Reptiles, Plants, and Birds, Oh My!

How Planners Can
Balance Development
and Species
Protection

Krisztian Varsa, Athens Land Trust

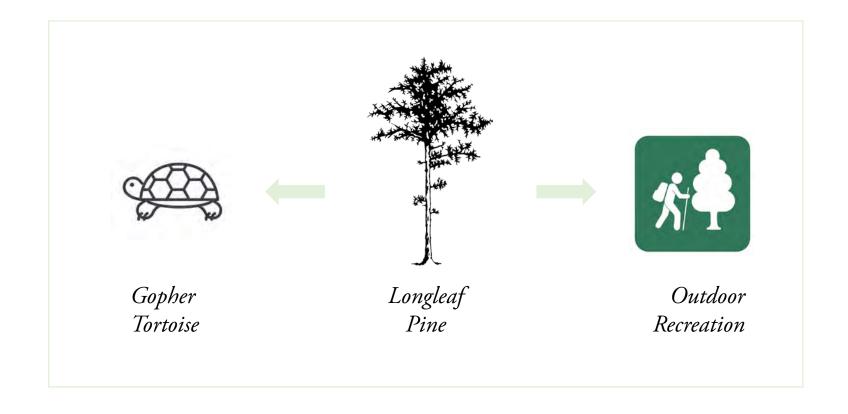
Charles McMillan, Georgia Conservancy

Jennifer Ceska, State Botanical Garden of Georgia

Neil Fleckenstein, Tall Timbers



- 1. Why?
- 2. How?
- 3. What?



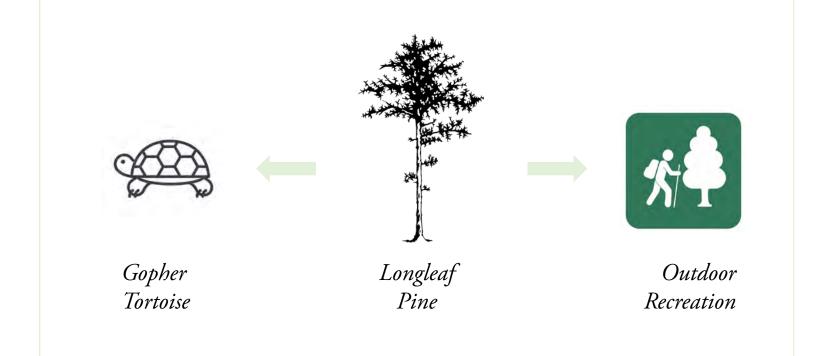
1. Why?

2. How?

3. What?

Ecological

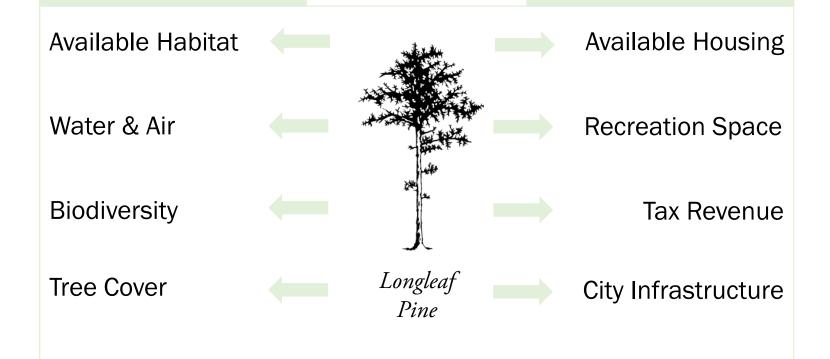
Economic



- 1. Why?
- 2. How?
- 3. What?

Ecological

Economic



Species protection & endangerment have implications for both.



1. Why?

2. How?

3. What?

Regulatory Steps

Habitat Conservation Plans

Hunting/Fishing Permits

Siting & Construction Permits

Development Delays

GOPHER TORTOISES COULD DELAY
YOUR NEXT LAND DEVELOPMENT PROJECT

Will Long-Eared Bats cause problems or delays for your construction project?

Economic Opportunities!

IN GEORGIA OUTDOOR RECREATION GENERATES:



238,000 DIRECT JOBS







\$1.8 BILLION IN STATE AND LOCAL



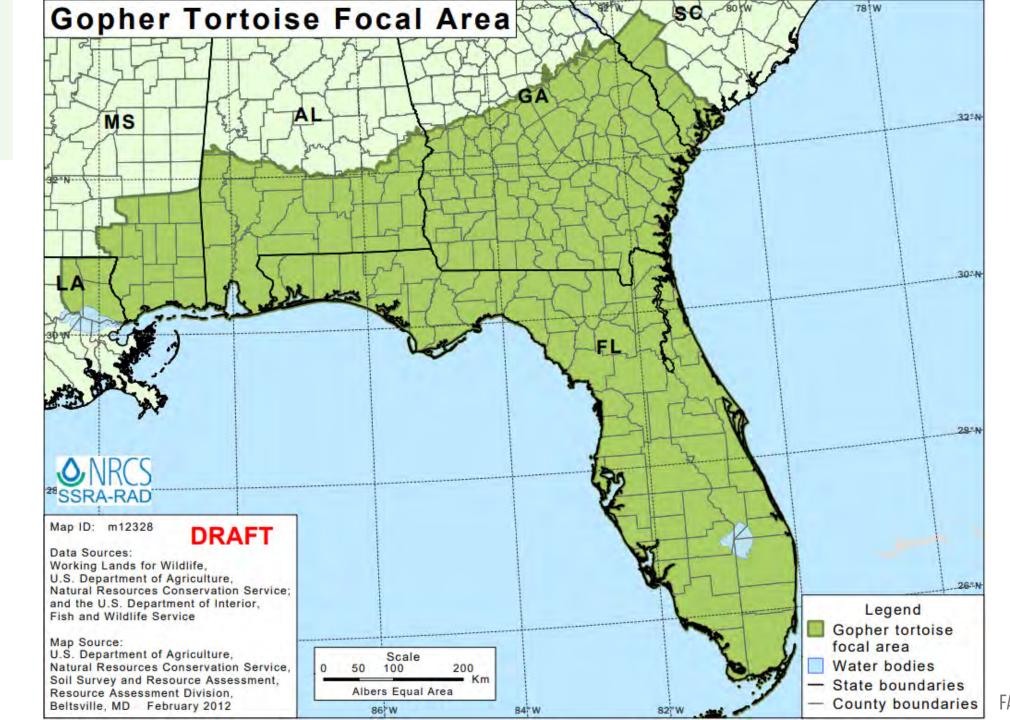




1. Why?

2. How?

3. What?





GPA FALL 2019 Why?
 How?
 What?

Good relationships

Good policy

Awareness & timeliness

Governmental (DNR, EPD, FWS)

Statewide & local nonprofits (Georgia Conservancy, UGA, local land trusts)

State and local policymakers

Appropriate regulation for Endangered Species

Creative land use, zoning, and building codes

Support for outdoor economy

Keeping current on issues facing endangered and keystone species

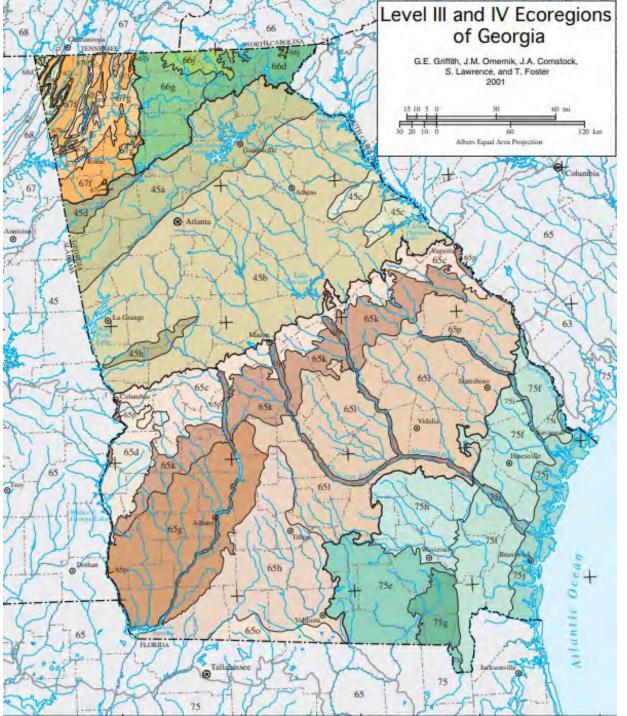
Acting early helps preparations and avoids hurdles

National interests

Wildlife should be considered an opportunity rather than a hindrance.



