Coastal Wetlands: Assessment, Planning and Practice

CRMC COUNCIL MEETING

FEBRUARY 9, 2016

Importance of Coastal Wetlands

- **Habitat Value**
- **Shoreline Resiliency**
- **Carbon Sequestration**

Photo: RI Sea Grant


© Ayla Fox

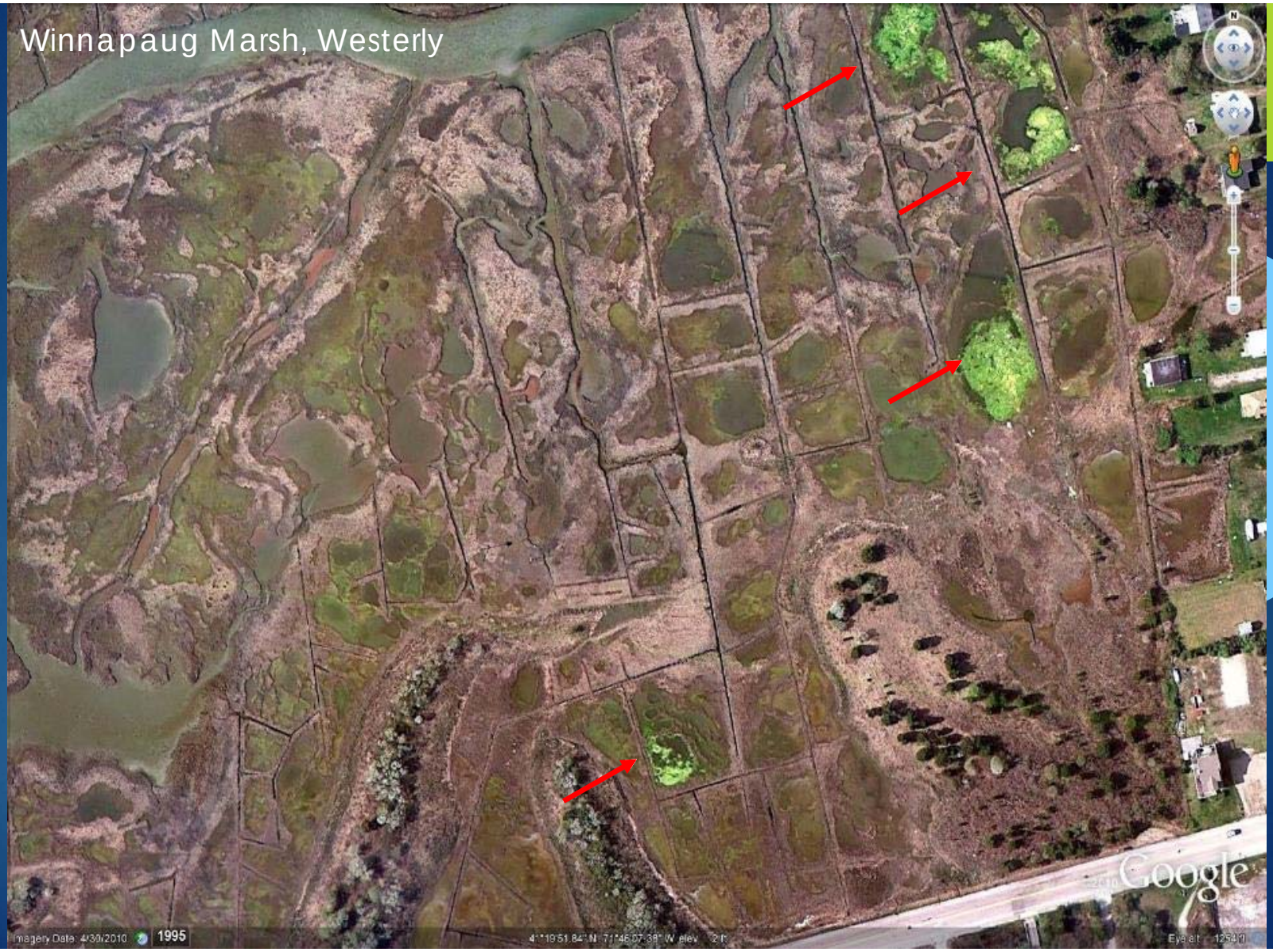

Winnapaug Marsh, Westerly
1995
Google


Photo: C. Chaffee

Future of RI Marshes

- Are there actions we can take to preserve interim functions and values?
- How can we facilitate marsh transgression as sea levels rise?
- Can restored or created marshes be used to enhance shoreline resiliency?

