# Salt Marsh Migration: Challenges, Partnerships and Next Steps

RI LAND AND WATER SUMMIT

MARCH 11, 2017

CAITLIN CHAFFEE, RI COASTAL RESOURCES MANAGEMENT COUNCIL

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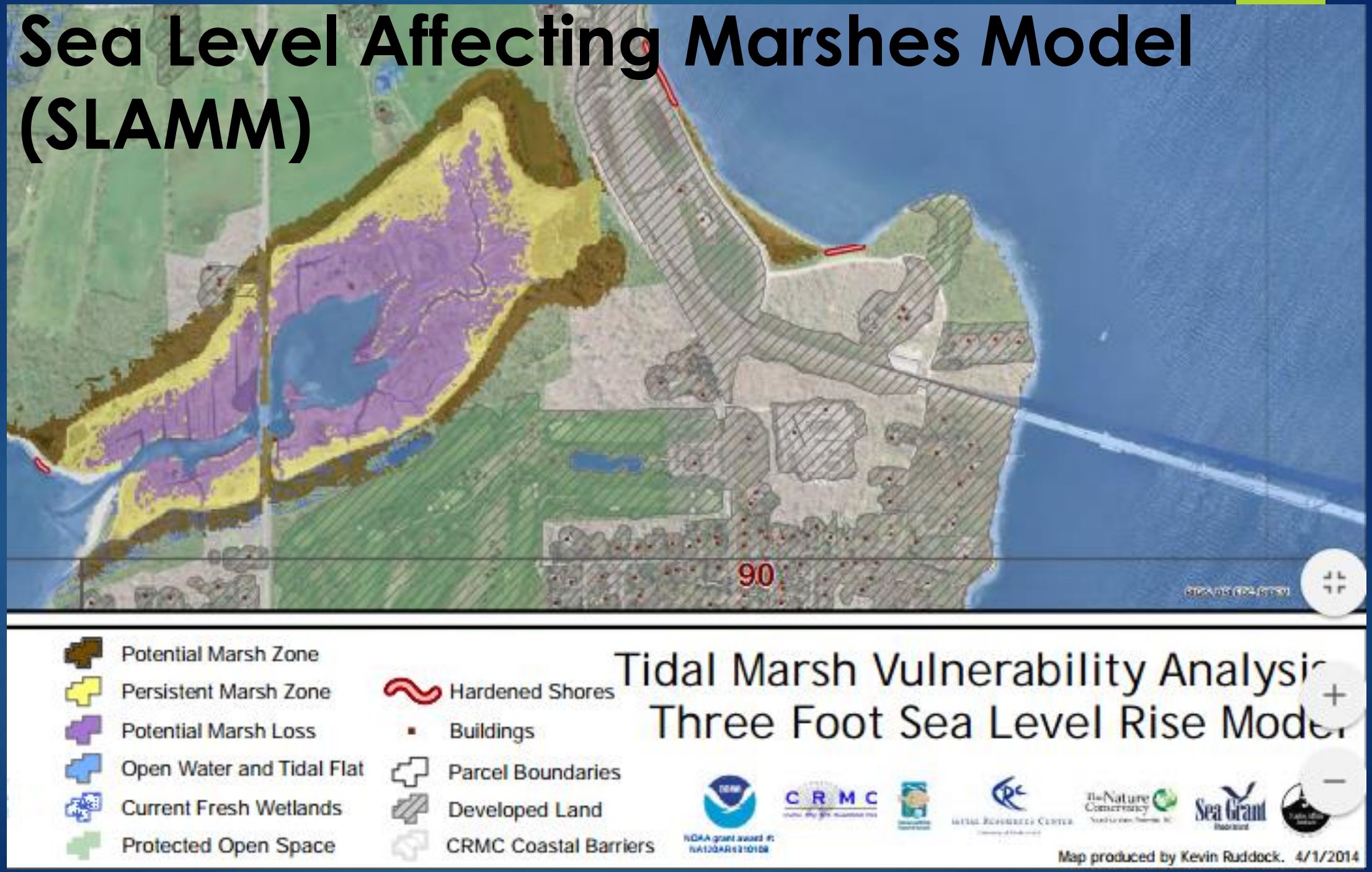
# Sea Level Affecting Marshes Model (SLAMM)



