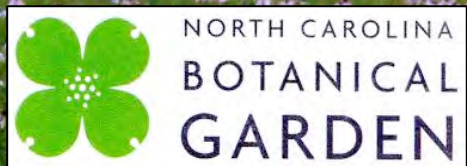
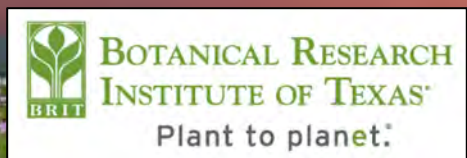


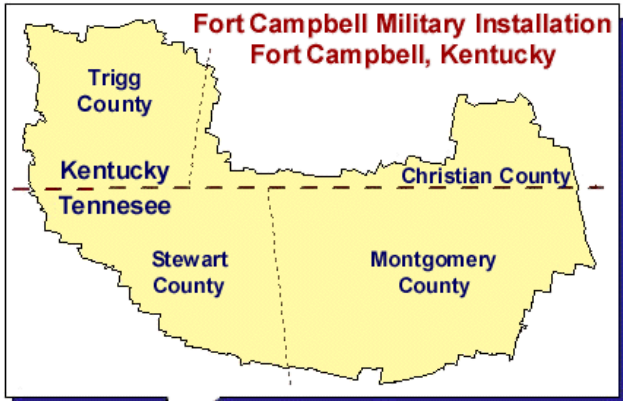
The Southeastern Grasslands Initiative: Protecting, Restoring, and Rebuilding the Forgotten Grasslands of the South

Dwayne Estes and Theo Witsell

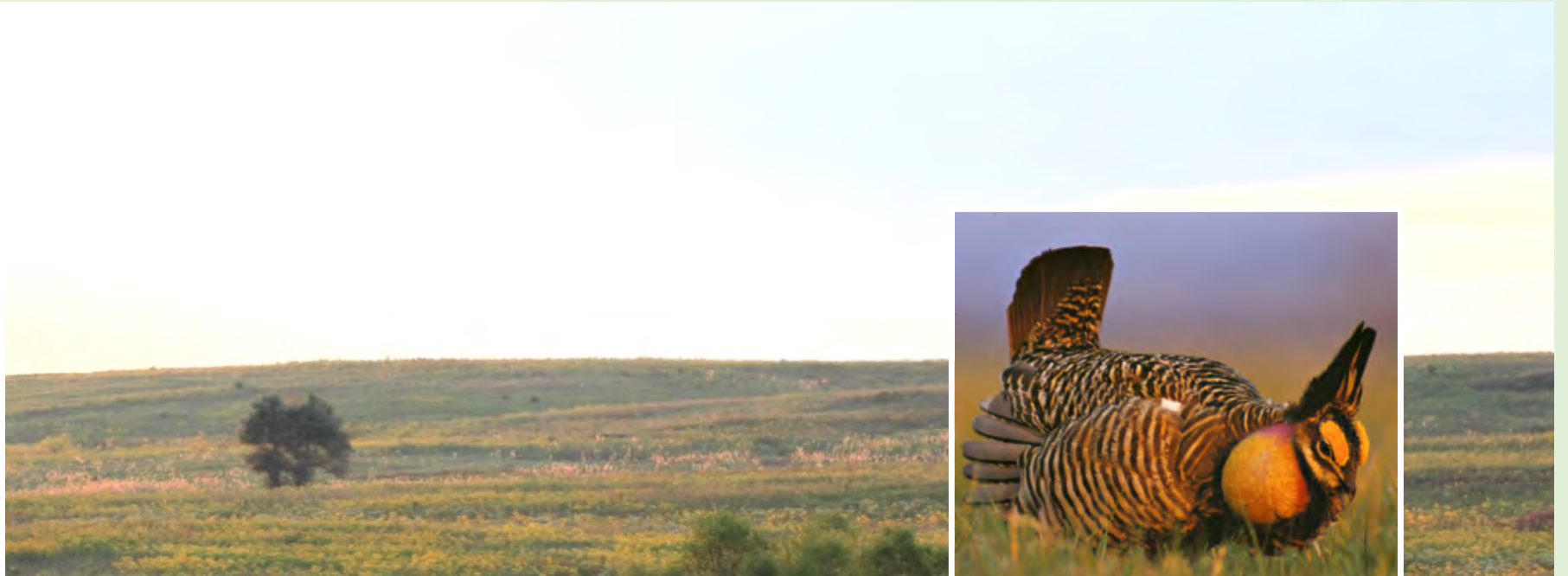
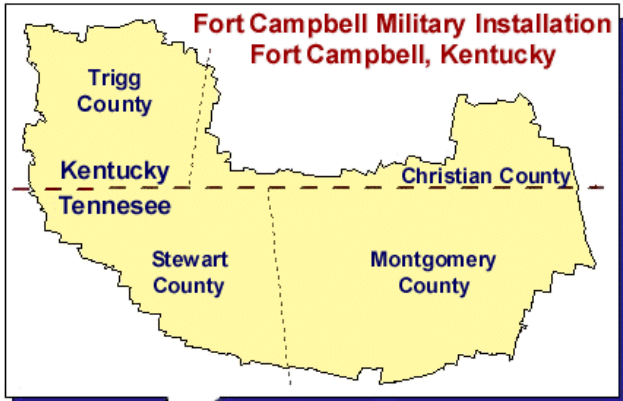


The Fabled Squirrel

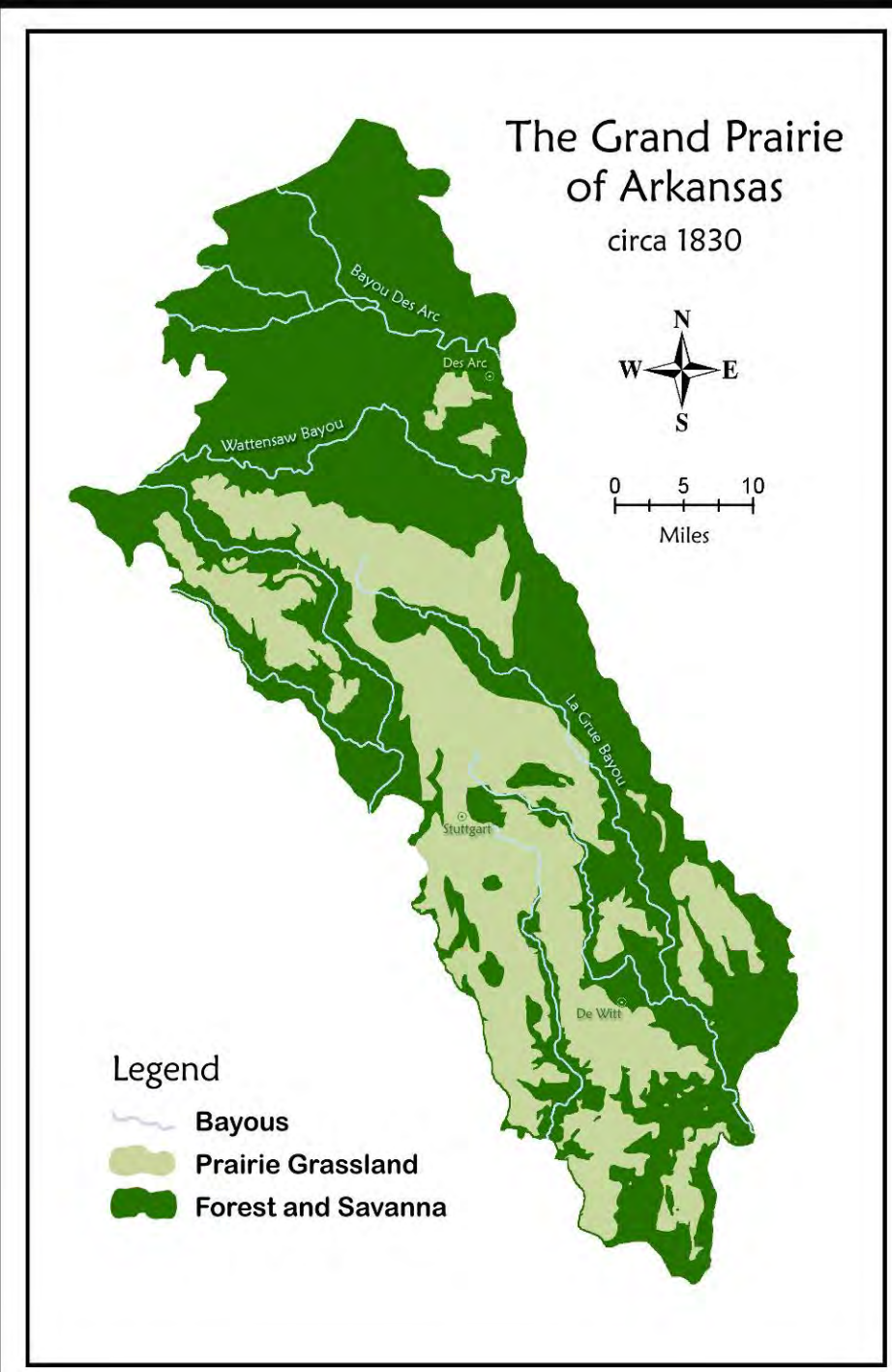
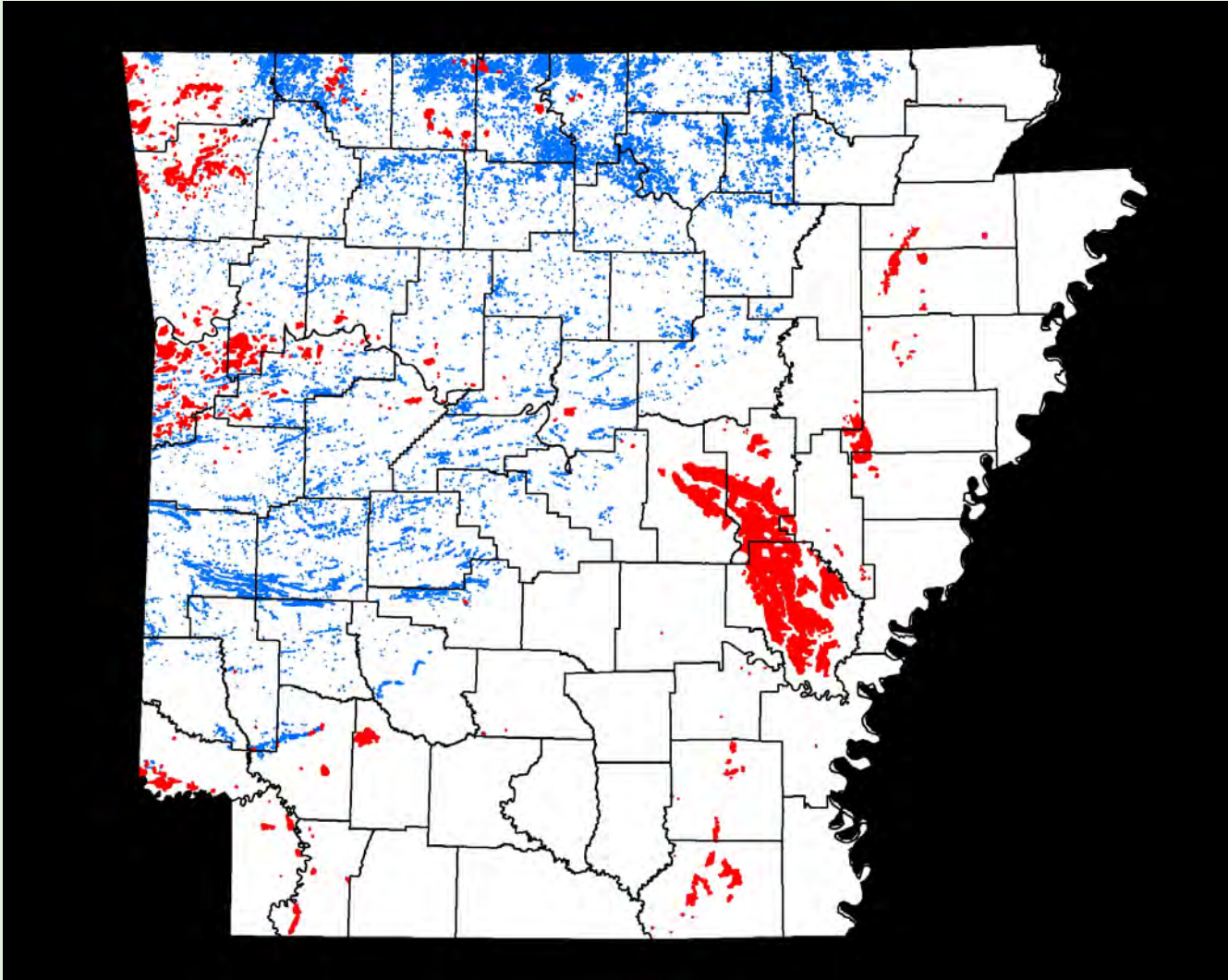




“It would be difficult to imagine anything more beautiful. Far as the eye could reach, they seemed one vast deep-green meadow, adorned with countless numbers of bright flowers springing up in all directions ... only a few clumps of trees and now and then a solitary post oak were to be seen...Here I first saw the prairie bird, or barren-hen... Here the wild strawberries grew in such profusion as to stain the horses hoofs a deep red color.” **(Ross 1812)**



Lost Landscapes





The Virgin Prairie in Prairie Co., Ark. 10,000 Acres for Sale by A. Boysen.







