Sesuit Creek Salt Marsh Pilot Planting

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ASSOCIATION TO PRESERVE CAPE COD

MAY 2019

CATEGORY: RESEARCH AND MANAGEMENT PROJECT

APCC
Association to
Preserve Cape Cod

Why: Improve Recovery Rate of Restored Marsh

- 2008: Sesuit Creek Salt Marsh Restored – Replace 2ft culvert with two 10x12ft box culverts

- Successfully restore tidal hydrology and salinity.

- Bare patches in marsh remain just upstream of restriction where previously dominated by invasives.
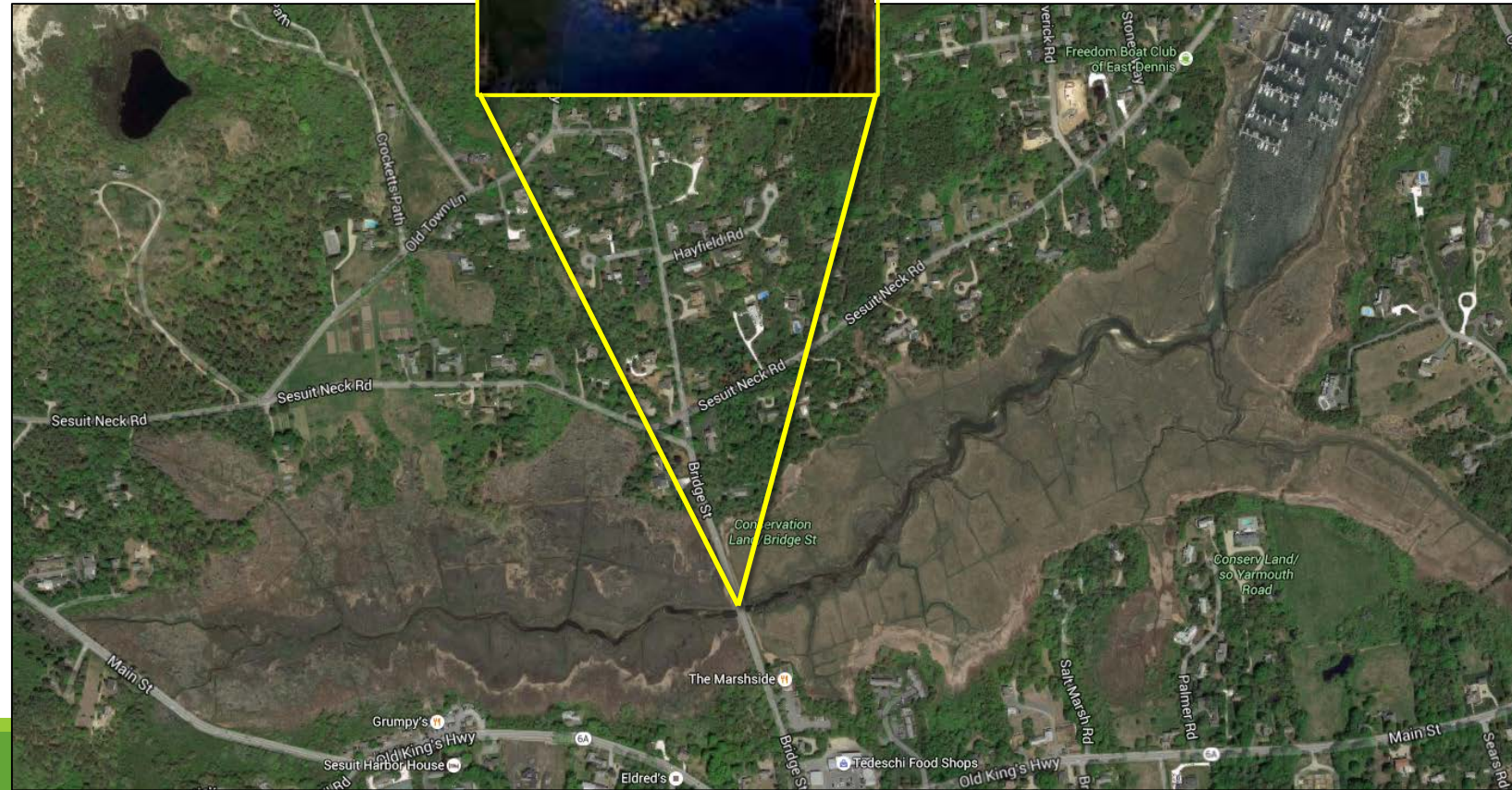
Goals:

- Determine if planting of *S. alterniflora* plugs can help fill in bare patches
- Improve recovery rate of the salt marsh.
- Identify factors influencing slow recovery of vegetation to help inform future restoration and adaptive management.

