BUILDING STRONGER SALT MARSHES: USING NATURE-BASED TECHNIQUES TO ENABLE MARSHES TO KEEP PACE WITH SEA-LEVEL RISE

Russ Hopping, The Trustees
rhopping@thetrustees.org
2022 Martha's Vineyard Coastal Conference
Significant Resource

IMPORTANT ENVIRONMENTAL SERVICES INCLUDING BIODIVERSITY
History collection, Nova Scotia Museum
Artist Azor Vienneau
accession number 87.120.2
Marsh subsidence – Agricultural Legacy

OXIDATION TRAJECTORY
Marsh Subsidence

WATERLOGGED TRAJECTORY - MEGAPOOLS

Clogged Ditch

Dead Grass

Embankment
Waterlogged Marsh and Mega Pool Formation
Poucha Pond, Martha's Vineyard

PLATFORM MARSH DEGRADATION
Restore marsh-sustaining hydrology to a heavily ditched marsh in order to:

- reverse trends of marsh subsidence
- re-establish and retain high marsh habitat
- support obligate marsh species (saltmarsh sparrow)
- allow marsh to keep pace with SLR more effectively
Phase 1  85 acres
Phase 2  273 acres
Phase 3  916 acres

Phase 1 & 2  $1 Million
Phase 3  $1 Million
Ditch Remediation

PRIMARY NATURE BASED SOLUTION
Ditch Remediation*

LOW IMPACT – NATURE-BASED SOLUTION

Micro Runnels and Topography

LOW IMPACT - NATURE-BASED SOLUTION
Micro Runnels

LOW IMPACT – NATURE BASED SOLUTION

Untreated Waterlogged Area

Micro-Runnel Treatment Area

Zone of Saturation at or Near the Surface

30-45cm

Zone of Saturation Controlled by Thalweg Depth and Soil Porosity

Graphic produced by Geoff Wilson
Runnels and Bird Nesting Islands

WORK DURING WINTER
Crane Runnel and Nesting Is.

SEPTEMBER – FULL GROWING SEASON (60% VEGETATED)
Crane Runnel – no erosion after 8 months
In addition to Trustees 1,300 acres:

- Mass Wildlife 2,000 acres that includes, Trustees, MAS, Greenbelt, USFWS
- USFWS 140 acres restored and 800 acres in planning for 2022.
- Bundling smaller private parcels

Keep the Momentum
BUILD OFF OF WORK COMPLETED
Thanks to Our Funders

Russ Hopping
Lead Coastal Ecologist
The Trustees
rhopping@thetrustees.org