Developing Blue Carbon Offsets Projects

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The Nature Conservancy

What is Blue Carbon?

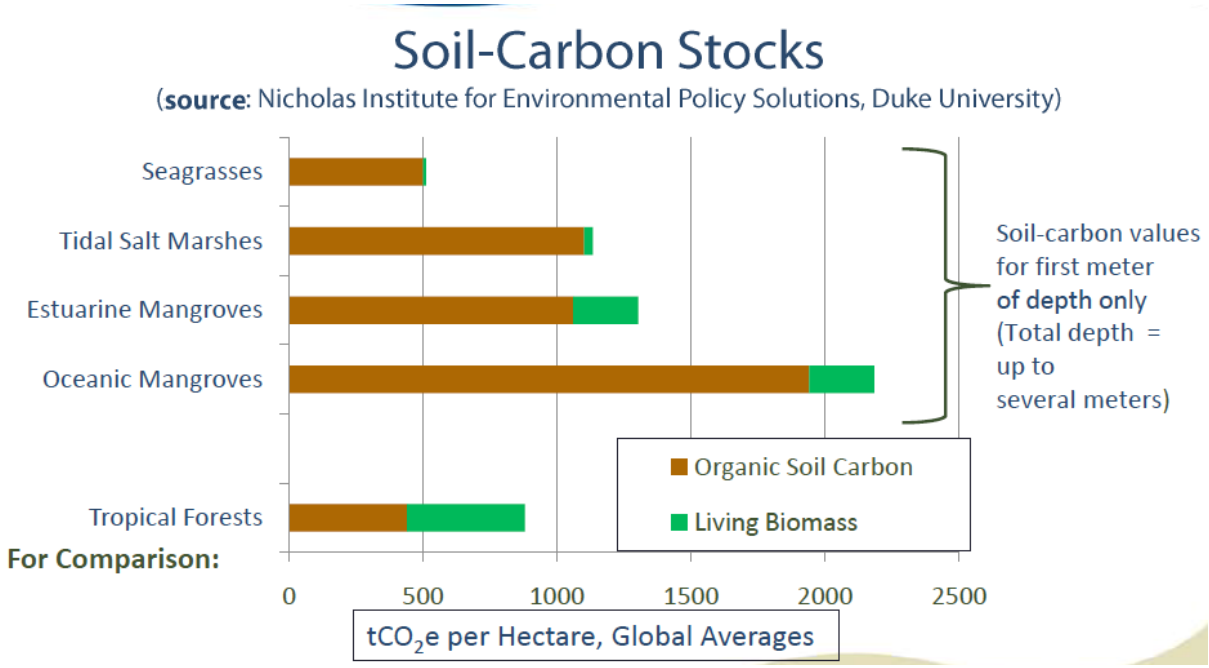
The greenhouse gases stored in, sequester by, and released from coastal and marine ecosystems