- 1. Why?
- 2. How?
- 3. What?



State Wildlife Action Plan

High Priority Species High Priority Habitats Ecological Framework for Entire State

Inter-agency Coordination Regional Conservation Partnerships Reducing Development Impacts

among others



Level III & Level IV Eco-Regions for Georgia.

- 1. Why?
- 2. How?
- 3. What?

Questions to ask yourself:

How can planners weave conservation and biodiversity into daily work without sacrificing economic growth?

How does what we plan for affect what's downstream? How are our plans affected by what's upstream?

How can planners design cities to mirror ecological frameworks and utilize that for economic success?



The intersection of quail, land conservation, land use planning, and economics







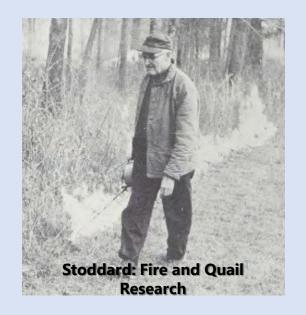


1 minute history of the Red Hills



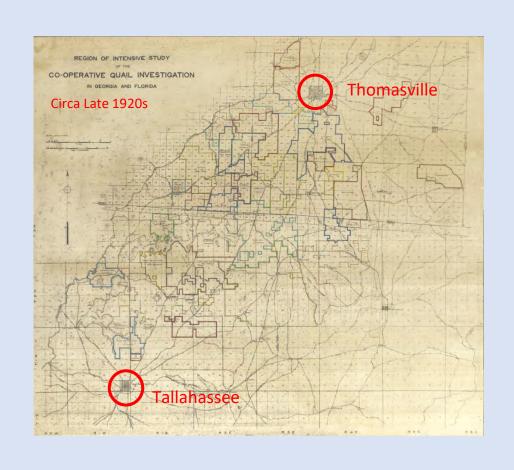


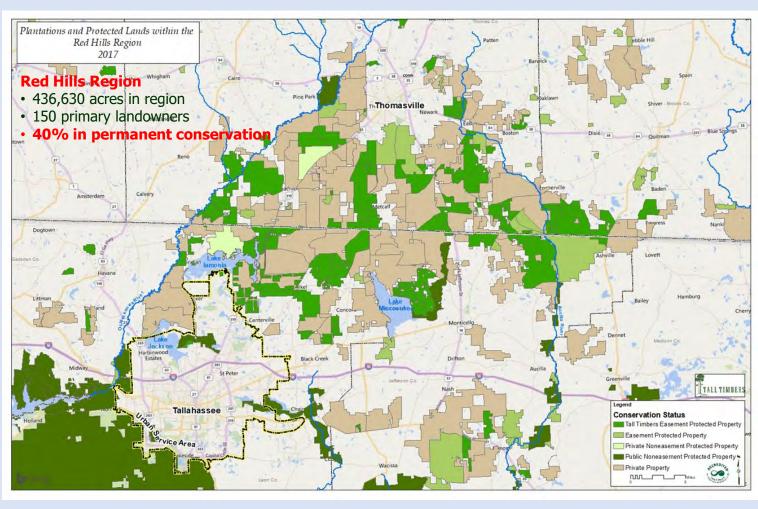






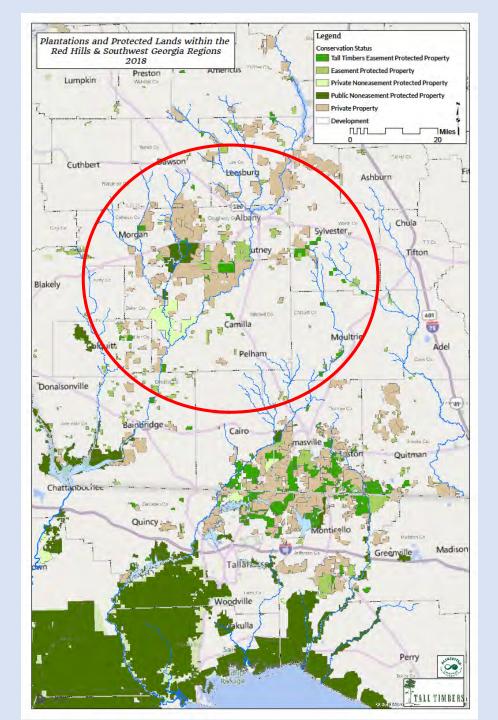
The Red Hills: One of Tall Timbers' primary conservation focal areas





Albany quail hunting region: Another Tall Timbers' conservation focal area





Land use planning and advocacy efforts help us conserve the Red Hills region

Comprehensive/Community Planning



Ordinance development



Transportation planning







Planning agency sounds toll road's death knell

By Bruce Ritchie

A regional transportation board on Monday voted to begin killing a controversial proposed toll road that would extend through eastern Leon and

Wakulla counties.

The proposed Red Hills
Coastal Parkway would
promote urban sprawl in
the region, according to
state and federal agencies.

from Thomasville Road process of removing the north of Bradfordville to toll road from the agency's U.S. Highway 98 near 25-year transportation Newport under one projects list. The agency

"My motion is to make the Red Hills-Coastal Parkway Black Flag dead," Leon County Commission Chairman Ed Depus aid

The Capital Region Transportation Planning Agency voted unani-

25-year transportation projects list. The agency could vote at its September meeting to formally remove the project after a public hearing, said Harry Reed, the agency's executive director.

The board voted after a public hearing in

Please see CRTPA, 6E

Educating the public and elected officials about the economic impact of working rural lands builds support for their conservation



2018 Red Hills Quail Lands Economic Impact Analysis: Survey

- ~111 land owners
- ~136 properties
- Average size: 3,000 acres
- 407,000 total acres
- Owners of 75% of quail hunting acreage in the Red Hills completed the survey (> 306,000 acres in the Red Hills)
- Peer assistance/outreach crucial
- Partnered with FSU Center for Economic Forecasting & Analysis

TALL TIMBERS

Red Hills 2018 Recreational Hunting Lands Economic Impact Survey

Just a reminder, if a landowner owns more than one working rural property in the region, we would like information on <u>all</u> of those properties. For example, if a landowner owns a 750-acre Red Hills hunting property and a separate 250-acre pecan grove in the Red Hills, we would like information on <u>both</u> properties. We encourage you to combine information about more than one property on one survey. We have provided additional space on each question to accommodate responses for more than one Red Hills property. Alternatively, you can complete a separate survey for each property if that would be easier for you.

1. What is the approximate total acreage of the property(s)?

	Total acreage:		
Property 1			
Property 2 (If applicable)			
Property 3 (If applicable)			
Property 4 (If applicable)			

In which Red Hills county is the property located? If the property is located in more than one county, please estimate the acreage in each county.

	Total acreage:						
	Brooks	Gadsden	Grady	Jefferson	Leon	Madison	Thomas
Property I	-	-	1				12.2
Property 2 (If applicable)				-			
Property 3 (If applicable)							-
Property 4 (If applicable)			100	Later 1	pl I	1 0	9 1 4 1

6. What are the most recent year's total cash operating expenditures (excluding depreciation) for the property(s)? Include typical operating expenses such as payroll; insurance; taxes; all housing and building maintenance and repair (including all buildings on site); utilities; all land management costs for agricultural activities and hunting (quail, dove, turkey, duck, etc.); fuel; vehicle and equipment maintenance; feed and seed; fertilizer; animal expenditures (dogs, horses, etc.); legal and accounting services; other consultants; contract help; etc. You need only provide the final figure, not all line items. This does not include capital expenditures, which are asked for in question 5.