Postage stamp prairies

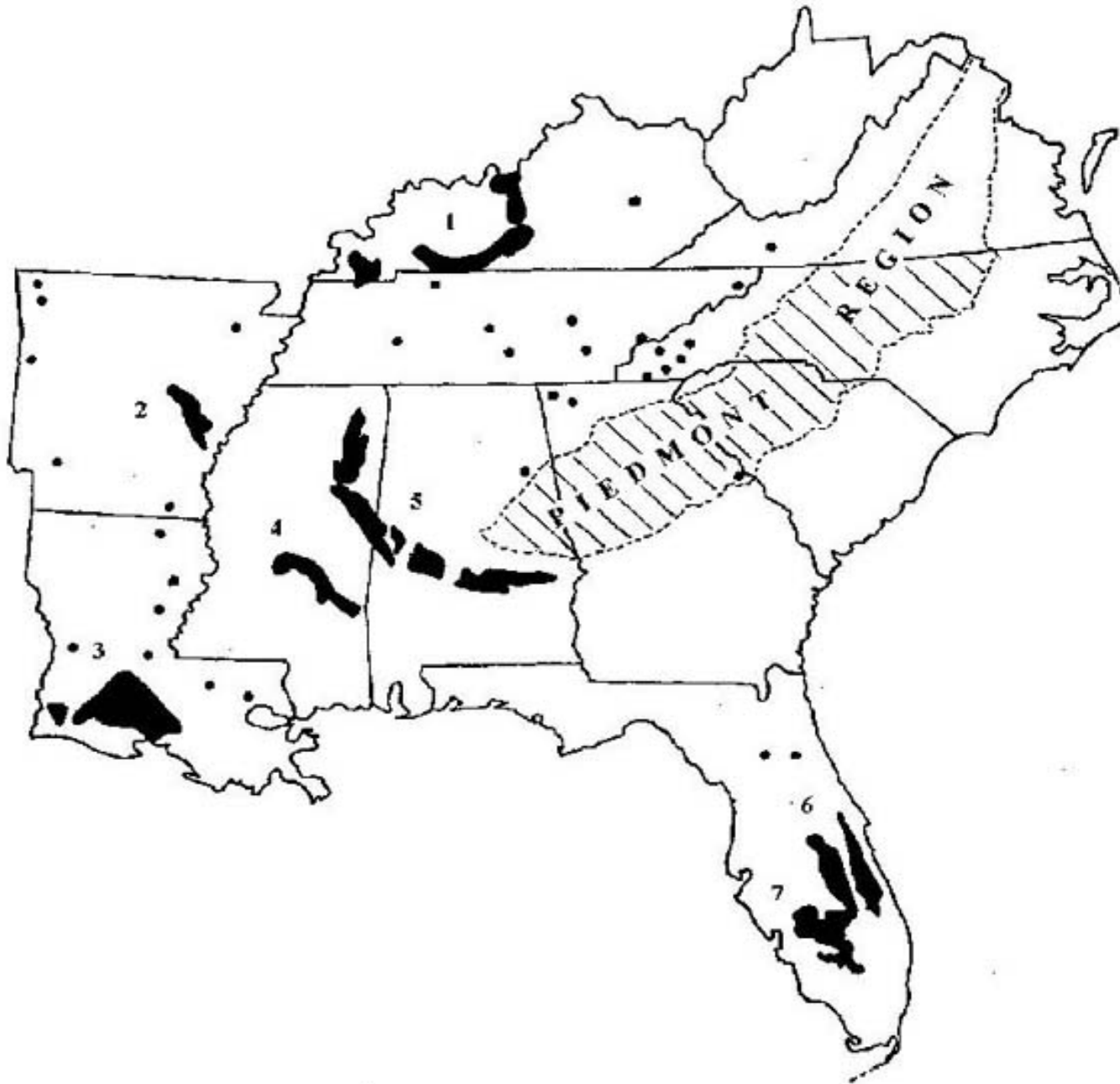


The Last 1%



Photo courtesy of ANHC

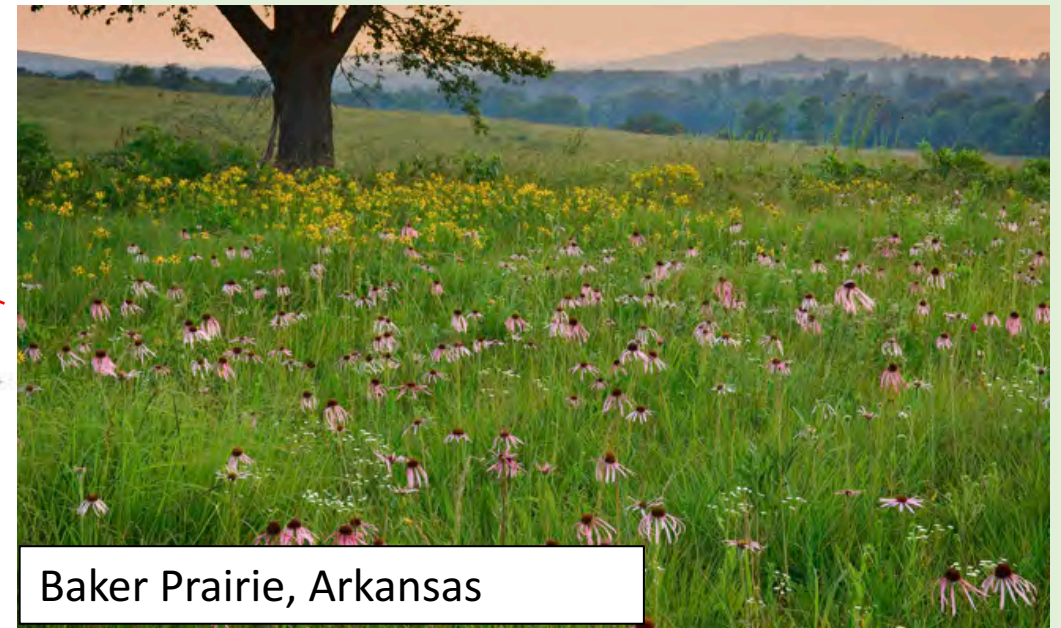
Sacred Gems



Sacred Gems



Sacred Gems



Baker Prairie, Arkansas

Sacred Gems



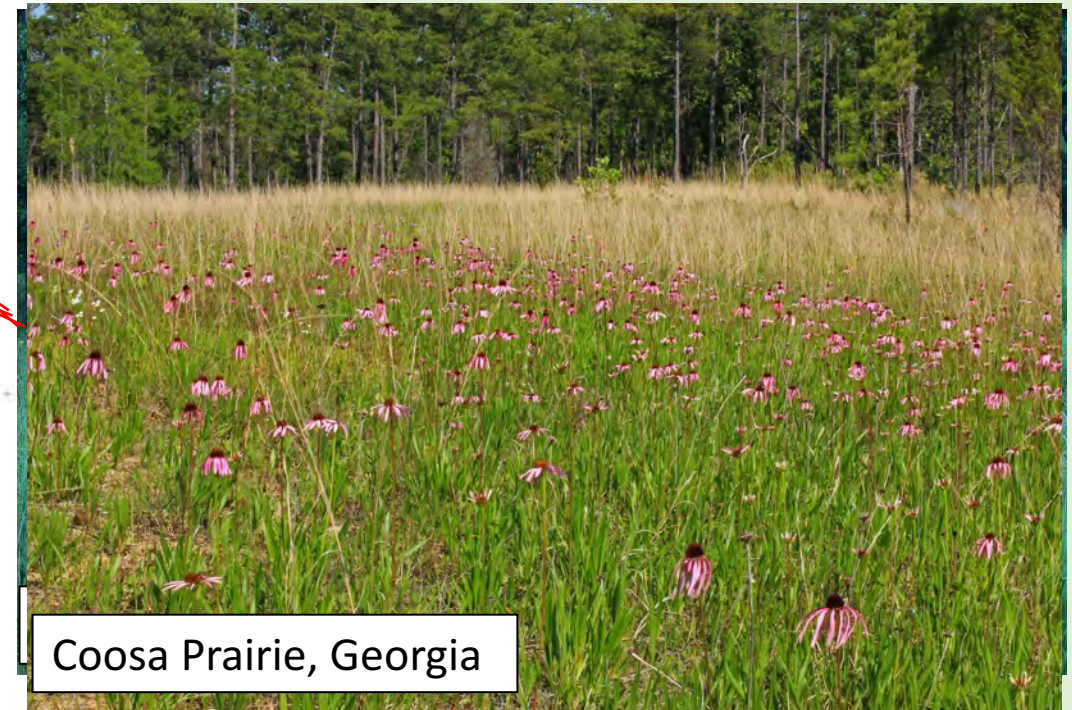
Hazel Dell Meadow, Kentucky

Sacred Gems



Brockdell Rd Powerline, Tennessee

Sacred Gems



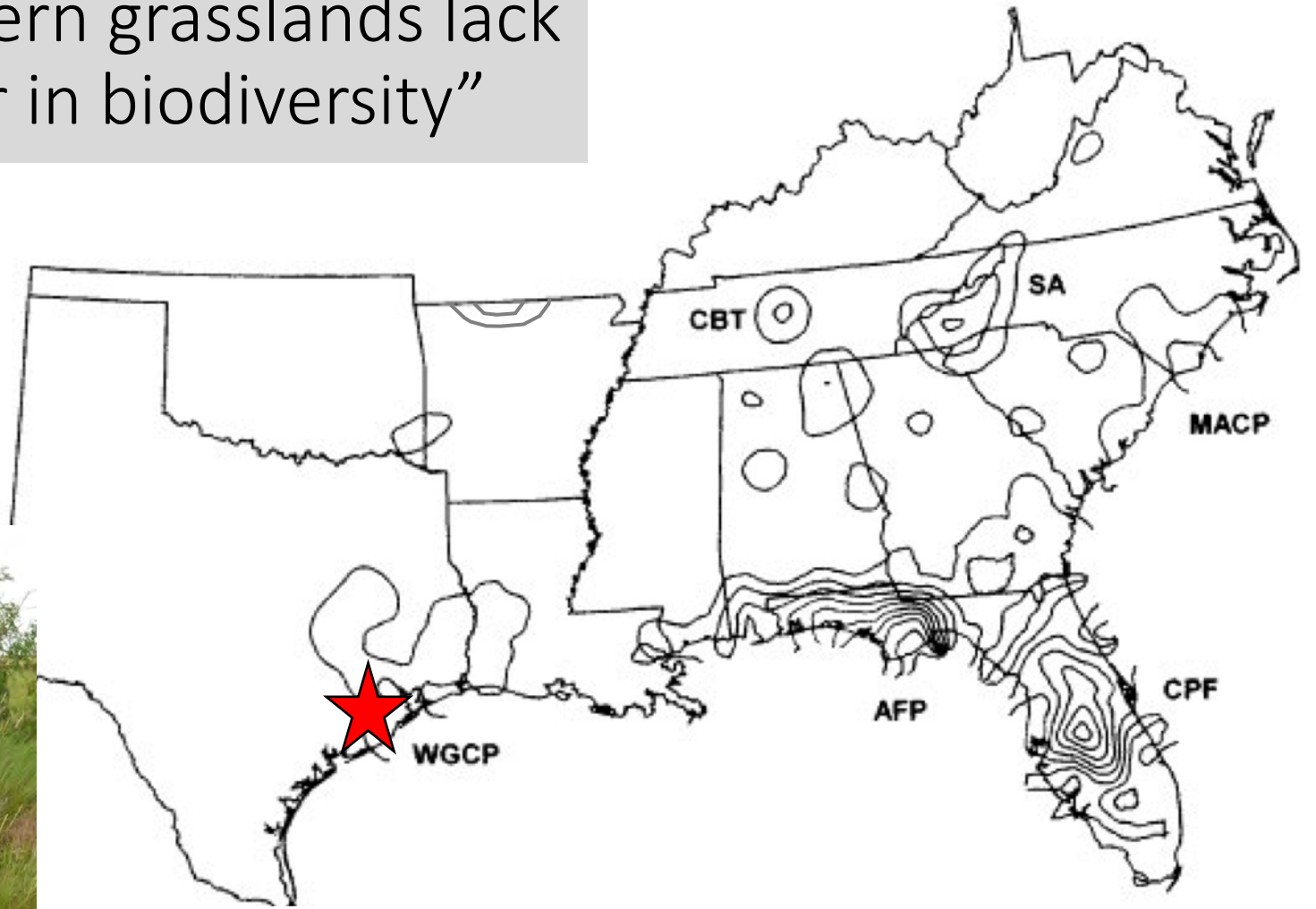
