

Using Structured Decision Making to ensure landscape scale sustainability for natural and cultural resources in the South Atlantic Landscape Conservation Cooperative

Rua S Mordecai¹, Ken McDermond¹, James B. Grand², Max Post van der Berg², Tyler Kreps²

¹South Atlantic Landscape Conservation Cooperative, Raleigh, NC
²School of Forestry and Wildlife Sciences, Auburn University, Auburn, AL



Quick intro to the SALCC



89 million acres
92% private land
120% increase in urban area by 2050

Quick intro to the SALCC



Led by a diverse steering committee...

Steering Committee

- VA Dept. of Game & Inland Fisheries
- NC Wildlife Resources Commission
- SC Dept. of Natural Resources
- GA Dept. of Natural Resources
- FL Fish & Wildlife Cons. Commission
- The Nature Conservancy
- South Atlantic Fishery Management Council
- U.S. Geological Survey
- Environmental Protection Agency
- U.S. Forest Service
- Department of Defense
- U.S. Fish & Wildlife Service
- NOAA
- National Park Service

Partnership committee

- Albemarle-Pamlico Natural Estuary Program
- Southeast Aquatic Resource Partnership
- Atlantic Coast Joint Venture
- Atlantic Coast Fish Habitat Partnership
- Southeast Partners in Amphibian and Reptile Conservation
- Southeast Partners in Flight
- Eastern NC / SE Virginia Strategic Habitat Cons. team
- Longleaf Alliance

Your staff

Coordinator (FWS) – Ken McDermond
 Science coordinator (FWS) – Rua Mordecai
 Socioeconomic adaptation coordinator (NPS) – Janet Cakir
 Information transfer (USFS/FWS) – Kat Mordecai
 Gulf Coast Coordinator (NOAA/FWS) – Laurie Rounds
 GIS coordinator (FWS) – Amy Keister

What is the South Atlantic LCC?

Forum in which the conservation community:

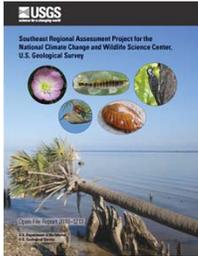
- Develops a shared vision of landscape sustainability
- Cooperates in its implementation,
- Collaborates in its refinement

What is the South Atlantic LCC?

Forum in which the conservation community:

- Develops a shared vision of landscape sustainability
- Cooperates in its implementation,
- Collaborates in its refinement

Southeast Regional Assessment Project (SERAP)



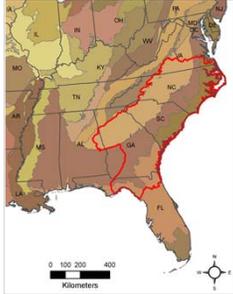
1. Downscaled climate change projections
2. Sea level rise in Mississippi and Alabama
3. Impacts of climate change on bird habitats
4. Projected impacts of climate change and urban growth on habitats of priorities
5. Avian range dynamics in response to land use and climatic change
6. Multi-resolution assessment of potential climate change effects on biological resources: Aquatic and hydrologic dynamics
7. **Optimal conservation strategies for dynamic landscapes**

Funded by: USGS, National Climate Change & Wildlife Science Center
 USFWS, Multi-state grants
 South Atlantic LCC

Optimal Conservation Strategies

Spatial Extent:
 South Atlantic LCC

Scope:
 Conservation-related decisions by partners in SA LCC



Project timeline

Phase I – develop a prototype (Dec 2010 – May 2011)
 Identifying the problem
 Eliciting concerns

Phase II – develop functional prototype (June – Aug 2011)
 Developing the objectives network
 Identifying information needs
 Soliciting feedback from SA LCC partners
 Functional prototype

Phase III – refine prototype (Aug – Dec 2011)
 Refining objectives with technical groups
 Refining/revising prototype
 Reporting

Ad-hoc working groups...

- National Park Service
- U.S. Fish & Wildlife Service
- Environmental Protection Agency
- Environmental Defense Fund
- Natural Resource Conservation Service
- National Council for Air and Stream Improvement
- U.S. Forest Service
- Georgia Department of Natural Resources
- The Nature Conservancy
- National Oceanic and Atmospheric Administration

PrOACT

- Defining the Problem
- Objectives
- Actions
- Consequences (models)
- Trade-offs and optimization
- Additional steps
- Decision made

Lesson 1

When there are a large number of objectives and decisions even defining the problem is hard...



Lesson 1

Plan B: Start from the decisions...



Draft fundamental objectives of conservation decision makers in the SALCC

Results from initial Optimal Conservation Strategy workshop (May 3 – 5, 2011)

- Natural resources**
 - o Integrity of ecological systems
 - o Viability of T&E species
- Cultural resources**
 - o Sites
 - o Objects
 - o Biotic cultural resources
- Socioeconomic resources**
 - o Recreation
 - o Human health
 - o Economy

Draft fundamental objectives of conservation decision makers in the SALCC

Results from initial Optimal Conservation Strategy workshop (May 3 – 5, 2011)

Natural resources – These resources are based on the integrity of ecological systems that characterize natural areas and managed landscapes that people care about. Fish and wildlife populations are both products and indicators of the integrity of systems. Integrity is measured as the degree to which the structure and composition of fish, wildlife, and plant populations meet historical levels, and in some cases (TES) the long-term viability of populations.