Planting and monitoring: 1 meter square quadrats, 10 transects, 9 plugs per quadrat

- Species present, % cover
- *S. alterniflora* stem counts, height, survival (dead, green, reproductive)
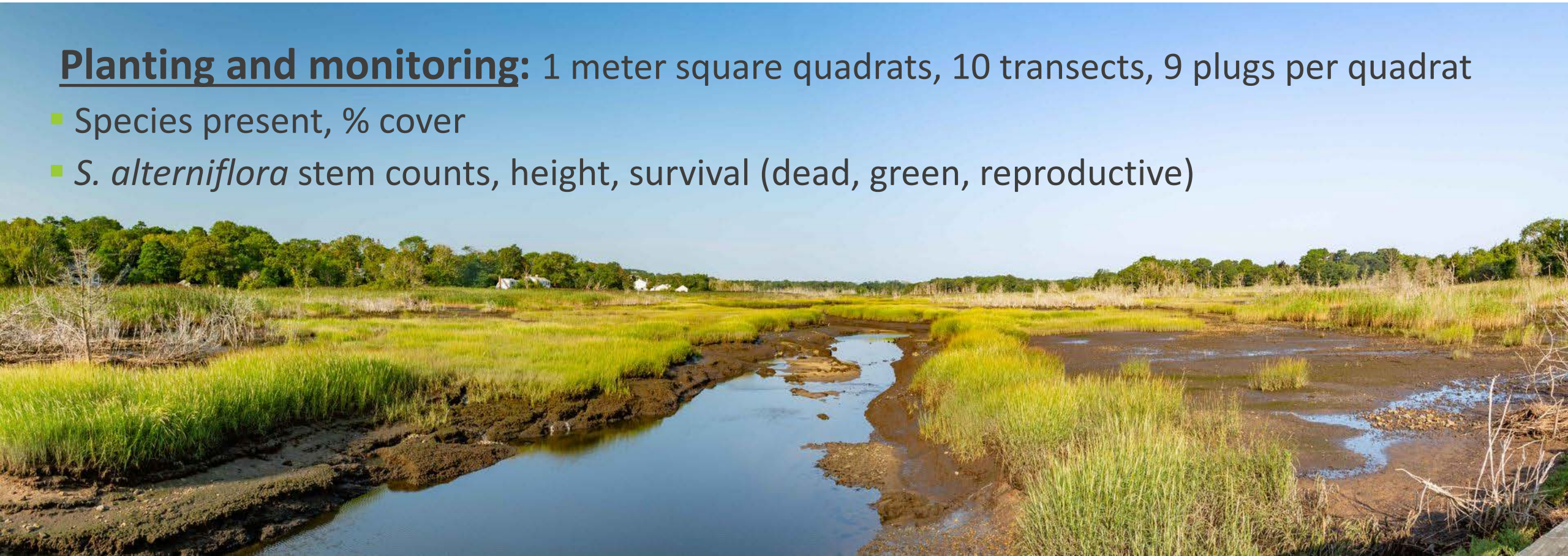
Where are you working
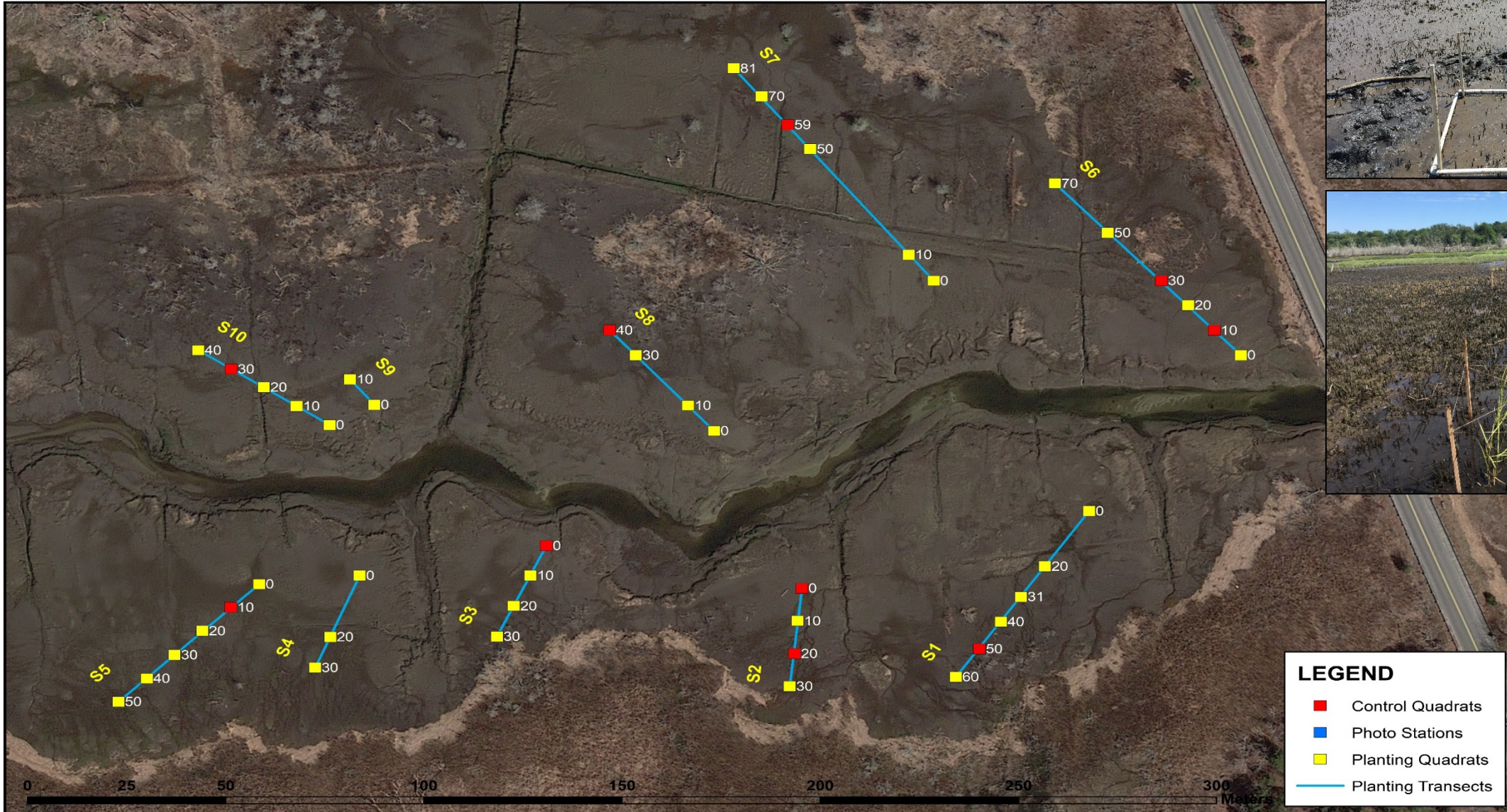
Who? When?

