Jennifer West

Narragansett Bay NERR

Date: October 23, 2018
Time: 3.00 (EST)

National Estuarine Research Reserve System Science Collaborative

COLLABORATIVE SCIENCE FOR ESTUARIES
WEBINAR SERIES

Effects of Sea Level Rise on New England Salt Marshes

Summary Points:

Jennifer West has been the Coastal Training Coordinator at the Narrangansett Bay National Estuarine Research Reserve since 2005. In this position, she develops and delivers trainings for municipal officials and other decision-maker audiences on topics related to water quality, habitat protection, and climate change.

Jen has expertise in program design, management, and evaluation; communicating science to diverse audiences; meeting facilitation; and planning and implementing collaborative methods for engaging stakeholders in addressing environmental issues.

This webinar focuses on a project that Jennifer led titled, “Effects of Sea Level Rise on New England Salt Marshes: A Workshop Led by the New England Research Reserves.” The project received a 2017 Science Transfer grant from the National Estuarine Research Reserve System’s (NERRS) Science Collaborative.

Salt Marsh Response & Resilience to Changing Conditions: Prospects for Management

Jennifer West
Coastal Training Program Coordinator
Narragansett Bay NERR

Summary Points:

Southern New England is a hotspot for accelerating sea level rise, and there is mounting evidence linking sea level rise to the degradation and loss of the region's salt marshes; in fact, southern New England's salt marshes have been identified as among the least resilient marshes in the country.

Although there is currently an abundance of research focused on salt marsh resilience, many feel that the results and lessons learned from research and management practices are not being shared as effectively as possible across the large and growing body of practitioners.

In 2014, Jen and colleagues at Narragansett Bay Reserve in Rhode Island developed and delivered a workshop in Rhode Island to address this communication gap by giving researchers and practitioners the opportunity to discuss sea level rise and salt marsh resilience. The workshop drew 100 attendees, and feedback from the workshop clearly indicated interest and an ongoing need for similar opportunities in the future.

Planning Team

Jen West
Dr. Kenny Raposa

Cory Riley

Dr. Christine Feurt

Dr. Megan Tyrrell
Tonna-Marie Rogers

Dr. Courtney Schmidt
Dr. Sara Grady

Dr. Charles T. Roman

Dr. Robert Vincent

Paul E. Stacey, Footprints In The Water LLC

Funding

Summary Points:

After discussion with colleagues at other New England reserves (Waquoit Bay, Great Bay, and Wells), Jen and the project team applied for a NERRS Science Collaborative Science Transfer grant to host a regional workshop and further build capacity around salt marsh resilience and sea level rise in New England.

The project team partnered with the New England Estuarine Research Society (NEERS) to host this salt marsh resilience workshop at the 2018 NEERS Spring Meeting in Portsmouth, New Hampshire. This workshop served as a special symposium for the NEERS Spring Meeting, and using the momentum from this meeting allowed the project team to reach a broader audience of practitioners, researchers, managers, and policy makers.

The planning team was comprised of staff members from each New England reserve, as well as a few non-reserve staff to provide outside perspective.