Coosa Prairie, Georgia

Sacred Gems



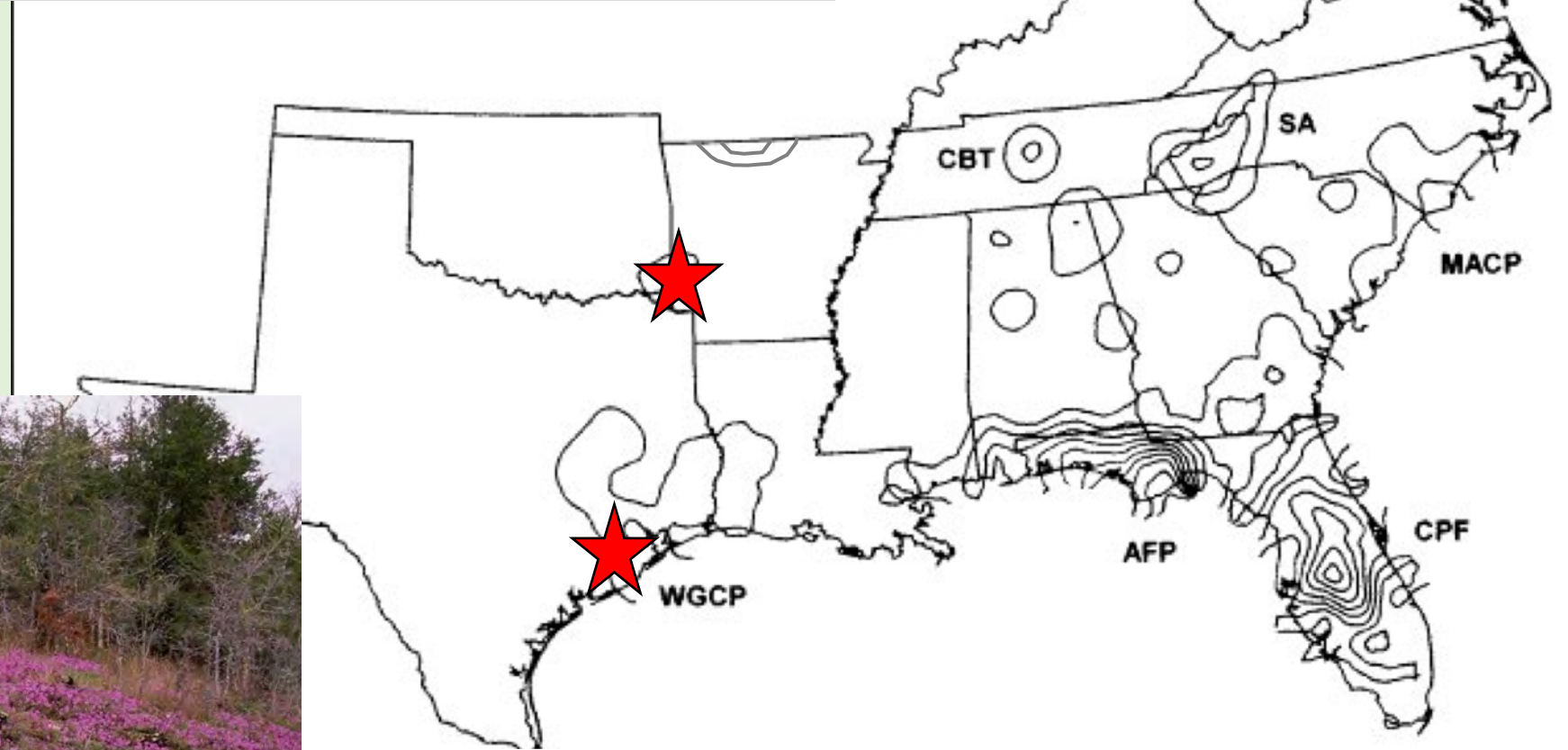
Suther Prairie, North Carolina

“What the modern Southern grasslands lack in size they make up for in biodiversity”



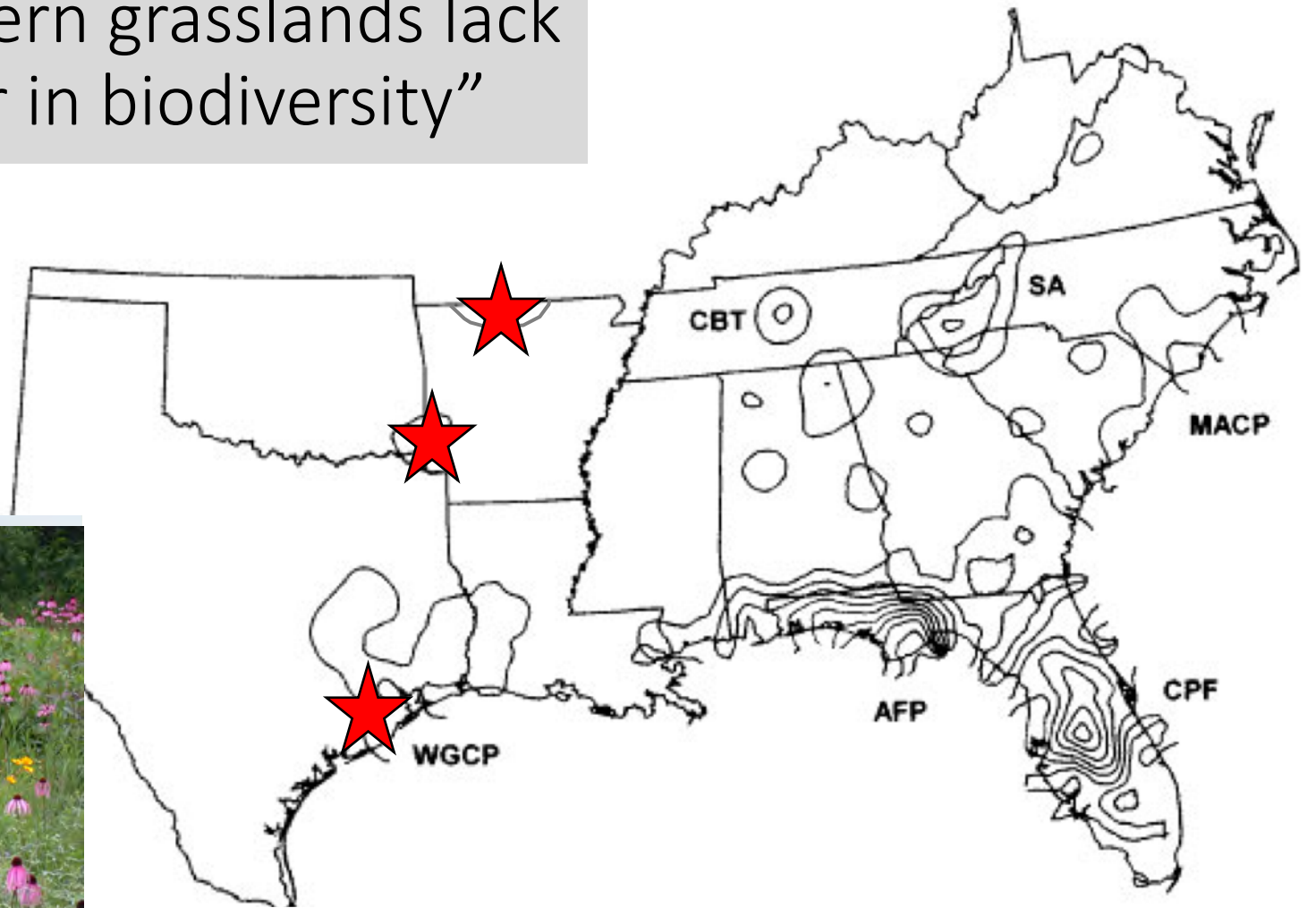
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



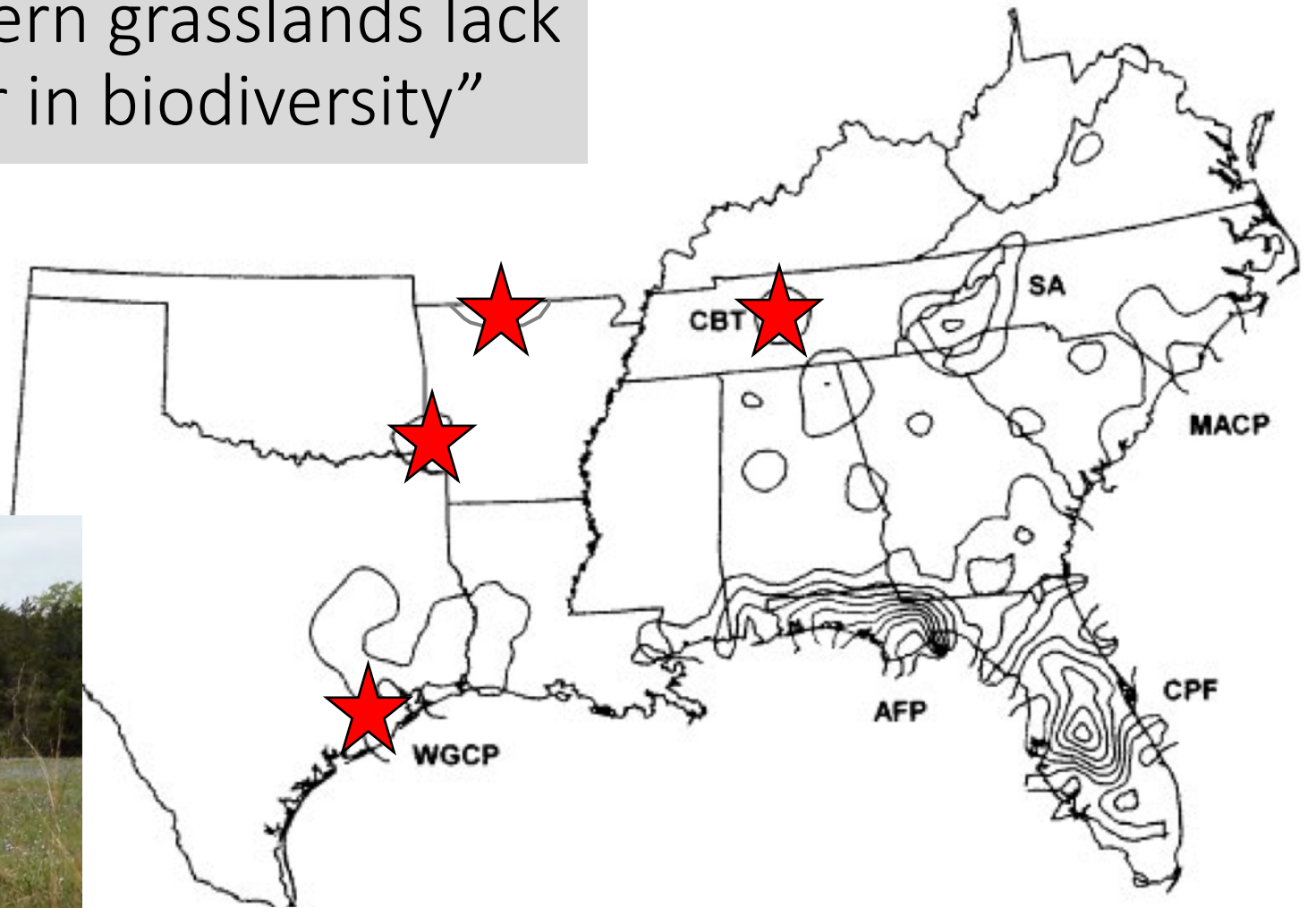
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