Project lead: Association to Preserve Cape Cod

Project partners: Massachusetts Division of Ecological Restoration (funding project), Natural Resource Conservation Service (bulk density and elevation survey), private property owners (approved access to marsh which is privately owned), and town of Dennis (Con Comm approval RDA filing in early 2019)

Timeline:
- Plugs planted in June of 2019
- Annual vegetation monitoring (August) for 3 years
- Bulk density and elevation survey October 2019

Interim and final reports shared with DER and town.
Results presented to public (lectures/conferences)

The How

Moving Materials:

- 180+ 4ft wooden stakes

- 5 Trays/Boxes of Plugs

Planting:

- Quadrat with Grid

- Break up root mass

- Trowel and Soil Coring Tool

Findings – Year One Results

- Initial stress in July (yellowing and die back)

- Recovery by end of growing season August 2019 monitoring
  - Decrease in plant height and percent cover (15.5% to 11.3% *S. alterniflora* cover in plots)
  - 98% Survival (5 dead, 7 reproductive out of 324 planted)
  - Increase in stem count

- Bulk density not appear to be different in bare patches and vegetated areas – no correlation between density and survival year one

- Elevation in planted plots similar to creek edge confirm good for *S. alterniflora* growth

- Overall increase in elevation from creek to upland – no significant correlation between elevation and survival year one

Findings – Year One

- Mudflats (bare patches) devoid of vegetation but not wildlife

- Upstream areas previously bare now have *S. alterniflora*