Objectives

…effects of sea level rise on New England salt marshes…

…management/adaptation/recovery/restoration practices and lessons learned…

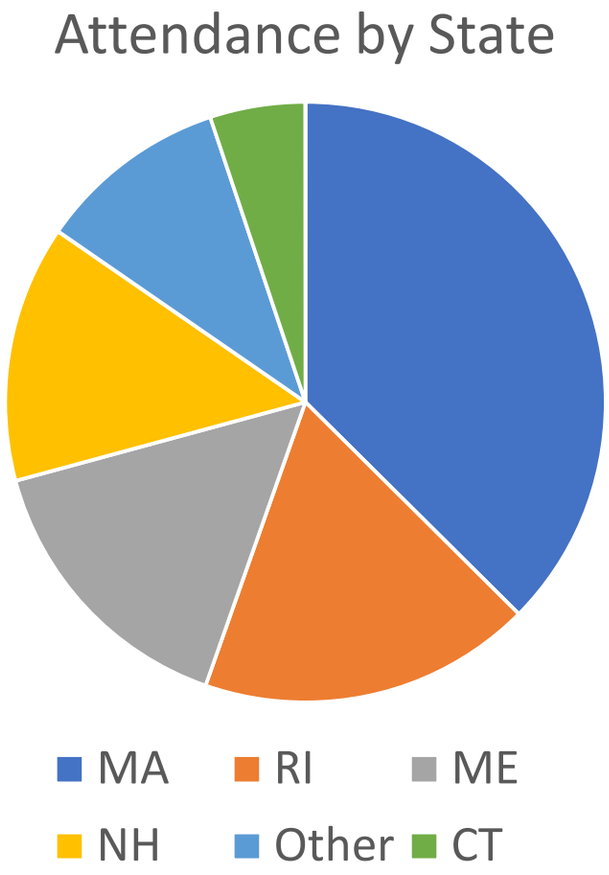
…monitoring and assessment…

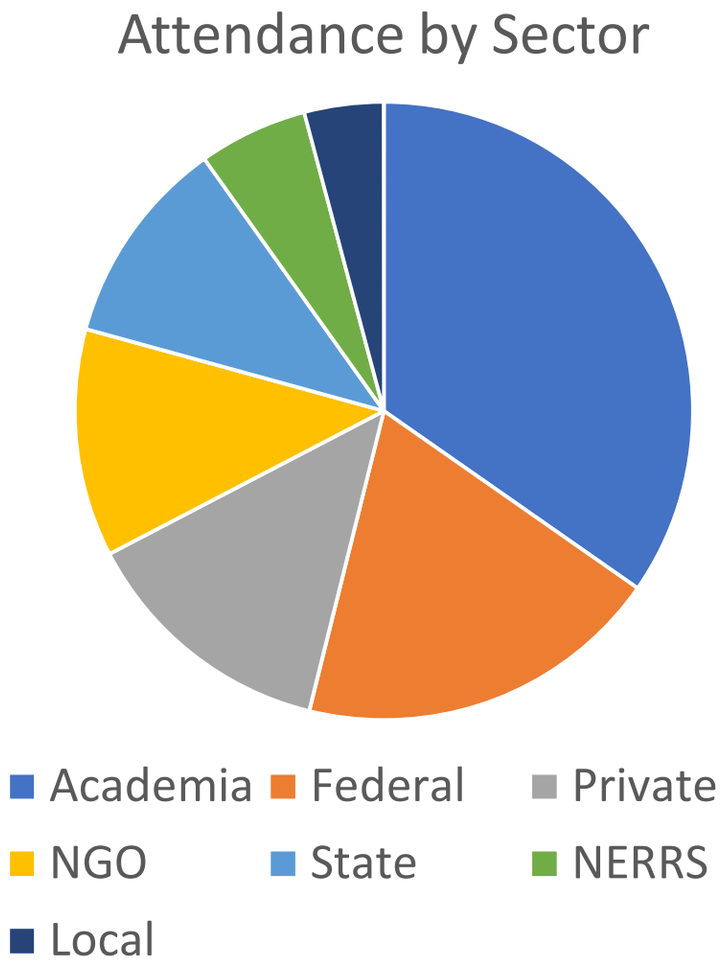
… opportunities for coordination, collaboration, and partnership…

Summary Points:

The objectives of the workshop were to:

- Describe effects of sea level rise (SLR) and related stressors on salt marshes;
- Discuss practices and lessons learned from projects throughout the region;
- Identify opportunities for coordination and collaborative partnership; and
- Explore monitoring and assessment strategies of proposed and implemented actions.





Summary Points:

195 people attended the workshop, making it the largest audience a New England Estuarine Research Society event has ever drawn.

Attendees came from all New England states and a variety of sectors.

Speakers

- Dr. Cathleen Wigand, US EPA
- Dr. Elizabeth Watson, Drexel University
- Marc Carullo, MA CZM
- Dr. Susan Adamowicz, USFWS
- Dr. David Burdick, UNH
- Dr. R. Scott Warren, CT College Temple Professor Emeritus of Botany
- Rachel Stevens, Great Bay NERR
- Dr. Mark H. Stolt, URI
- Caitlin Chaffee, RI CRMC
- Wenley Ferguson, Save The Bay
- Ron Rozsa, Plant Community Ecologist
- Dr. Stephen Smith, NPS
- Dr. Hilary A. Neckles, USGS
- Bob Hartzel, Comprehensive Environmental Inc.
- Dr. Neil K. Ganju, USGS
- Dr. Kenny Raposa, Narragansett Bay NERR
- Cory Riley, Great Bay NERR

Summary Points:

The workshop had 18 presentations delivered by 17 speakers that covered topics ranging from how marshes are faring to how resilience is being built, monitored, and assessed throughout the region.