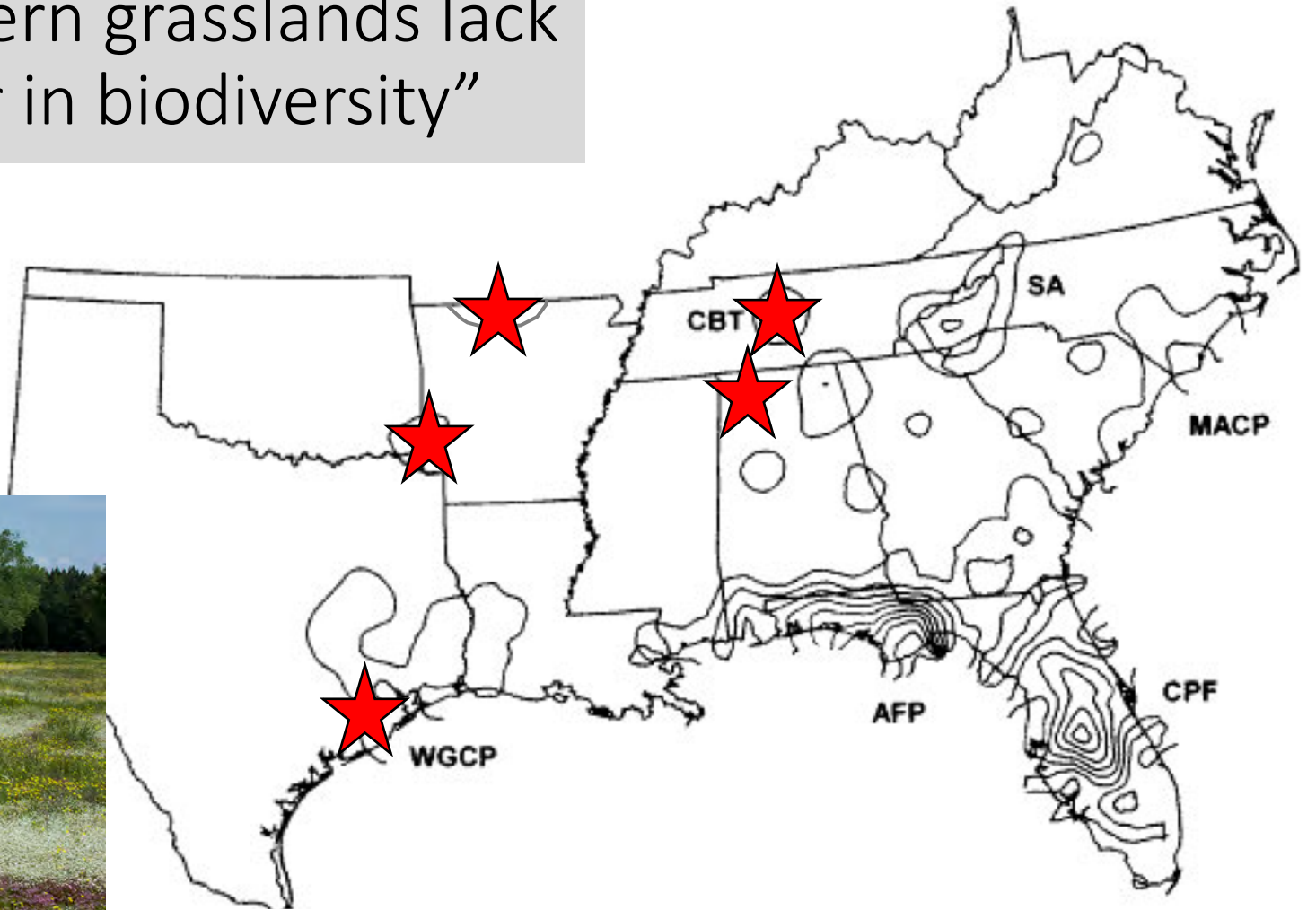
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



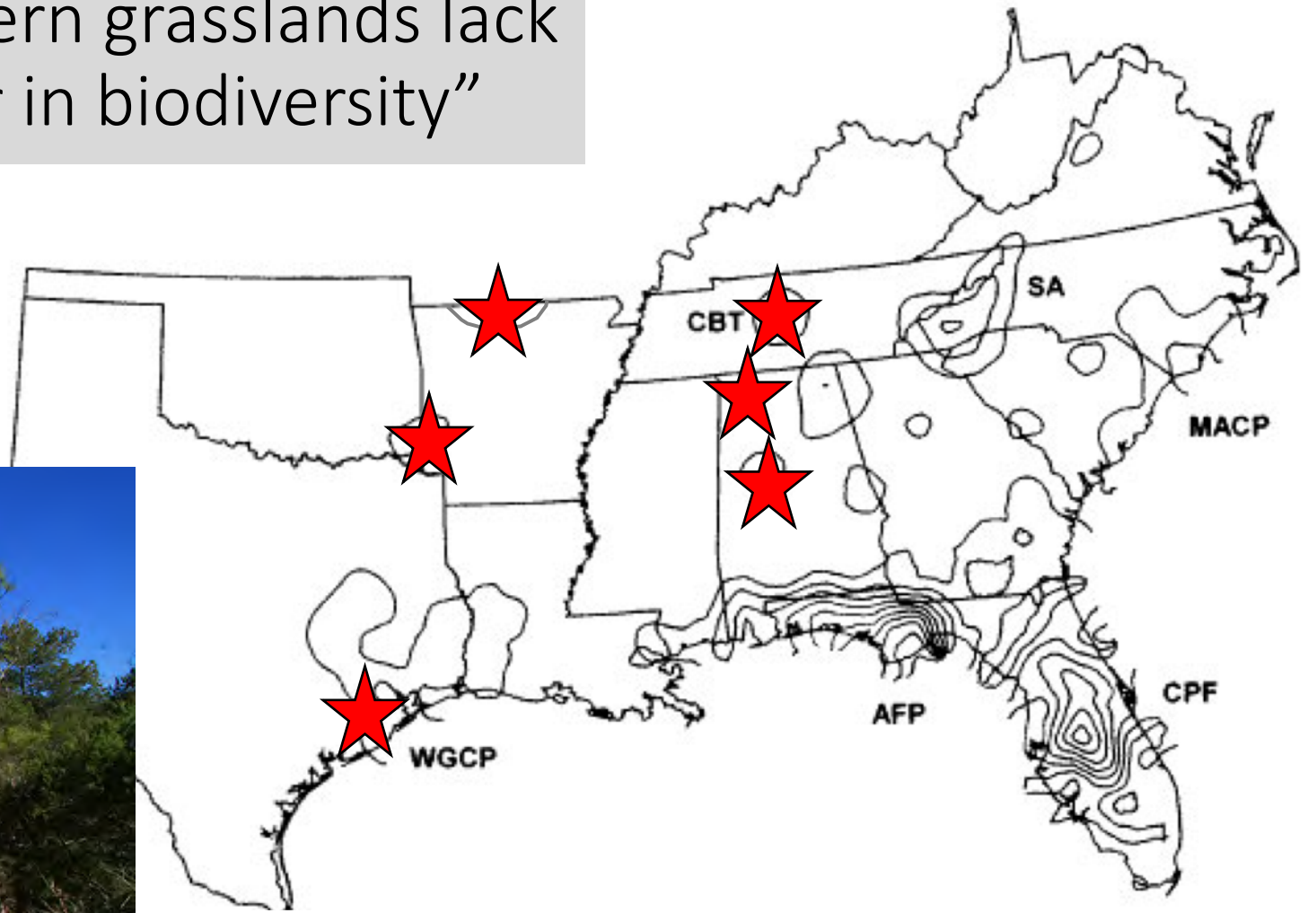
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



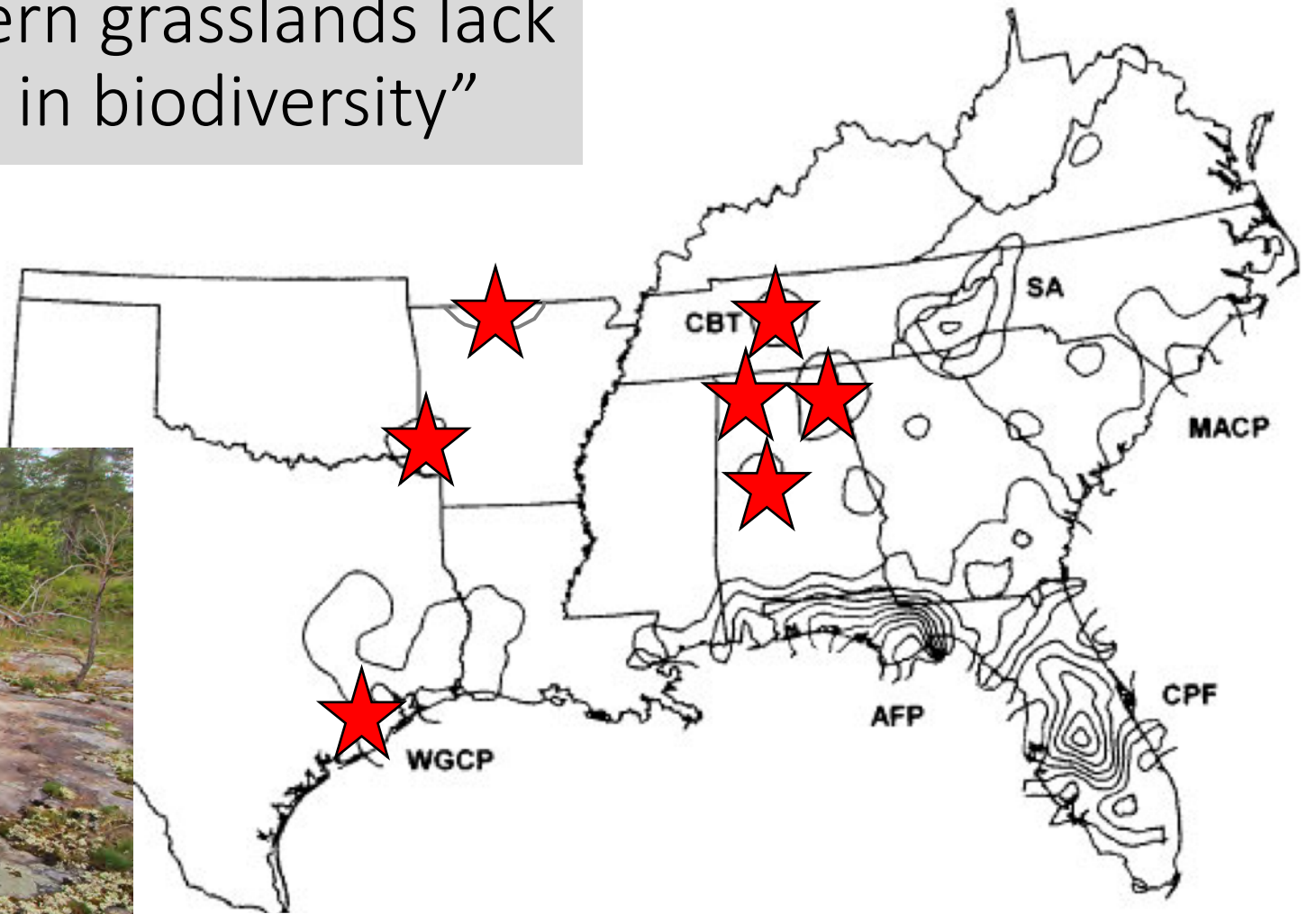
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



