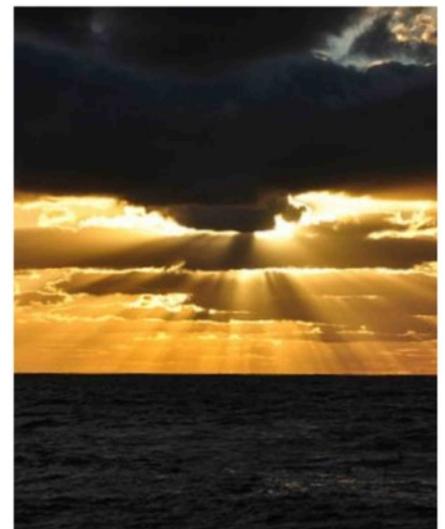
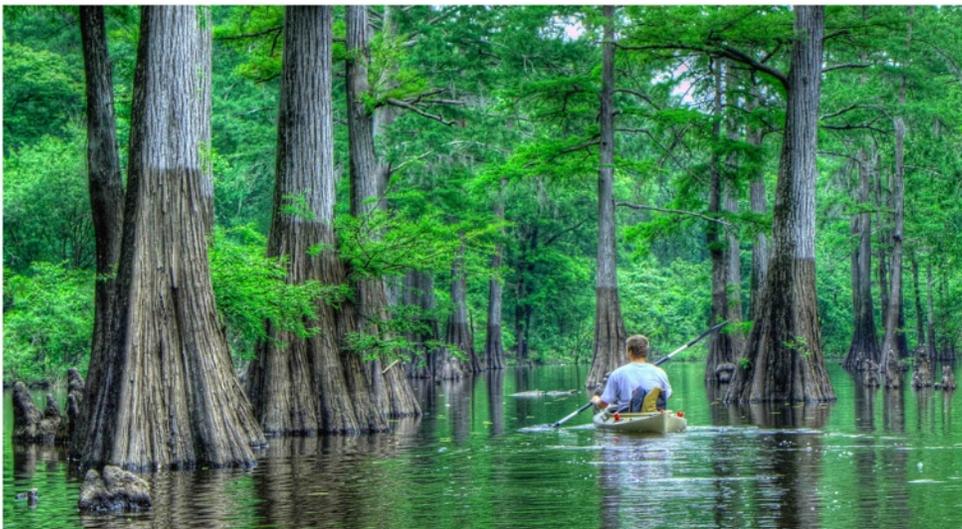
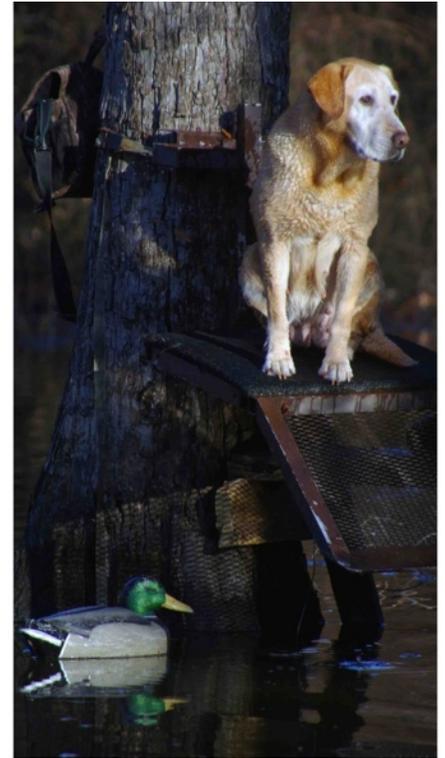




Gulf Coastal Plains & Ozarks
Landscape Conservation Cooperative



LANDSCAPE CONSERVATION
COOPERATIVES



2015 Annual Report

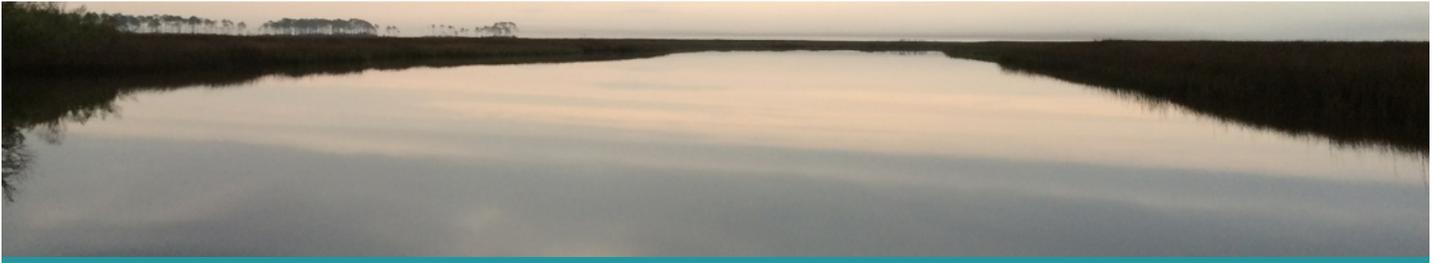


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From our Steering Committee Chairman