	Total cash operating expenditures for the most recent year available:				
Property 1	\$				
Property 2 (If applicable)	\$				
Property 3 (If applicable)	\$				
Property 4 (If applicable)	\$				

4. Estimate the percentage of the property (s) most recent year's total cash operating expenditures spent in the Red Hills counties below. We know this is a very challenging question. We are only seeking an estimate or best guess as to the proportion of the total cash operating expenditures spent in the following Red Hills counties:

	Proportion of total cash operating expenditures spent in Red Hills counties						
	Brooks	Gadsden	Grady	Jefferson	Leon	Madison	Thomas
Property 1	%	%	%	%	%	%	%
Property 2 (If applicable)	%	%	%	%	%	%	%
Property 3 (If applicable)	%	%	%	%	%	%	%
Property 4 (If applicable)	%	%	%	%	%	%	%

Red Hills Quail Lands Survey asked about:

- **Operating costs**: Payroll, housing and building maintenance, land management costs, vehicle an equipment maintenance, feed and seed, animal expenditures, professional services . . .
- Capital Improvement costs: construction projects (construction of houses, barns, offices, etc.), purchases of equipment and work vehicles (tractors, frontend loaders, work trucks, etc.), and infrastructure projects (roads, fencing, wells, etc.).
- Discretionary and charitable spending







Land management

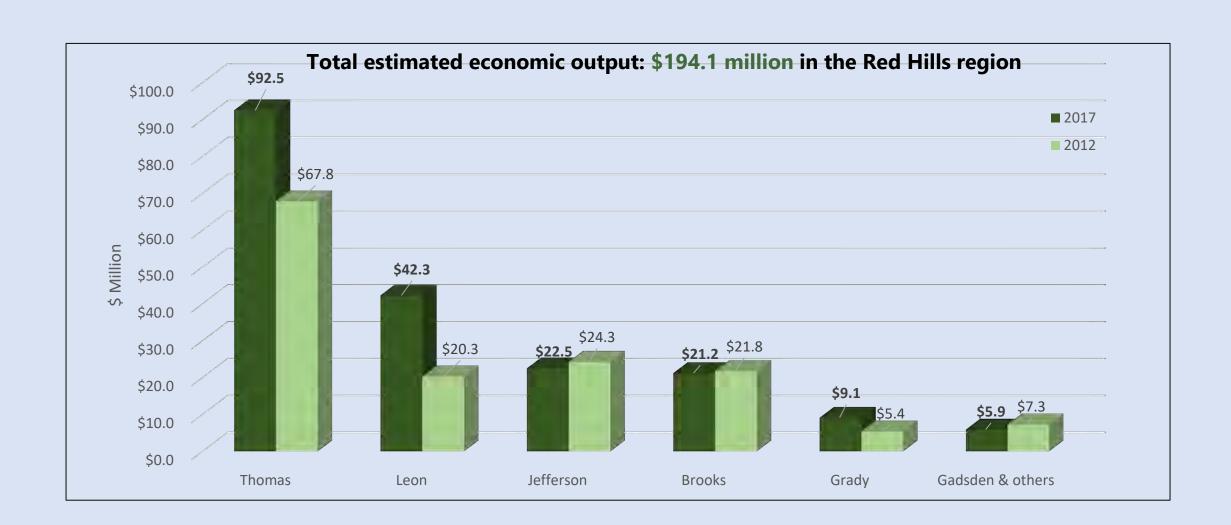


Red Hills Quail Lands Economic Impact Analysis: Regional Results

Red Hills Region Quail Lands Economic & Employment Results	2018 Study	Change since 2013 Study
Total Economic Impact	\$194.1 million	32 percent increase
Total Labor Income	\$83.9 million	↑ 63 percent increase
Charitable giving in the Red Hills	\$11.5 million	† 15 percent increase
Total Jobs	1,725	21.6 percent increase
Estimated number of quail hunters flying into Thomasville Regional Airport, Nov 2017 through Feb 2018	6,700 (95% of passenger traffic)	NA



Red Hills Quail Lands Economic Impact Analysis: *Regional Results*



Red Hills Quail Lands Economic Impact Analysis: Thomas County

Thomas County	2018 Study	2013 Study			
Economic impact of working quail lands	\$92.5 million	\$67.8 million			
Total labor income	\$41.2 million	\$23.6 million			
Employment	777	654			
Red Hills Fact	The economic impact of hunting lands in Thomas County increased by 36% between 2013 and 2018 study.				



Jessica Little, Sweet Grass Cheese Shop



CREATE JOBS & SUPPORT LOCAL BUSINESSES



\$194.1 MILLION

ECONOMIC IMPACT OF RED HILLS



32% INCREASE SINCE 2012



1,725 JOBS

INCLUDING > 1,000 DIRECT JOBS IN 2017



\$83.9 MILLION

LABOR INCOME GENERATED IN 2017



21.6% INCREASE SINCE 2012



63% INCREASE SINCE 2012







NUMBER OF TRACTORS AND OTHER HEAVY NUMBER OF WORK TRUCKS AND ATVS MACHINERY LOCALLY PURCHASED/LEASED LOCALLY PURCHASED AND SERVICED

NUMBER OF HUNTING DOGS, HORSES, AND MULES REQUIRING VETERINARY AND FARRIER CARE ON RED HILLS



\$118.2 MILLION

DIRECT LOCAL INVESTMENT IN LAND MANAGEMENT GOODS & SERVICES, CONSTRUCTION ACTIVITIES, HEAVY EQUIPMENT, VEHICLES, MAINTENANCE, PROFESSIONAL SERVICES, HOSPITALITY, AND STAFFING



PERCENT OF FLIGHTS INTO THOMASVILLE REGIONAL AIRPORT RELATED TO QUAIL HUNTING, FROM NOVEMBER THROUGH FEBRUARY



\$11.5 MILLION

GIVING TO LOCAL CHARITIES IN FOR EVERY \$1.00 INVESTED IN 2017 BY RED HILLS QUAIL LAND



\$0.88

A RED HILLS QUAIL HUNTING PROPERTY, AN ADDITIONAL \$0.88 IS GENERATED IN OTHER LOCAL BUSINESSES





Preliminary figures from our 2019 Albany quail lands economic impact analysis

Albany Region Quail Lands Economic Analysis Results	2019 Study	2014 Study	Change since 2014 Study
Total Economic Impact	\$165.8 million	\$125 million	† 32.6%
Total Labor Income	\$60.6 million	\$38.4 million	↑ 57.8% ↑
Total Jobs	1,190 Figures are	878 subject to change as	35.5% analysis is finalized.



Red Hills Economic Impact Analysis: Summary & Conclusions

- The working rural lands of the Red Hills region contribute significant economic impact (\$194 million) and job creation (1,700+ jobs) to local economies).
- These economic benefits are provided in conjunction with vital <u>ecological</u> <u>benefits</u>, including:
 - o Recharging and cleaning our drinking water;
 - Controlling flooding;
 - Cooling urban areas;
 - o Providing wildlife habitat and protect diversity;
 - o Maintaining our capacity for local and regional agriculture (now and in the future);
 - Helping direct growth to urban areas where it is <u>FAR</u> cheaper to provide costly infrastructure and services.













Questions?

