Clearing a Path for Wetland Migration

Session Contributors:
Rachael Franks Taylor, The Baldwin Group, NOAA’s Office for Coastal Management
Laura Brophy, Director, Estuary Technical Group, Institute for Applied Ecology; Faculty, Oregon State University - Corvallis
Betsy Blair, National Estuarine Research Reserve Association
Adam Whelchel, Connecticut Chapter of The Nature Conservancy
Session Objectives

• Share information about existing initiatives to identify, restore, and protect pathways for coastal wetland migration
• Explore limitations and opportunities for addressing wetland migration
• Identify opportunities to stay connected and collaborate for increased impact
Background – Why This Session?

- A priority for the National Estuarine Research Reserve System
- An opportunity to leverage and partner with National Coastal Zone Management Program
- An issue that transcends both of these networks, to share with and learn from broader coastal management and conservation community
NOAA’s Office for Coastal Management

- Federal partner to reserve system and CZM network
- Investing in reserves’ “Aligning for Impact” project
- Providing space for this dialogue in national forum (i.e., Program Managers’ Meeting)
- Creating data, training, and tools to help communities understand and plan for wetland migration
National Estuarine Research Reserve System

• Focus on issue supported by Blue Ribbon Panel recommendations and reserve system strategic plan
• Wetland migration has emerged as priority; Betsy and others are championing it
• Leading reserves’ national product project, “Aligning for Impact”
Aligning for Impact

Harnessing NERRS Capacity to Strengthen Tidal Wetland Resilience

Betsy Blair

NERRA (formerly Hudson River National Estuarine Reserve Manager)
Overview of Project

Goal is to stimulate and align actions to enhance coastal wetland resilience within and beyond NERR boundaries in three ways:

- Existing coastal wetlands are resilient
- Shorelines are permeable and sustainable where potential exists for inland migration
- Pathways are conserved for inland migration of coastal wetlands
The problem is bigger than all of us...
... but the reserves have a lot to offer
Benefits of Integration and Alignment

▪ Knit projects together
▪ Transcend usual geographic boundaries
▪ Seek impact with broader set of stakeholders
▪ Develop communities of practice on wetlands resilience to affect policy and practice outside reserve boundaries
▪ Scale up
Project Approach

- Synthesize relevant knowledge from NERRS and key partners
- Characterize relevant assets and activities
- Determine NERRS needs and opportunities
- Develop and vet recommendations
- Communicate to position NERRS for greater success
Outcomes

- Internal clarity on role of NERRS in fostering wetland resilience, possibly with expanded role for NERRS
- Better alignment with partner activities
- Greater impact resulting from alignment and strategic collaborations
- Increased external awareness of NERRS activities and roles, and possibility of additional resources
NOAA’s Office for Coastal Management

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Takeaways from Discussion: Recommended Niche – Reserves

- Catalyze collaborative and applied science on resilience
- Provide training and support to communities and decision-makers on building resilience
- Provide community education about wetland resilience
- Generate and provide better information on wetlands migration
- Utilize Sentinel Site Programs – Surface Elevation Tables, habitat mapping, and change
- Revisit reserve land acquisition boundaries
- Use reserves as test beds
Takeaways from Discussion: Recommended Niche – CZ Programs

• Convene coastal partners, working directly with NERRS, to ensure that research, outreach, and education are widespread
• Map/identify extent of estuaries
• Research and promote beneficial use of dredge material
• Evaluate legislation on elevating flood-prone lands
• Translate data into state policies and programs
Takeaways from Discussion:
Recommended Niche – NERRS/CZM

- Coordination and Convening
- On-the-Ground Projects
- Research and Science Translation
- Influence Policy
Takeaways from Discussion: Near-Term Opportunities (1)

- Develop information about lessons learned, test cases, and best practices from programs working on marsh migration projects
- Establish community of practice
- Use standardized protocols
- Analyze regional Surface Elevation Table data
- Try to implement the SET and Vertical Control Plan and figure out how to fund over time
- Establish and coordinate networks of sentinel sites
Takeaways from Discussion: Near-Term Opportunities (2)

- Convene regional wetlands migration summits – identify speakers and funds to support summit (e.g., Chesapeake Bay Wetlands Migration Summit)
- Enhance land acquisition strategies (i.e., explore how to be more nimble in competitive markets)
- Seek funding for mapping and acquisition; NERRA and CSO can highlight need for funds for land acquisition
- Enlist reserve research coordinators – they can help
- Pilot innovative strategies
Takeaways from Discussion: Early Lessons Learned and Best Practices

