

## MassMarsh

Massachusetts Long-term

Salt Marsh Resilient Research & Monitoring Program

#### Nate Corcoran

Coastal Geologist/ Environmental Analyst MassDEP Wetlands Program

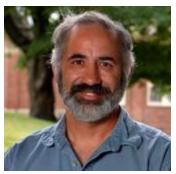


#### Katie Kahl, PhD

Director, Gloucester Marine Station Extension Assistant Professor, Dept of Environmental Conservation



## MassMarsh Core Coordination Team







Brian Yellen



Katie Kahl



Jon Woodruff



Tim Cook



Ryan Wicks



William Speiser



Julie Walker



Sintra Reves-Sohn



**David Burdick** 



Marc Carullo



**Amanda Davis** 

## MassMarsh Advisory Committee

Massachusetts' Long-term Salt Marsh Resilient Research & Monitoring Program

- 1. Andy Finkle, Woods Hole Group
- 2. Anne Giblin, Marine Biological Laboratory
- 3. Sara Grady, Mass Audubon
- 4. Kris Houle, Tighe & Bond
- 5. Russ Hopping, Trustees
- 6. Pat Huckery, Mass Wildlife
- 7. Rachel Jakuba, Buzzards Bay Coalition
- 8. Cristina Kennedy, MA Div. of Ecological Restoration
- 9. Jordan Mora, Assn. to Preserve Cape Cod
- 10. Adrienne Pappal, MA Office of Coastal Zone Mgmt.

- 11. Nancy Pau, USFWS Parker River National Wildlife Refuge
- 12. Danielle Perry, NOAA
- 13. Steve Smith, Cape Cod National Seashore
- 14. Jason Steiding, Mashpee Wampanoag Tribe
- **15. Megan Tyrrell**, Waquoit Bay National Estuarine Research Reserve
- 16. Cathy Wigand, EPA Region 1
- 17. DEP Team (Lisa Rhodes, Nate Corcoran, Dave Hilgeman, Tay Evans)
- 18. Core Coordination Team (UMass, UNH, CZM, DMF)

# Goal & Objectives

**Establish a long-term (~20 years) monitoring program** to guide conservation efforts directed at maintaining the Commonwealth's salt marshes, the biodiversity they support, and the ecosystem services they provide.

#### **Marsh Monitoring Metrics & Methods Categories**

- 1. Marsh Condition: monitor status and trends of salt marsh ecological function
- 2. Threats: monitor impacts of stressors that negatively impact salt marshes
- 3. <u>Climate Adaptation</u>: Evaluate and document the **efficacy of marsh adaptation techniques**

Document recovery trajectories of marshes after restoration and climate adaptation projects have been implemented

## **Year 1: Develop a Monitoring Plan**

In collaboration with the Advisory Committee, we will develop a Plan to:

- 1. Frame a long-term strategy for a statewide, comprehensive salt marsh monitoring program
- 1. <u>Develop an approach for monitoring</u> marsh restoration/adaptation projects to evaluate and document effectiveness of restoration/adaptation techniques
- 1. <u>Identify Standard Operating Procedures</u> (SOPs) to be developed for various marsh restoration/adaptation techniques and to structure monitoring projects
- 1. <u>Implement a technical assistance process</u> to aid in monitoring project design and data analysis
- 1. Compile and communicate data from past, current, and future monitoring projects
- 1. <u>Establish ways for UMass to assist practitioners</u>, e.g., loaning monitoring equipment, UAS data collection, student field technicians, advice/assistance in study design and data analysis, data sharing

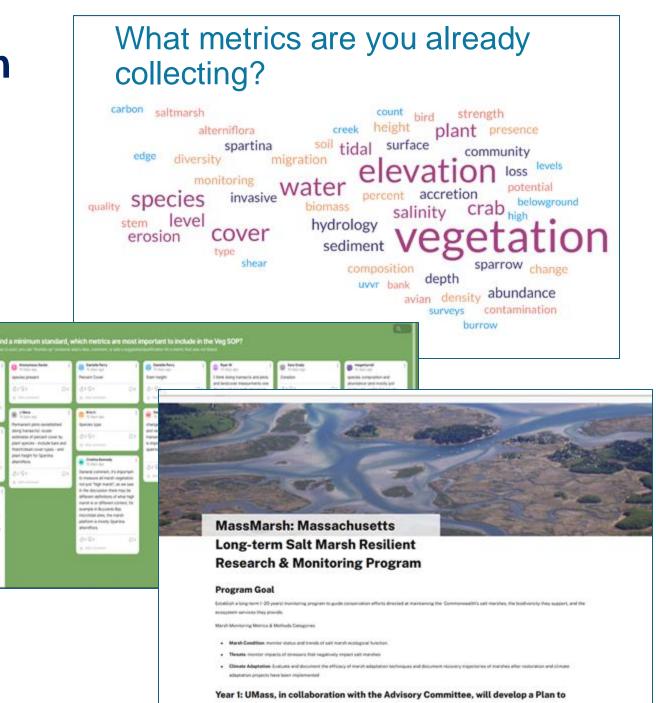
## **Broad Input & Communication**

### Survey

- Goals: Establish a list of metrics and methods for monitoring, Incorporate diverse perspectives
- Advertised survey through
  - Salt Marsh Working Group (132 members)
  - New England Estuarine Research Society (NEERS) listserv
- Response: 129 respondents, 54% completed the entire survey

Interactive web-based tools

Website



# Timeline: Year 1 Progress

Received project funding

Survey (n=129): Assess Use of Methods & Metrics

Remote Sensing: Pair field with RS observations to document change in marsh veg and inundation

Draft Plan: SOP concept for monitoring defined metrics

1st Draft for each SOP (veg, hydro, sed/elevation) Year 1
Progress
drafts
due:
Monitoring
Plan, Report
Template

Year 1
Progress
Report
due with
Y2+
vision,
schedule,
timeline

Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Advisory Committee formed		AC Meeting #1: kickoff, survey findings	Identify MA sites for long-term status & trends monitoring = 1:1 discussions  Identify current or future restoration sites for monitoring = 1:1 discussions		AC Meeting #2: frame SOP concept using Vegetation	AC Meeting #3: frame Hydrology & Sediment/ elevation SOPs	#4: #5: Review Review	Meeting #5: Review Draft Plan	
		Website created				Update Website		Upda Webs	

# **Next Steps**

- Continue to convene the Advisory Committee
- Develop field observations to assess the efficacy and design of salt marsh restoration/adaptation projects
- Provide direct support to practitioners engaged in salt marsh restoration/adaptation projects
- Establish long-term monitoring sites across the Commonwealth
- Develop additional monitoring SOPs with input from stakeholders



# Thank you!

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