Although this was an ambitious agenda and slate of speakers for the workshop, the team wanted to be as comprehensive as possible in soliciting presentations that covered the range of issues and topics relating to sea level rise and marshes in coastal New England.

Slides for all the presentations can be found at: http://nbnerr.org/ctp/programs/salt-marsh/

Guiding Questions

- How are coastal marshes in New England faring?
- How are we building coastal marsh resilience throughout the region?
- What monitoring and assessment strategies are being used in the region?

Summary Points:

These three questions were guiding questions for both the presentations and group discussions.

Group Discussion Questions

…what should we be doing together as a region?

…important marsh resilience studies or projects that weren't highlighted?

…what should we prioritize regarding monitoring?

Summary Points:

Since the breakout discussions at the 2014 Rhode Island workshop were helpful and went on to inform several state initiatives, the team decided to incorporate group discussions and breakout sessions into this workshop.

The goal of the group discussion and breakout sessions was to provide participants with the opportunity to reflect, build on individual topics and issues, share knowledge and ideas, and ask questions.

Groups of 8-10 people, guided by a facilitator and notetaker, addressed three questions over the course of the day.

When discussing what New England salt marsh researchers and practitioners should be doing as a region (Q1), people discussed the need to: increase regional collaboration among practitioners; set priorities together for salt marsh research, conservation, and adaptation; and improve public outreach and engagement.

Attendees also developed a detailed list of studies and projects about marsh resilience that they believed should be highlighted (Q2). These can be seen in the workshop proceedings.

Group Discussion Questions

…what should we be doing together as a region?

…important marsh resilience studies or projects that weren't highlighted?

…what should we prioritize regarding monitoring?

Summary Points:

Attendees made a number of suggestions for priorities regarding monitoring (Q3), some of which included:

- Documenting post-storm and king tide conditions;
- Building monitoring and modeling protocols and developing sediment budgets;
- Using the Unvegetated-Vegetated Marsh Ratio (UMVR), a rapid assessment technique developed by USGS that uses remote sensing to compare the ratio of ponds, channels, and tidal flats to marsh vegetation to determine which marshes are most resilient to changing conditions;
- Studying the effects of boat wakes and changing currents on salt marsh edge erosion and slumping; and
- Monitoring vegetation changes caused by invasive species such as crabs.

A detailed account of the group discussions around each question can be found in the workshop proceedings.

Outcomes

…increased awareness…

…increased knowledge…

…stronger connections…

…robust information sharing…

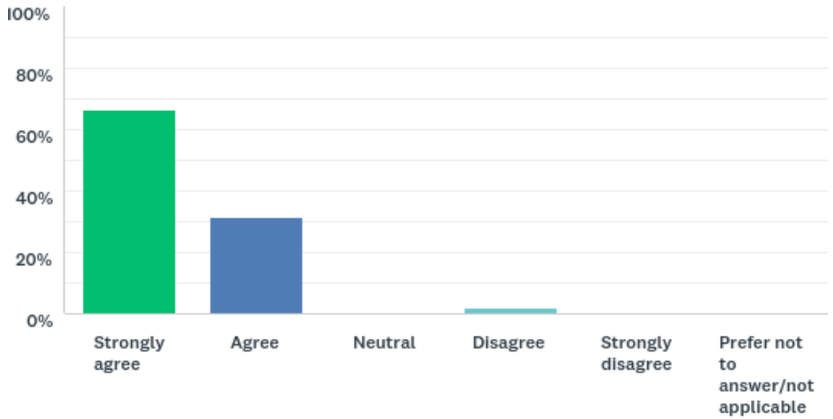
Summary Points:

Based on attendee feedback in the post-workshop evaluation, and personal communication with attendees and presenters, the team found that they at least partially realized the outcomes that they laid out in their proposal.

