The South Atlantic LCC Conservation Blueprint 2.0

Amy Keister, GIS Coordinator
Intro to the South Atlantic LCC
What is the South Atlantic LCC?

A forum in which federal and state agencies, non-profits, businesses and communities work together to develop a shared vision of landscape sustainability, cooperate in its implementation, and collaborate in its refinement.
Intro to the South Atlantic LCC

Why Cooperate?
Intro to the South Atlantic LCC

Part of a larger network
Intro to the South Atlantic LCC

The Steering Committee
Intro to the South Atlantic LCC

Mission

Create a shared **blueprint** for landscape conservation actions that sustain natural and cultural resources
The Conservation Blueprint
The Conservation Blueprint

What is the Blueprint?

A spatially-explicit, living plan that describes the places and actions needed to meet the Cooperative’s shared conservation objectives in the face of future change.
The Conservation Blueprint

The idea is not new
The Conservation Blueprint

So, what’s different from past efforts?

• Planning for the Cooperative, not any one organization

• An adaptation strategy (incorporating climate change, urban growth, and other future changes)

• Bigger scope and scale
The Conservation Blueprint

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How can the Blueprint be used?
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• Finding the best places to partner
• Bringing in new conservation dollars
• Guiding infrastructure development
• Creating incentives as an alternative to regulation
• Bringing in landscape perspectives to local adaptation (how do I fit in?)
• Preparing for major disasters
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The Blueprint Process

• Indicators

• The State of the South Atlantic

• The Blueprint
The Conservation Blueprint

The Blueprint Process

- Indicators
- The State of the South Atlantic
- The Blueprint
Indicators

Why are indicators needed?

• Design and evaluate the success of the **Blueprint**
• Simplify modeling and monitoring of complex ecosystems
• Represent other components of the system that are either too expensive or time consuming to model and measure.

How were indicators selected?

• Input from 235 experts in marine, freshwater, and terrestrial resources in the South Atlantic region and 9 experts representing all 5 adjacent LCCs.
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Indicators

Selection Criteria

• **Ecological** (How well it represents a variety of other organisms/ecological attributes and responds to landscape change),
• **Practical** (Can it be monitored and modeled based on current programs and resources)
• **Social** (How well do they resonate with a variety of audiences).
Indicators

- Ecosystem Integrity
- Intact Cultural Landscapes
Indicators

Ecosystems

- **Upland hardwood**
- **Pine & prairie**
- **Forest wetland**
- **Freshwater marsh**
- **Estuarine**
- **Maritime forest**
- **Beach & dune**

**Marine**

- **Marine turtles & mammals**: index of highly productive areas for sea turtles, dolphins, and whales.
- **Potential hardbottom condition**: index of potential condition of deepwater corals and other hardbottom habitats.
- **Primary productivity**: index of ocean ecosystem productivity based on chlorophyll measurements.
Indicators

Ecosystems

Cross-ecosystem Indicators

Freshwater aquatic

Waterscapes

Landscapes

- **Structural connectivity**: important hubs and corridors for ecological connectivity.
- **Low road density**: index of areas with few roads.
- **Resilient biodiversity hotspots**: index of mostly natural high-diversity areas potentially resilient to climate change.
- **Low-urban historic landscapes**: index of National Historic Register Sites surrounded by limited urban development.

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The State of the South Atlantic

State of the South Atlantic

Indicator

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Ecosystem integrity

Ecosystem integrity
The State of the South Atlantic

State of the South Atlantic 2015
Understanding our living landscapes
The State of the South Atlantic

State of the South Atlantic

South Atlantic ecosystem health scores
Overall, the South Atlantic scored a C. Piedmont areas scored the lowest, likely due to impacts from their major urban megaregions. The Maritime region scored the highest; however, it did not include fishing impacts. The Coastal Plain scores were in the middle. These scores show that, while the South Atlantic is not completely healthy, there’s hope for making future improvements.

North Piedmont: Home to Charlotte, Raleigh, and large areas of upland hardwood forest. People who live and work in urban areas will help decide the future of this region.

South Piedmont: Home to Atlanta and diverse watersheds draining into the Atlantic and Gulf. Balancing water needs for people and species continues to be a challenge.

North Coastal Plain: Home to the Outer Banks and extensive estuaries. Sea-level rise is predicted to heavily impact this particularly flat region.

Central Coastal Plain: Home to Wilmington, Myrtle Beach, and large protected wetland areas. Sea-level rise, tourism, and changing agricultural practices continue to influence ecosystem health.