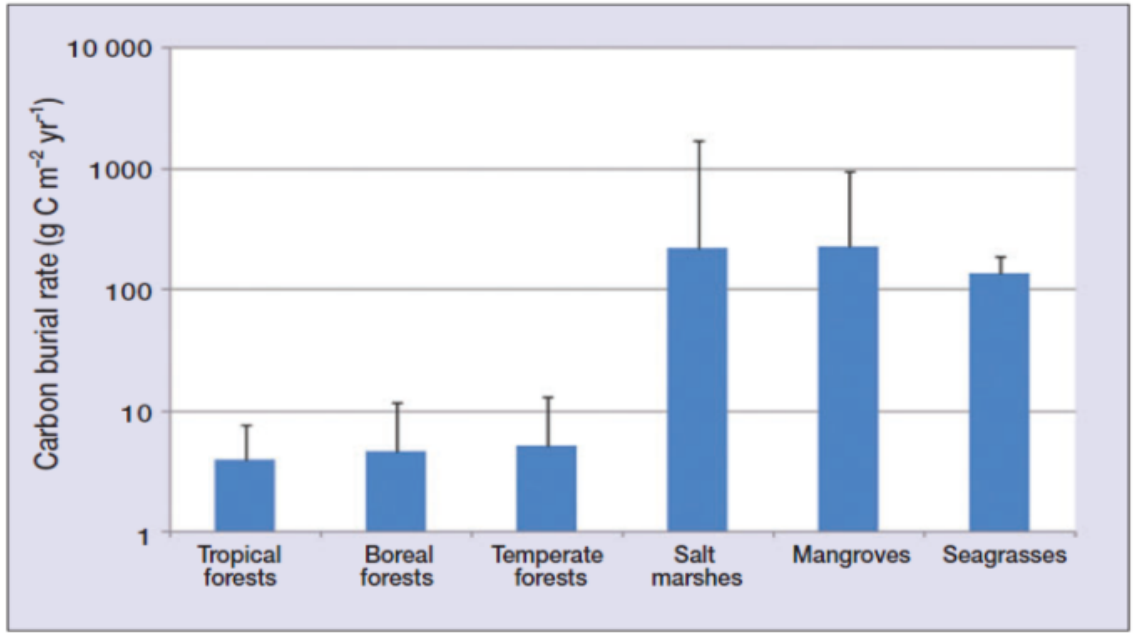
Tidal Marsh	Seagrass	Mangroves
		

Coastal Wetlands Climate Change Mitigation

Mitigation

- Smaller global area than terrestrial forests, but