

Capitalizing on Coastal Blue Carbon

The Conference Center at Massasoit Community College | May 12-13, 2015





Bringing Wetlands to Market: Bridging Science, Management and Policy Tonna-Marie Surgeon Rogers Waquoit Bay National Estuarine Research Reserve

Outline





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Bringing Wetlands to Market: Nitrogen & Coastal Blue Carbon Project WHY WE DID THIS WORK?



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State of Our Coastal Wetlands

BENEFITS: IMPORTANT ECOSYSTEM SERVICES

- Carbon Storage
- Habitat
- Filter Pollutants
- Recreation/Aesthetics

THREATS:

- Human Impacts (Nitrogen loading, sea level rise etc)
- Degradation
- Loss
- Disruption of sediment supply

BARRIERS TO RESTORATION: \$\$\$\$



Riches in the Soil – The Wetland Carbon Bank



tCO₂e per Hectare, Global Averages

Source: Data summarized in Crooks et al., 2011; Murray et al., 2011



Why We Did This Work - Addressing Climate Change





Why We Did This Work -Nitrogen Loading An Important Local Issue





BWM In A Nutshell

Improved Understanding of C Dynamics and Biogeochemical Processes New Tools for Managers and Policymakers





Collaborative Process & Contributions to BWM ENGAGING END USERS



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What Do We Mean By Collaboration?



- End users as contributors not just recipients of information
- Provide specific and explicit opportunities for users to modify/inform approach
- Facilitate interactions with users to enable two-way learning
- Flexibility in the science





The Collaborative Approach

• The Context

- Blue carbon an emerging issue
- Limited blue carbon focus in region
- Heavy focus on nitrogen loading locally

• The Challenge

- How to make the science relevant to local intended users and their management priorities
- Complex topic potential for broad application
- Identifying opportunities or entry points to connect blue carbon to people's work
- Market vs. Non-Market

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How can we put blue carbon on the map while also making BWM more useful to managers?

End-Users/Stakeholders – WHO?

TIER 1 – BWM Intended Users

TIER 2 – End Users



Development of VCS offset methodology and guidance document



Development of a user friendly model to help predict GHG flux and carbon budgets in different wetland environments



Conduct and economic analysis to demonstrate methane benefits for restoration





Bringing Blue Carbon Home

NATIONAL LEVEL: Federal agencies, NERRS etc

STATE LEVEL: Massachusetts

LOCAL LEVEL: Cape Cod Towns



Stakeholder Engagement





How Did We Engage With End Users?





How Did We Use Input From Intended Users?

Shaped economic analysis /Herring River Case Study	Developed key tools for managers and policymakers	Reached broader audiences	Balancing market & non-market benefits
Vetted messaging for communication products	Explored grouping restoration projects for market credits	Examined nitrogen (N) impacts in the research	Increased awareness about blue carbon/ expanded audiences
	Clarified carbon market process and economics	Explored what BC strategies might be meaningful to explore	



Bridging Science, Management & Policy





A Few Noteworthy Achievements...







Advancing occurs de estuarine literacy

Increased awareness of Blue Carbon at national, regional, state & local levels Deepened relationships among scientists, agencies, and local decision-makers

New research needs identified and many "spin off" science projects

Growing interest in exploring BC strategies



Thank You!

BWM BWM BWM Funders – **Stakeholders Project Team NERRS Science Collaborative** im. www.wbnerrwetlandscarbon.net



Research Goals

- 1) Quantify C sinks in salt marshes
- Quantify vertical and lateral GHG (CO₂, CH₄, N₂O) fluxes
- 3) Assess the impact of N loading, sea level rise and climate on both C sequestration and net GHG emissions
- Better understand C sequestration in wetlands and associated drivers and controls