2015: GCPO LCC year of progress



**Kenny Ribbeck, GCPO LCC
Steering Committee Chair, Wildlife
Division Administrator, Louisiana
Department of Wildlife and Fisheries**

In 2015, the “big picture” of the Gulf Coastal Plains & Ozarks Landscape Conservation Cooperative (GCPO LCC) region began coming into focus, as five out of nine Ecological Assessments were completed for focal habitat systems, with the remaining systems in development. The year 2015 also saw the official kickoff of the GCPO LCC Blueprint 1.0 landscape conservation design (LCD) process. In addition, more than 25 GCPO LCC-sponsored projects were ongoing or completed in 2015, of which 8 were multi-LCC projects. These projects are essential to our ongoing conservation design process, which is a part of the broader regional effort known as the Southeast Conservation Adaptation Strategy as well as the overall LCC Network Conservation Strategy.

One of the most highly anticipated LCC products, the Gulf Coast Vulnerability Assessment, was released in 2015 - later winning an award for “transformational conservation science.” The report’s findings indicate that tidal emergent marsh will be a Gulf ecosystem vulnerable to sea level rise and erosion. A related research project quantified the potential for landward migration of tidal saline wetlands along the U.S. Gulf of Mexico coast under alternative future sea level rise and urbanization scenarios, identifying locations where these wetlands could be prevented from migrating by barriers associated with cities, future growth, and levees. This project aims to assist planners working to develop future-focused adaptation strategies to protect both the ecological and societal values of their coastal landscapes.

The Conservation Planning Atlas — one of the key tools developed and used by the GCPO LCC to share analyses, datasets, original research, and decision support tools — added 129 new datasets in 2015, while new visits to the site accounted for half of that traffic.

The new year of 2016 will bring about change at another scale, as we seek a new President to lead our country and set the stage for conservation into the future. As a conservation cooperative, we can move forward across our geography in ways and means that will ensure greater sustainability of our natural resources while accommodating use of those resources, which is ultimately essential for their long-term viability. Exploitation of our vast natural resources was the driving force in building our nation; collaboration on restoring those renewable resources coupled with their careful and prudent use and enjoyment has been the basis of developing the strong nation we live in today. Surely we will continue to be a leader among nations as we focus on the true meaning of Conservation, and assume an active role in its application across the landscape. Inaction allows change without impediment or opportunity; action acknowledges change and directs it toward more beneficial outcomes. So, let’s get aboard the train, and not watch it, when we “Laissez les bons temps rouler”!

*Best Regards,
Kenny Ribbeck*

GCPO LCC 2015 Annual Report

by the Numbers: Year of Assessment & Design

First Rapid Ecological Assessments

The GCPO LCC Ecological Assessments

- * 5 **Ecological Assessments** (EAs) completed:
 - Coastal Plains Medium-low gradient rivers
 - Mainstem Big Rivers
 - Tidal Marsh
 - Forested Wetlands
 - Open Pine
 - Grasslands
- * 4 Ecological Assessments in process
- * 4 **Ecological Assessments-in-Brief** done

First Landscape Conservation Design

Kickoff of the GCPO LCC Blueprint 1.0 landscape conservation design (LCD) process

- * **Ozark Highlands** design process prototype
- * **Blueprint Gallery 1.0** created on the CPA
- * Blueprint decision rulesets seek to answer:
 - How much/how much more do we have?
 - Where should we invest our resources to get more?
 - What do we need to do there?
 - How to include species & future change?



ONE Gulf Coastal
Plains & Ozarks
Vision for the
Future

LCC-sponsored Research on Endpoints & Adaptation

More than 25 GCPO LCC-sponsored projects ongoing

- * 9 projects completed
- * 8 multi-LCC projects completed or ongoing
- * 129 datasets added to the **Conservation Planning Atlas**
- * first meeting to coordinate 4 open pine research teams
- * **Gulf Coast Vulnerability Assessment** issued:
 - effects of climate change, sea level rise, urbanization
 - 4 Gulf Coast ecosystems
 - 11 species
 - 1st Sam D. Hamilton Award for transformational science
- * Administrative and leadership role for one of first RESTORE Council Gulf restoration projects: **Strategic Conservation Assessment Framework**

Southeast Conservation Adaptation Strategy

SECAS Symposium on Conserving Large Landscapes

- * packed house of 90-120 people in the audience throughout
- * 7 LCCs represented
- * **17 presentations**
 - 1 on leadership
 - 7 blueprints presented
 - 4 integration across LCCs
 - 3 future conditions planning
 - 2 implementation
 - 1 open dialogue with significant positive response

STRATEGIC PLAN SCIENCE GOAL: Biological Planning and Conservation Design

The Gulf Coastal Plains & Ozarks (GCPO) Landscape Conservation Cooperative (LCC) is working to define, design, and deliver landscapes capable of sustaining natural and cultural resources for future generations. The GCPO LCC defined functional landscapes through the development of its draft Integrated Science Agenda (ISA). The ISA explicitly stated a shared vision for the LCC by identifying nine focal habitat systems, linking those systems to indicator species of wildlife, describing the desired ecological state of those systems to support fish and wildlife, and identifying data and information gaps that represent barriers to successful conservation planning. To achieve the ISA vision, LCC staff have collaborated with partners to provide a baseline assessment of the status of priority habitats, and to apply these and other data to develop a GCPO landscape conservation design.