Monitoring—Establishing Baselines

Salt Marsh Condition / Functions & Values

- NBNERR Sentinel Sites Program
- US Fish and Wildlife Service Refuge Sites
- Project-specific monitoring
- **RI Salt Marsh Monitoring Plan**
  - **3 Tiered approach to statewide marsh monitoring**

Marsh Migration

- **COCA and Habitat Fund proposals (SHARP protocol and others)**

A Salt Marsh Monitoring and Assessment Plan for the State of Rhode Island

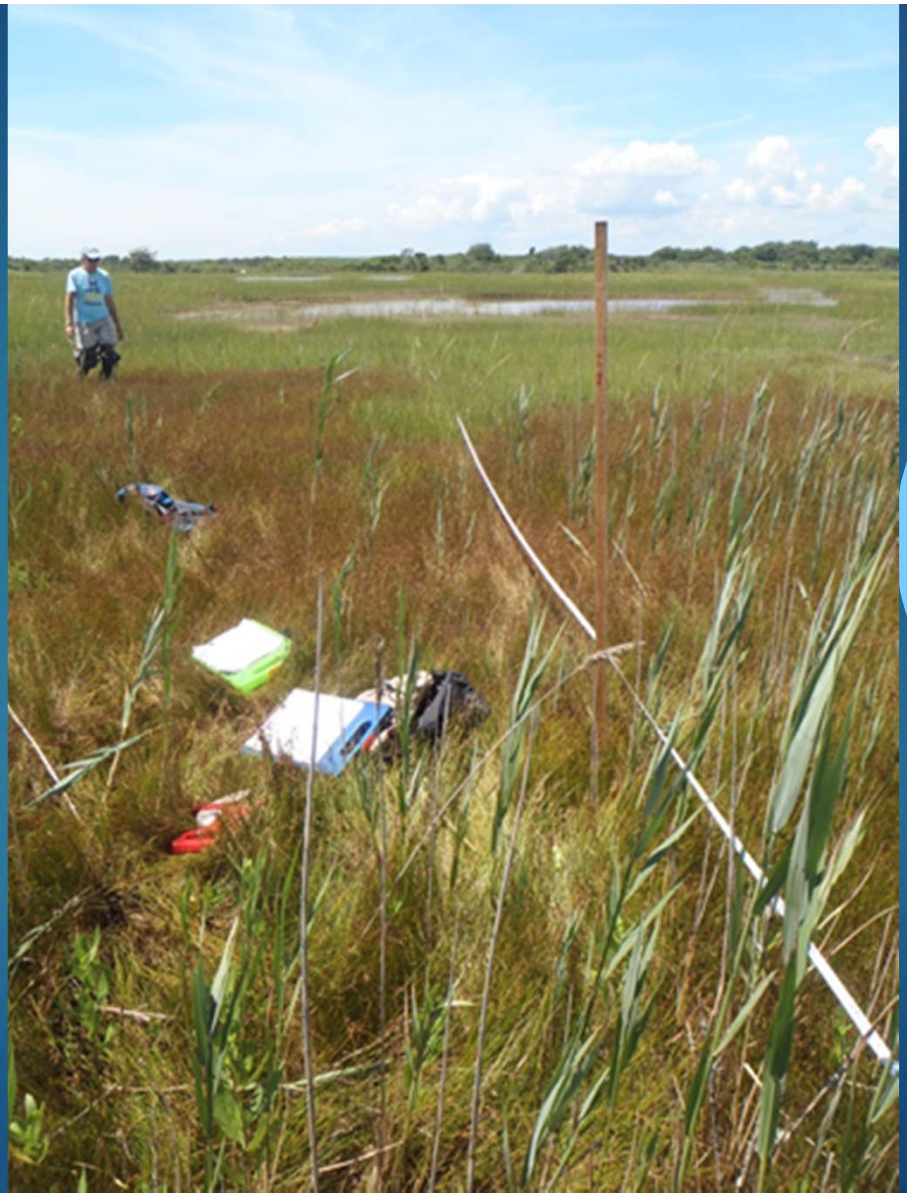
Tier	Description	Frequency	Spatial extent
1	Landscape-scale marsh habitat mapping	3-5 years	Statewide
2	Salt marsh rapid assessments	3-5 years	30-40 marshes statewide
3	Intensive site monitoring	Annually and as needed for restoration / adaptation projects	6-8 marshes statewide and specific individual marshes