Neil Fleckenstein, AICP
Planning Coordinator
Tall Timbers
Neil@talltimbers.org
850-893-4153, x335







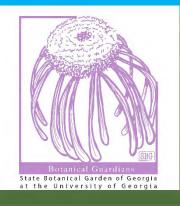
Jennifer Ceska Conservation Coordinator



SBG Science and Conservation Team:
Dr. Jenny Cruse-Sanders, Director
Dr. Jim Affolter, Director of Research
Heather Alley, Conservation Horticulturist
Linda Chafin, Conservation Botanist
Will Rogers, Research Scientist











Connect to Protect for Biodiversity

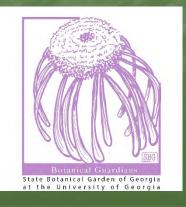


From the built to the restored

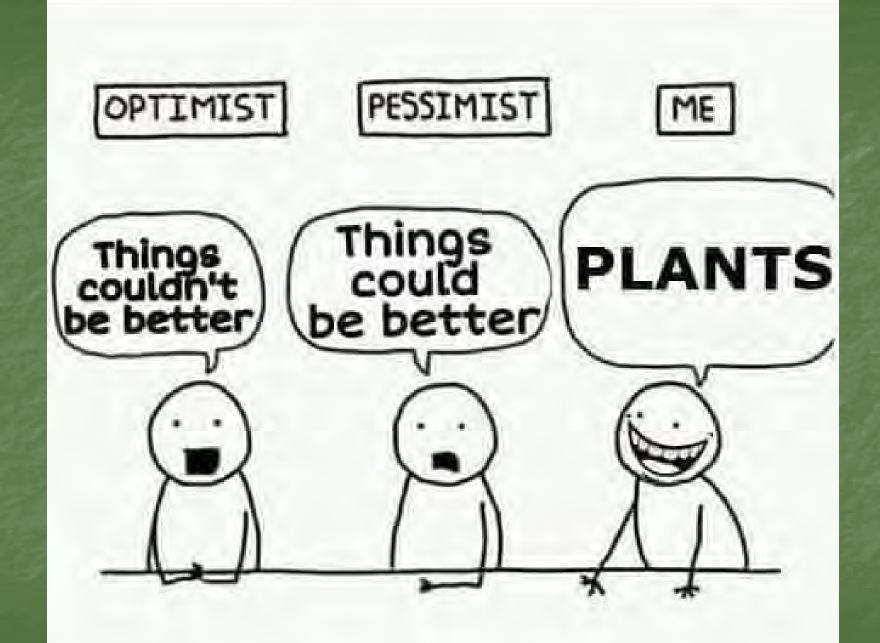
Reptiles, Birds, and Plants – Oh My!











Wildflowers By Patrick Ceska



WHEN YOU SEE THE NEIGHBORS



SPRAYING THEIR DANDELIONS





We have impressive and valid reasons for using our native plants – reasons of the soul and pocketbook.

Ladybird Johnson

Benefits of Natives

- Maintenance
 - Save Time
 - Save Money
- Save Water
- Pesticide Freedom
- Wildlife Viewing
- Aesthetics Beautiful natural landscapes display authentic SE flora. Your garden can too.
- Education



U.S. Drought Monitor Georgia

November 6, 2007

Valid 7 a.m. EST

Drought Conditions (Percent Area)

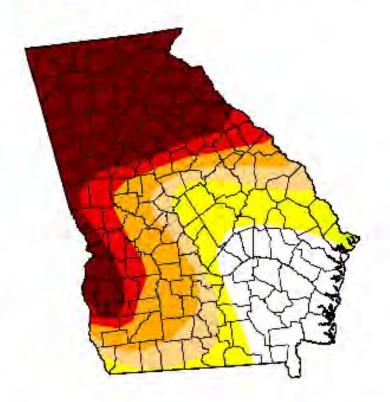
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	18.1	81.9	67.0	56.4	41.7	32.1
Lasi Week (10/30/2007 map)	18.1	81.9	67.0	56.4	41.7	32.1
3 Months Ago (08/14/2007 map)	0.0	100.0	85,7	67.8	52,3	26.9
Start of Calendar Year (01/02/2007 map)	12.2	87.8	3.7	0.1	0.0	0.0
Start of Water Year (10/02/2007 map)	24.2	75.8	64.2	52.6	39.4	27.0
One Year Ago (11/07/2006 map)	8.2	91.8	50.3	0.0	0.0	0.0

Intensity:



The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements

http://drought.unl.edu/dm











Released Thursday, November 8, 2007
Author: Douglas Le Comte, CPC/NOAA

"Plant Blindness"

Jess Willadson *Give Wildlife A Chance Poster Competition Winner*





How many of you watch song birds, hunt turkey or dove, have bird

feeders?







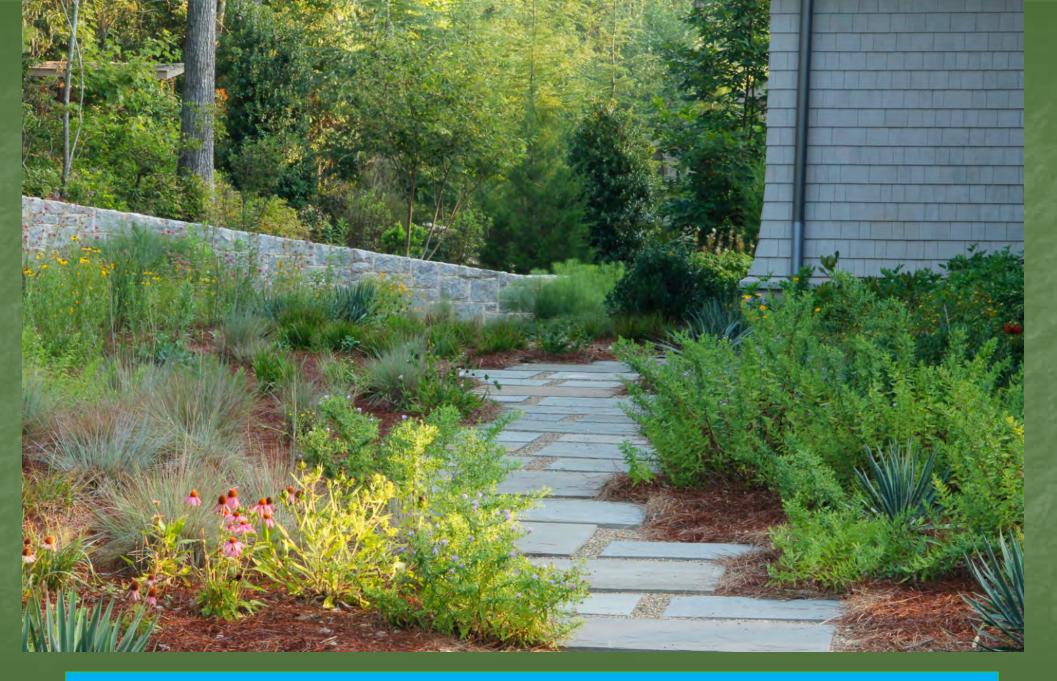




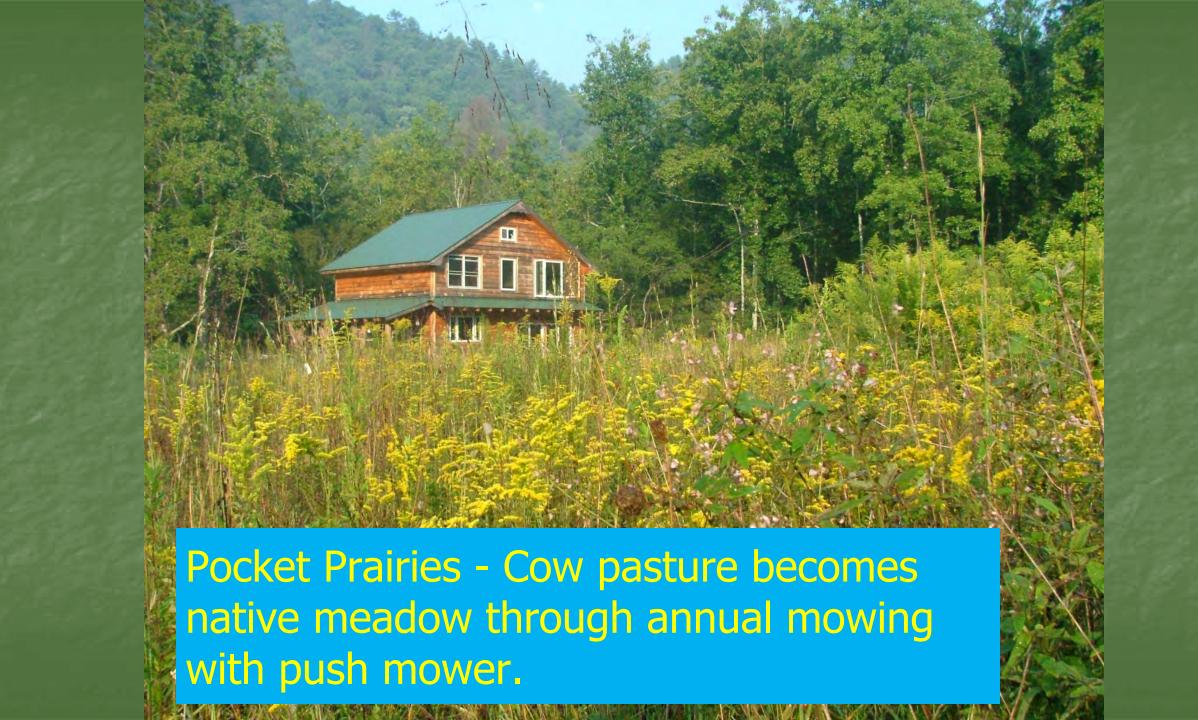
Connect to Protect for Biodiversity:
From potted displays -







The Fockele Garden Company – Gainesville, GA – Julie Evans' design, Atl home.