- Important Bird Areas (Salt Marsh Sparrow)
- Other Large Marshes
- Sea Level Fens
- Large Marshes in Future SLR Scenarios

# A Strategy for Developing a Salt Marsh Monitoring and Assessment Program for the State of Rhode Island

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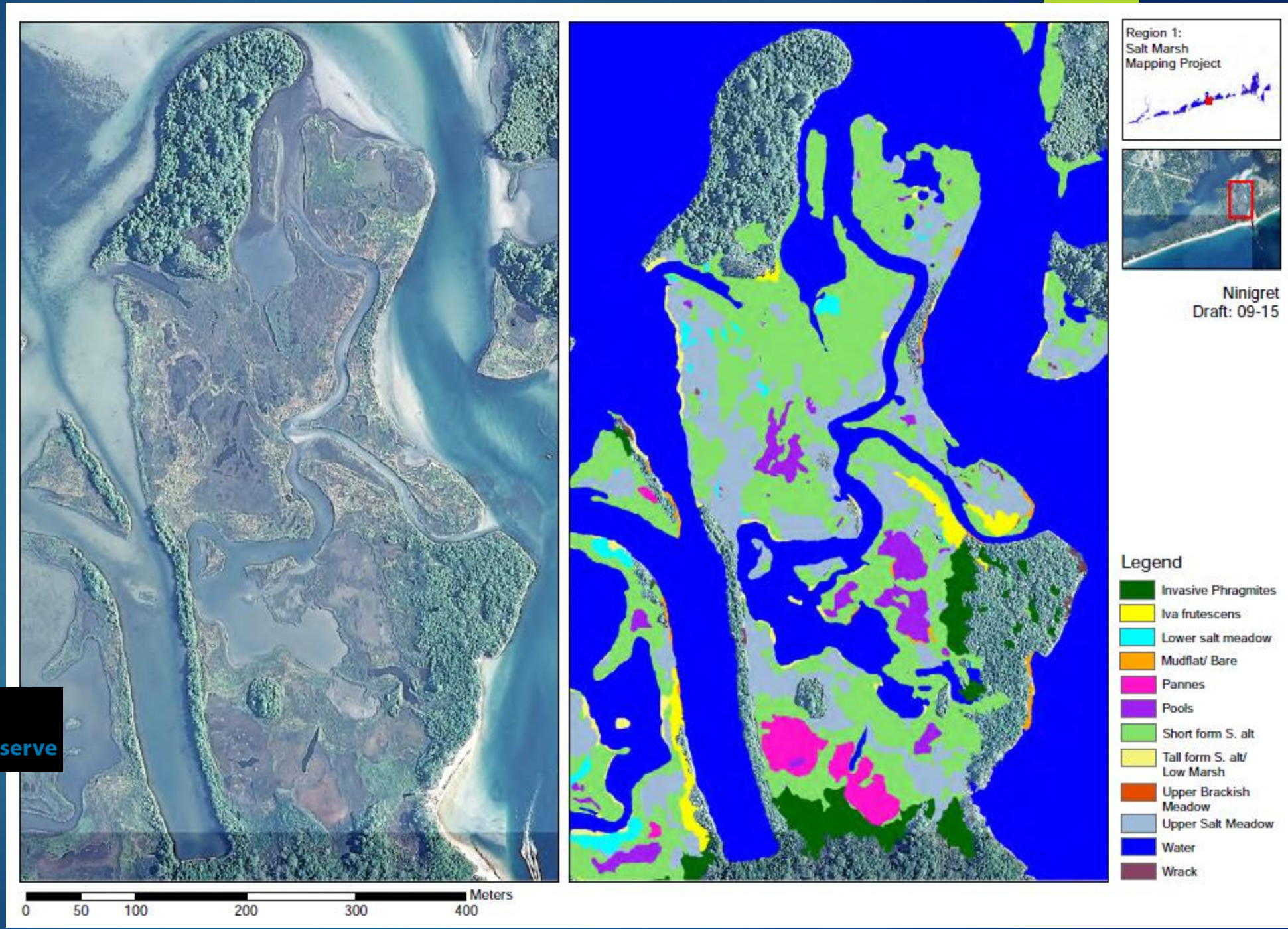
[3]RI Coastal Resources Management Council, Wakefield RI 02879