Modeling and Assessment

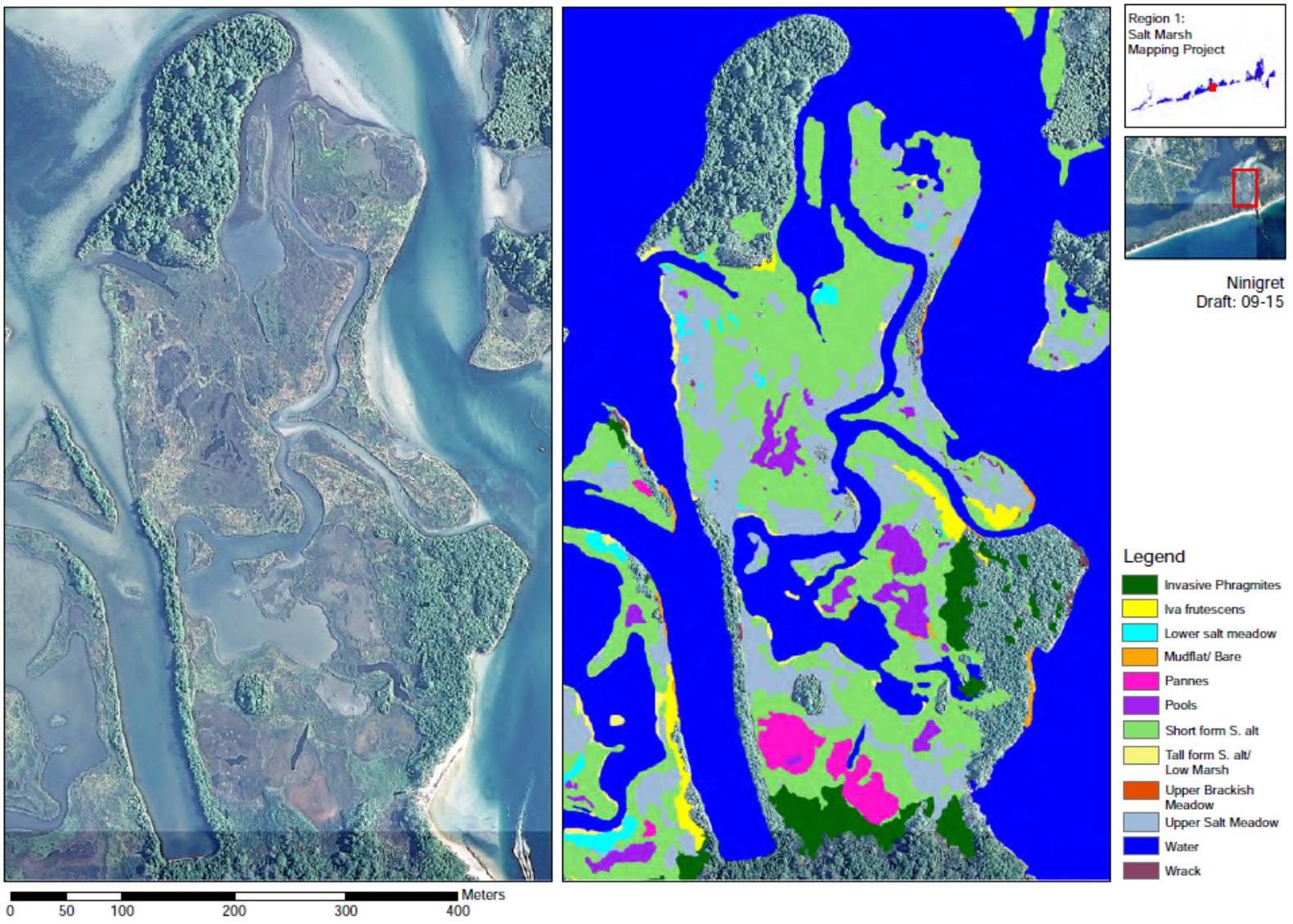
- **RI Salt Marsh Assessment (RISMA)**
  - **Statewide condition assessment focused on sea level rise**
  - **Condition index to rate each marsh**
- CCVATCH
  - Climate change vulnerability assessment
- **Sea Level Affecting Marshes Model**
  - **Modeling of potential marsh migration with SLR**
  - **Additional work proposed through URI EDC**
- **Aerial Photo acquisition for salt marsh mapping**
  - **High-resolution vegetation community mapping**