Incorporate natives into your garden









Photos by Auburn University Bashira Chowdbury, Bee Biodiversity Initiative



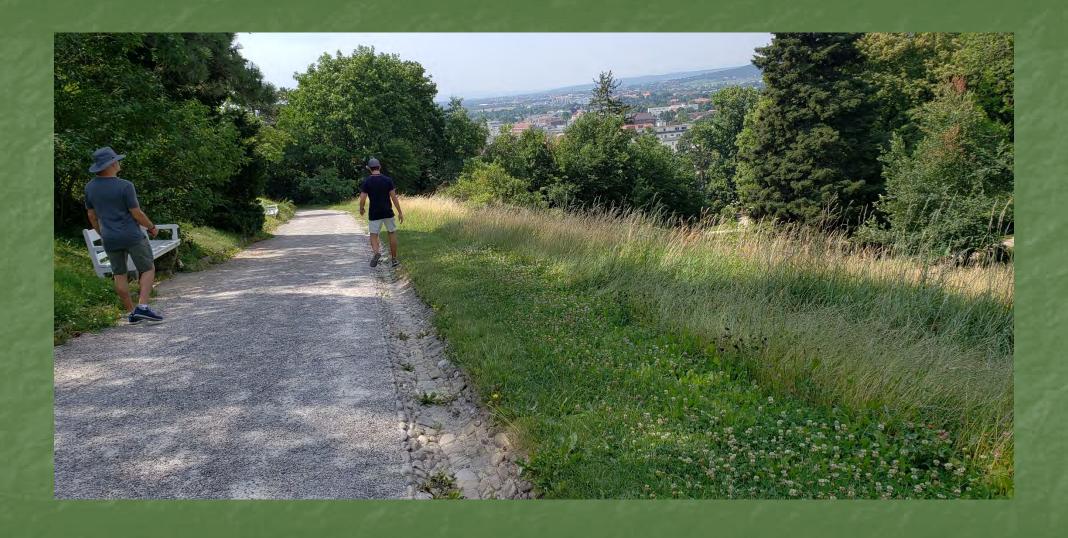


Plant Blueberries ♥ and Azaleas ♥ for Southeastern Blueberry Bees – every Georgia garden, every Georgia landscape





Photo by Jeff Lewis many moons ago





Macon-Bibb, Rosehill Cemetery Connect to Protect Garden 2015 – Our FIRST CtoP Ambassador Garden



Staff of the Macon-Bibb Parks and Beautification Department hold the new CtoP garden sign with

Macon-Bibb Parks and Beautification Director Stephen Lawson (left, purple tie), Macon-Bibb County Mayor Robert Reichert (right, red tie), and State Botanical Garden Board Chairman Stephen Reichert (jacket, no tie).

Photo by Shannah Cahoe Montgomery



Conradina verticillata
Cumberland Rosemary

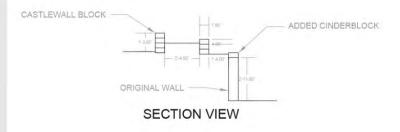
Demonstration Bed SBG Mimsie Lanier Center for Native Plant Studies

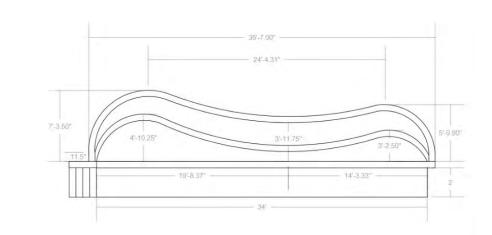


Connect to Protect Planting Bed

The planting bed designed requires 294 Castelewall Brick Units in order to construct both walls. Such units can be easily found at the nearest hardware, Lowes, or Home Depot Store. With proper installation, the garden bed will serve as a micro-habitat for pollinators and small animals to take shelter and feed in.

At current price, the amount of Units will cost 585.88 (including 6% GA Sales Tax)







Stuart Johnson – Landscape Design



Connect to Protect – D.W. Brooks Mall, South Campus, UGA! 8-17-2017



UGA South Campus













CtoP with AMLI Residential Communities in Old Fourth Ward, Atl



Oconee Middle School 7th Grade Sponsored by UGA Office of Sustainability Intern Melissa Ray





Jimmy Carter National Historic Site, Plains, Rosalynn Carter Butterfly Garden

Barbara and James.

When I attended a native plant meeting recently, Heather Alley spoke. Please see her email below and also the attached picture. Both of you will remember the brief article I wrote for the native plant Facebook page. I sent Heather the 17 photos and the article. Now she would like to include the memorial garden in Plains in Connect to Protect.

My guess is that Mrs. Carter would be pleased to be included, but I might be wrong. I myself like the idea that the state botanical garden may be a source for us of native plants for butterflies. Heather would need everyone's permission (NPS, Mrs. Carter, UGA Extension) before proceeding.

What do you think? Is this something to pursue?

Norris



ream.net>, Karan A Rawlins <krawlins@uga.edu>













Recovery of Echinacea laevigata, Smooth Coneflower, in Georgia

Persisting on roadsides. Loss of woodland prairies.

Listed Endangered Global G2 Georgia S2 GPCA Circa 1997





Georgia Plant Conservation Alliance

http://botgarden.uga.edu/conservation-science/georgia-plant-conservation-alliance/











Georgia Native Plant Society





Beech Hollow wildflower farm



















College of Science and Mathematics Department of Ecology, Evolution, and Organismal Biology



FORESTWATCH

2019

GEORGIA











of Technology















Georgia Department of Transportation



SMOOTH CONEFLOWER

Echinacea laevigata

Family: Asteraceae (aster)

Project leaders: Heather Alley, Mincy

Moffett, Jimmy Rickard

Rarity Ranks: G2 / S2

Federal Status: Endangered

GA Status: Endangered. 31 EORs, 10 seen since 2000. 2015 SWAP Priority.