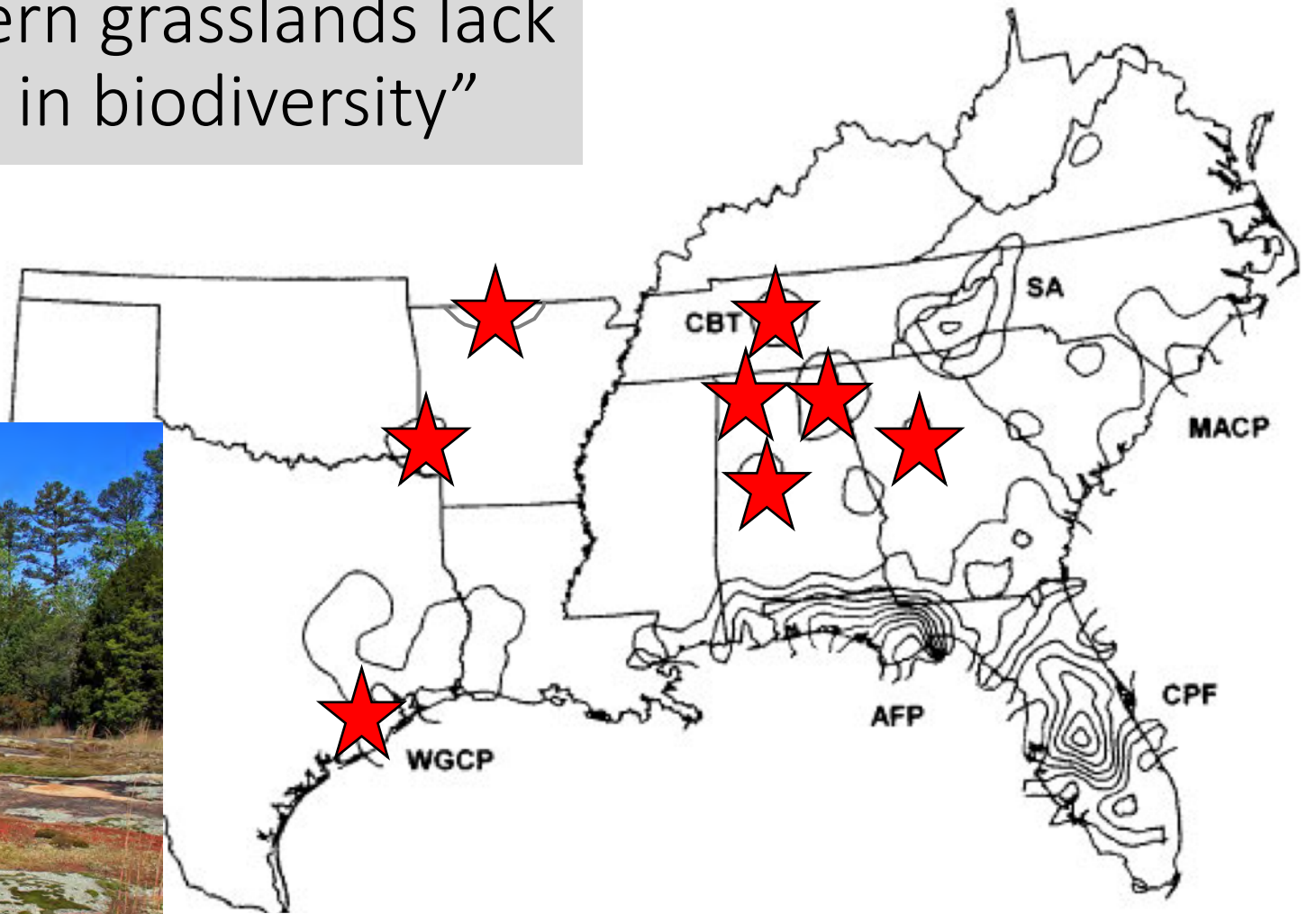
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



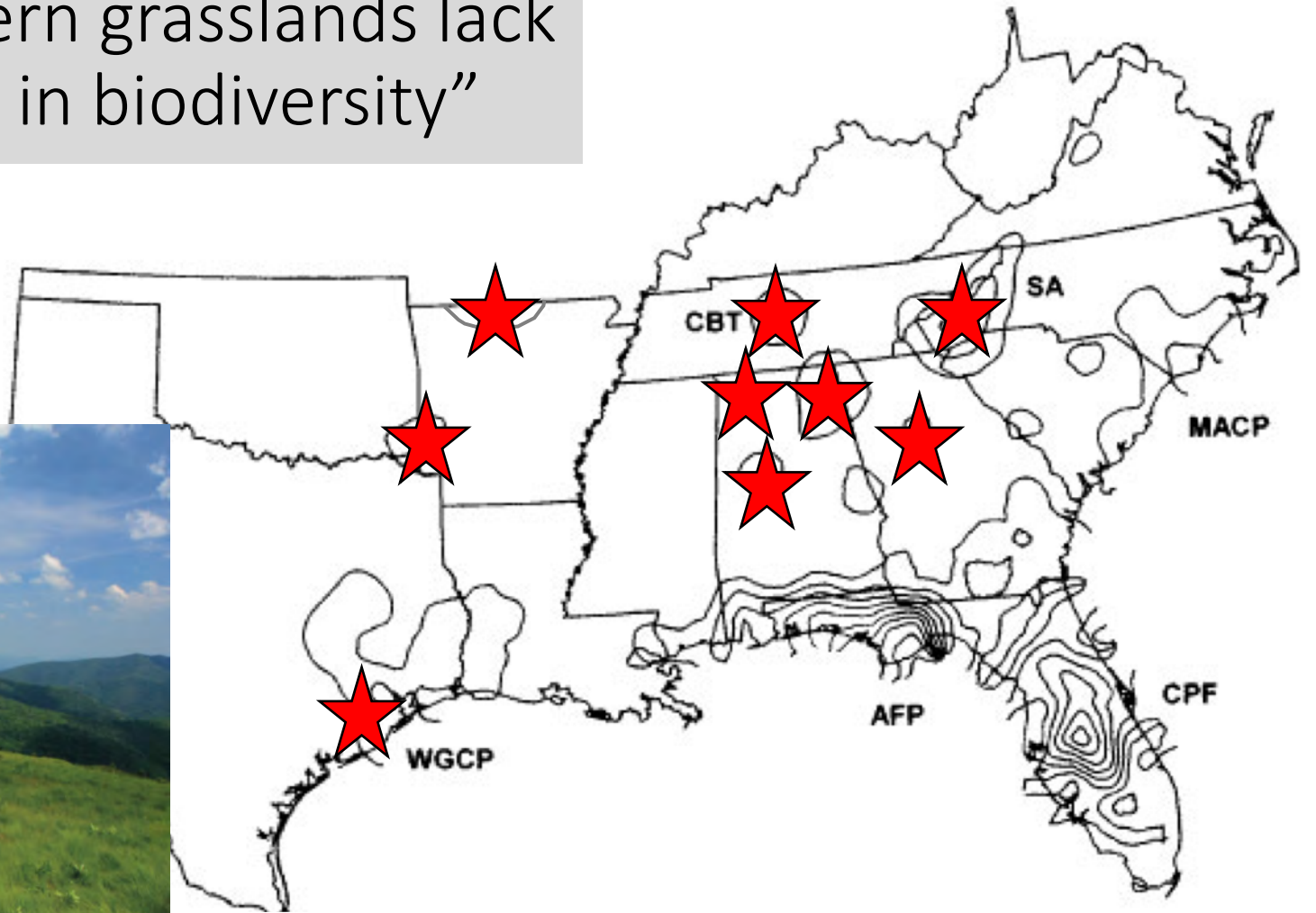
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



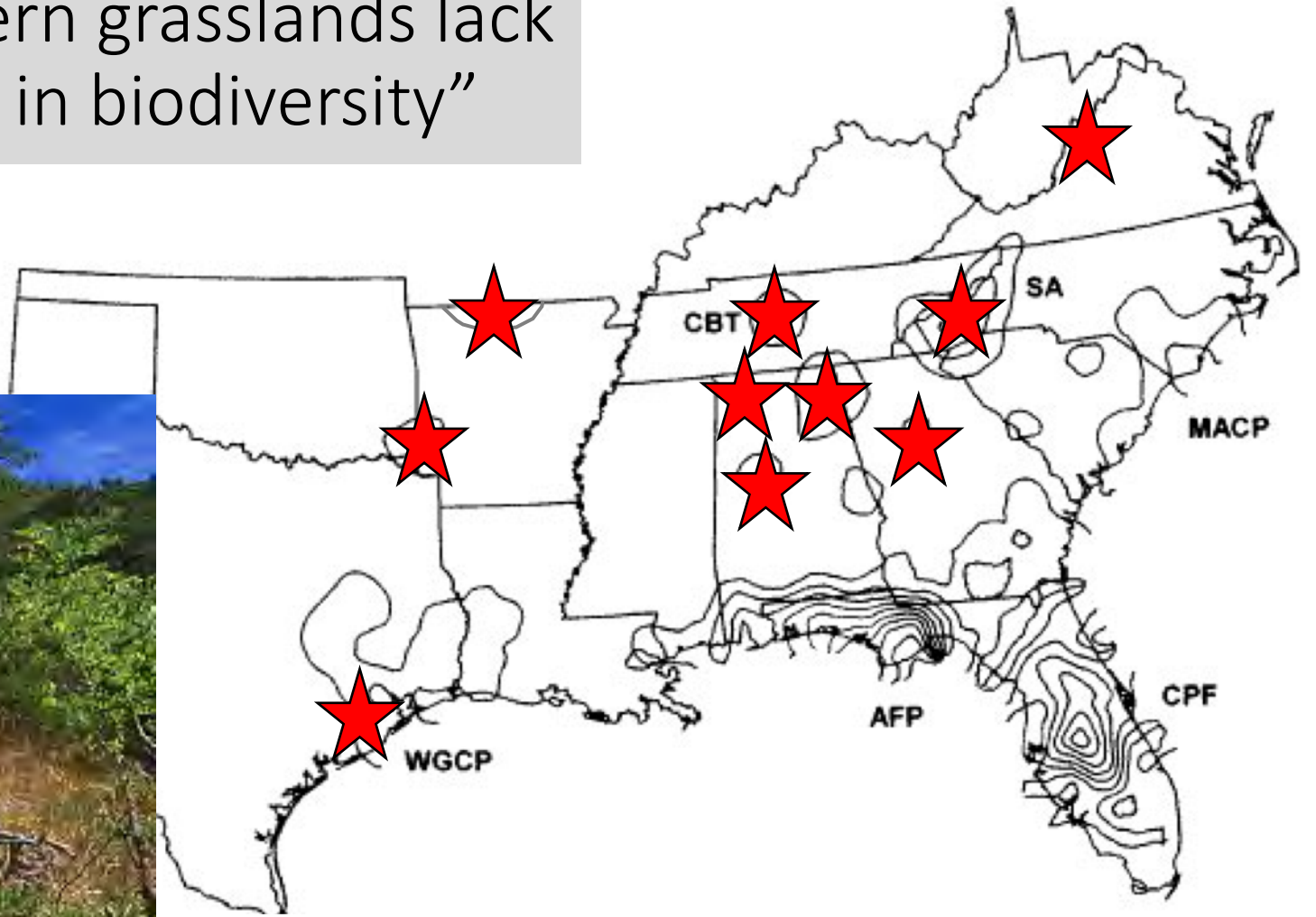
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