much greater sequestration with most value in soil
- They store carbon in their soils for thousands of years.





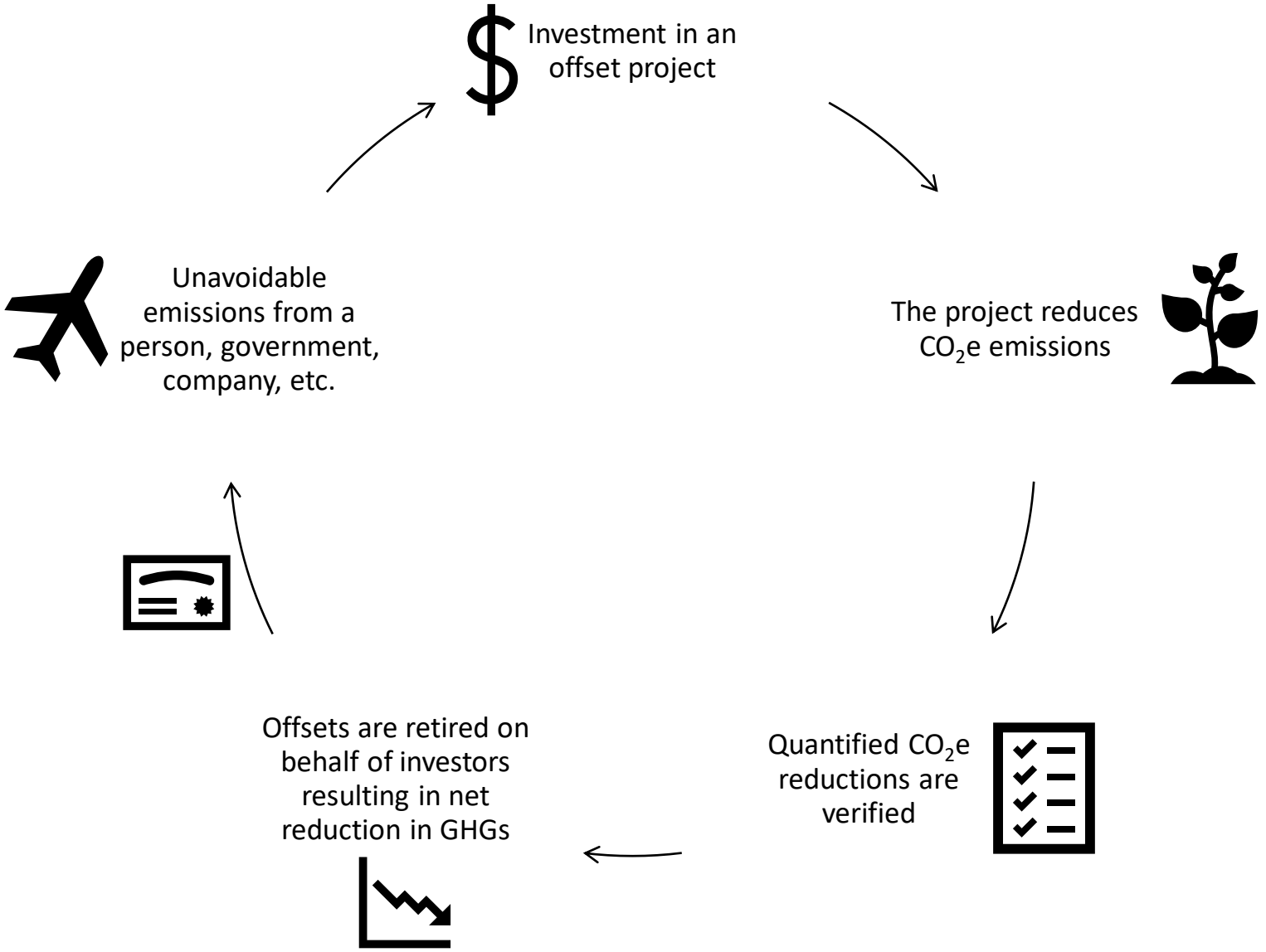
McLeod et al. 2011.