RISMA

- 39 Marsh units assessed units within 29 marshes
- Results to be published in 2016



- Aerial photo analysis to map coastal wetland vegetation communities (NBNERR)
- Future funding through CRMC dredging account



Wetland Program Development

- Partnership with RIDEM and RI Natural History Survey
- EPA Funding for additional staff to work on freshwater and coastal wetland monitoring and assessment
- CRMC has helped to develop scope of work for program, will supervise position

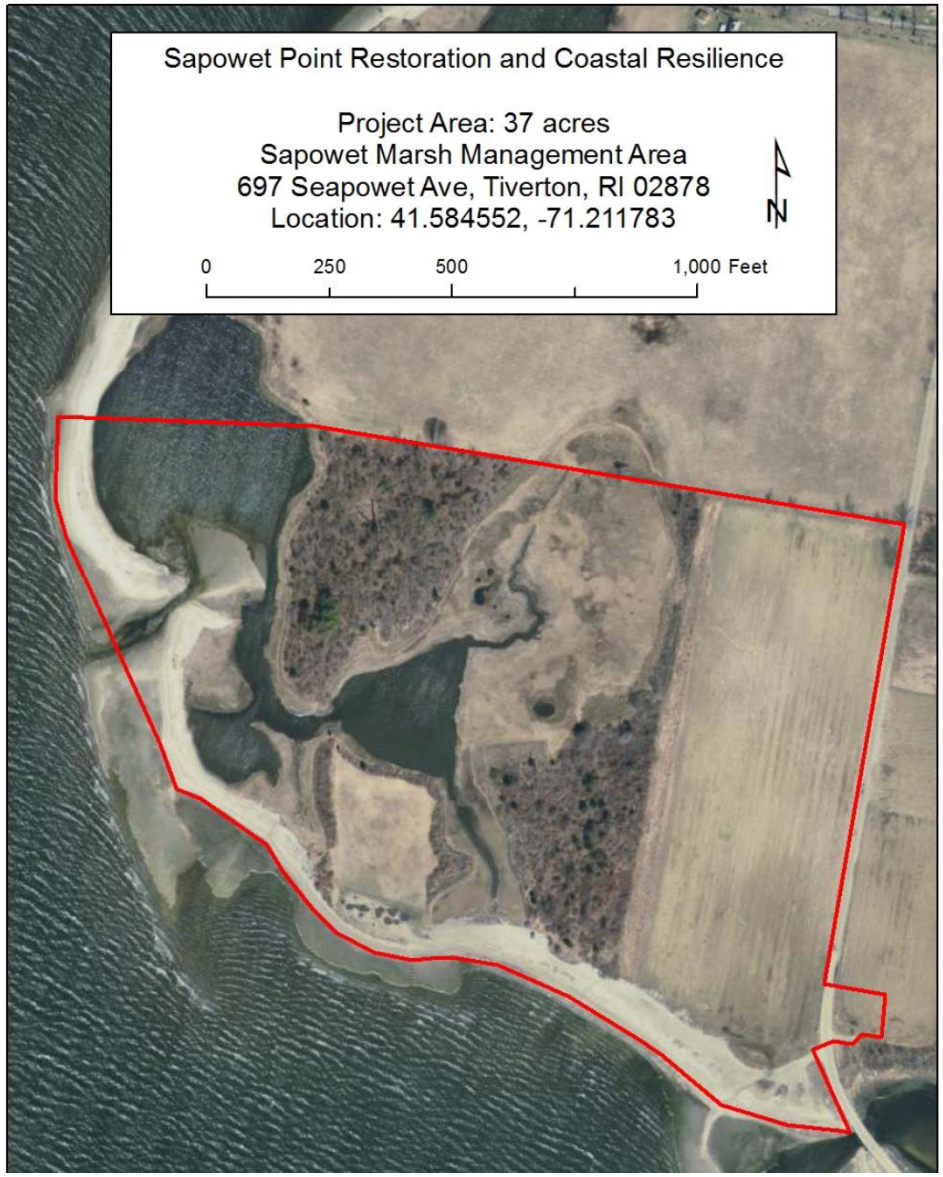
Management Actions

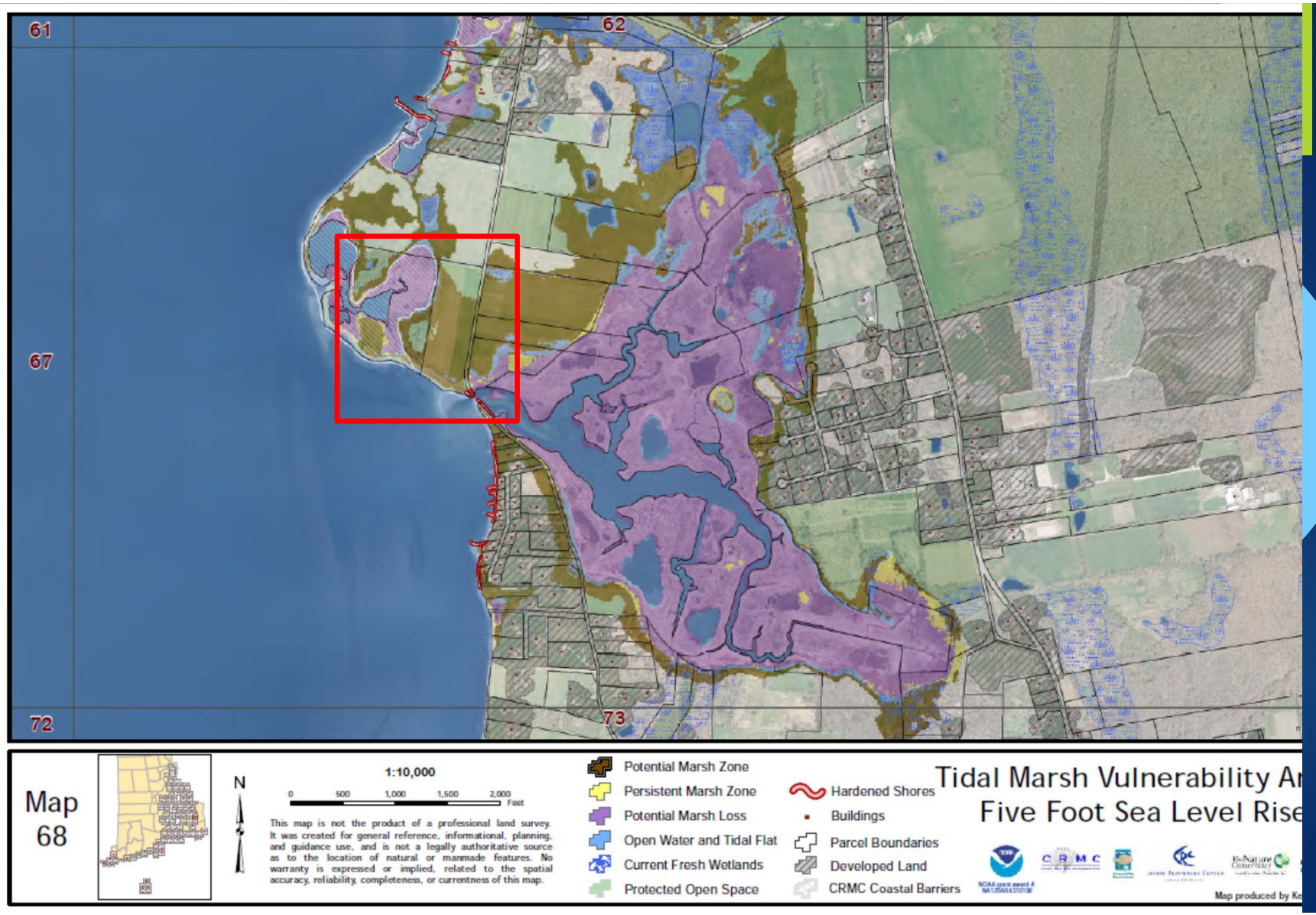
- Preservation of low-lying uplands
- Removal of barriers to potential migration
  - Man-made barriers (shoreline structures, development)
  - Natural barriers (topography, vegetation)
- In-marsh Enhancement
  - Beneficial re-use of dredged materials for marsh restoration and creation

Image by Woods Hole Group

RIDEM Seapowet Point Restoration

Reconfiguring land use to enhance habitat and allow for migration with sea level rise

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Potential Marsh Zone
Persistent Marsh Zone
Potential Marsh Loss
Open Water and Tidal Flat
Current Fresh Wetlands
Protected Open Space
Hardened Shores
Buildings
Parcel Boundaries
Developed Land
CRMC Coastal Barriers
Tidal Marsh Vulnerability Ar
Five Foot Sea Level Rise
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