March 1, 2016

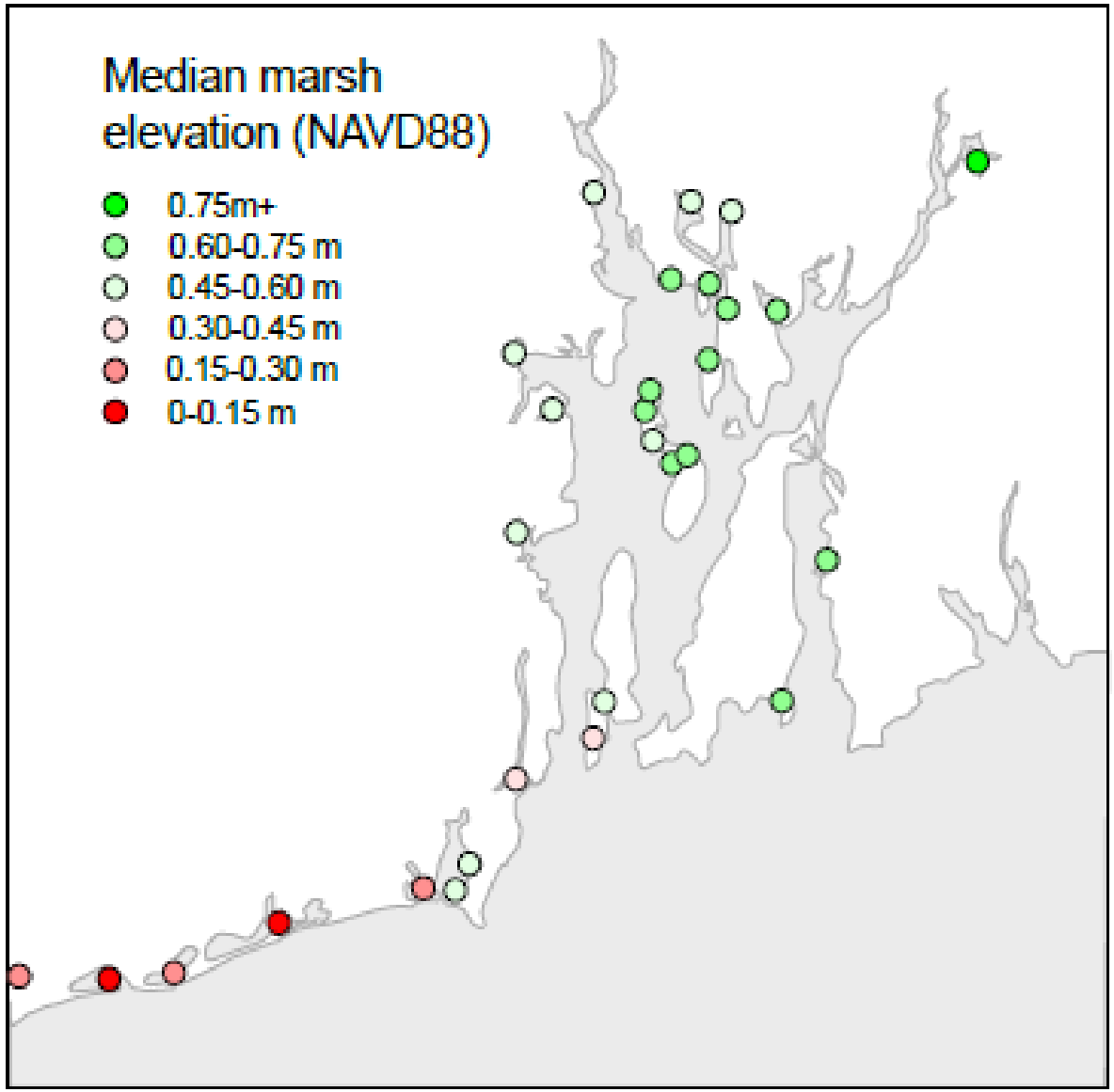
- Automated aerial photo analysis to map coastal wetland vegetation communities (NBNERR)