Blue Carbon Opportunities

- Add value for restoration/protection efforts
- Link tidal wetlands into climate mitigation policies
- Additional metric for ecosystem health
- Market incentives – connecting to carbon finance and new project partners/donors

Eelgrass Seeds!

Voluntary Carbon Market



Verified Carbon Standard

Gold Standard
Climate Security & Sustainable Development

American Carbon Registry

1 Carbon Offset = 1 ton CO_2e

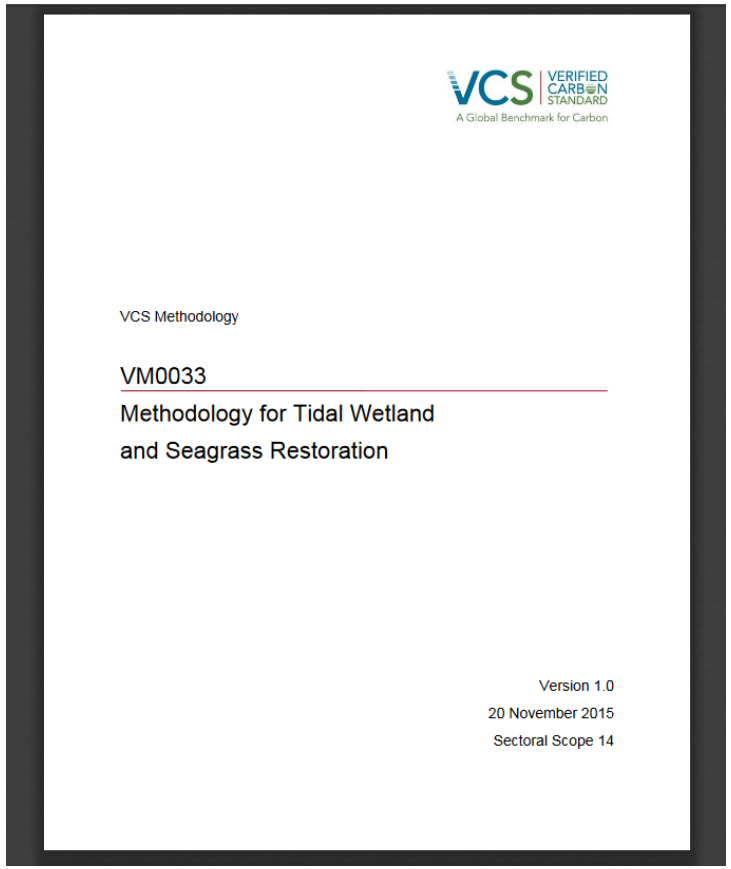
CO_2e = Carbon Dioxide Equivalents

Blue Carbon Project Enabling Conditions

- Approved methodologies
- Project identified – ongoing/planned restoration or conservation activities
- Data (GHGs, SLR, mapping, etc.)
- Engaged team including researchers and practitioners
- Govt-level support

Approved Methodologies for a Voluntary Blue Carbon Market

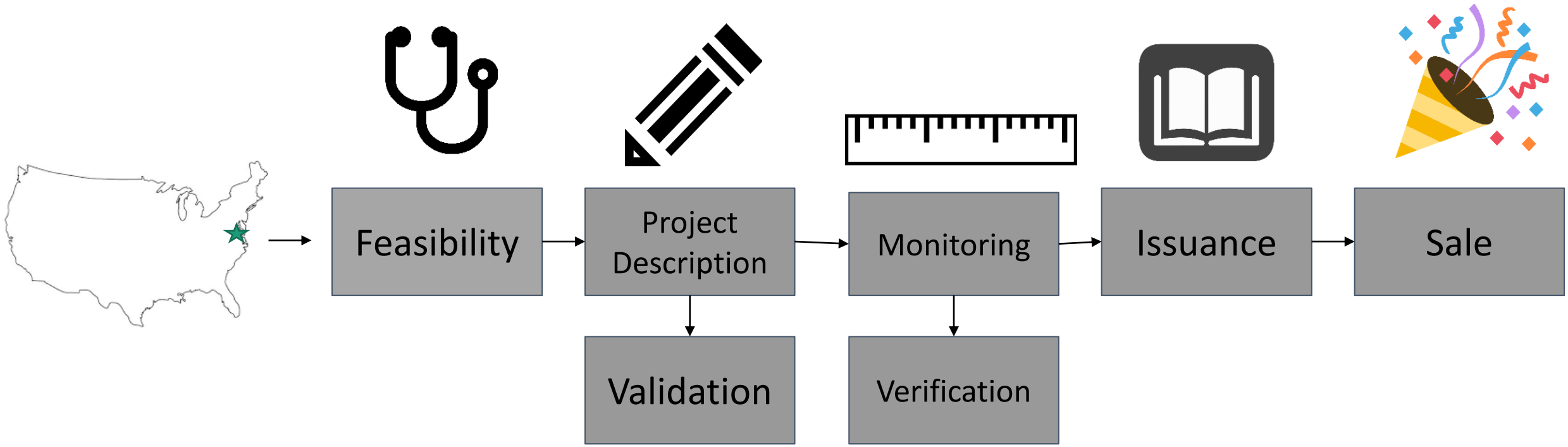
- Approved methodologies to generate carbon credits on the voluntary market
  - *Coastal Wetlands Creation*: Verified Carbon Standard
  - *Restoration of Degraded Wetlands of the Mississippi Delta*: American Carbon Registry
  - *Global Tidal Wetland and Seagrass Restoration Methodology:* Verified Carbon Standard
  - *REDD+ Methodology Framework* (includes conservation of coastal wetlands): Verified Carbon Standard