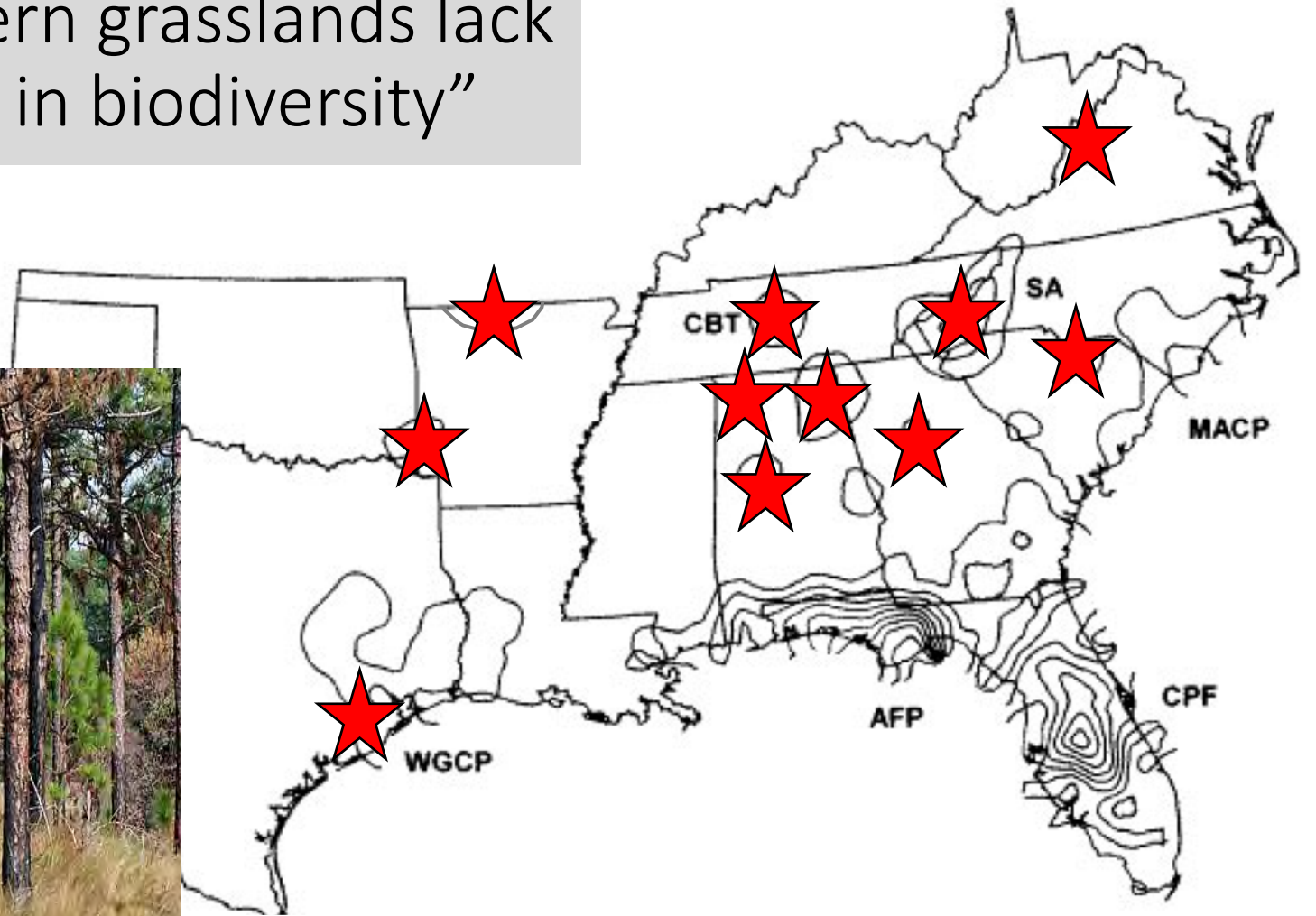
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



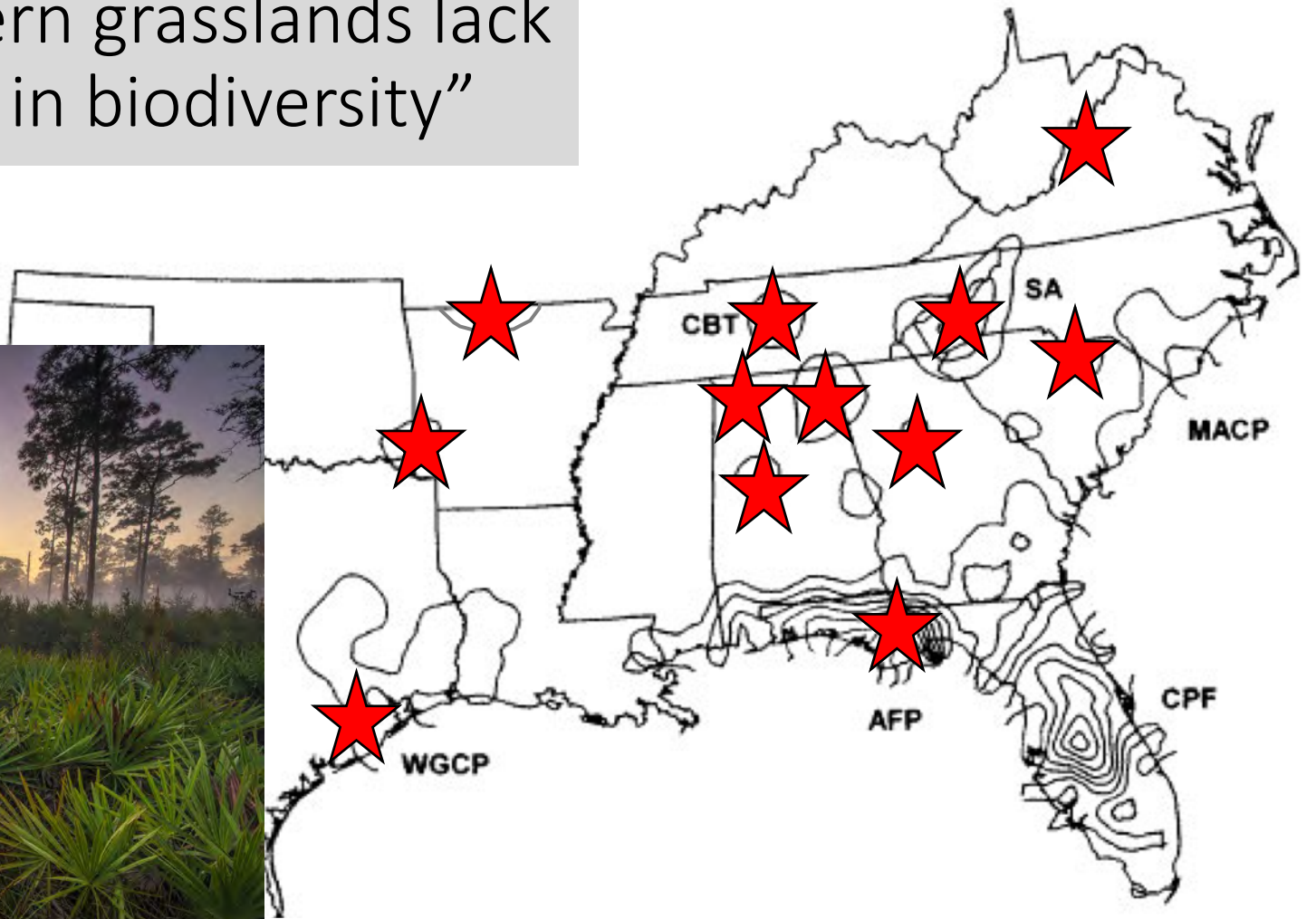
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



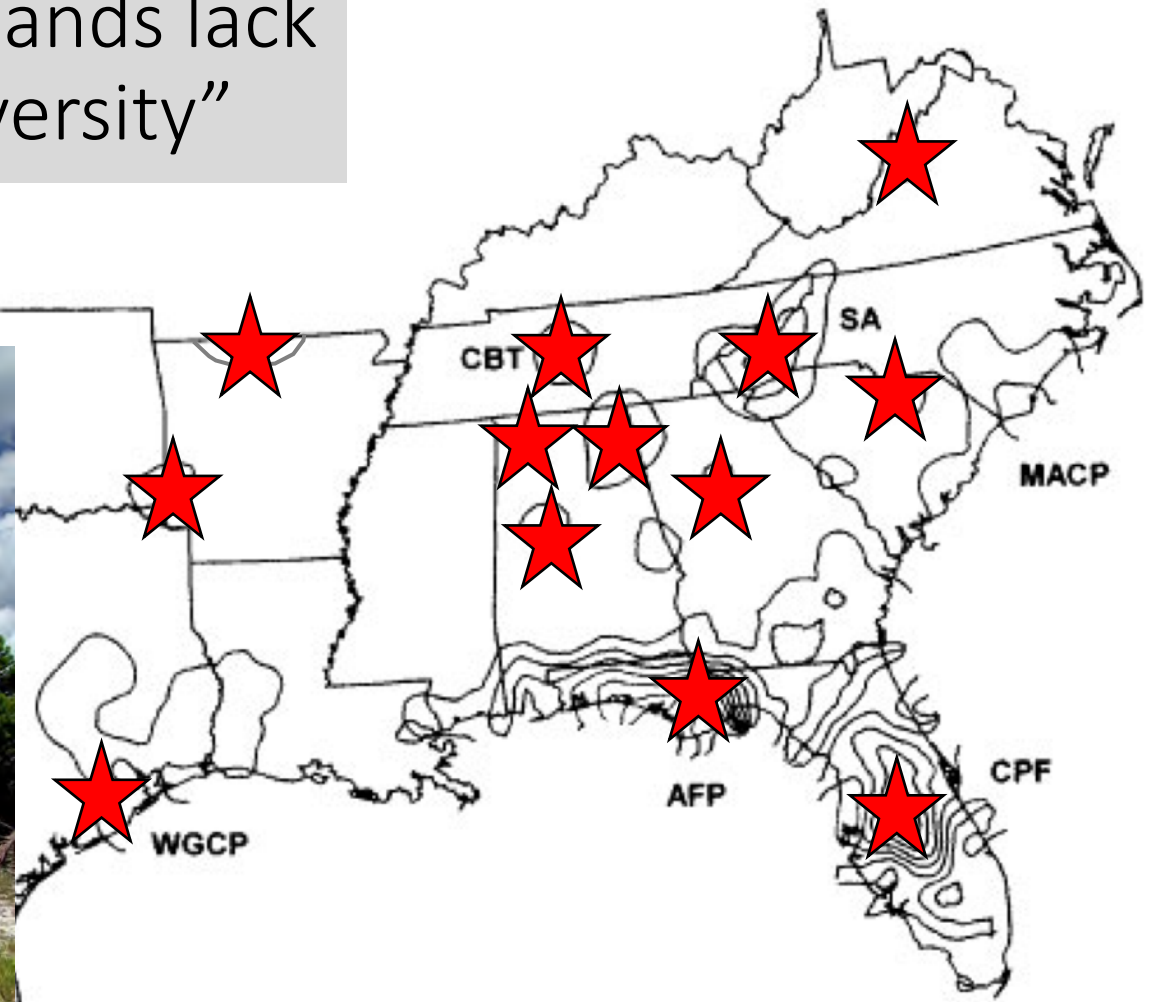
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



Estill and Cruzan (2001)