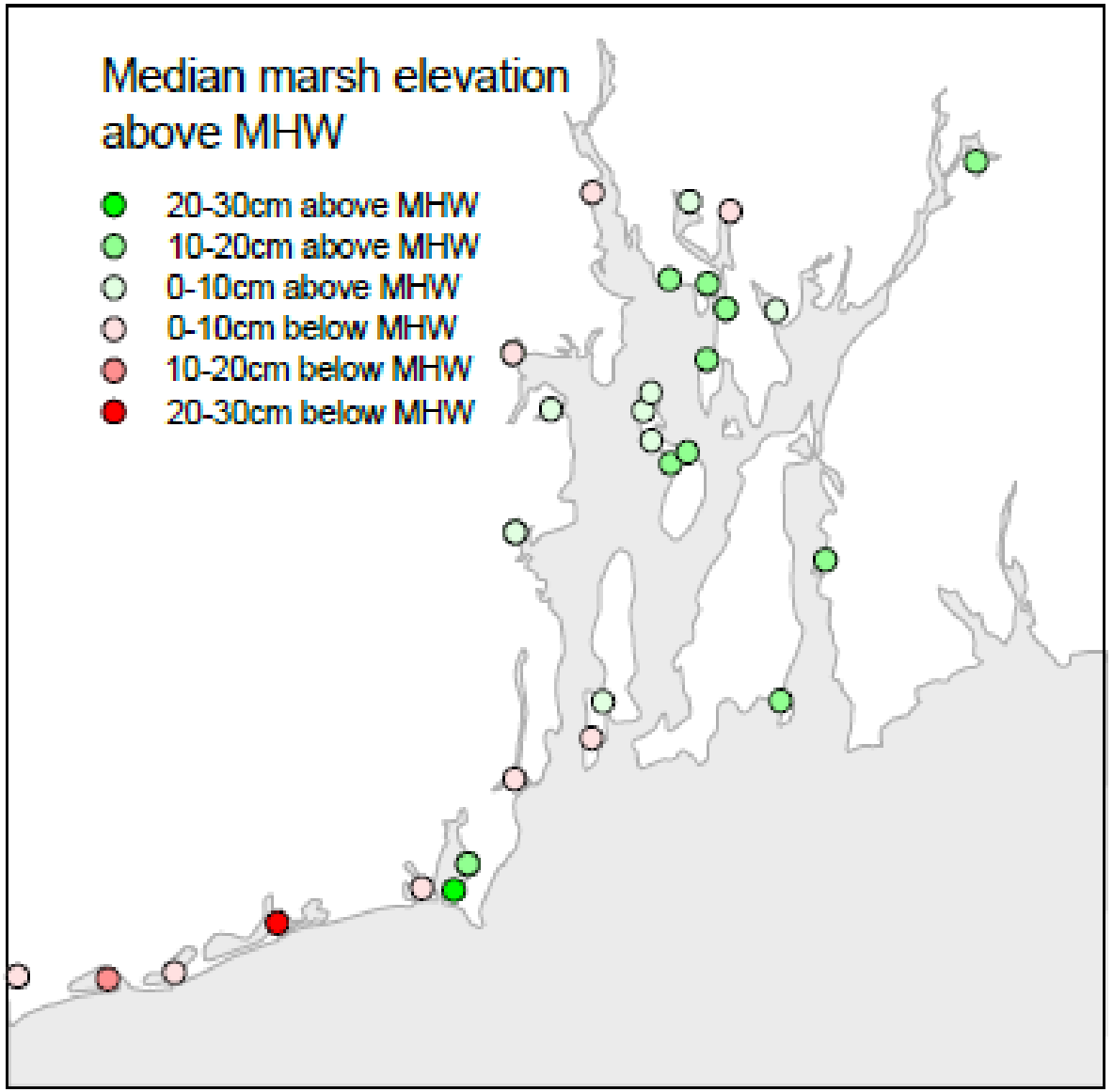


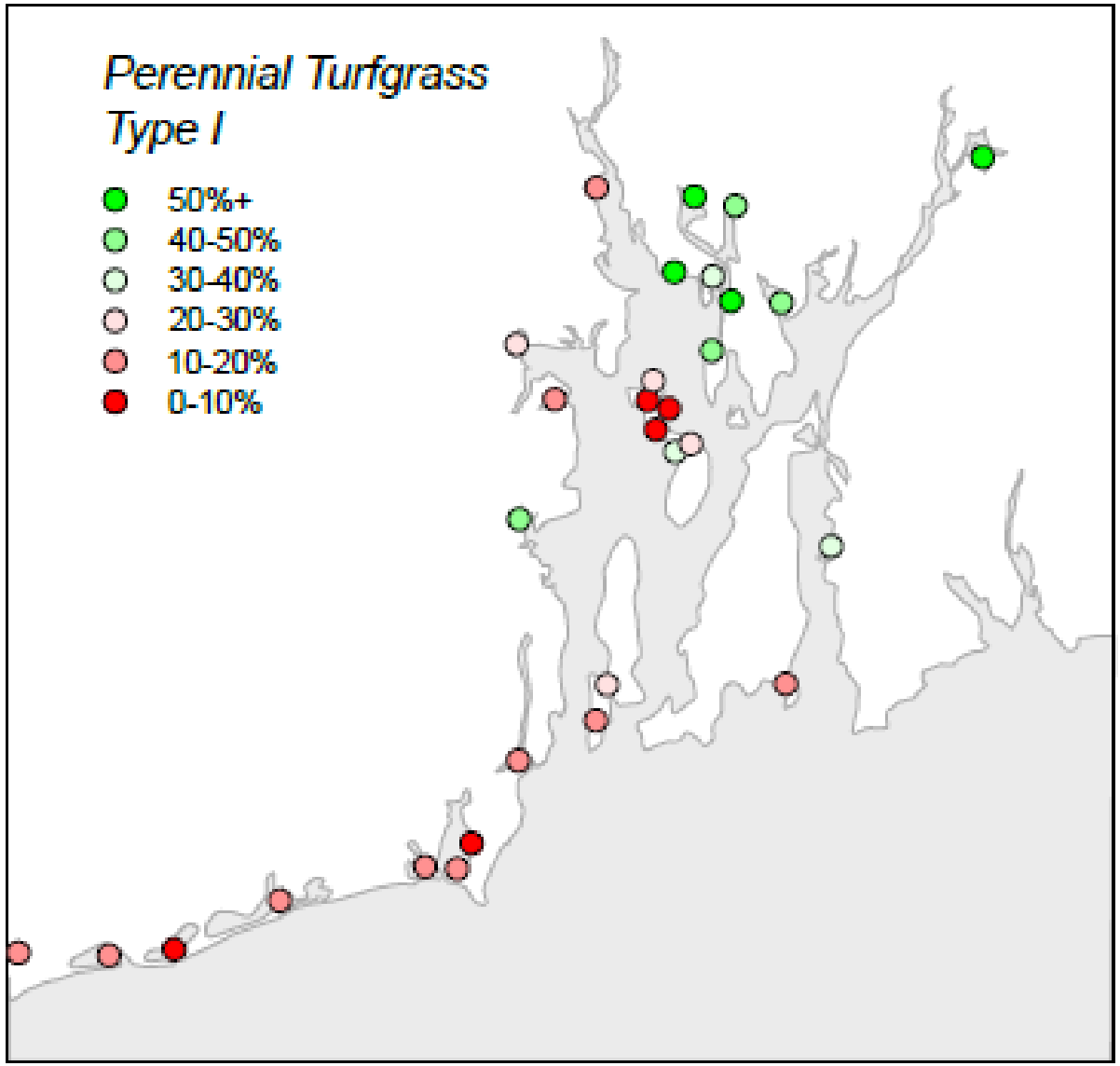

