



Chappy Saltmarsh Restoration Project

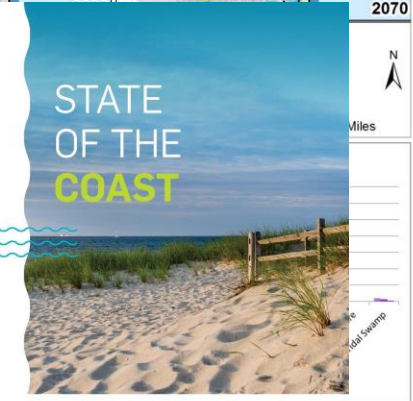
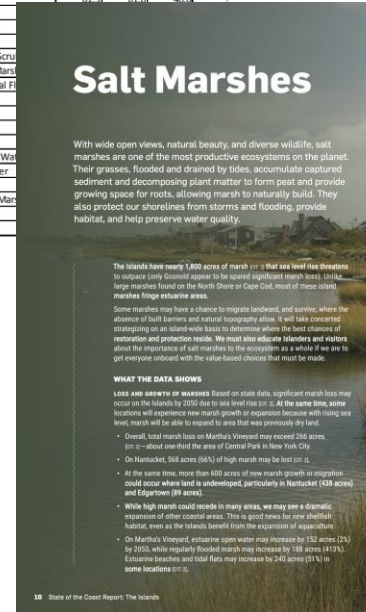
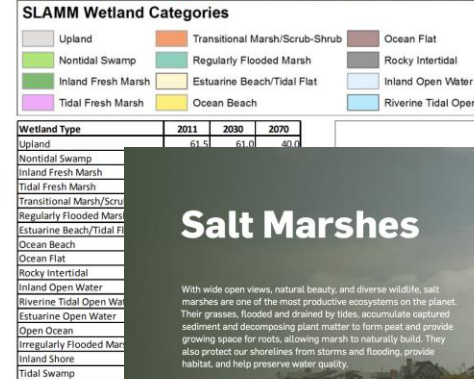
MV Coastal Conference – October 6th, 2026

Alejandra Narvaez, Coastal Project Manager

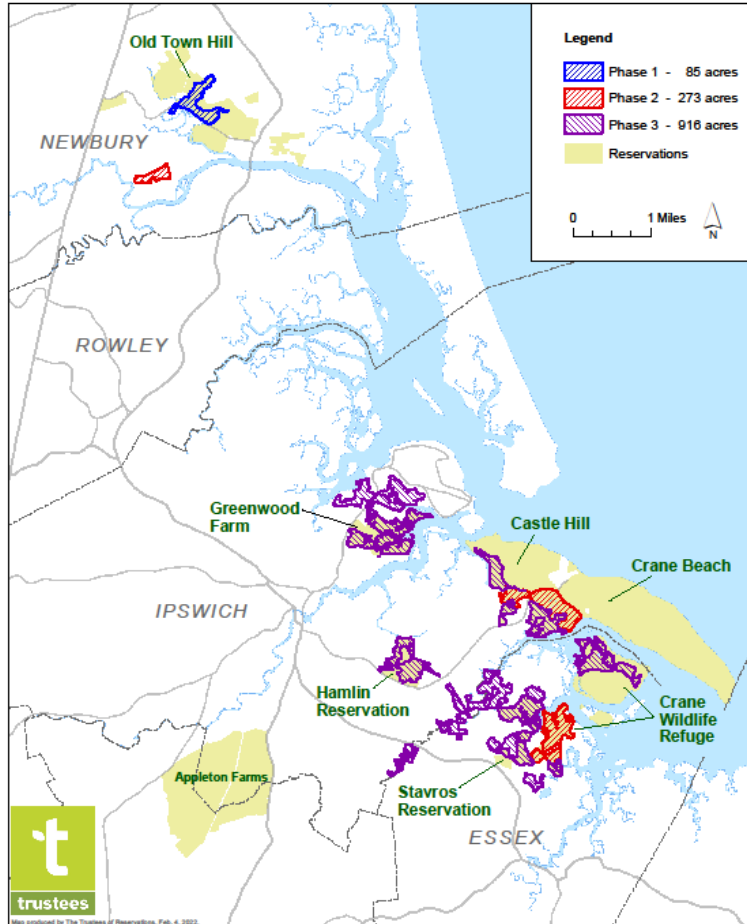


Project Background

- 2017 – Coastal Vulnerability Assessment (Woods Hole Group)
- 2021 – State of the Coast Report, Islands
- High-priority habitat identification: **salt marshes & barrier beaches**



Trustees Salt Marsh Restoration Projects



Phase 1	85 acres
Phase 2	273 acres
Phase 3	1,006 acres





POUCHA POND MARSHES

MARSH USE HISTORY & DEGRADATION

Barrier Resilience & Marsh Restoration

- GZA GeoEnvironmental & Northeast Wetland Restoration
- Focus on Nature-Based Solutions
- Two-pronged approach to resilience: **marsh hydrology & barrier vulnerability**



Scope of Work



Feasibility Study & Alternatives Analysis

- Data collection & analysis
- Hydraulic modeling of entire project area (HEC-RAS, SWAN)

Preliminary Design

- 60% design of marsh restoration techniques
- Conceptual design of NBS

Final Design & Permitting

- Final design for marsh restoration techniques
- Permitting at the local, state, and federal level.