- Natural resources**
 - o Integrity of ecological systems
 - o Viability of T&E species
- Cultural resources**
 - o Sites
 - o Objects
 - o Biotic cultural resources
- Socioeconomic resources**
 - o Recreation
 - o Human health
 - o Economy

Draft fundamental objectives of conservation decision makers in the SALCC
Results from initial Optimal Conservation Strategy workshop (May 3 – 5, 2011)

<p>Natural resources</p> <ul style="list-style-type: none"> o Integrity of ecological systems o Viability of T&E species 	<p>Natural resources – These resources are based on the integrity of ecological systems that characterize natural areas and managed landscapes that people care about. Fish and wildlife populations are both products and indicators of the integrity of systems. <u>Integrity is measured</u> as the degree to which the structure and composition of fish, wildlife, and plant populations meet historical levels, and in some cases (TES) the long-term viability of populations.</p>
<p>Cultural resources</p> <ul style="list-style-type: none"> o Sites o Objects o Biotic cultural resources 	<p>Cultural resources – These resources are ethnographic; that is, they have a relationship to what people do on the landscape. Examples include huntable and fishable populations of animals, access to public lands, archeological sites and objects. The <u>measurable attributes</u> of these resources are the number, representation of cultures, and value as defined by NPS and other stakeholders.</p>
<p>Socioeconomic resources</p> <ul style="list-style-type: none"> o Recreation o Human health o Economy 	

Draft fundamental objectives of conservation decision makers in the SALCC
Results from initial Optimal Conservation Strategy workshop (May 3 – 5, 2011)

<p>Natural resources</p> <ul style="list-style-type: none"> o Integrity of ecological systems o Viability of T&E species 	<p>Natural resources – These resources are based on the integrity of ecological systems that characterize natural areas and managed landscapes that people care about. Fish and wildlife populations are both products and indicators of the integrity of systems. <u>Integrity is measured</u> as the degree to which the structure and composition of fish, wildlife, and plant populations meet historical levels, and in some cases (TES) the long-term viability of populations.</p>
<p>Cultural resources</p> <ul style="list-style-type: none"> o Sites o Objects o Biotic cultural resources 	<p>Cultural resources – These resources are ethnographic; that is, they have a relationship to what people do on the landscape. Examples include huntable and fishable populations of animals, access to public lands, archeological sites and objects. The <u>measurable attributes</u> of these resources are the number, representation of cultures, and value as defined by NPS and other stakeholders.</p>
<p>Socioeconomic resources</p> <ul style="list-style-type: none"> o Recreation o Human health o Economy 	<p>Socioeconomic resources – These directly affect quality of life for humans and may contribute to their livelihood and health. Examples include the economic impacts of commercial fishing and timbering as well as influences of these activities on human health and environmental justice. The <u>measurable attributes</u> here are related to economic cost-benefits and human health (e.g. risk of exposure).</p>

Natural resources objectives

<p>Ecological integrity: Percent of representative species population targets met for:</p> <ul style="list-style-type: none"> o Beaches and Dunes o Caves-Karst Springs o Estuarine and Marine o Forested Wetlands (mineral soils) o Forested Wetlands (organic soils) o Freshwater aquatic o Freshwater marshes o Grassland – Prairie – Savannah o Southern Pine o Scrub-shrub o Upland Hardwood o Xeric and Maritime Scrub 	<p>Viability of threatened and endangered species:</p> <p>It may be necessary to set specific species targets if improving ecological integrity is not enough</p>
---	--