• Living shorelines will be critical, but need promotion
• Need more science on the future of wetlands
• Land management will be part of assisted migration
• Monitor effectiveness of approaches for facilitating wetland migration so lessons are transferable
• Early successes include integration of wetland migration areas into local ordinances and permitting, state land acquisition program criteria, and community or land trust plans
NOAA’s Office for Coastal Management

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Digital Coast

Constituent-driven, integrated enabling platform supporting coastal resource management, used for

• Data
• Tools
• Training

coast.noaa.gov/digitalcoast
Sea Level Rise Viewer

GEOGRAPHY
Coastal areas of the U.S., including U.S. territories

BASED ON
Available elevation data

TIME COMMITMENT
Approx. 15 minutes

NOAA Office for Coastal Management

Overview
Use this web mapping tool to visualize community-level impacts from coastal flooding or sea level rise (up to 10 feet above average high tides). Photo simulations of how future flooding might impact local landmarks are also provided, as well as data related to water depth, connectivity, flood frequency, socio-economic vulnerability, wetland loss and migration, and mapping confidence.

Features

See Related Data

See Related Stories

See Related Tools

See Related Training
Marsh Migration

Zoom to your area of interest and click on the closest Scenario Location icon in the map.

Five local sea level rise scenarios can be displayed either by year or by individual scenario.

Customize the scenarios and accretion rate to compare to the half foot marsh increments (using sliders) and view how accretion can offset sea level rise.
Tutorial for Sea Level Rise Viewer: Marsh Migration

Overview

Explore the impacts of sea level rise inundation on local wetlands using the Marsh Migration tab of NOAA’s Sea Level Rise Viewer. This self-guided tutorial uses an example to help you optimize the viewer and get the information you need to guide decisions about where to focus monitoring, restoration, and conservation efforts.

This Guide Features

- An application example. A real-life case study demonstrates how to explore marsh migration for your location and compare time and climate scenarios.
Mapping Potential Sea Level Rise Impacts to Oregon’s Tidal Wetlands: Tools for Climate Change Adaptation

Restore America’s Estuaries
December 12, 2018

Presented by:
Laura Brophy
brophyonline@gmail.com

Director, Estuary Technical Group
Institute for Applied Ecology

and

Marine Resource Management Program,
College of Earth, Ocean and Atmospheric Sci.
Oregon State University
Corvallis, Oregon, USA
Salt Marsh Advancement Zone Assessments for entire Coastline of Connecticut

Key Perspectives Gained:

• “Advancement” makes more sense to the public than “Migration”.
• Public view sea level rise through the lens of natural resource.
• Simplicity: “Red” means stop; “Green” means go.
• 1st state-wide assessment at parcel scale (29,678 parcels assessed).

Guiding Questions:

#1 Which locations are likely to accommodate salt marsh advancement?
#2 Which protected parcels provide the most salt marsh advancement potential?
#3 Which unprotected parcels provide the most salt marsh advancement potential?
#4 What is the overall projections for salt marsh advancement?
Suitable (green) vs. unsuitable (red) areas

Across 29,678 parcels
Green = Yes (16,892 acres)
Red = No (7,037 acres)

Protected Parcels

Green = Yes (5,620 acres)

Protected Advancement Areas

Unprotected Parcels (26 parcels > 20 acres)

#2 (279.2 acres)  
#4 + #9 (132.1 acres)
Key results for Connecticut...

- Today’s unprotected parcels (green) will be vital in maintaining CT’s salt marsh in future. (2x amount protected)

- Current development (red) (7,037 acres) will be in direct conflict with daily tides and advancing marshes in the future.

- Now we know Who, Where and How Much!

Salt Marsh Advancement Zone Assessments for entire Coastline of Connecticut

Steps Taken – Gains due to Assessment:

• Improved Land Trust/Municipal Acquisition Targets (local, regional, state)...
  • “Resilient” Conservation approaches stimulated
  • Natural resources become natural infrastructure

• Municipal land use/develop decision considerations...
  • Jurisdictional and future salt marsh

• Environmental view as a strength and asset in community resilience...
  • Equal weight with Infrastructure and Societal needs

• More robust open space considerations in FEMA’s Community Rating System
Thank you!

Adam Whelchel, Ph.D.  awhelchel@tnc.org
Access for 24 municipal and state reports
Broadening the Dialogue

What are some of the ways you are working on this issue?
Broadening the Dialogue

Based on your experiences and needs, what do you think the most critical roles or niches are for the reserves and CZM programs, in order to advance progress on this issue?
Broadening the Dialogue

What are some obstacles and opportunities you have encountered?

Wrap-Up: Thank You and Next Steps

Keep in touch...
Ask questions...
Share more ideas on the handout...
Stay tuned for the session summary!

Rachael Franks Taylor
rachael.f.taylor@noaa.gov
(617) 834-2493