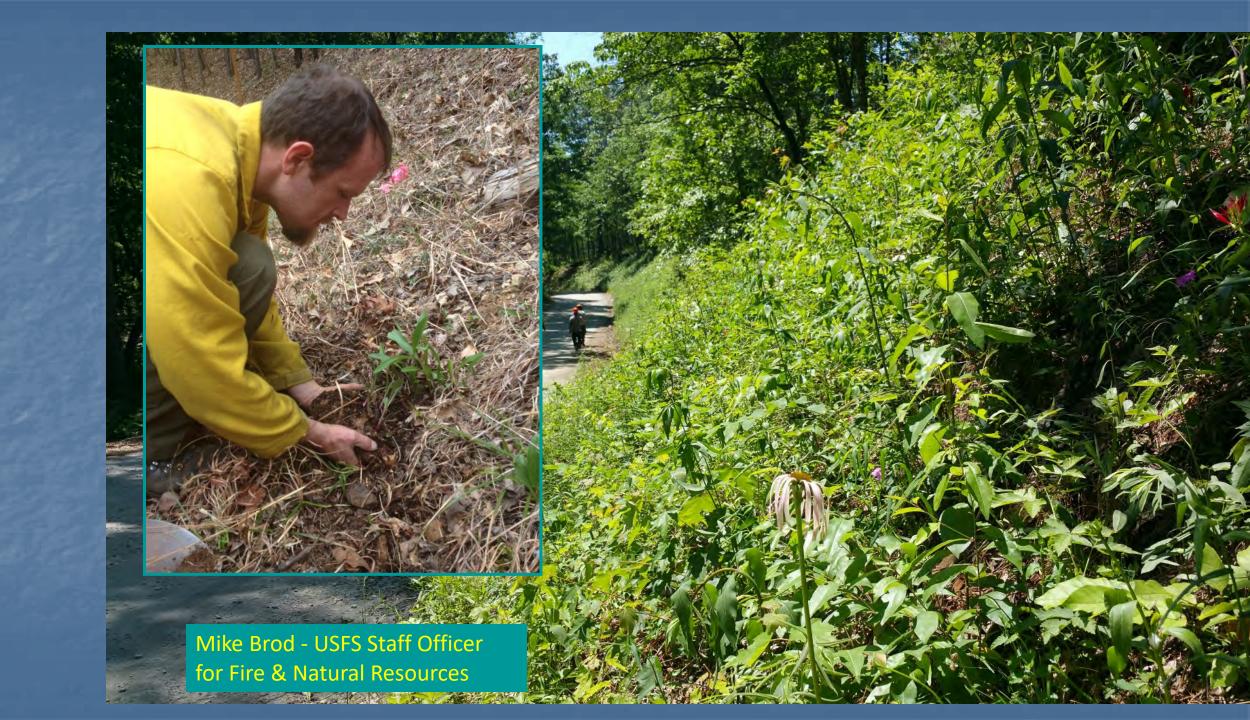
Perennial herb found in grassy openings and rocky glades with shallow soil over mafic bedrock; sunny roadsides and rights-of-way through these habitats.

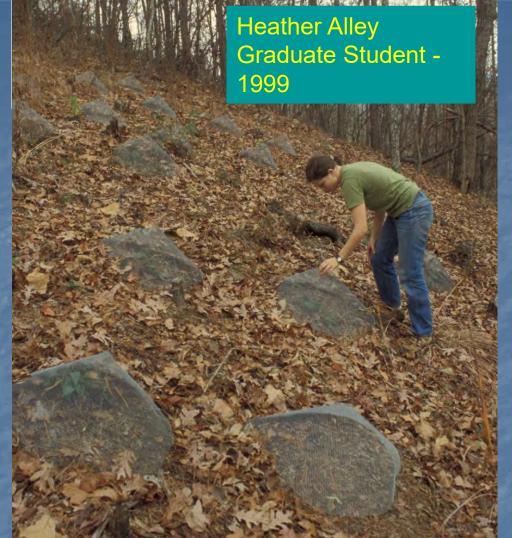
Flowers: mid-May – Jul **Fruits:** Jul – Oct

Range: GA, SC, NC, VA (PA, MD extirp'd)











Natural Areas Journal Vol. 24, No. 4, October 2004

Experimental Comparison of Reintroduction Methods for the Endangered Echinacea laevigata (Boynton and Beadle) Blake (pp. 345-350) Heather Alley and James M. Affolter





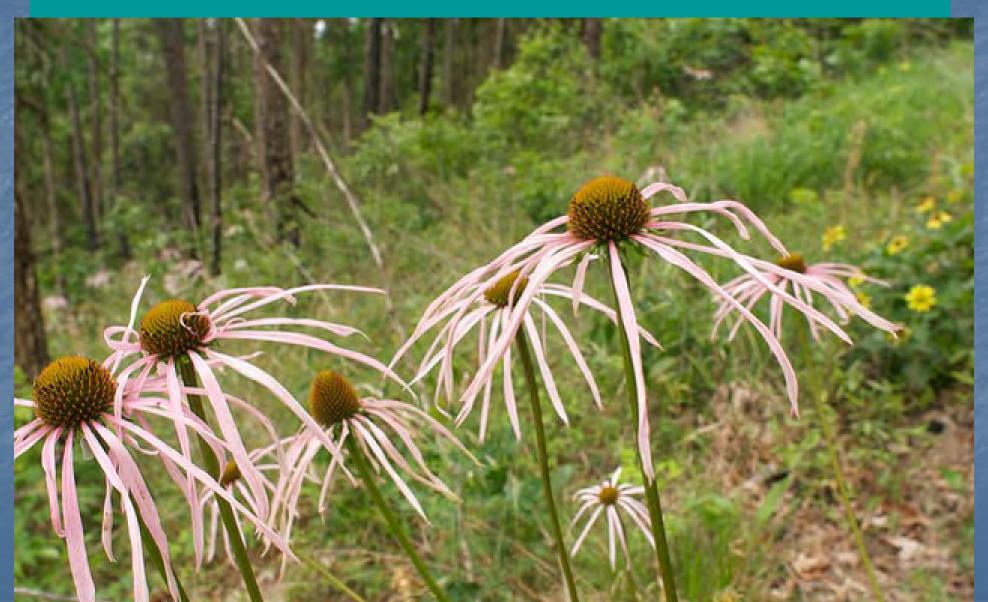


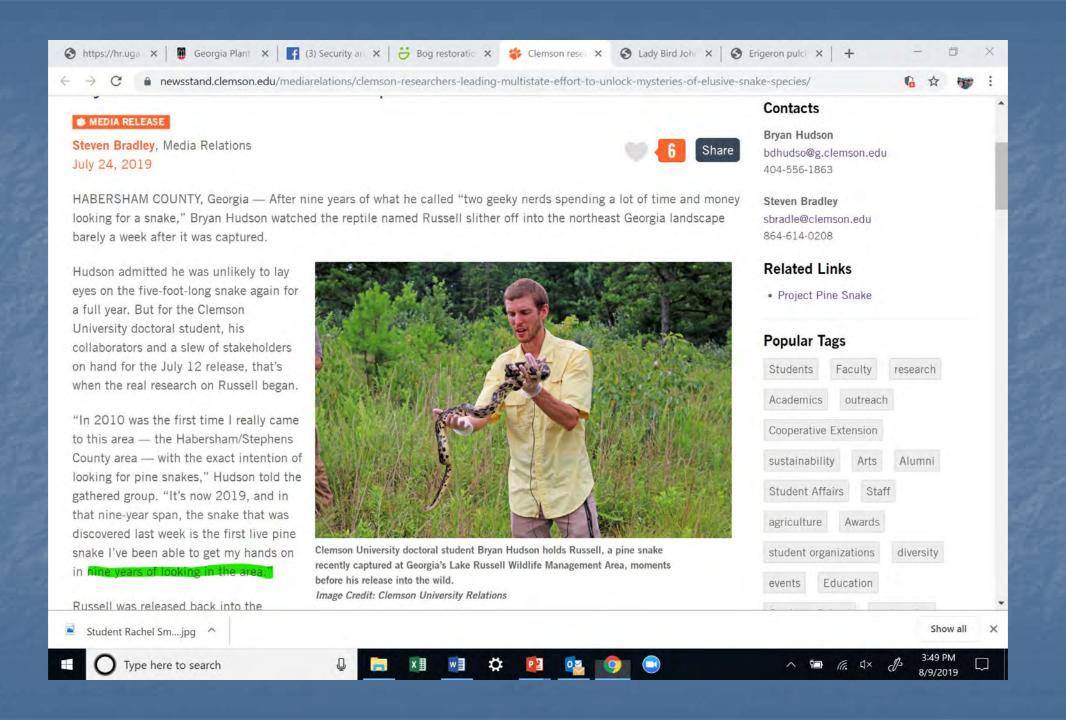
Smooth Coneflower

Since 2000: Grown more than 1,500 plants. Planted 1,000 plants and sown 3,700 seeds directly into the wild.