Ecological Assessments

The purpose of rapid Ecological Assessments is to provide the underlying knowledge base upon which a landscape conservation design supporting healthy, sustainable ecosystems can be built. A lack of readily-available, detailed information on how habitat condition varies spatially across the GCPO geography limits our collective ability to achieve this vision. Assessments completed in 2015 are being used to evaluate the condition of priority habitat systems in the GCPO region, using a variety of existing or newly created datasets that describe specific ecosystem end points, such as habitat patch size or water quality (the “ingredients”). Then, a synthesis combines all available information to identify where and how much habitat is largely in the desired ecological state as defined by the ISA (the “cake”).

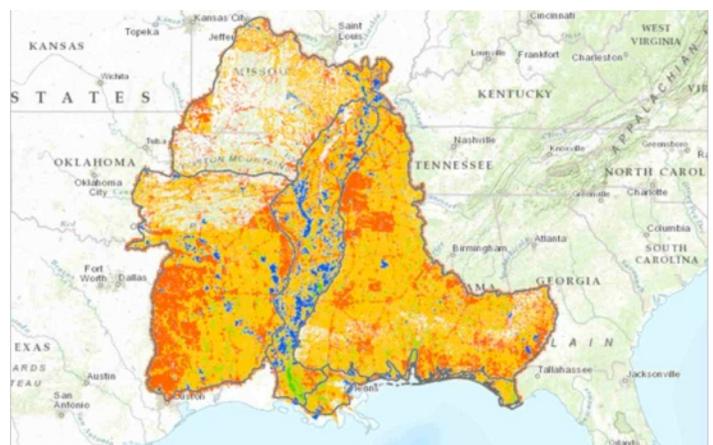
Ultimately, the nine priority system Ecological Assessments will be combined to produce the first “State of the Gulf Coastal Plains & Ozarks” in 2016. Four “Assessments-in-Brief” were produced in 2015, with more in production. The Briefs highlight each Assessment’s main findings for a wider audience.

The following Ecological Assessments were completed in 2015:

- EWGCP Medium-low gradient rivers
- Mainstem Big Rivers
- Tidal Marsh
- Forested Wetlands
- Open Pine

In progress in 2015:

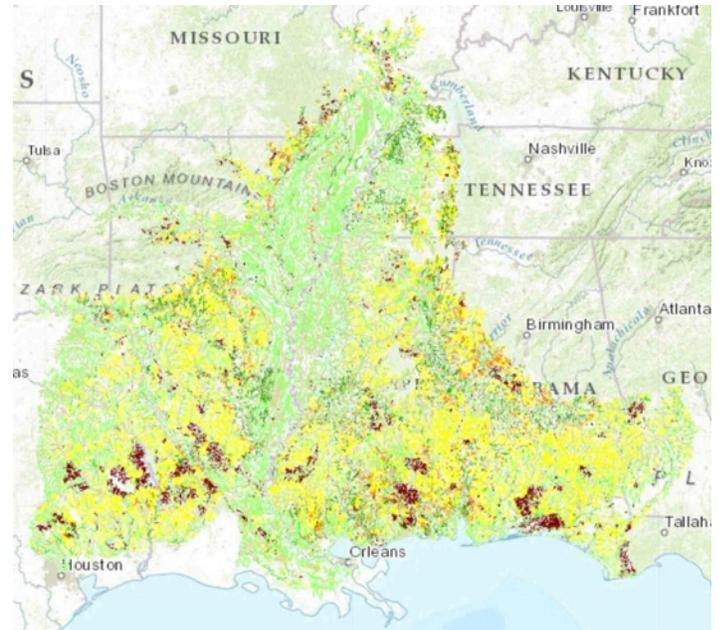
- Grasslands
- Beaches and Dunes
- Upland Hardwoods
- High Gradient Streams



What is the Blueprint?