Narragansett Bay
National Estuarine Research Reserve

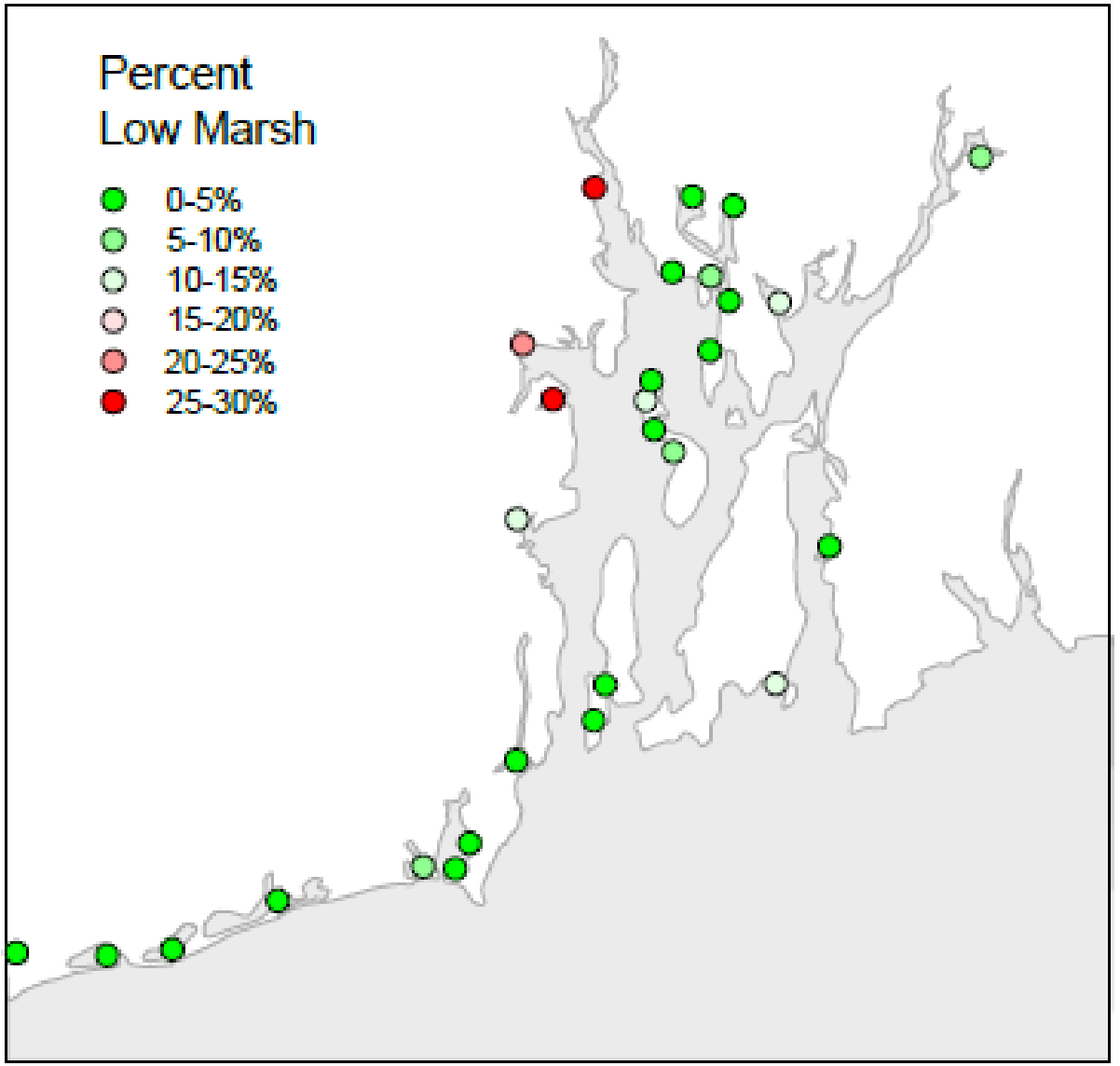
# RI Salt Marsh Assessment