- 6 natural populations
- 4 <u>new</u> safeguarding sites on protected lands

Recovery of Woodlands Habitat – expanding with US Forest Service Foothills Landscape Project











Putting the Pieces Together

Statewide Policy & Economic Benefits

SPECIES

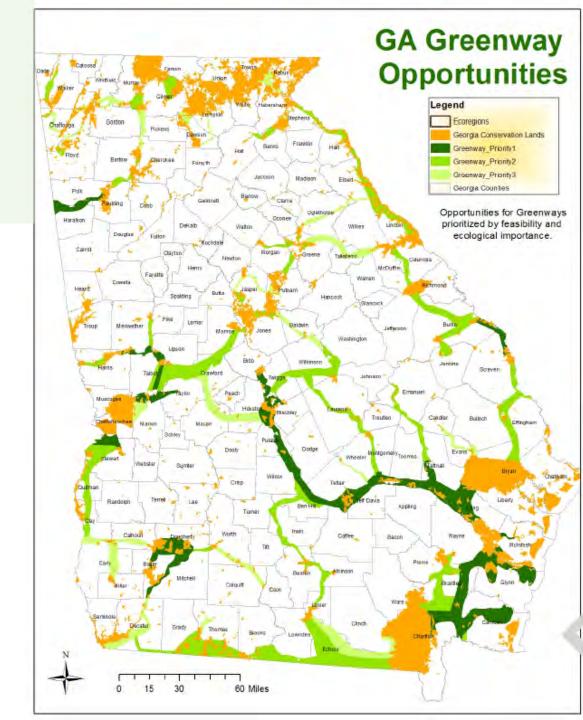
- Red cockaded woodpecker
- Gopher tortoise
- Endangered plants

POLICIES & PROGRAMS

- Wildlife Management Areas
- Sentinel Landscapes
- Gopher Tortoise
 Conservation Initiatives

ECONOMICS & PLANNING

- Outdoor economy
- Natural resource inventories
- Conservation planning

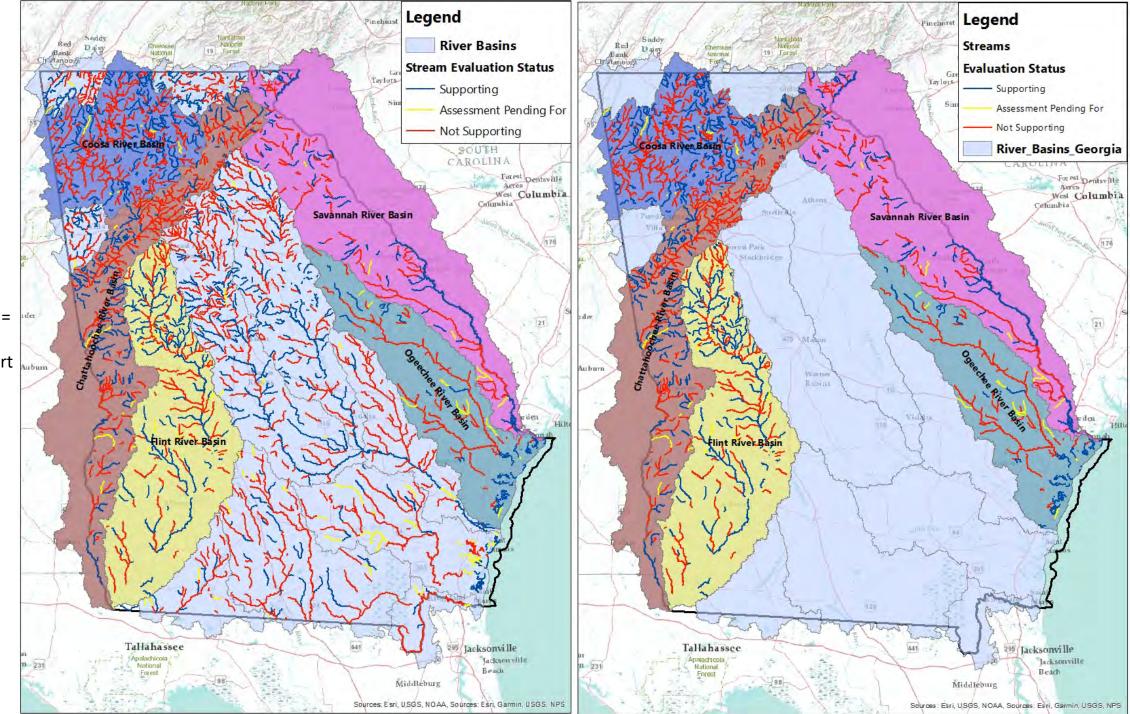




Impaired Waters of Georgia

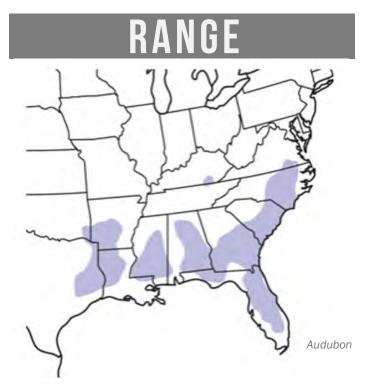
"Supporting" = rivers supported designated use.

"Not supporting" = rivers are too polluted to support designated use.

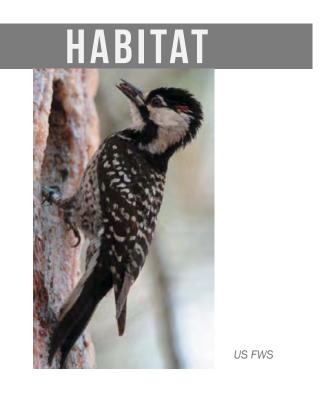




A Georgia Conservation Story: Red Cockaded Woodpecker



Original Range: Across SE USA
By 1995 most remaining birds were on DOD installations



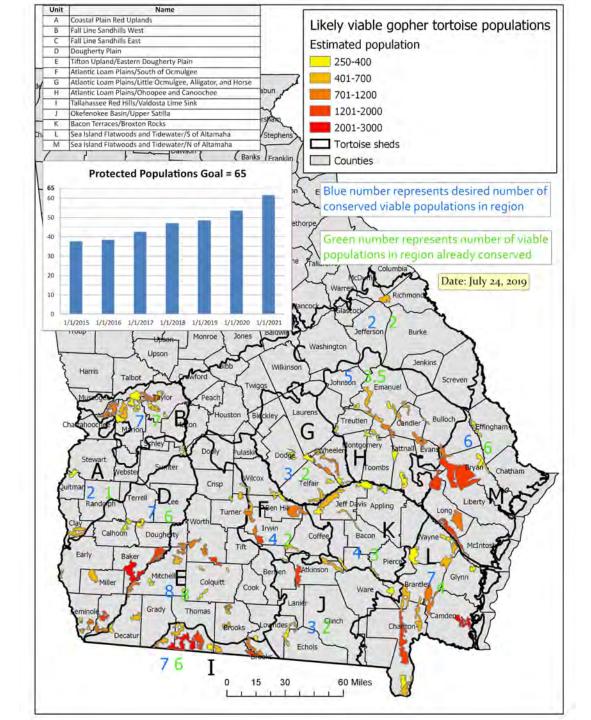
Longleaf Pine
Lives in old trees
Limited range for foraging







Why? How? What?



