

Adapting to a Changing Climate in the Southeast: A Proposal for Collaboration
U.S. Fish and Wildlife Service
Charleston, South Carolina, May 27 – 29, 2008

For most of the five decades since biologists began studying Sooty terns, the majestic sea-birds would arrive at Bush Key in the Dry Tortugas to nest in late April or early May. Like clockwork, this lone colony of Sooty terns would take advantage of this strategically located string of islands and its ideal nesting habitat to reproduce.

This year, those terns arrived in late January continuing an alarming trend of beginning their nesting season earlier and earlier – this year four months sooner than ever before.

Along the Apalachicola-Chattahoochee-Flint River Basin that includes parts of Georgia, Alabama, and Florida, one of the most severe droughts in decades rolls through its third year impacting agriculture, business, recreation, water quality and quantity, power generation, and valuable natural resources that support wildlife-dependent recreation and boost local economies throughout the basin. It promises to be a long, hot summer.

North Carolina boasts 10,000 miles of estuarine coastline, but all is not well there. Platform marsh shorelines are receding 7.5 feet per year, a rate exacerbated by storms like Hurricane Isabel, which pushed this shoreline back 85 feet in one hour. Swamp forests are drowning from saltwater inundation and sea level rise. Yet, we know our scientists and partners responsible for local communities home to millions of citizens, military bases, national seashores, national wildlife refuges, and others are working with local, state, and federal government leaders to adapt.

Climate change is real. What's different now more than ever before is that this change is accelerating rapidly. We must prepare to act. And not just any action, but the right action that integrates strategic landscape conservation, infrastructure management, and economic growth in a way that benefits the region's fish and wildlife resources, its economies, and our citizens that depend on them.

None of this is particularly good news for our region's fish and wildlife – the sentinels for healthy natural resources that support millions of people across the Southeast.

That's why the U.S. Fish and Wildlife Service a year ago embarked on an aggressive effort to address changing climate conditions, bolster strong relationships with its partners, expand existing conservation strategies like carbon sequestration, and lay the foundation for the development and implementation of broad adaptation strategies. This effort forms the foundation for an emerging vision of collaboration with the potential for transformational capacity building and landscape conservation.

2010 and beyond

The Service is moving to play a key role in the conservation community's broad-based and growing effort to address climate change. Working broadly through creative partnerships, our goal is to expand our commitment and capability in three areas:

landscape conservation planning and design, conservation delivery, and research and monitoring. Our goal is to secure additional funding to expand our capability, establish new partnerships, and refine existing ones with partners like the U.S. Geological Survey and others, in an effort to develop groundbreaking adaptation strategies for fish and wildlife that take into account the effect of change on the nation's coastal communities - home to more than half its citizens and nearly two-thirds of its economic activity.

The Service is pursuing a strategy focused on mitigation, adaptation, collaboration, and education.

Mitigating climate

More than 10 years ago the Service launched an innovative carbon sequestration program here in the Southeast. The Service needed to restore agriculture lands – a goal of 50,000 acres - to native habitats. Dynegy, Inc. was looking to plant trees and reserve the carbon credits. The Service's carbon sequestration program was born.

From this first partnership, the Service has worked with dozens of energy companies and two land trusts to add 40,000 acres to our national wildlife refuge system, restore a total of 80,000 acres to native habitats, and plant more than 22 million trees. These habitats will sequester more than 33 million metric tons of carbon through 2090. The energy companies partnering with the Service report the carbon credits, and the Service gets valuable lands restored to native habitat. Everybody wins.

In addition, the Service is working to determine its carbon footprint to take steps to incrementally limit its emissions. The Service also is exploring steps needed to determine the carbon values of its lands.

Adapting to change

Adapting to conservation challenges and opportunities is what the Service does best when it works with partners to deliver conservation on the ground. Adapting to climate change and its effects upon migration patterns, the distribution and abundance of climate-sensitive species, and their resilience to changes in moisture and temperature, will be critical to continuing that success.

The plight of the sooty tern reveals that accelerated changes in temperature and moisture are forcing wildlife and migratory birds to adapt long before dramatic and long-lasting changes to their habitats are documented. Warming sea-surface temperatures are believed to be altering availability of food and altering the bird's nesting habits.

Longer droughts and shorter, more intense wet periods bringing with them devastating floods represent our current reality. Balancing more than a half dozen priority needs in the Apalachicola-Chattahoochee-Flint River Basin, along with Atlanta's growth and drinking water needs for the region's five million citizens, has grabbed the attention of local, state, and federal policy makers. The need for land management strategies that consider climate change adaptation is clear.

In no geographic region of the Southeast is the Service's approach to adaptation and partnership more clearly identified than in the Lower Mississippi Valley. Nearly 20 years ago, the Lower Mississippi Valley Joint Venture and partners including state fish and wildlife agencies, conservation organizations like Ducks Unlimited, The Nature Conservancy, and others began building on extraordinary conservation achievements, stretching across decades, to bolster priority species of waterfowl and other forest breeding birds and trust species.

Based on lessons we've learned in the Lower Mississippi Valley, we believe a regional adaptation strategy must focus on the following:

- Land management and the need for comprehensive research and monitoring through aggressive modeling at multiple scales – continental, regional, and joint ventures, among others,
- The establishment of joint landscape conservation centers building capacity in key disciplines from which we will all benefit informing actions related to strategic land acquisition and much more,
- Vulnerability assessments aimed at identifying desired population goals, which is something we don't know much about in the face of climate change,
- Developing and implementing adaptive management concepts because in the face of an uncertain climate, it will be more important than ever before to state clearly our management goals, monitor the results, and adapt management actions accordingly.
- Developing a road map through integrated landscape conservation planning that helps managers determine the most important wildlife habitat corridors,
- Expansion of existing carbon sequestration program to restore native habitats,
- Developing adaptation strategies for the region's forests – public and private – and other habitats anticipating emerging climate-related effects,
- Fire management as a conservation management tool to address climate,
- Identifying steps to address sea-level rise and its impacts on coastal wetlands and marshes, beaches, losses of habitat and property from erosion, and other needs related to asset management, and
- Managing water resources in the face of longer droughts and shorter, more intense wet periods in a region that until now has largely taken fresh water for granted.

Collaboration

The issue is vast and solutions are not likely to be quick or easy. For Americans bombarded by thousands of messages each day, our challenge to communicate urgency is not simple. H.L. Mencken once wrote, "There is always an easy solution to every human problem – neat, plausible, and wrong." Our success together depends in part on whether we can side-step the temptation to seize the quick and easy. There is no quick fix here, only room for rigorous, disciplined, long-term solutions.

Our vision for collaboration and capacity building focuses on the following goals:

- A better understanding of science related to climate change,
- Identifying knowledge gaps, new partnerships, and strong collaboration,
- Building the foundation for a regional adaptation strategy/plan, and
- Setting the stage for additional conference(s) focused on addressing identified gaps with a broad array of additional partners.

Rev. Pat Robertson and Rev. Al Sharpton hardly agree on anything. Sitting on a couch on the beach they made clear they agree strongly on one thing: The need to address climate change. If this issue can bring them together, it's easy to understand the impact we can have leading solutions for climate change in the Southeast collectively – to say nothing of the social movement taking shape in front of us.