South Coastal Plain: Home to Savannah, Jacksonville, and a network of protected barrier islands. Partnerships are working to conserve this region’s largest river floodplains.

Gulf Coastal Plain: Home to rural Southwest Georgia and extensive conservation lands in the Big Bend of Florida. Sea-level rise and upstream agriculture continue to impact coastal protected areas.

Marine: Home to rich fisheries, deepwater coral, diverse seabirds, and important migratory fish, whales, and turtles. Ocean acidification and increased energy development are major emerging threats.

A snapshot in time
This assessment evaluates the ecological integrity of the South Atlantic using natural and cultural resource indicators. The indicators are scored across the entire region, for individual ecosystems, and within subregions following watershed and ecoregional boundaries. All indicators are regularly tested and revised, and this first report uses the best metrics available today.

Toward conservation action
Measuring these indicators communicates the status of the region’s land and waters, helping develop a more unified vision for thinking ecosystems that support communities and economies. People and organizations are working together on cross-boundary conservation actions through the South Atlantic LCC to improve ecosystem health in the face of unprecedented changes to the natural world.

Scoring & level of confidence
Each data-driven indicator score is based on the percent of an area in good condition, according to the best available science. Though all indicators were measured, some scores were omitted to provide a baseline for future comparison. Confidence values are qualitative estimates of uncertainty based on known issues with indicators and data sources.
The State of the South Atlantic

**Ecosystem: Upland Hardwood**

**Forests in the foothills**

This ecosystem includes Piedmont wooded communities ranging from dry upland forests to moist forests near to floodplains. Deciduous hardwood trees adapted to less frequent fires typically dominate, mixed with pines. Most major urban centers occur in upland hardwood forests, which causes habitat fragmentation but also provides many people opportunities to appreciate nature.

**Interpreting the score**

Overall, this ecosystem scored a D+. While the scores for the Piedmont regions were similar, the North Piedmont scored better on the bird index and poorly on low road density. Coastal Plain regions were not scored due to their small amount of upland hardwood. The Piedmont includes the major urban centers of the South Atlantic, providing challenges and opportunities for improving ecosystem condition and offering access to nature.

- **C**: Upland hardwood birds
- **D**: Low-urban historic landscapes
- **F**: Structural connectivity
- **F**: Low road density

**Bright lights, big city**

If growth trends continue, recent research predicts that Southeast urban areas will double in size by 2060, creating a megalopolis connecting Raleigh to Atlanta. Sprawl will likely concentrate in the upland hardwood ecosystem where urban centers already prosper. This forecast emphasizes the importance of smart growth planning to ensure wildlife habitat and recreation opportunities persist into the future.
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Blueprint 1.0

Workshops
Blueprint 1.0

Incorporating partner plans

Critical Lands and Waters Identification Project (CLIP): Version 3.0

Model Criteria and Implementation Guidance: Priority Amphibian and Reptile Conservation (PARCA) System in the USA.

Strategic Habitat Units for Aquatic Species Restoration in Alabama

The South Atlantic Migratory Bird Initiative Implementation Plan: An Integrated Approach to Conservation of “All Birds Across All Habitats.”

National Bobwhite Conservation Initiative: A Range-wide Plan for Recovering Bobwhites

EPA Region 4 Priority Watersheds April 2014

South Atlantic Coastal Plain Ecoregion Plan
Blueprint 1.0

- South Atlantic LCC Blueprint 1.0 – [http://blueprint.southatlantic.org](http://blueprint.southatlantic.org)
The lean startup method

LEARN
IDEAS
BUILD
DATA
CODE
MEASURE

Minimize the total time through the loop
Blueprint 2.0
Blueprint 2.0

State of the South Atlantic

Indicator

Indicator

Indicator

Indicator

 Indicator

Ecosystem integrity

Indicator

Indicator

Indicator

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Ecosystem integrity
Blueprint 2.0

Priorities (pixel level)

Indicator
Indicator
Indicator

Ecosystem integrity
Ecosystem priority

Indicator
Indicator
Indicator

Ecosystem integrity
Ecosystem priority

Spatial conservation planning framework and software
ZONATION
Blueprint 2.0

Priorities (pixel level)

- Indicator
- Indicator
- Indicator
- Indicator

Ecosystem integrity

Ecosystem priority

Connectivity Indicator

Overall priority

Linkage Mapper

ZONATIO

Spatial conservation planning framework and so