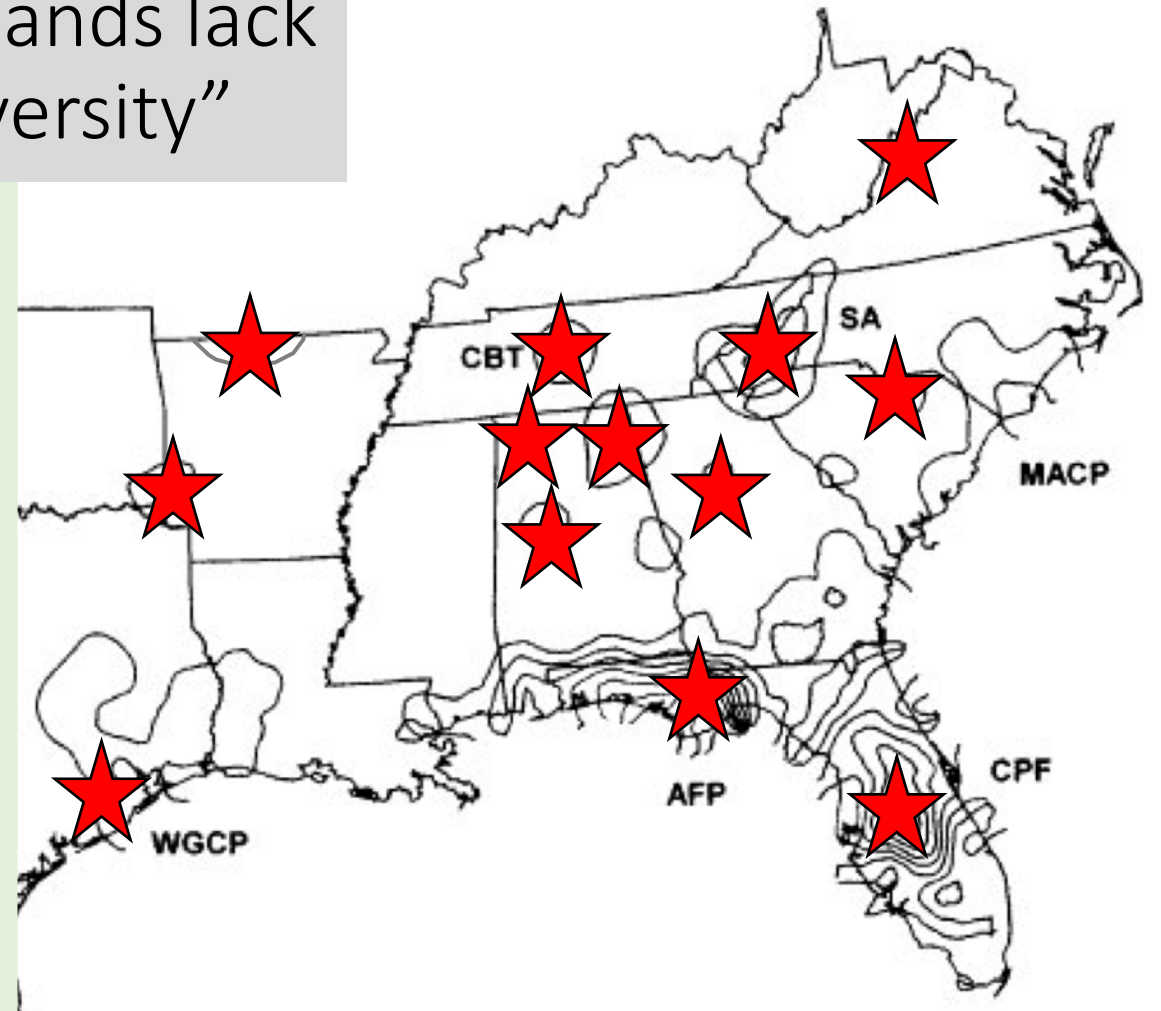
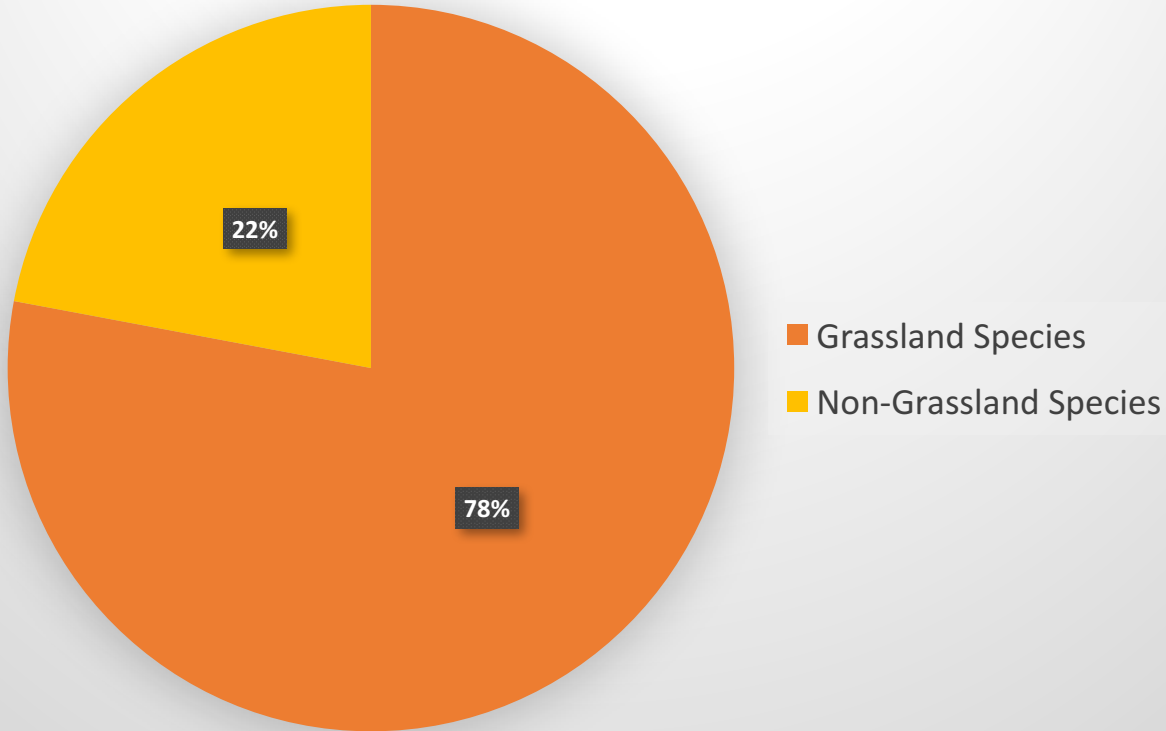
“What the modern Southern grasslands lack in size they make up for in biodiversity”



Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”

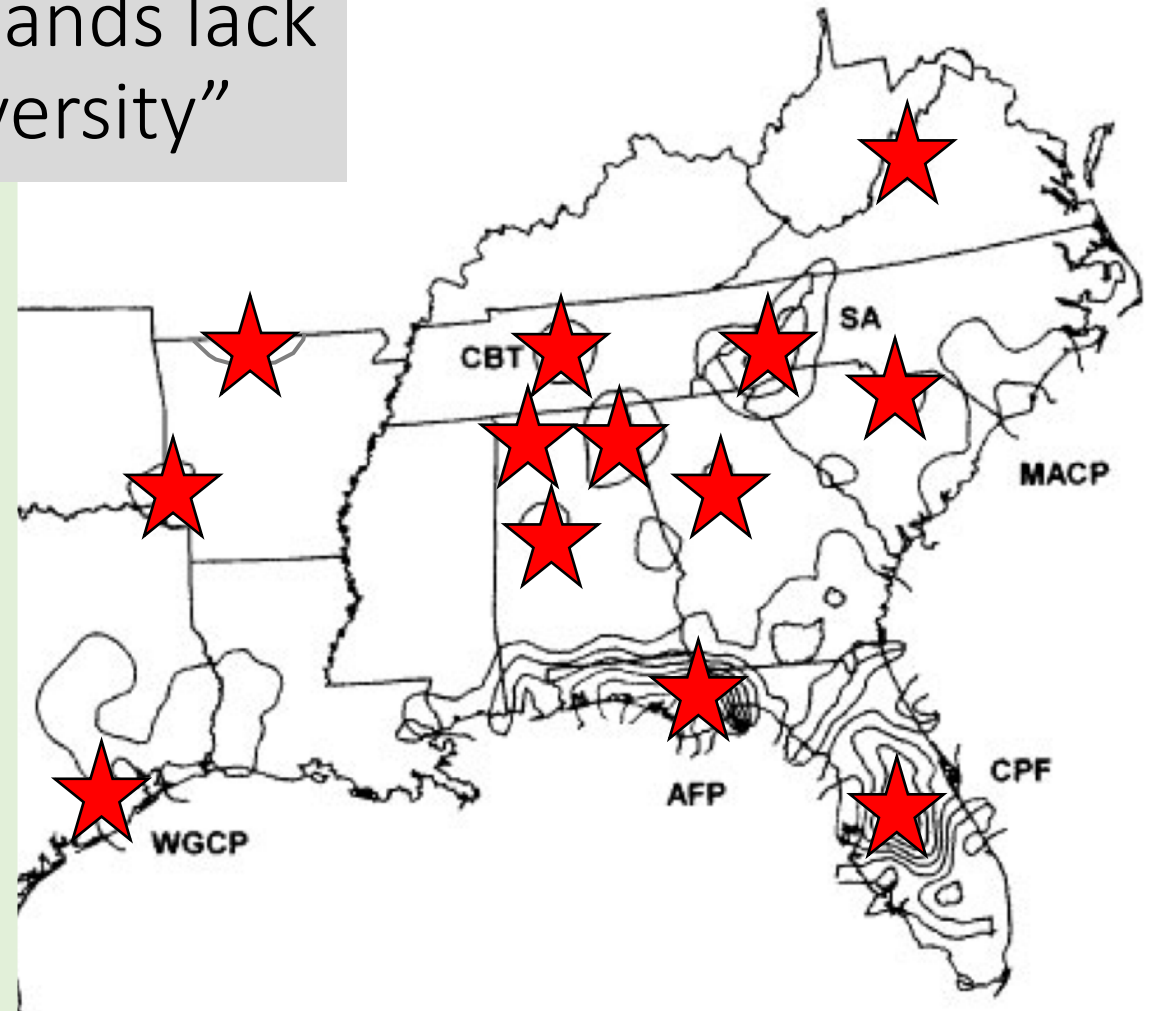
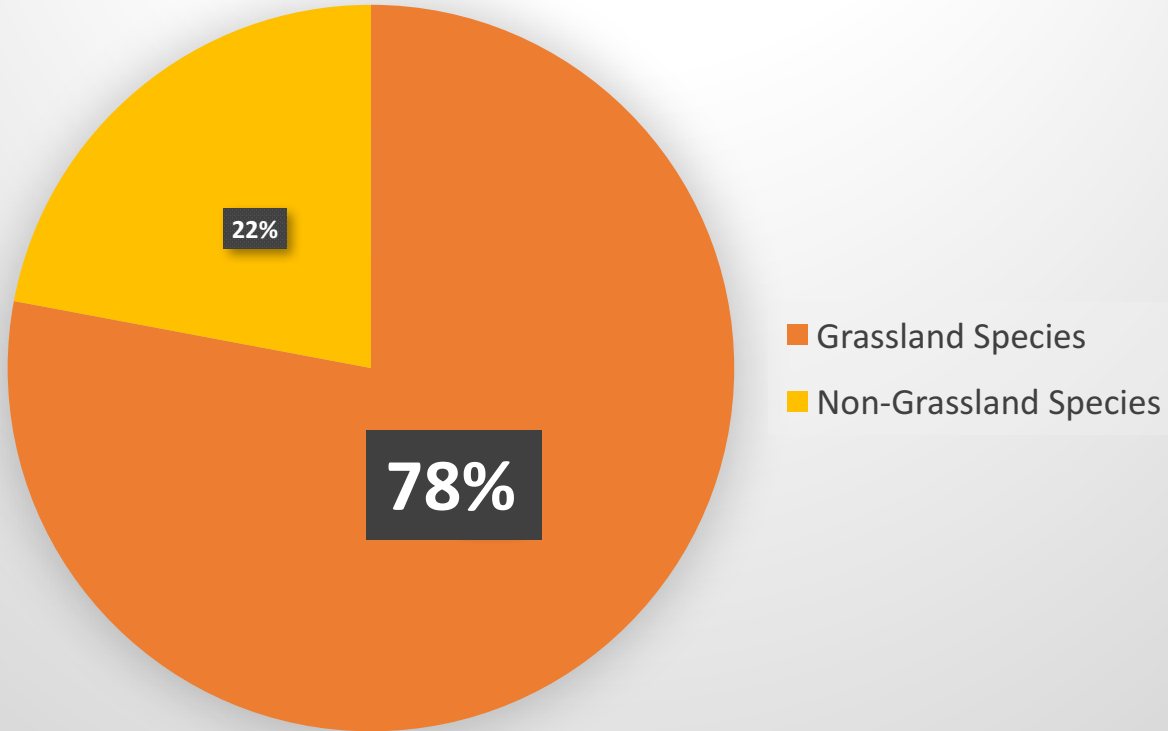
New Species Being Described



Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”