Gopher Tortoise Conservation Initiative

High Priority Species High Priority Habitats

Inter-agency Coordination Regional Conservation Partnerships Reducing Development Impacts

Keystone Species

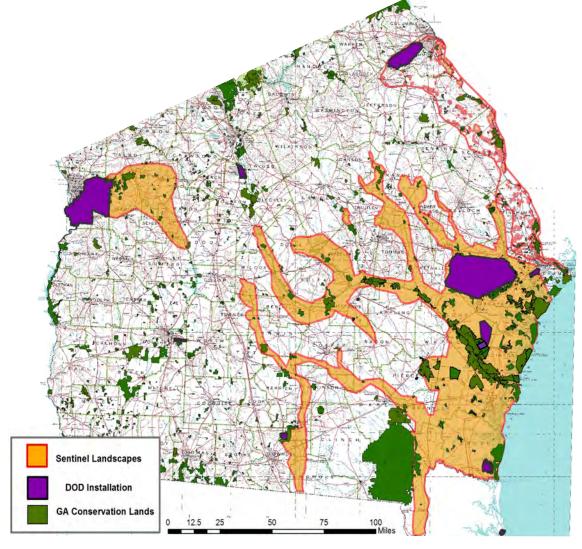


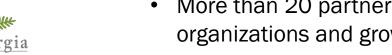
GT Viable Populations

The Georgia Sentinel Landscape



- 9 DOD installations
- 5 REPI programs
- 4.5 million acres
 - 1.3M "critical" acres
- 3 areas of emphasis
 - REPI buffers
 - Gopher tortoise
 - Savannah River
- More than 20 partner organizations and growing

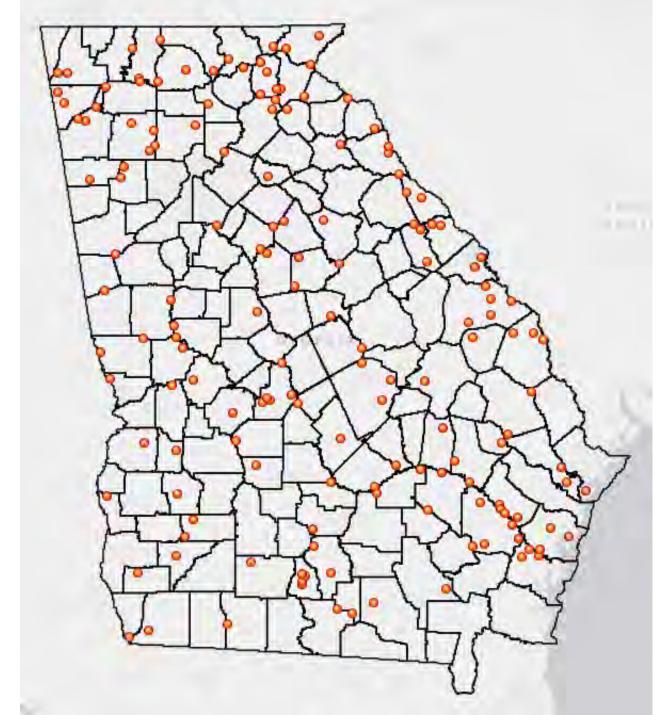






Georgia State Parks and WMAs

- Economic ripple effect: \$xx.1 billion/year
- Salaries/earnings: \$622 million/year





Source: https: //gadnrwrd.maps.arcgis.com

Wildlife Management Areas, State Parks, & Other Designations



County: Wayne

Type: Wildlife Management Area

Acreage: 16,867

Activities:

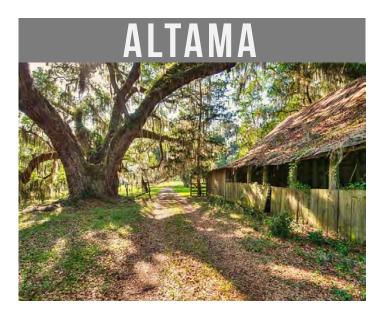
Boating & canoeing

Hunting

· River fishing

Wildlife viewing

Gopher Tortoise Habitats



County: Glynn

Type: Wildlife Management Area

Acreage: 3,986

Activities:

Fishing

Hunting

Wildlife viewing

• Events (at plantation)

Gopher Tortoise Habitats



County: Bryan Type: State Park Acreage: 1,725

Activities:

Birding

Boating

Fishing

Hiking

Educational Programs

Tours & events

Set in High Priority- G3 and G2 Habitats



Statistics acquired from Georgia DNR.

GPA Fall 2019





Fishing

- Retail sales: \$1.3 billion/year
- Economic ripple effect: \$2.1 billion/year
- Salaries/earnings: \$622 million/year
- Tax revenue: \$147 million (federal),
 \$109 million (GA)





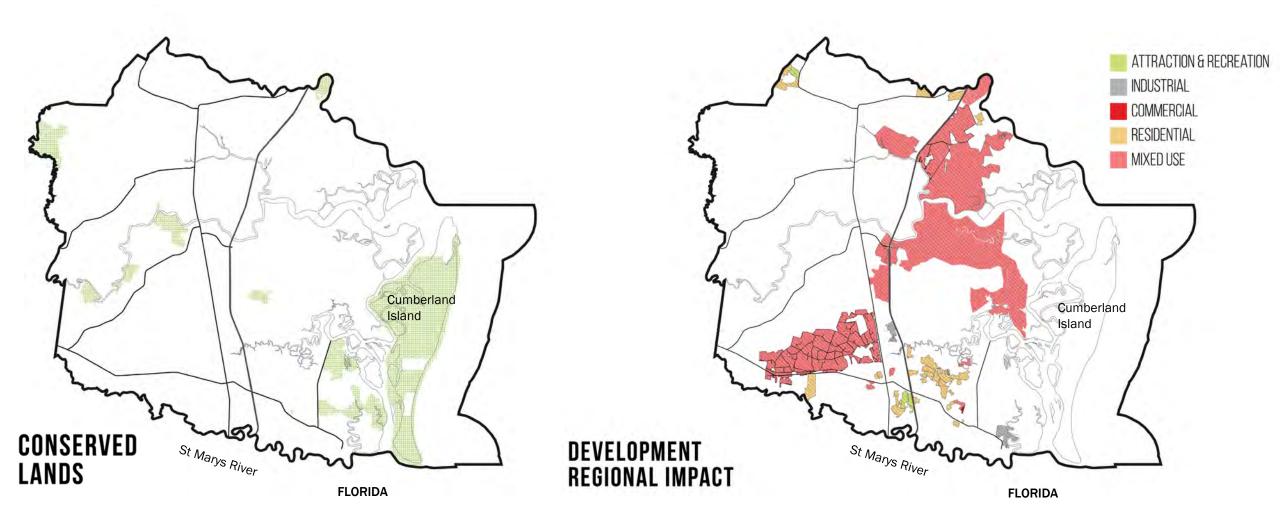
Wildlife Watching

- Revenue: \$1.8 billion/year in GA
- \$639 spent per person on average



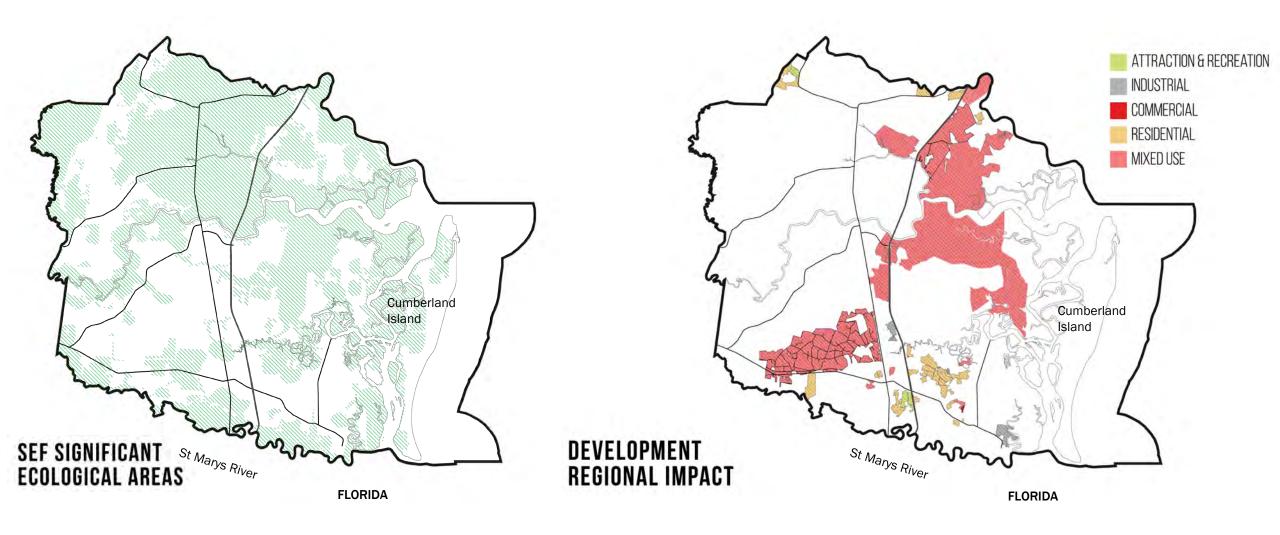


Camden County





Camden County





Camden County