Blue Carbon Low Hanging Fruit – Project Activities to Consider

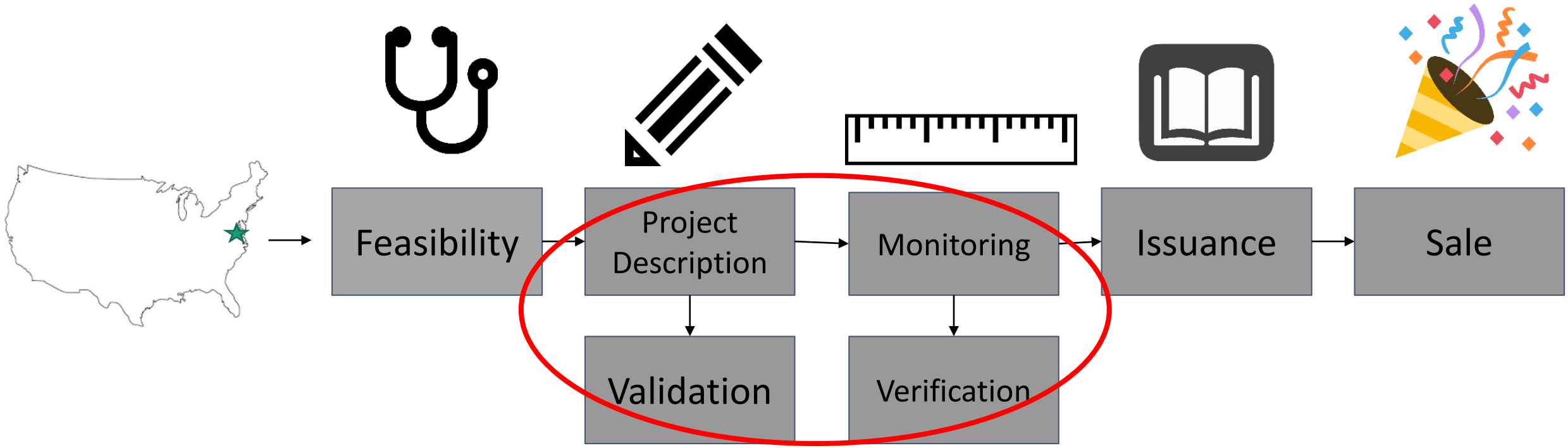
- Habitat Protection – threatened areas where a threat/deforestation rate can be demonstrated
- Ongoing or Planned Restoration:
    - Reconnection of impounded waters (formerly saline, but presently fresh)
    - Rewetting of drained organic soils (stopping carbon loss in drained/degraded habitats)
    - Ongoing restoration must have happened in the last 5 years