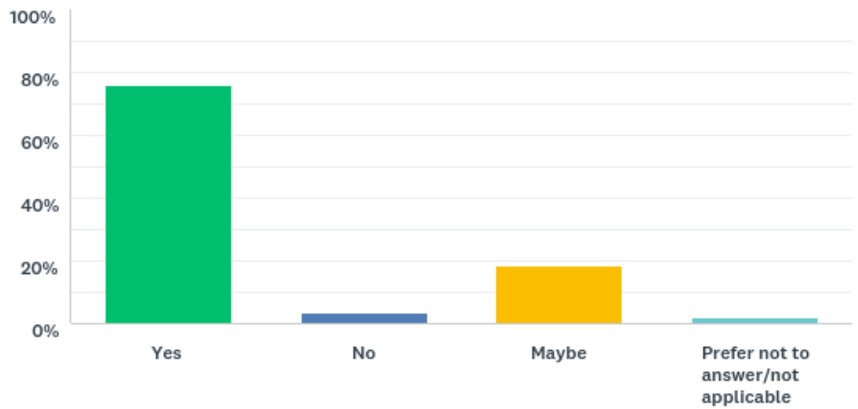
The team also had listed ‘implementation of new or altered salt marsh management strategies based on information gained in the workshop’ as an outcome in their proposal; however, they need more time to properly assess this outcome. The team is planning to conduct a longer-term evaluation in a few months to determine whether attendees applied the information they learned at the workshop to their everyday work.

Evaluation

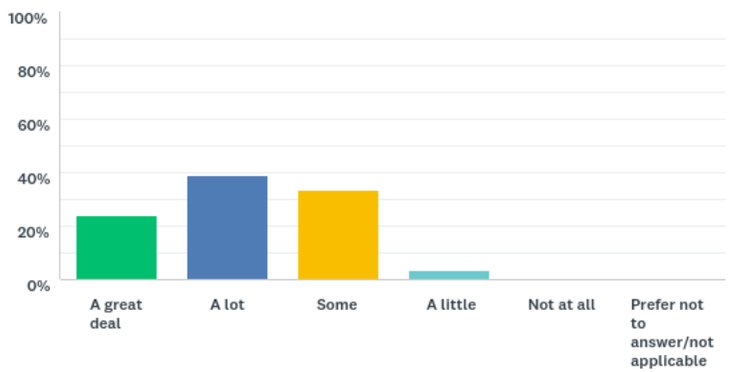
Participating in this event was a good use of my time



Did you learn something that you will apply in your work?



How much did this event increase your knowledge of the topic presented?



Summary Points:

These are some quantitative data from the workshop evaluation.

Of note, the team received a 29% response rate from attendees and presenters, and nearly all respondents agreed that the workshop was a good use of their time and that they had learned something they would apply to their work.

Next Steps

- Capacity building
- “Longer-term” evaluation
- Base future workshop content on participant interests and needs

Summary Points:

The team created a webpage which contains all of the workshop presentations and materials.

Narragansett Bay Reserve will continue to build the workshop concept out and enhance collaboration around salt marsh resilience in the region through a capacity building grant from the NERRS Science Collaborative.

The team hopes to conduct future workshops in the region based on the evolving needs and interests of practitioners and researchers.

Questions:

What surprised you most about what came out of the workshop?
Both the 2014 and 2018 workshops focused heavily on the science, methods, and results of salt marsh restoration. However, concerns about collaboration, public education and engagement were heavily emphasized by attendees during discussions in the 2018 workshop and these issues seem to be a much higher priority now, even more than I anticipated.

You mentioned that workshop attendees mentioned wanting more metrics. What kind of metrics are people looking for?
Some people want an evaluation of efforts to collaborate on salt marsh restoration, but others want to be able to more easily compare across sites and state lines to indicate whether marshes and different marsh managment actions are actually succeeding under changing conditions.

Questions:

Are you aware of the NOAA Sentinel Site Program and the role of Sentinel Site Cooperatives in facilitating collaboration and sharing across regions? They are currently creating inventories of marsh monitoring infrastructure, which may be an interesting resource.

Yes, the Sentinel Site Program is a great resource. There is no cooperative in the Northeast, but there is one in the Mid-Atlantic in Chesapeake Bay. This seems like a great model for intentionally supporting collaboration across diverse entities.