The GCPO LCC's Landscape Conservation Design process will spatially depict priority focal areas and habitats for inclusion in an ecologically connected network of landscapes and seascapes adaptable to future change. Piloted by the [Ozark Highlands Comprehensive Conservation Strategy](#), which serves as a conservation design prototype, the Blueprint builds on the ISA and incorporates data from the Ecological Assessments and other sources. It offers spatial depictions of the relative condition of each focal habitat system and identifies the kinds of actions needed to reach desired ecological states. Such information will support strategic conservation planning in the region by allowing all of us to answer the perennial questions of conservation planning:

1. How much do we have?
2. How much more do we need?
3. Where are we currently investing, and where should we invest resources in the future to get more?
4. What do we need to do there?
5. How should we plan for predicted change across the landscape?
6. How do we incorporate and ensure the needs of species are met?



Both a product and a process

To be effective, the Blueprint must be transparent, replicable, and defensible, bringing the best available science to bear on conservation decisions. To meet this ideal, the Blueprint is a collaborative process constructed by staff and the [Adaptation Science Management Team](#), with input from the [Partnership Advisory Council](#) and leaders from the State Wildlife Action Plans, as a series of decision rule sets (e.g. If-Then-Else statements). These decision rule sets define what questions need to be answered, what data are used to answer them, and how those data are processed.



In 2015, the Blueprint process was in its earliest stages, with development of Ecological Assessments and preliminary rule sets for design. The next step in 2016 will be a series of Blueprint Workshops that will enable a broad cross-section of the conservation community to participate in the design process. By the fall of 2016, the GCPO LCC's Blueprint 1.0 will be stitched together with five more LCCs across the Southeast as the spatial depiction of a Southeast Conservation Adaptation Strategy (SECAS).

STRATEGIC PLAN CONSERVATION DELIVERY GOAL: Application of LCC Research and Tools

State Wildlife Action Plans

Many conservation partners share the common goal of prioritizing the landscape to make better decisions about allocation of limited conservation resources. There is an ongoing role for Landscape Conservation Cooperatives to serve as a communications and collaboration forum that allows partners to connect their ongoing work across state lines. During development of revised State Wildlife Action Plans (SWAPs) in 2015, GCPO LCC staff provided new information, particularly in relation to future climate and development conditions, to state wildlife agencies in Arkansas, Missouri, Louisiana, Mississippi, and Tennessee. LCC data were explicitly cited in the latter three SWAPs.

East Gulf Coastal Plain Joint Venture (EGCPJV)

LCC staff are serving on the EGCPJV Technical Advisory Team and presenting at Joint Venture management board meetings to integrate LCC grasslands and open pine system planning and data with the EGCPJV's conservation efforts on behalf of birds that rely on these habitats. Staff are assisting with the geospatial scoping phases of a southern pine restoration initiative, as well as the Joint Venture's Black Belt Prairie Restoration initiative.



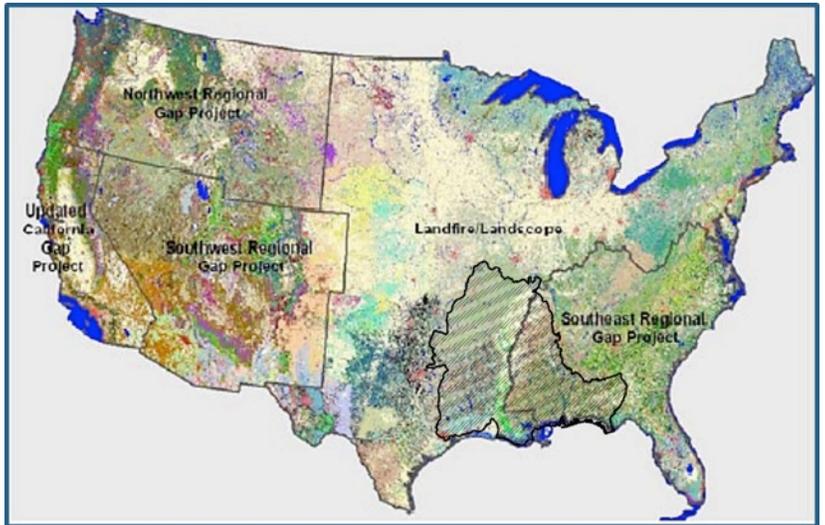
Conservation Planning Atlas

The GCPO Conservation Planning Atlas (CPA) continues to grow, hosting novel or updated datasets that are of particular importance to biological and conservation planning in the region. In 2015, [129 new datasets](#) were added to the CPA. Highlights include:

- At least 17 datasets pertaining to individual species habitat requirements;
- Scenarios for future tidal wetland migration;
- Inundation frequency for floodplains over the entire GCPO region;
- The Lower Mississippi Valley Joint Venture's Louisiana-Mississippi Conservation Delivery Network - Delivery Prioritization Tool;
- National Wetlands Inventory Wetlands in Conterminous United States;
- Multiple datasets describing at least six major habitat types within the GCPO region;
- Datasets depicting projected sea level rise for the Gulf Coast;
- LANDFIRE Data 1.3;
- A Surface Elevation Table Inventory for the northern Gulf of Mexico.