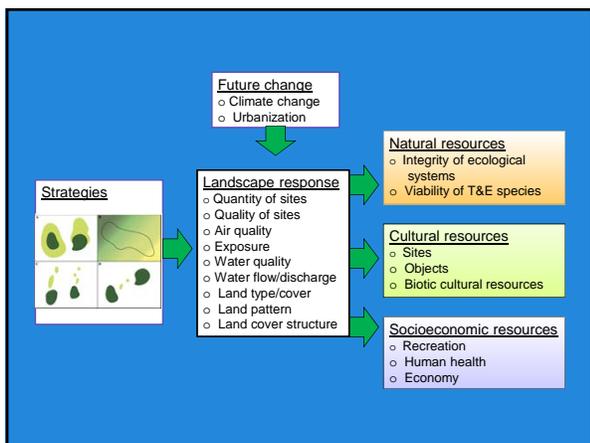
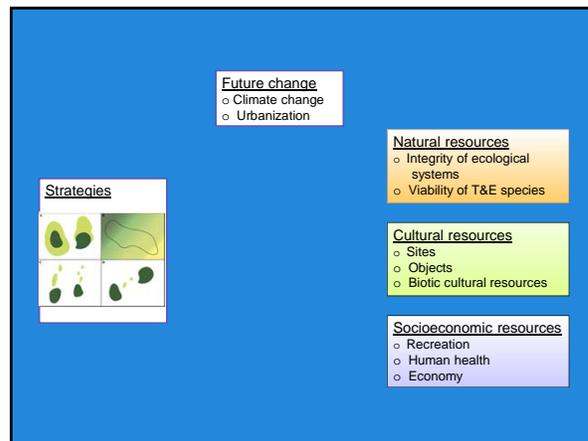
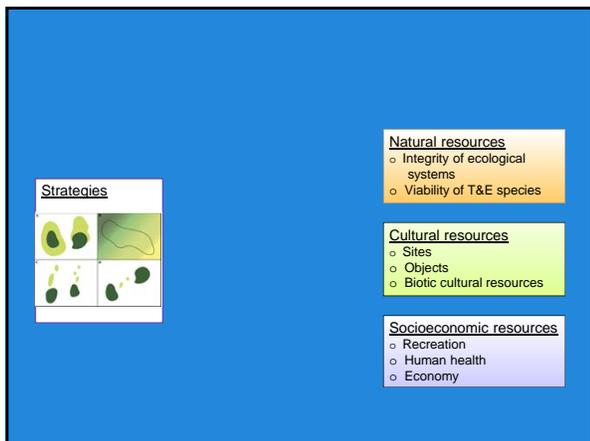
Lesson 2

You can't hide from the cultural and socioeconomic parts of conservation...

What do partners want to know?

1. Where they should take action to contribute most to LCC objectives.
 - Not prescriptive about specific actions
 - Value based on contribution to shared objectives of the LCC partners
2. How will those actions contribute to their agencies' objectives.

<p>Natural resources</p> <ul style="list-style-type: none"> o Integrity of ecological systems o Viability of T&E species
<p>Cultural resources</p> <ul style="list-style-type: none"> o Sites o Objects o Biotic cultural resources
<p>Socioeconomic resources</p> <ul style="list-style-type: none"> o Recreation o Human health o Economy



Information sources

SERAP data & models

- Downscaled climate projections
- Sea level rise (part)
- Land cover change
- Responses of birds

But for many objectives...

- LCC partners – APNEP, EPA, NPS, SARP, PARC, ACJV, USFS, USGS, NFHAP, States...
- Facilitated by SA LCC Science Coordinator
- In-house modeling capacity
- Expert opinion
- Surrogates
- Long-range – applied research

What is the result?

A prototype conservation plan to:

- Identify where and when partners could take action to address shared challenges
- How those actions would contribute to their organizations' objectives

Stay tuned...

Prototype for the entire South Atlantic LCC region by the end of the year

http://www.southatlanticlcc.org

South Atlantic LCC

Setting a course for a sustainable landscape

Main About News Projects Connect My Profile Contact us Sandbox Internal Manage

Want email updates? [Edit](#)

Members of the website will receive a monthly electronic newsletter

Taking action [Edit](#)

How to get engaged in the LCC

Events [Edit](#)

Conservation happy hour
August 9, 2011 from 5pm to 7pm - Sammy's Tap and Grill

[Add an Event](#) [View All](#)

Blog Posts [Edit](#)

Science Capacity Update
Posted by Ken McCreeland on August 5, 2011 at 10:35am [Stop Feeding](#)

Virginia LIDAR Data Available
Posted by John Scroggs on June 27, 2011 at 8:34am [Stop Feeding](#)

SALCC funded projects 2011
Posted by me on June 24, 2011 at [Science Capacity Update](#)

Featured Stories [Edit](#)

2011 Partner Projects Overview

The success of the South Atlantic Landscape Conservation Cooperatives (LCCs) will be measured not only by the number of projects that have been implemented, but also by the number of projects that have been implemented in a way that is consistent with the LCC's goals and objectives. The LCCs are designed to provide a framework for the development and implementation of projects that are consistent with the LCC's goals and objectives. The LCCs are designed to provide a framework for the development and implementation of projects that are consistent with the LCC's goals and objectives.

2011 projects
Read an overview of 2011 projects to support conservation planning...[read more](#)

Rias Mordecai [Edit](#)

Sign Out
Inbox (3 new)
Alerts (1 new)
Friends - none
Settings

Groups [Edit](#)

Geospatial
35 members

Rivers and streams
50 members

Communicate!
13 members

Technology Transfer
8 members

The Nature Conservancy
11 members

[Add a Group](#) [View All](#)

Members [Edit](#)

Welcome

The South Atlantic Landscape Conservation Cooperative (SALCC) is part of a national network of Landscape Conservation Cooperatives (LCCs). LCCs are applied conservation science partnerships among federal agencies, regional organizations, states, tribes, NGOs, universities and other entities within a geographic area. They are designed to inform resource management decisions in an integrated fashion.

[Continue reading](#)

Latest Post on Ken's Blog