Implementation & Monitoring

- Implementation of restoration techniques (Phase 1)
- Baseline & Post-restoration monitoring



Data Collection & Analysis

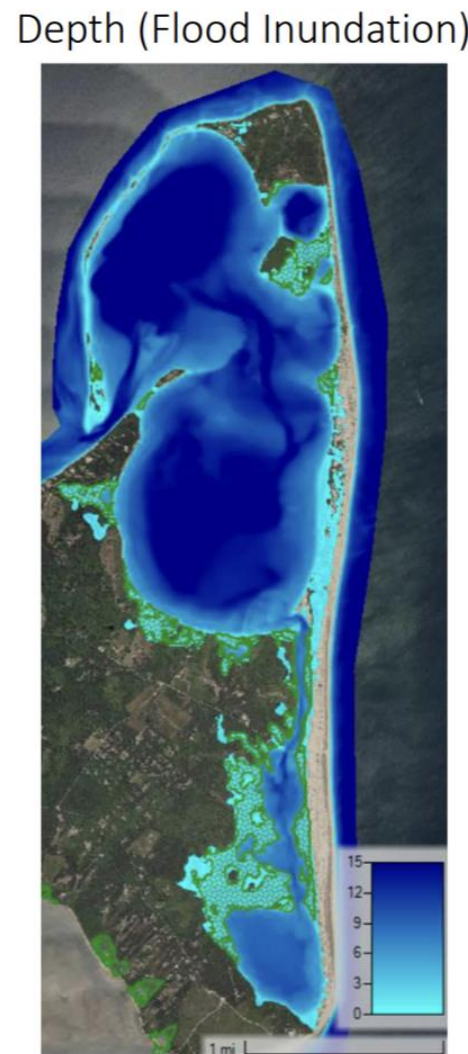
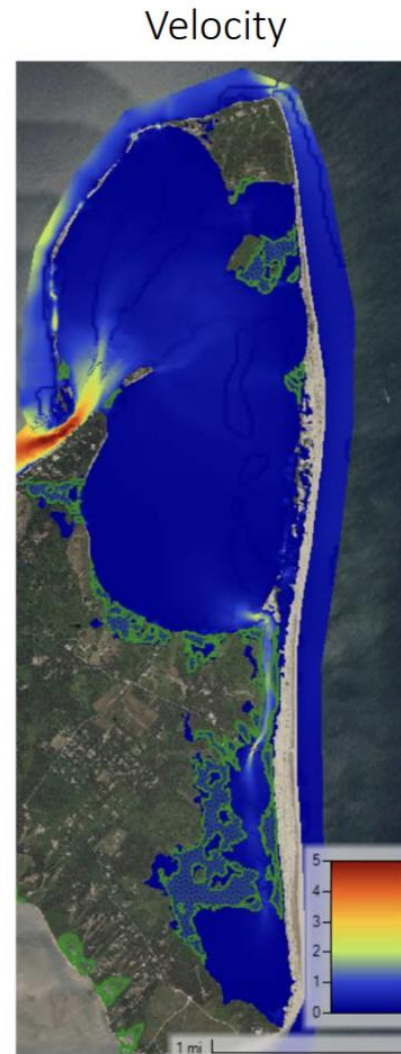
- Vegetation Data Review
- Shoreline Change Analysis
- Wind & Wave Analysis
- Tidal Data loggers deployed at Dike Bridge
- Topography & near-shore bathymetry



Hydraulic Modeling

- Tidal restrictions
- Areas vulnerable to breaching, habitat loss, and erosion
- Marsh migration pathways

Current → 2070 → 2100



Feasibility Study Findings

- **2070 as a turning point**
 - Overtopping of Dike Bridge
 - Transition of high to low marsh throughout area
- **Major Threats to Salt Marsh**
 - Hydraulic connectivity & subsidence
 - Erosion & Scour
 - Sediment Limitations



Phased Approach to Barrier & Marsh Resilience

- **Phase 1: Salt Marsh Restoration***
- Phase 2: Marsh Edge Stabilization
- Phase 3: Breach Interventions
- Phase 4: Dike Bridge Improvements



