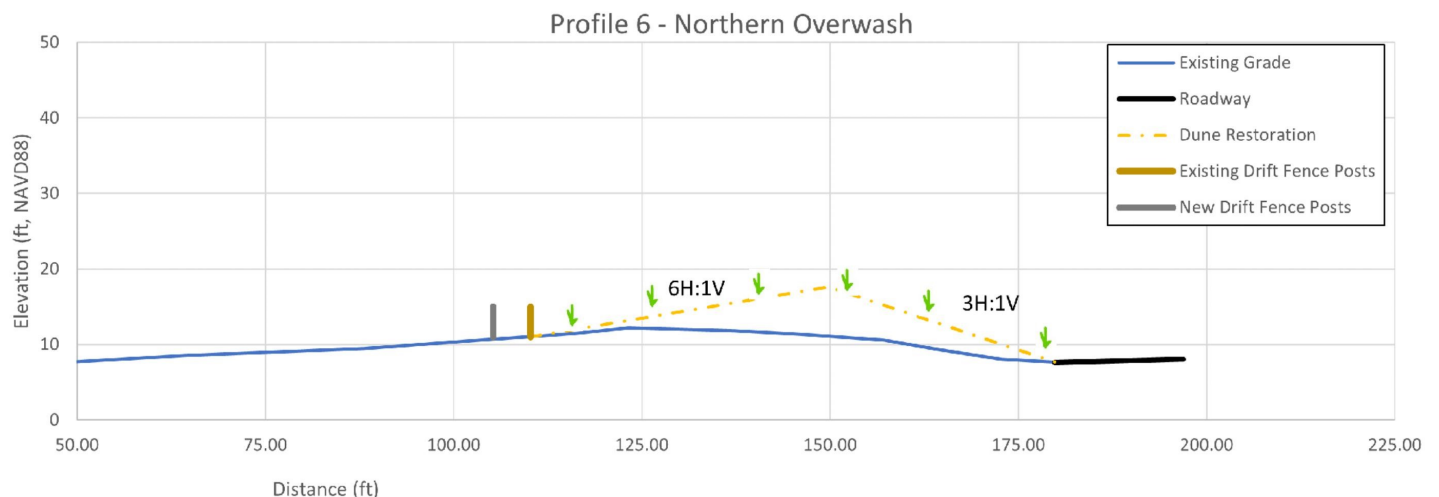
# Plum Hills Dune Restoration

## Project Overview

In October 2021 the southern portion of Duxbury Beach, “Plum Hills”, suffered significant overwash. Waves punched through two sections of the dune washing sand and cobble several feet deep into the roadway and saltmarsh. This is not the first time Plum Hills has been hard hit by a storm. The once large and thickly vegetated dunes have become low and narrow beneath the bramble of dead plants. The Reservation worked quickly with local partners to move sediment that had washed into the roadway back onto the dune and to begin the permitting process to restore the dunes to pre-storm conditions. Without these immediate actions the area was vulnerable to further overwash from even minor storms, making it likely that passage through the area would become tidal dependent.

## Project Benefits

- **Strengthen** the barrier beach by adding sand and cobble to the dune
- **Lessen likelihood of wash through** by restoring the dune’s height and width
- **Remove** dead vegetation to prevent sand collapse
- **Protect** access to the southern part of the beach, including Gurnet and Saquish
- **Reinforce** the dune by planting beach grass
- **Build** the dune by installing sturdy drift fence and sand fence to catch sand and cobble



One of seven dune profiles used to construct the Plum Hills dune restoration project. The nearly flat “existing grade” line shows the desperate need for nourishment and the precarious position of the barrier beach prior to work.

## Project Specs

**265'**

Dune raised to 16.5-20ft with slopes ranging from 3H:1V (bayside) to 6H:1V (oceanside)

**2,946**

Tons of sand to nourish two overwash areas of 125ft and 140ft

**673**

Tons of cobble to form a dune core with increased resilience

**400'**

Sturdy drift fencing and 265ft sand fencing

**19,000**

Culms of American beach grass

**\$162,403**

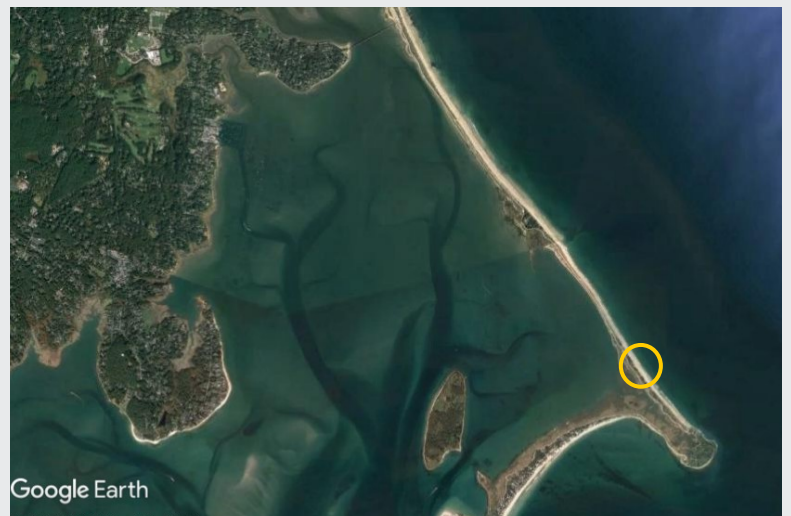
Funded by DBR to restore the dunes at Plum Hills



## Next Steps

The March 2022 dune restoration at Plum Hills was necessary to shore up the barrier beach and maintain access south into Plymouth for the near term. However, continual maintenance, including renourishment and plantings, will be needed to mitigate storm impacts and restore access in the future. DBR intends to invite stakeholders to discuss what the future holds for Plum Hills:

- **Storm impacts**
- **Short and long-term solutions**
- **Costs and benefits**



**Circled area indicates project location**