What Role Can Land Trusts Play in Climate Adaptation Planning?

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Identify climate change-related data sources

Understand climate predictive models for our region

Understand climate resilience

Climate Resilience Conservation Plan

Assess program fit

MFF
Why Invest in Land Trusts?

Types of Land Trusts

Fee simple ownership

Conservation Easement holder

“Son, someday this will all be yours. Or Wal-Mart’s. Whoever pays Daddy the most.”
North Carolina Conservation Easements

- 293,402 acres
- Mean: 192 acres
- Maximum size: 17,670 acres
- Land Trusts: 17
South Carolina Conservation Easements

- 282,699 acres
- Mean: 435 acres
- Maximum: 19,018
- Land Trusts: 11
Conservation Easement Holder Land Trusts

- Annual monitoring
- Enforce easement terms
- Restrictions and rights determined by easement language
- Land is privately owned
Long-term Land Protection Concerns: Social Change
Long-term Land Protection Concerns: Environmental Change

- Short-term extreme weather
- Long-term climactic change
- Property boundary changes
- Invasive species
- Biological community change
What is climate resiliency?

• Protection of ecosystem services

• Protection of ecological & evolutionary processes and natural disturbance regimes

• Refugia surrounded by buffers

• Dispersal and migration corridors between patches and around urban centers

• Connectivity within and among protected areas

• Heterogeneous habitats
Use Climate Science Data to Prioritize New Acquisitions

- Understand climate models
  - Regional Data:
    - NOAA/Carolinas Integrated Sciences & Assessments
    - USGS Southeast Climate Science Center
  - Local predictions:
    - Increased drought
    - Increased extreme weather

- Upstate Forever Critical Lands Map
  - 45 Focus Areas
  - Ecosystem Services model
Use Climate Science to Prioritize New Acquisitions

• Goals:
  • Protect biodiversity refugia
  • Protect buffers around core areas
  • Protect corridors and stepping stones
  • Full geological & ecological representation
  • Portfolio heterogeneity
  • Capture underrepresented ecosystems & elevation gradients
  • Consider future urban growth
South Atlantic Landscape Conservation Cooperative (SALCC) Blueprint 2.1 Data
TNC Resilient Sites for Terrestrial Conservation Data
Modify Conservation Easement Language

- **Primary Purpose**
  - Protect native biodiversity, ecological processes, and climate resilience

- **Conservation Values**
  - Include ecological processes and climate resilience characteristics

- **Restrictions and Reserved Rights**
  - Right to require protection of native biodiversity and climate resilience characteristics
  - Right to require restoration
  - Right to prohibit invasive exotics
  - Require management plans for climate resilience

- **Stewardship and Monitoring**
  - Include ecological parameters
Modify Conservation Easement Language

- Ability to adapt conservation easement to changing conditions
  - Right to amend if conservation values no longer exist
  - Right to compel adaptive management for natural climate solutions
  - Right to terminate if conservation values no longer exist?
Natural Climate Solutions for Climate Resilience: Forest Pathways

- Avoid forest conversions
- Reforestation
- Fire management
- Forest stewardship management
Natural Climate Solutions for Climate Resilience: Grassland and Agriculture Pathways

- Avoid grassland conversion
- Nutrient management
  - Biochar
- Conservation agriculture
- Sustainable grazing
- Plant trees in croplands
Natural Climate Solutions for Climate Resilience: Wetland and Peatland Pathways

- Avoid wetland conversion
- Avoid peatland conversion
- Increase water retention capability
- Restoration
Natural Climate Solutions for Climate Resilience: Additional Pathways

- Protect riparian buffers
- Promote ecological integrity
  - Protect refugia
  - Improve connectivity
  - Maintain migration and dispersal corridors
  - Enhance habitat diversity
  - Restore degraded sites
  - Erosion mitigation
  - Remove invasive exotic species
  - Enhance natural disturbance regimes
Climate Resilience Grant and Partnership Opportunities

- **Wildlife Conservation Society** Climate Adaptation Fund
- **National Fish and Wildlife Foundation/EPA Five Star and Urban Waters Restoration Program**
- **Open Space Institute** Southeast Resilient Landscapes Fund
- **Cornell Lab of Ornithology** Land Trust Initiative Project
- **SC DHEC Section 319** Watershed-Based Planning and Implementation Grants
- **Sustainable Forestry Initiative** Conservation Grants
- **Local Restoration Grants**