FEASIBILITY STUDY AND ALTERNATIVES ANALYSIS REPORT

Building Beach and Salt Marsh Resilience to Protect Island Communities in Massachusetts: Salt Marsh Restoration on Chappaquiddick Island Martha's Vineyard

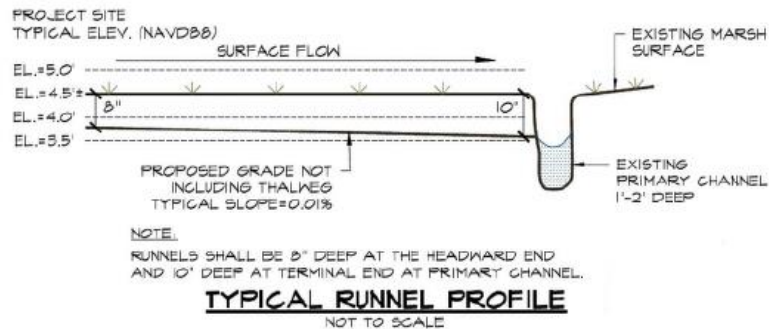
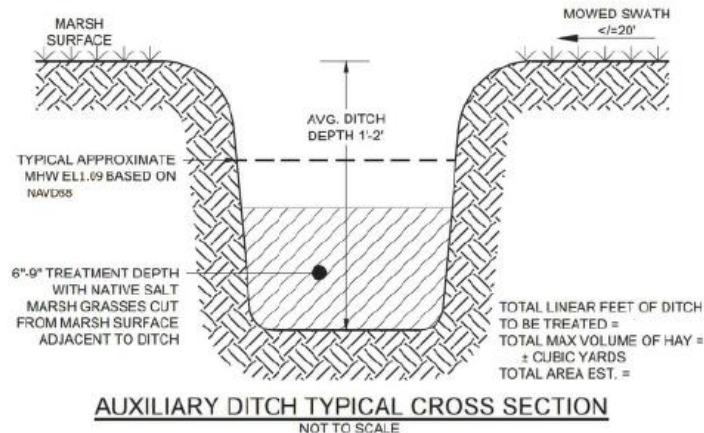
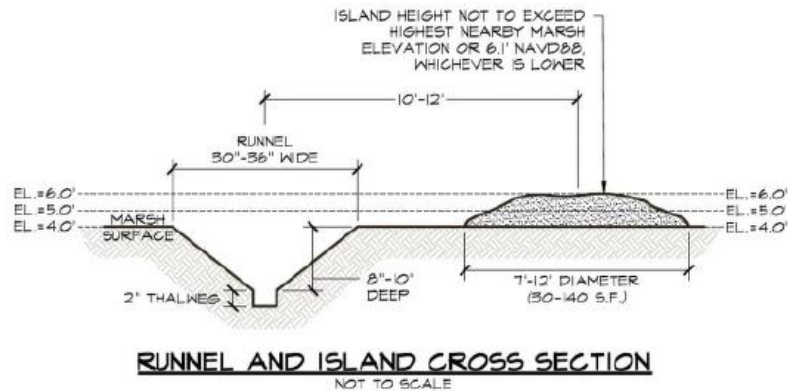
December 2025
File No. 15.0167345.00



PREPARED FOR:
The Trustees of Reservations

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CHAPPAQUIDDICK ISLAND
SALT MARSH RESTORATION PROJECT
EDGARTOWN, MA

DETAILS

PREPARED BY GZA GeoEnvironmental Inc. www.gza.com		PREPARED FOR THE TRUSTEES 200 HIGH STREET, 4TH FLOOR BOSTON, MA 02110	
PROJECT: JRC	REVIEWED BY: BL	CHECKED BY: MP	FIGURE
DESIGNED BY: JRC	DRAWN BY: JRC	SCALE:	8
DATE: 09/22/2025	REVISION NO: 15.0167345.02	REVISION NO:	

A photograph of a marsh landscape. In the center, a narrow, straight ditch runs from the background towards the foreground. The ditch is bordered by tall, green grasses on both sides. The grasses in the foreground are very dense and tall, reaching up to the top of the frame. The ditch itself appears to be a mix of water and mud, with some green algae or moss growing along its edges. In the background, the marsh continues with more grass and a few small trees or shrubs visible on the horizon. The sky is not visible. The overall scene is a natural, somewhat overgrown marsh area.