2015 Progress on the GCPO Land Cover Database

The GCPO LCC geography is situated at a challenging intersection for land cover modeling. There is a fundamental difference in classification systems mapped by Landscape Fire and Resource Management Planning Tools Project (LANDFIRE), west of the Mississippi River, and the Southeastern Gap Analysis Program (GAP), east of the river. This mismatch is problematic when assessing the status and change in ecological systems prioritized by the GCPO. For example recent ecological assessments of grasslands, forested wetlands, and open pine systems across the GCPO LCC revealed discrepancies in classification of these systems east and west of the Mississippi River. Further, the GCPO landscape is rapidly changing and both GAP and LANDFIRE products are based on 2001 or earlier imagery. The GCPO LCC identified from the outset that development of an updated, complete, coordinated, and consistent land cover classification using a common ecological system across the geography was a high priority science need for the LCC. This task was broken down into the western and eastern LCDB projects, which are using tri-seasonal 2011 Landsat TM imagery, National Agricultural Imagery Program (NAIP) imagery, and several ancillary data layers to produce mapping products. The outcome will be a single unified land cover map throughout the GCPO geography based on consistent and updated imagery and classification procedures.



Researchers' Meeting on Open Pine

To discuss progress and issues to date arising from four GCPO LCC-sponsored research projects in open pine, representatives of U.S. Fish and Wildlife Service Migratory Birds, the EGCPJV, NatureServe and other principal investigators were hosted for a coordination meeting in early 2015 at the Jones Ecological Center in Georgia. The meeting fostered in depth discussions of how the projects could be linked and leveraged, and participants agreed that such multi-project meetings are valuable and should be continued in the future.



STRATEGIC PLAN

ORGANIZATIONAL REPRESENTATION GOAL: Maintain and Expand Broad-based Partnerships

Spring Steering Committee Meeting

Theme of the spring 2015 meeting held in Starkville, MS: Charting a Course toward an Ecologically Connected Network of Lands and Waters
Major decisions:

- Proceed with Ecological Assessments.
- Proceed with landscape conservation design approach for the nine major habitat types identified in the GCPO region.
- Form an ad-hoc committee to develop recommendations regarding how to approach landscape scale monitoring.
- Funding commitments for previously approved 2-year research projects along with the requirements for supporting landscape conservation design prohibited GCPO LCC from awarding any additional research projects in 2015.



Partner Engagement and Coordination

In addition to the usual collaboration with the South Central Climate Science Center (CSC) in helping to prioritize research priorities related to climate, the GCPO LCC, along with many others, also participated in a CSC initiative to establish a tribal climate change curriculum. In addition, members of the [Partnership Advisory Council](#) helped to identify priorities for research that can be implemented in 2016 and beyond, as funding allows.

The GCPO LCC Coordinator, Science Coordinator, Geomatics Coordinator, and Gulf Liaison participated in multiple partnership meetings, providing geospatial expertise, making presentations about Landscape Conservation Cooperatives (the GCPO LCC in particular), and highlighting applications of the Conservation Planning Atlas.

Steering Committee Members

Alabama Department of Conservation and Natural Resources

Arkansas Game and Fish Commission

Ducks Unlimited

Florida Fish and Wildlife Conservation Commission

Kentucky Department of Fish and Wildlife Resources

Louisiana Department of Wildlife and Fisheries

Mississippi Department of Wildlife, Fisheries, and Parks

Mississippi State University

Missouri Department of Conservation

National Bobwhite Conservation Initiative

National Oceanic and Atmospheric Administration

National Park Service

Oklahoma Department of Wildlife Conservation

Tennessee Wildlife Resources Agency

Texas Parks and Wildlife Department

The Nature Conservancy

US Army Corps of Engineers

US Fish and Wildlife Service

US Forest Service

US Geological Survey

STRATEGIC PLAN MONITORING GOAL: Collaboratively Evaluate Collective Progress

Fall Steering Committee Meeting

Theme of the fall 2015 meeting held in Asheville, NC: Designing a Sustainable Landscape in the GCPO LCC: The Aquatic Connection.

Major decisions:

- The Steering Committee approved moving ahead with the blueprint workshop schedule for winter/spring 2016.
- The [GCPO LCC Landscape Monitoring Scoping report](#) was presented and decisions concerning next steps were tabled until more information from other LCCs could be considered in 2016.

Partnership Advisory Council Members

Central Hardwoods Joint Venture
East Gulf Coastal Plain Joint Venture
Gulf Coast Joint Venture
Gulf of Mexico Alliance
Lower Mississippi Valley Joint Venture
Lower Mississippi River Conservation Committee
Southeast Aquatic Resources Partnership

Staffing changes

- Dennis Figg began in January 2015 serving as Southeast Conservation Adaptation Strategy (SECAS) Coordinator to improve the integration of planning activities being conducted by LCCs and the Southeast Climate Science Center into SECAS. He served through September 2015, and Cynthia Edwards filled in through the end of 2015. In early 2016, Cynthia was officially hired as SECAS Coordinator.
- Cynthia Edwards assumed a part-time role as Gulf Coast liaison for the GCPO and other Gulf LCCs.
- Timothy Mullet began as the new liaison to the GCPO LCC from the USFWS Alabama Ecological Services field office, replacing Jeff Gleason.

