Leveraging Carbon Services for Habitat Conservation: NOAA’s Blue Carbon Interests

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Our Changing Carbon Cycle......

Black Carbon
(human emissions)

Green Carbon
(terrestrial biota)

Coastal Blue Carbon

Coastal habitats:
Salt marshes
Mangroves
Sea Grasses

Blue Carbon
(oceans)
Key Issues

Considering and valuing these carbon services → increase coastal habitat conservation.

Coastal habitats at risk

Lots of stored carbon
Blue Carbon Win-Win

BLUE CARBON SOLUTIONS FOR CLIMATE CHANGE
Open Statement to the Delegates of COP16 by the Blue Climate Coalition

Green Payments for Blue Carbon
Economic Incentives for Protecting Threatened Coastal Habitats

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What is lacking

- Lacking mechanisms to account for ecosystem services

- Need methods to value the ecosystem services of these habitats
Coastal Blue Carbon Opportunities for Conservation: Two Pathways

Address Policy Needs:
• Identification of policies that could address coastal carbon
• Procedures for how to incorporate C services into activities

Address Science Needs:
• Better estimates of C storage, sequestration, and emissions
• Areal extent of habitats and which are most threatened
• Better understanding of carbon released when habitats are disturbed, or stored in restoration

Address Market Policy Needs:
• Protocols for GHG accounting
• Carbon market protocols

GOAL: Enhanced Conservation of Coastal Habitats
• salt marsh
• seagrass
• mangroves

Improve ability to incorporate carbon services in programs and policies (e.g. mitigation projects, NEPA)

Top pathway in blue is NOT dependent on carbon markets.

Bottom pathway IS dependent on carbon markets.

Additional resources through carbon markets for protection and restoration
What’s NOAA Doing?

- NOAA-wide blue carbon team
- Report
- Work Plan: Science and Policy opportunities
- Newly formed blue carbon interagency group to enhance coordination and communication across the federal family
Goal 1: Improve understanding and tools for assessing carbon services of coastal habitats.

Goal 2: Incorporate carbon services as part of NOAA’s and other Federal agencies’ policies and practices concerning coastal habitats.

Goal 3: Increase awareness and consideration of coastal habitat carbon services within international policies and programs.
Work Plan Actions will:

- Raise awareness
- Conserve more habitat
- Help mitigate and adapt to climate change
- Support market-based incentives for conservation

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What’s NOAA Doing: Science Example

Science

- NERRS Waquoit Bay Study funded in FY11 to examine carbon emissions from the site
  - Help develop protocol for including wetland carbon in carbon markets
  - See Alison Leschen’s talk in the next session

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What’s NOAA Doing: Policy NEPA

- **National Environmental Policy Act**
- Includes a mandate to consider impacts on coastal habitats and **ecosystem services** in planning federal actions
- Carbon sequestration not been explicitly included to date
Revised Principles and Guidelines (P&G) for Federal Water Projects

P&G being revised to include ecosystem services

Carbon services not currently specified but could be
Other Policy Opportunities

❖ Coastal Zone Management Act (CZMA) activities
  - CZMA programs could consider including carbon storage research and carbon sequestration in their program activities where appropriate

❖ Clean Water Act (CWA)
  - Requires compensatory mitigation for unavoidable impacts
  - Impacts to carbon stores not currently considered
  - Loss of carbon and storage functions could be part of functional and conditional assessments of impacts and could be mitigated

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Other Policy Opportunities

Natural Resource Damage Assessment (NRDA)

- Ecosystem services affected are bundled in the NRDA process
- Explicit consideration for carbon sequestration would be complex process, but possible
Blue Carbon and NOAA Priorities
What’s NOAA Doing: International Examples

BLUE CARBON POLICY FRAMEWORK 2.0

Based on the discussions of the International Blue Carbon Policy Working Group

prepared by Dorothée Herr, Emily Pidgeon and Dan Laffoley

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Take Home Messages

- Potential double win for climate and conservation: valuing carbon services of habitats
- Remaining Work: Science, and Domestic and International Policy
- NOAA is working to support all these efforts
Questions?

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For more information see: http://www.habitat.noaa.gov/coastalbluecarbon.html
Carbon Markets

- NMFS Office of Habitat Conservation funded Restore America’s Estuaries in FY11 to do a study of “additionality” to support the development of carbon market protocols for wetland carbon