DITCH REMEDIATION
GREAT MARSH PHASE III – TRACT 7 GREENWOOD FARM

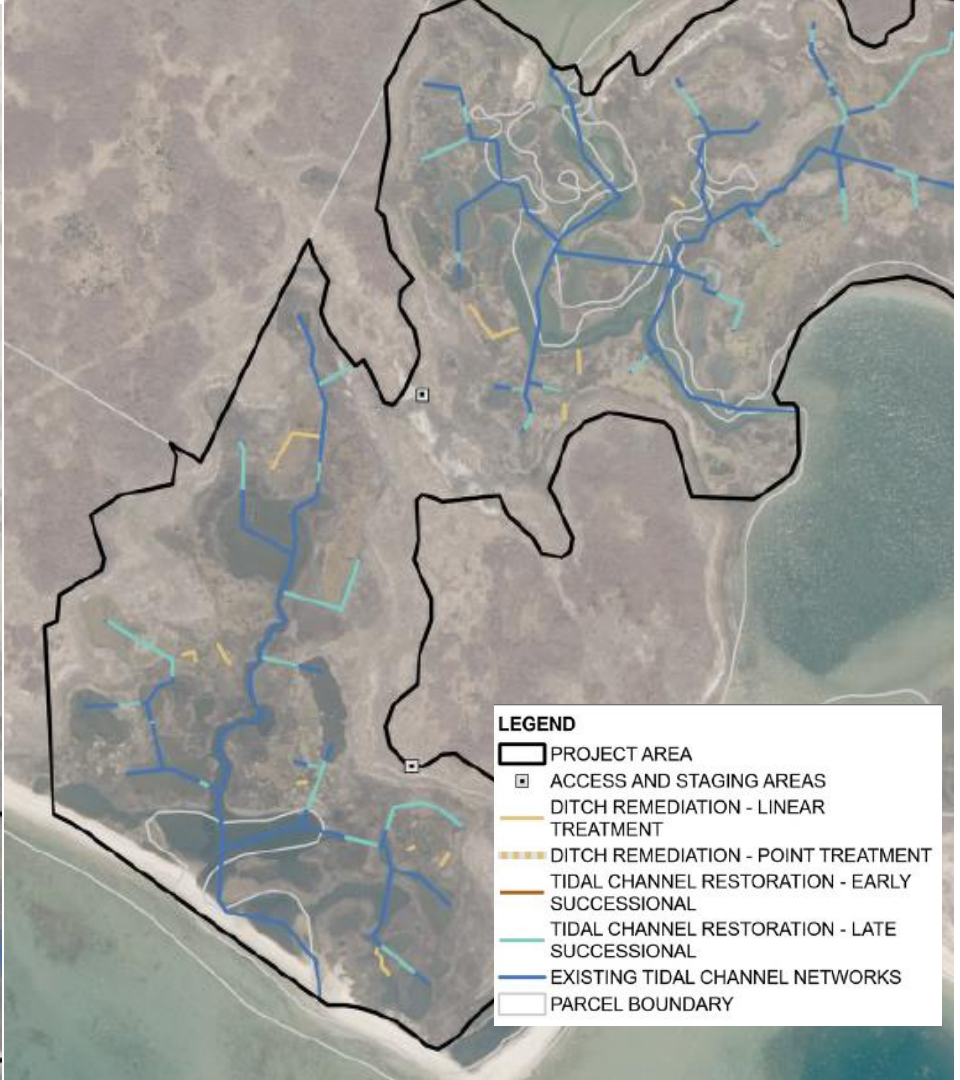




RUNNEL & ISLAND CONSTRUCTION
GREAT MARSH PHASE III – TRACT 9 RICHARDSON CR



MARSH RESTORATION DESIGN
PHASE I



LEGEND

-  PROJECT AREA
-  ACCESS AND STAGING AREAS
-  DITCH REMEDIATION - LINEAR TREATMENT
-  DITCH REMEDIATION - POINT TREATMENT
-  TIDAL CHANNEL RESTORATION - EARLY SUCCESSIONAL
-  TIDAL CHANNEL RESTORATION - LATE SUCCESSIONAL
-  EXISTING TIDAL CHANNEL NETWORKS
-  PARCEL BOUNDARY

Permitting Requirements & Regulatory Challenges

- Review and approval by:
 - *MA Division of Fisheries & Wildlife - Natural Heritage Program*
 - *MA Coastal Zone Management*
 - *MassDEP Waterways License (Ch91)*
 - *MassDEP Section 401 Water Quality Certificate*
 - *Edgartown Conservation Commission*
 - *U.S. Army Corps of Engineers Section 404 Authorization*
- MEPA Review to begin in **Fall 2026**
- ▶ **Removal of pilot phragmites-control technique**



Timeline & Next Steps

2025

2026

2027

2028

2029

2030

Feasibility & Design

Permitting

Implementation (Phase I)

Monitoring – Baseline & Post-Restoration





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The Trustees of Reservations