Dedicated & Affiliated Staff

Greg Wathen, Coordinator –
Tennessee Wildlife Resources
Agency

Dr. Todd Jones-Farrand,
Science Coordinator -
US Fish & Wildlife Service

Dr. Mike Osland,
Research Ecologist –
US Geological Survey

K. Gregg Elliott,
Communications & Outreach -
[K Gregg Consulting](#)

Janet Ertel & Tim Fotinos,
NWRS Inventory & Monitoring
liaisons for the GCPO
geography -
US Fish & Wildlife Service

Yvonne Allen,
Aquatic Habitat Analyst -
US Fish & Wildlife Service

Dr. Kristine O. Evans,
Geomatics Coordinator -
Geosystems Research Institute,
Mississippi State University

Toby Gray, GIS Analyst -
Geosystems Research Institute,
Mississippi State University

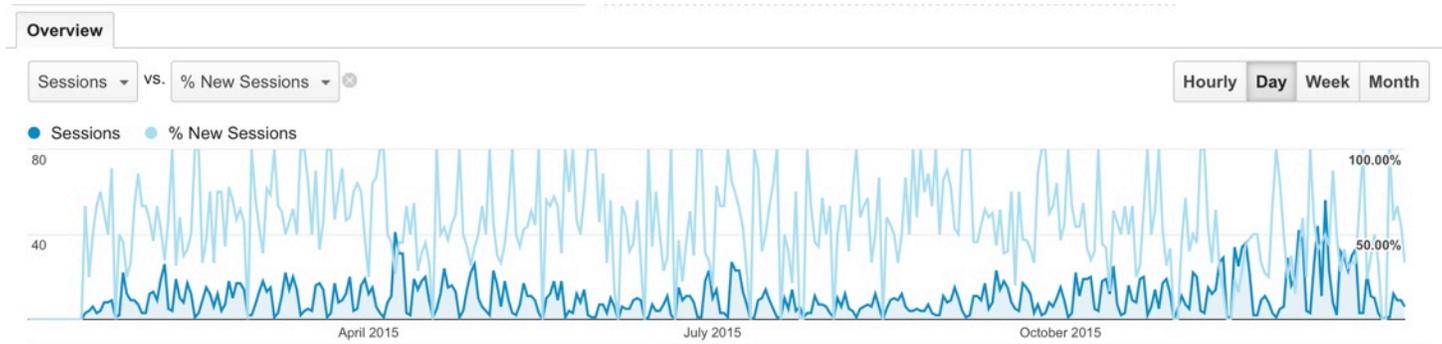
Cynthia Kallo Edwards,
SECAS Coordinator &
Gulf Coast liaison -
Wildlife Management Institute

Timothy Mullet, liaison to
Daphne, AL Ecological Services
field office -
USFWS Ecological Services

STRATEGIC PLAN COMMUNICATIONS GOAL: Effective Communications Platforms

Communications Highlights

- Outreach in 2015 focused on potential new audiences for the Conservation Planning Atlas and its hosted datasets. A CPA outreach webinar was conducted in partnership with DataBasin. The Geomatics Working Group held a web meeting to provide detailed guidance concerning CPA audiences. Presentations detailing how to apply the CPA were made at multiple national and regional scientific meetings throughout the year. CPA datasets and content were regularly featured in the GCPO LCC newsletter.
- The gcpolcc.org website, [Conservation Planning Atlas](#), and [Projects Database](#) continue to host key information about the LCC and its work. Analytics for each of these three components of the website were split to allow separate monitoring at the beginning of 2015. Traffic to the Conservation Planning Atlas showed more than 3,600 sessions of which >50% were new (i.e. percent of total users who came to the website for the first time in that year). Traffic to the gcpolcc.org and Projects Database combined totaled nearly 15,800 sessions. When combined, the traffic for all three GCPO LCC sites as measured by sessions, users, and page views increased by 16%, 15%, and 18%, respectively, from 2014 to 2015.



GCPO LCC Conservation Planning Atlas sessions vs. percent new sessions in 2015.