Carbon Project Cycle



Source: Scott Settelmyer, TerraCarbon

Carbon Project Cycle

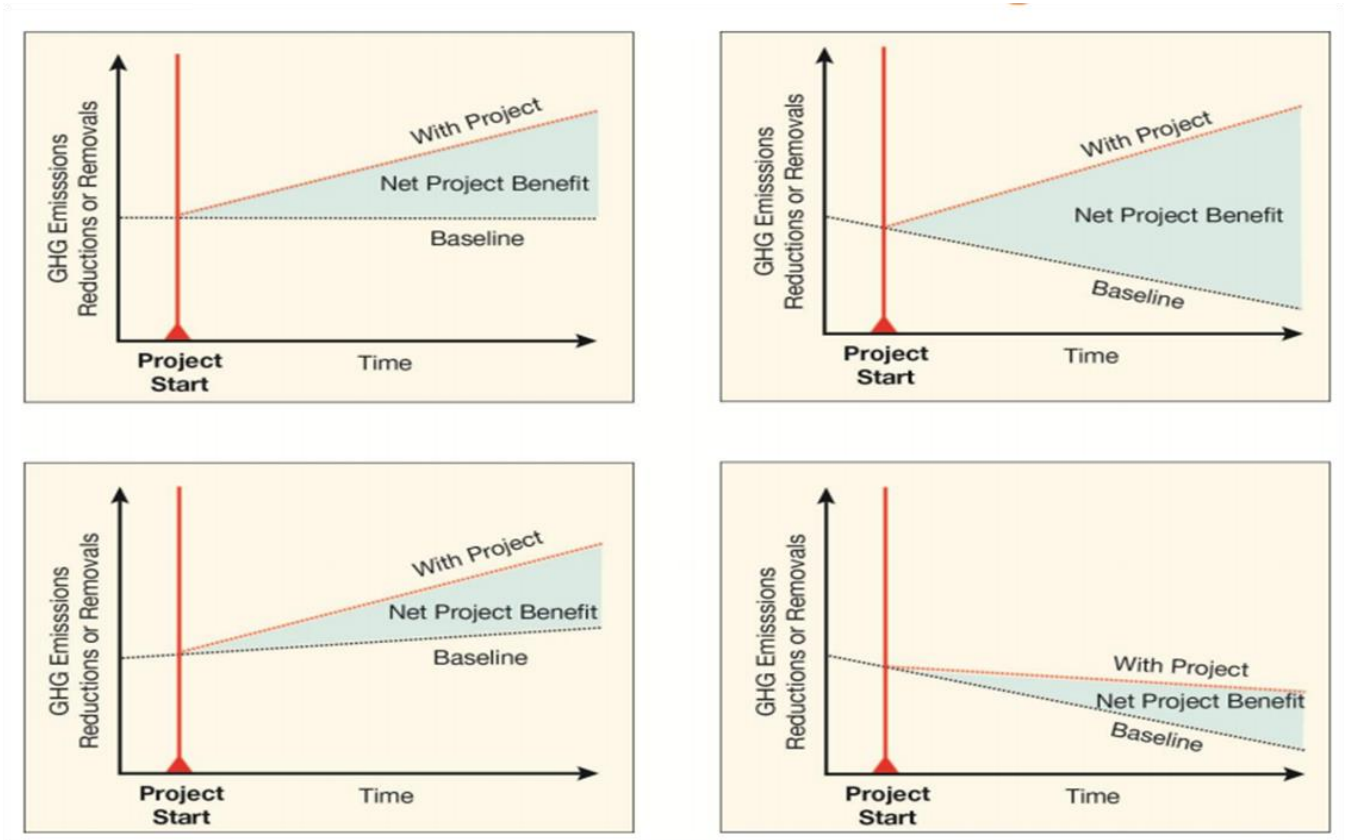


Source: Scott Settelmyer, TerraCarbon

Blue Carbon Feasibility

Gathering *existing* data to inform market decision

- Market – voluntary and regulatory market options
- Technical –
  - Assessment of data availability & monitoring approach (carbon, SLR)
  - Offset projections
- Financial analysis – cost/benefit analysis for market project development
- Legal/landowner issues
- Organizational – partnerships, roles, responsibilities
- Landscape – GIS analysis of opportunity across the landscape



Project Site: Virginia Coast Reserve

Virginia Coast Reserve

Enabling conditions:

- Ongoing eelgrass restoration (started in 2008; est project start date 2015)
- Data availability:
  - VIMS – aerial imagery monitoring annual eelgrass restoration efforts
  - UVA – eelgrass GHG and SLR data

Restoration activities:

- Volunteer snorkelers collect shoots containing seeds
- Shoots are placed into water tanks prior to planting
- More than 72 million seeds have been cast
- Now covering almost 9,000 acres

Challenges

1. Funding – need for upfront cost to cover feasibility and c project development (PD, MR, validation/verification)
   - Opportunity – new and innovative conservation finance mechanism; lots of cobenefits; increasing demand for NCS and project sustainability
2. Baselines – demonstrating threat for conservation projects
   - Opportunity – Satellite imagery, existing MRV, permit applications/development plans
3. Scale
   - Opportunity – Project grouping
4. Legal – understanding and addressing landowner (e.g. govt agency) rights to participate in market
   - Opportunity – understanding precedence; where there is political will there is a way

2020 Virginia Legislation

The Result:

*§ **10.1-1186.6**. Carbon market participation; submerged aquatic vegetation.*

The Department may participate in any carbon market for which submerged aquatic vegetation restoration qualifies as an activity that generates carbon offset credits. Any revenue resulting from the sale of such credits shall be used to implement additional submerged aquatic vegetation monitoring and research or to cover any administrative costs of participation in the credit market. The Department may enter into agreements necessary to effect such participation, including with private entities for assistance with registration and sale of offset credits. The Department shall hold exclusive title to such credits until sold.