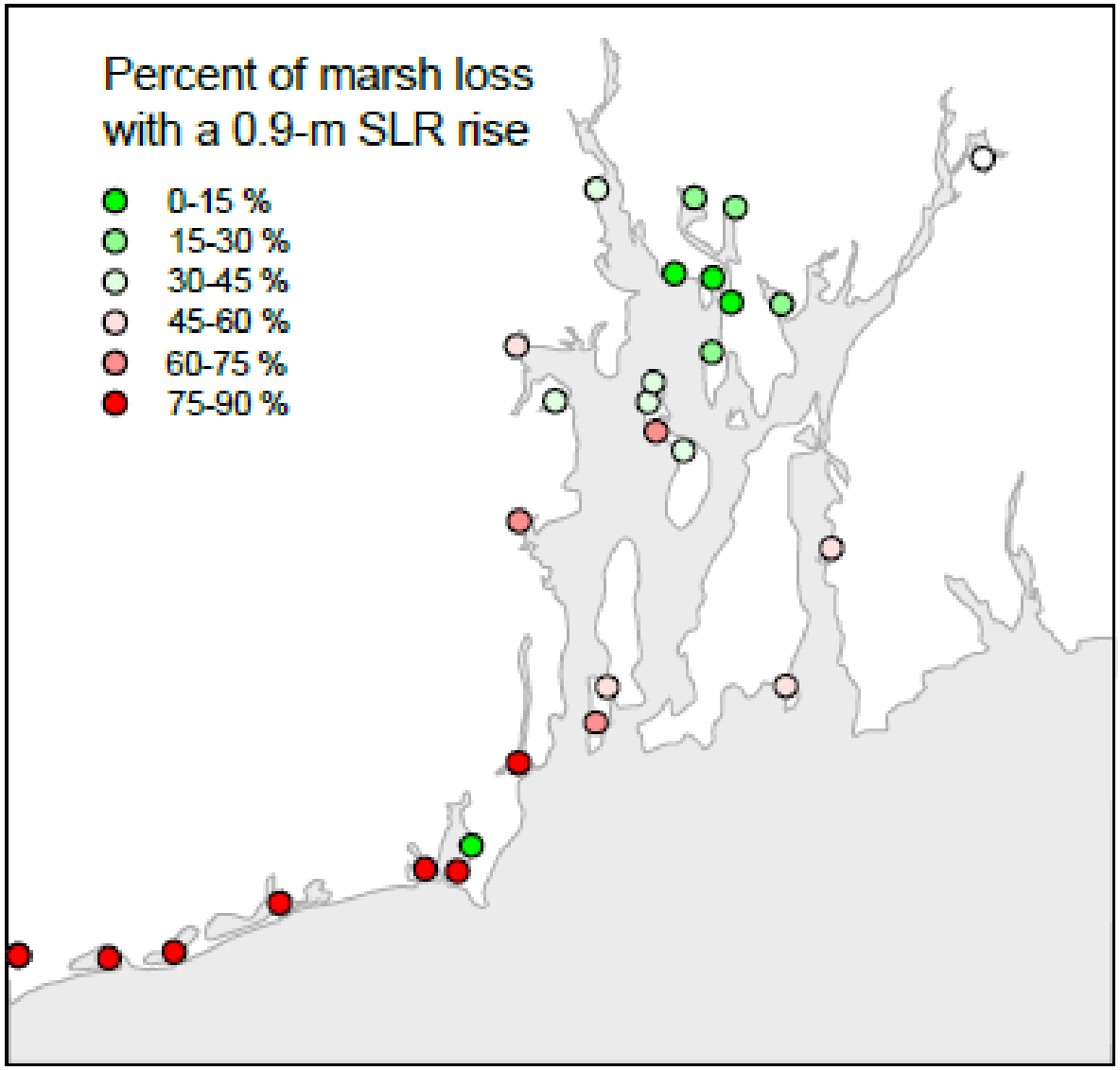
- 39 Marsh units assessed units within 29 marshes