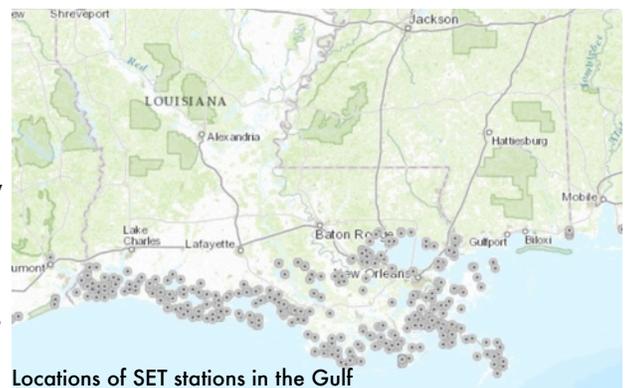
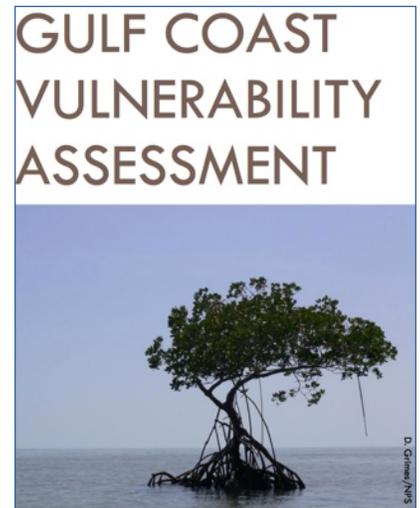
- Monthly newsletters in 2015 highlighted key accomplishments to a steadily growing audience, which grew by ~14% in 2015. Newsletter campaigns provide a consistent and reliable uptick in website traffic, and the GCPO LCC news list continues to perform well against industry averages for government, nonprofits, and education. In 2015, both open and click rates held steady at 33% and 12% respectively.
- Brief 8- to 10-page [Assessments-in-Brief](#) for 4 of the draft Ecological Assessments were produced as a means of highlighting key findings:
 - Mainstem Big Rivers
 - Tidal Marsh
 - Medium-low Gradient Streams
 - Open Pine
- Web tours of the GCPO were presented to USFWS Region 4 Refuge staff as well as tribes.

BEYOND LCC BORDERS

Gulf Coast Conservation

In 2015:

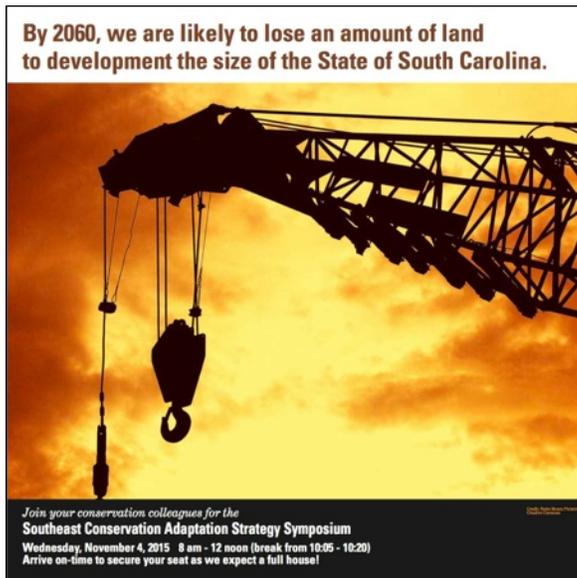
- The [Gulf Coast Vulnerability Assessment](#) project issued its [final comprehensive report](#) (and [Executive Summary](#)), which evaluates the effects of climate change, sea level rise, and urbanization on four Gulf Coast ecosystems and 11 species that depend on them. Results of the GCVA highlighted the vulnerability of salt marsh habitats and Kemp's Ridley sea turtles to the effects of sea level rise along the U.S. Gulf Coast. The GCVA will guide conservation and restoration efforts by helping partners across the Gulf identify vulnerable areas to focus critical resources, and in early 2016 was awarded the inaugural [Sam D. Hamilton Award for Transformational Conservation Science](#). The LCCs received support and guidance for the assessment from 12 agency partners and > 50 experts.
- In parallel to the GCVA, the USGS -- led by the GCPO LCC's Research Ecologist -- partnered with the U.S. Fish and Wildlife Service and the four Gulf Coast LCCs to [identify barriers and opportunities for the landward migration of tidal saline wetlands along the U.S. Gulf coast](#). These studies can assist in increasing the adaptive capacity of coastal wetlands to help ensure that future generations have access to the many goods and services provided by these important coastal ecosystems.
- The RESTORE Council's draft Funded Priorities List (FPL) for Gulf restoration projects in key watersheds was issued in mid-2015, and by December, the [Strategic Conservation Assessment Framework project](#) had been approved. This ambitious project includes the participation of 4 Gulf LCCs (Peninsular Florida, South Atlantic, Gulf Coastal Plains & Ozarks, and the Gulf Coast Prairie), and will be administered by the GCPO LCC.
- The Northern Gulf of Mexico Sentinel Site Cooperative worked with the GCPO LCC Research Ecologist to create a first-of-its-kind [inventory of Surface Elevation Table monitoring stations](#) for the region.
- The LCC also began partnering in two inter-related projects focused on coastal resilience: (1) A nationally funded LCC project will support an assessment of the value of coastal habitats as protection to coastal communities. (2) Additional national LCC funding has been awarded through the GCPO LCC to match Nature Conservancy funding for a project Gulf that will host workshops with coastal communities to present the results of cost-benefit analyses that measure the value of land conservation in coastal zones for mitigating flood risk.