The Players:

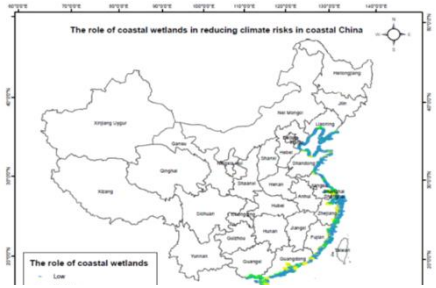
- VA Marine Resources Commission
- VA Coastal Policy Center
- Senator Lynwood Lewis
- Shellfish growers
- VA Secretary of Natural Resources
- VA Department of Environmental Quality

Current Blue Carbon Pilot Sites:

Virginia Coast Reserve

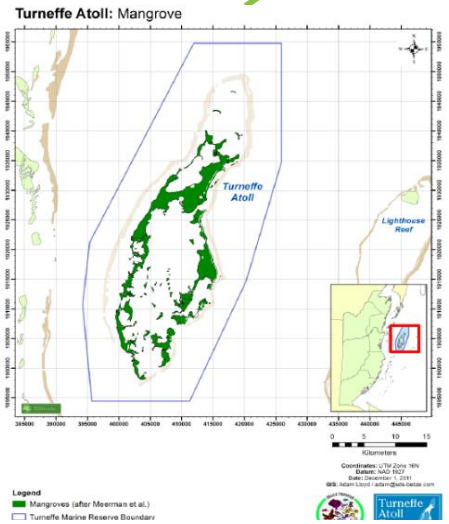
Seagrass Restoration
Stage: Project Validation/Verification

China



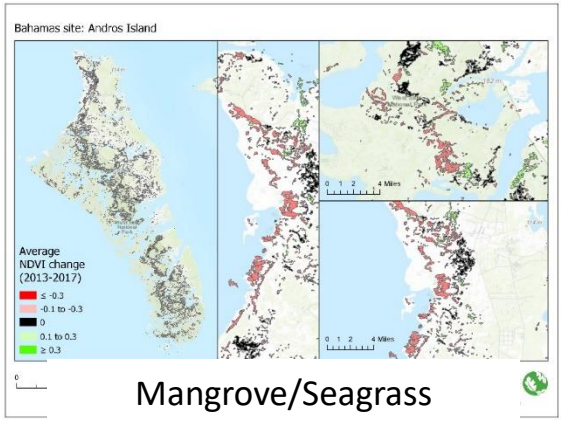
Marsh/mangrove
Restoration/Conservation
Stage: Fundraising

Turneffe, Belize



Mangrove Conservation
Stage: Feasibility

Bahamas



Mangrove/Seagrass
Restoration/Conservation
Stage: Pre-feasibility

New Zealand

Salt Marsh/Seagrass
Restoration/Conservation
Stage: Pre-feasibility

Key Take-aways

1. Supportive team on the ground
2. Strong partnerships including local research
3. Established MRV
4. Effective government liaisons and political will

The Big Picture

Market projects require a longer-term viewpoint:

- At least 20 years of management and monitoring
- Landowner commitments
- Financial planning
- Plans for SLR and other climate impacts

Result: projects which can be sustained long-term – sustaining ecosystem health and services over the long run

"We want projects that Protect, Restore, AND Value habitat – both for local communities and globally" – Jennifer Morris, TNC CEO

THANK YOU

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