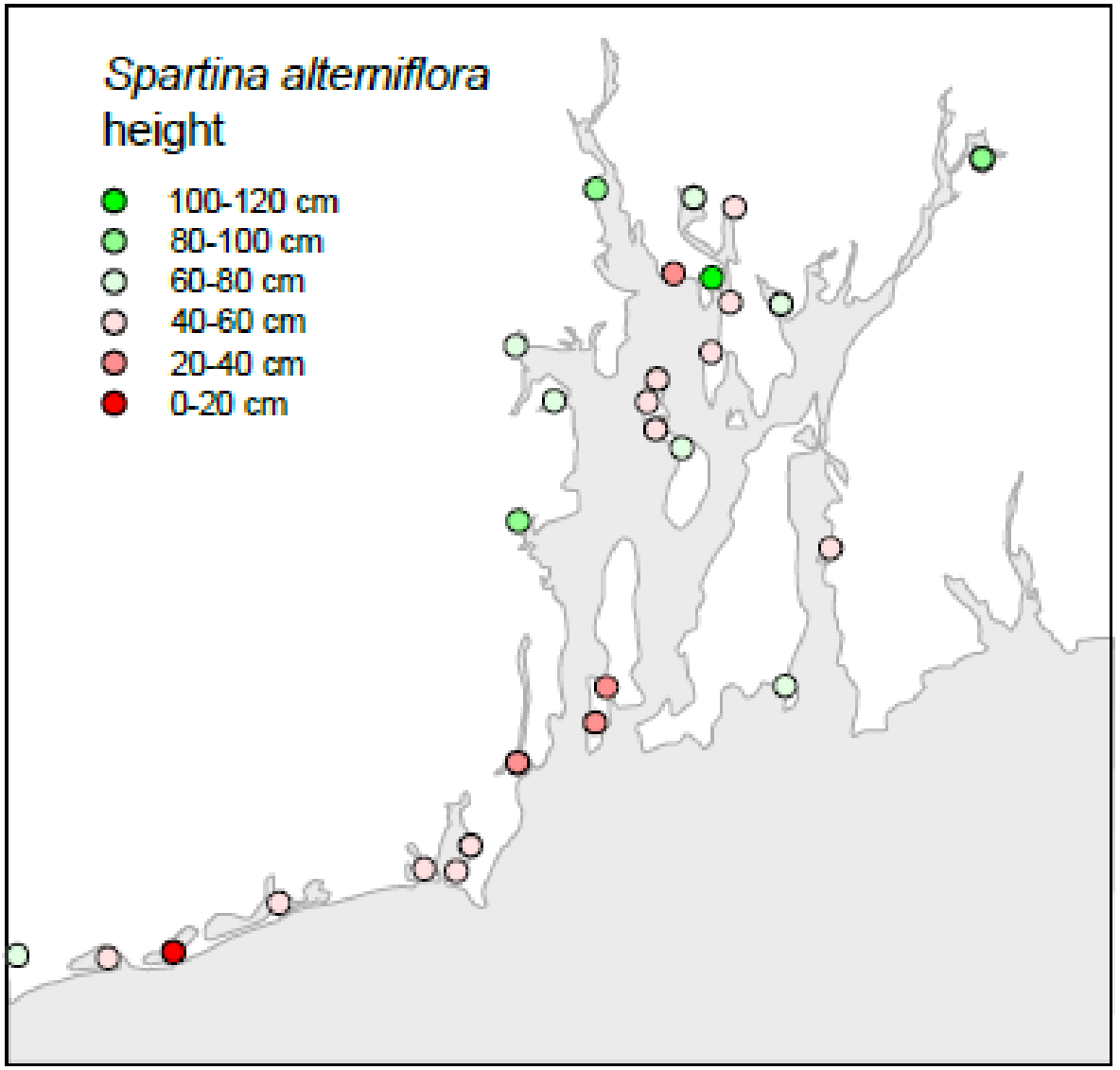

Median marsh elevation (NAVD88)
0.75m+
0.60-0.75 m
0.45-0.60 m
0.30-0.45 m
0.15-0.30 m
0-0.15 m


Median marsh elevation above MHW
20-30cm above MHW
10-20cm above MHW
0-10cm above MHW
0-10cm below MHW
10-20cm below MHW
20-30cm below MHW


Perennial Turfgrass
Type I
50%+
40-50%
30-40%
20-30%
10-20%
0-10%


Percent
Low Marsh
0-5%
5-10%
10-15%
15-20%
20-25%
25-30%


Percent of marsh loss
with a 0.9-m SLR rise
0-15 %
15-30 %
30-45 %
45-60 %
60-75 %
75-90 %


Spartina alterniflora
height
100-120 cm
80-100 cm
60-80 cm
40-60 cm
20-40 cm
0-20 cm

# Tools in the Toolbox: Intervention Actions

- Land Conservation / Land Use Planning
- Removal of barriers to future migration
- Hydrologic modification
- Elevation enhancement with sediment

**Least intensive**

**Most intensive**

# Rhode Island Coastal Wetland Restoration Strategy

- Will describe current state of salt marshes, stressors and predicted impacts of climate change and sea level rise
- Will describe available management actions to address impacts and preserve functions
- Will provide guidance for prioritizing projects, use of resources for wetland restoration and conservation

RHODE ISLAND NATURAL HISTORY SURVEY
Providing Ecosystem Science and Information

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