The Southeast Conservation Adaptation Strategy (SECAS)

SECAS was initiated by states of the Southeast Association of Fish & Wildlife Agencies and the federal Southeast Natural Resource Leaders Group, with the agreement that the Landscape Conservation Cooperatives of the Southeast as well as the Southeast Aquatic Resources Partnership would provide [essential support](#) to the effort. SECAS is a long-term vision for lands and waters that sustain fish and wildlife populations and improve quality of life across the southeastern U.S. and Caribbean; its unique role is to regionally plan, implement, and evaluate actions that sustain habitat, mitigate threats, and adapt to future conditions. This initiative links conservation across the 5 Gulf states in the U.S., as well as Puerto Rico and the U.S. Virgin Islands.

A SECAS Symposium held November 4, 2015 at the Southeast Association of Fish & Wildlife



Agencies Annual Conference was, by all accounts, extremely successful. Presentations from the symposium can be viewed in the [SECAS group on Griffigroups](#), or view the individual section presentations listed below:

- [Leadership](#)
- [Blueprints](#)
- [Integration](#)
- [Future conservation](#)
- [Implementation](#)

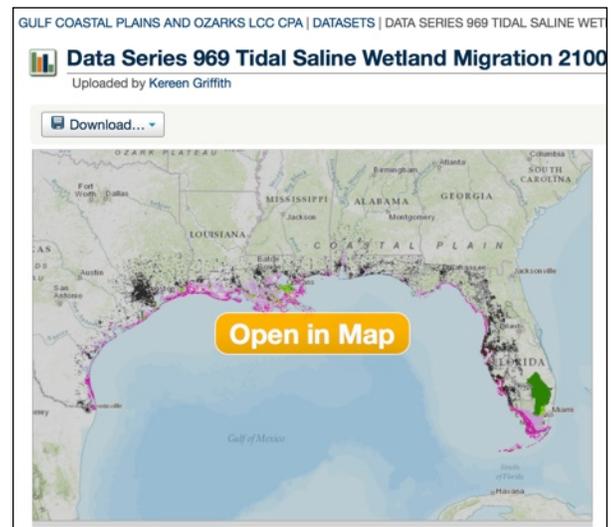
In addition, the USGS Southeast Climate Science Center is funding a three-year research project assessing the implications of climate change and other drivers of landscape change for existing conservation goals, management objectives, and future adaptation plans.

STRATEGIC PROJECT THEMES IN 2015

In addition to previously mentioned projects, the following were also completed in 2015.

Climate Adaptation

A project to evaluate the [ecological implications of climate change for coastal wetlands](#) stretching from the arid salt pans of Texas coast to the lush semi-tropical Florida coast examined and forecast the effects of changes in rainfall and temperature on various wetland types. The study identified climate thresholds that could result in dramatic future landscape change. Of interest to sportsmen, one project combined a [weather severity index](#) and downscaled climate projections to develop a tool that predicts how waterfowl in the Mississippi Flyway will respond to changing climate conditions.



Inventory & Monitoring

A monitoring project aimed at helping to delist the [Interior Least Tern](#) developed an innovative sampling design to detect significant population trends and could save 50% in monitoring costs annually. A mapped and ground-truthed dataset of [glade habitats in the Arkansas Ozarks](#) was the second such project funded by the GCPO LCC, as ongoing support toward a complete inventory of Ozark glade habitats.

Data & Tools to Guide Conservation Action

The [Conservation Planning Atlas](#) hosts a growing number of new or comprehensive datasets for the region that are useful to conservation practitioners, including at least nine LCC-sponsored novel datasets developed in 2015. Among these are [inundation frequency](#) analyses for the entire GCPO region -- invaluable for improving management of floodplain habitats and species -- and a dataset identifying [potential habitat for the Louisiana Pine Snake](#), a candidate species for federal listing.

A nationally-funded multi-LCC project completed in 2015 (scientific paper pending publication) sought to [evaluate approaches to conservation design](#) across the LCC network in the east by focusing on five design case studies, including the GCPO LCC's Ozark Highlands Comprehensive Conservation Strategy. The study provides recommendations for ways in which diverse approaches to conservation design can be better interwoven in future to ensure better "edge matching" when two or more designs are combined.

Finally, a project conducted by the GCPO's Research Associate Taylor Hannah assessing the influence of [landscape and stand-scale factors on priority wildlife species in open pine](#) was the first of 4 GCPO LCC projects aimed at answering key unknowns concerning open pine habitats and wildlife. The researcher concluded that using a combination of stand- and landscape-scale factors to identify areas to restore ecosystems of conservation concern is an efficient and practical wildlife conservation practice.