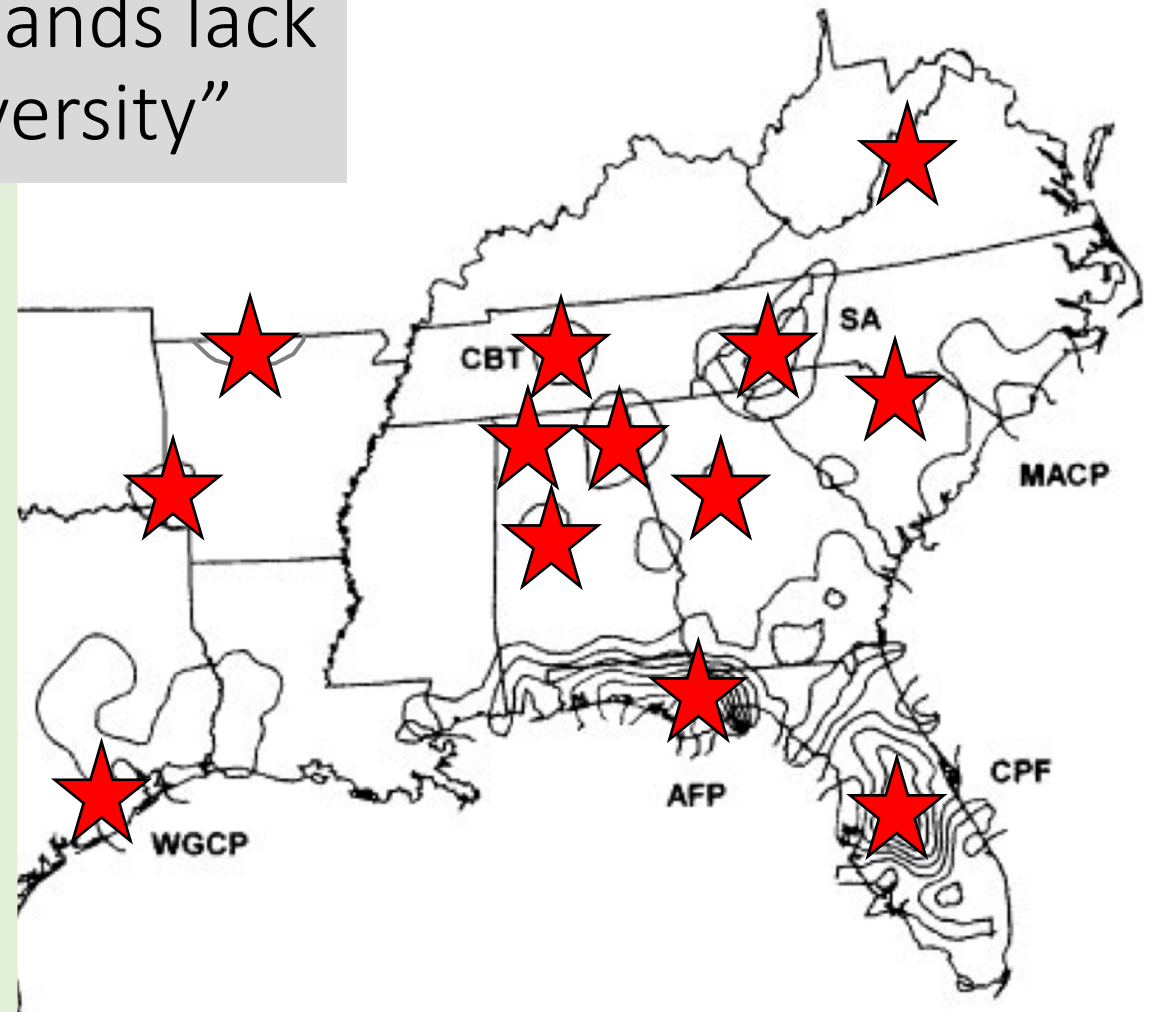
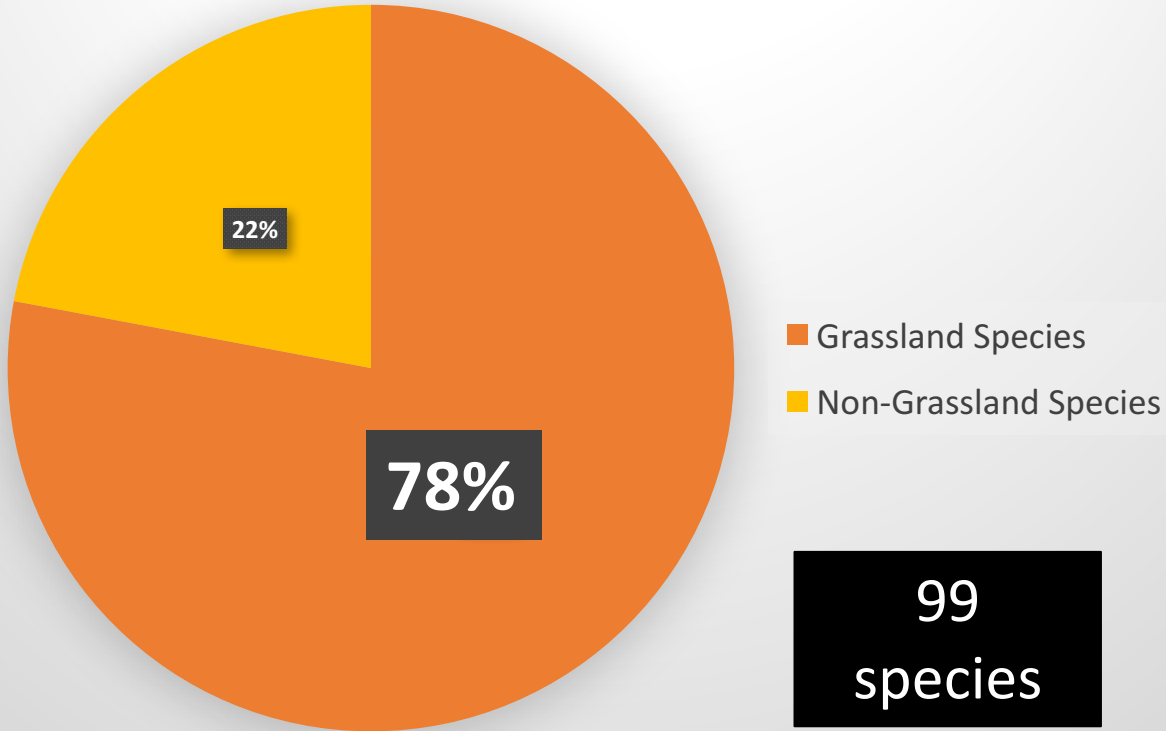
New Species Being Described



Estill and Cruzan (2001)

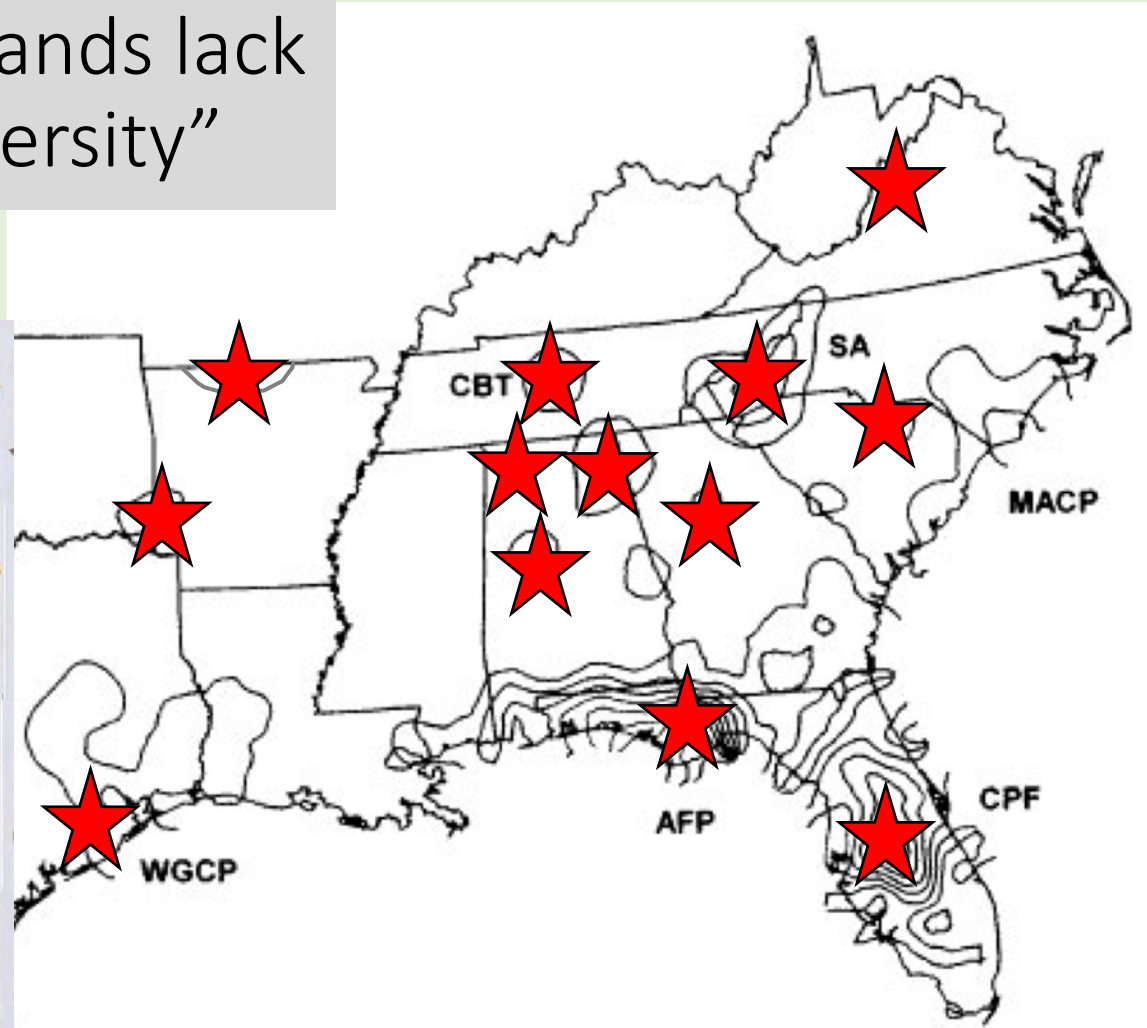
“What the modern Southern grasslands lack in size they make up for in biodiversity”

New Species Being Described



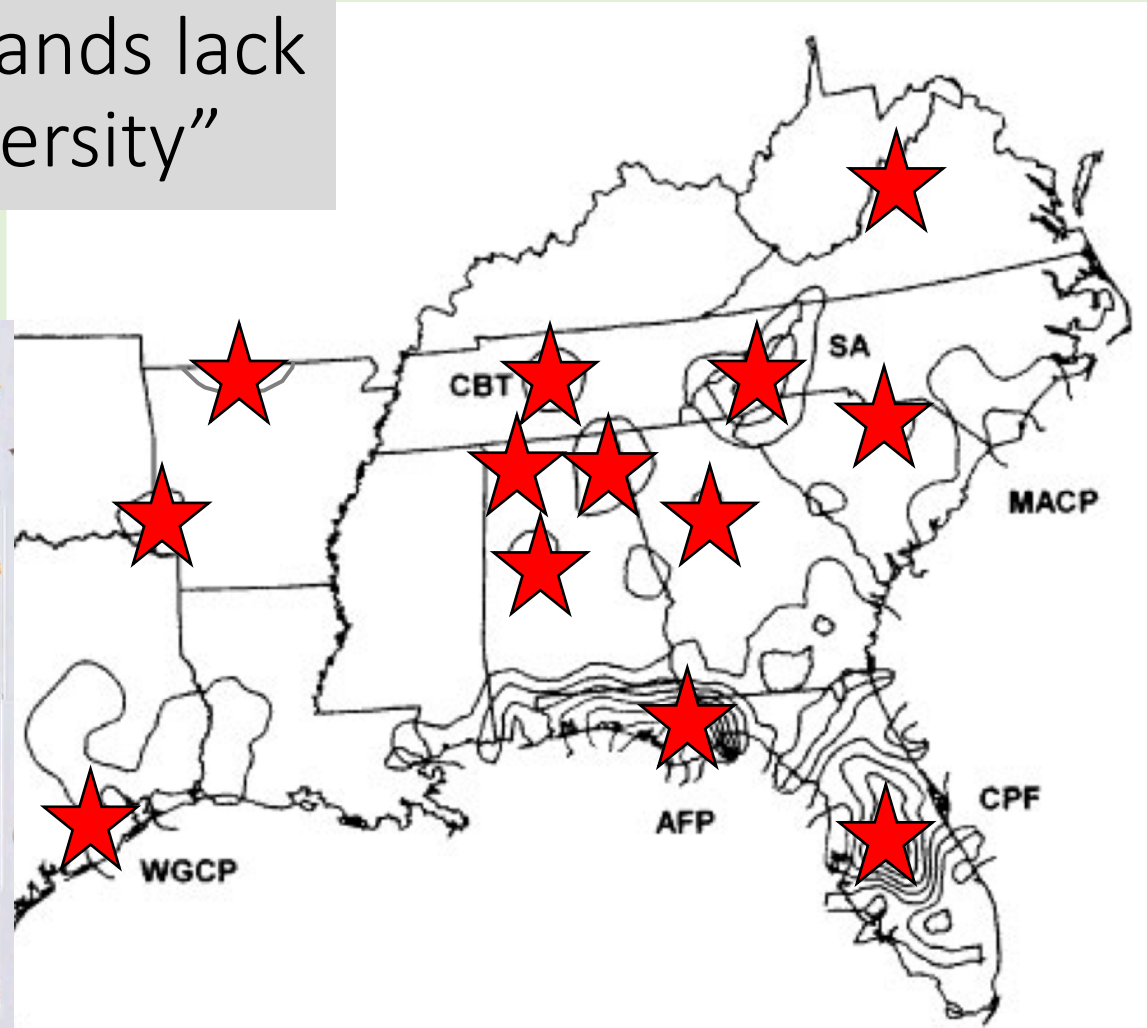
Estill and Cruzan (2001)

“What the modern Southern grasslands lack in size they make up for in biodiversity”



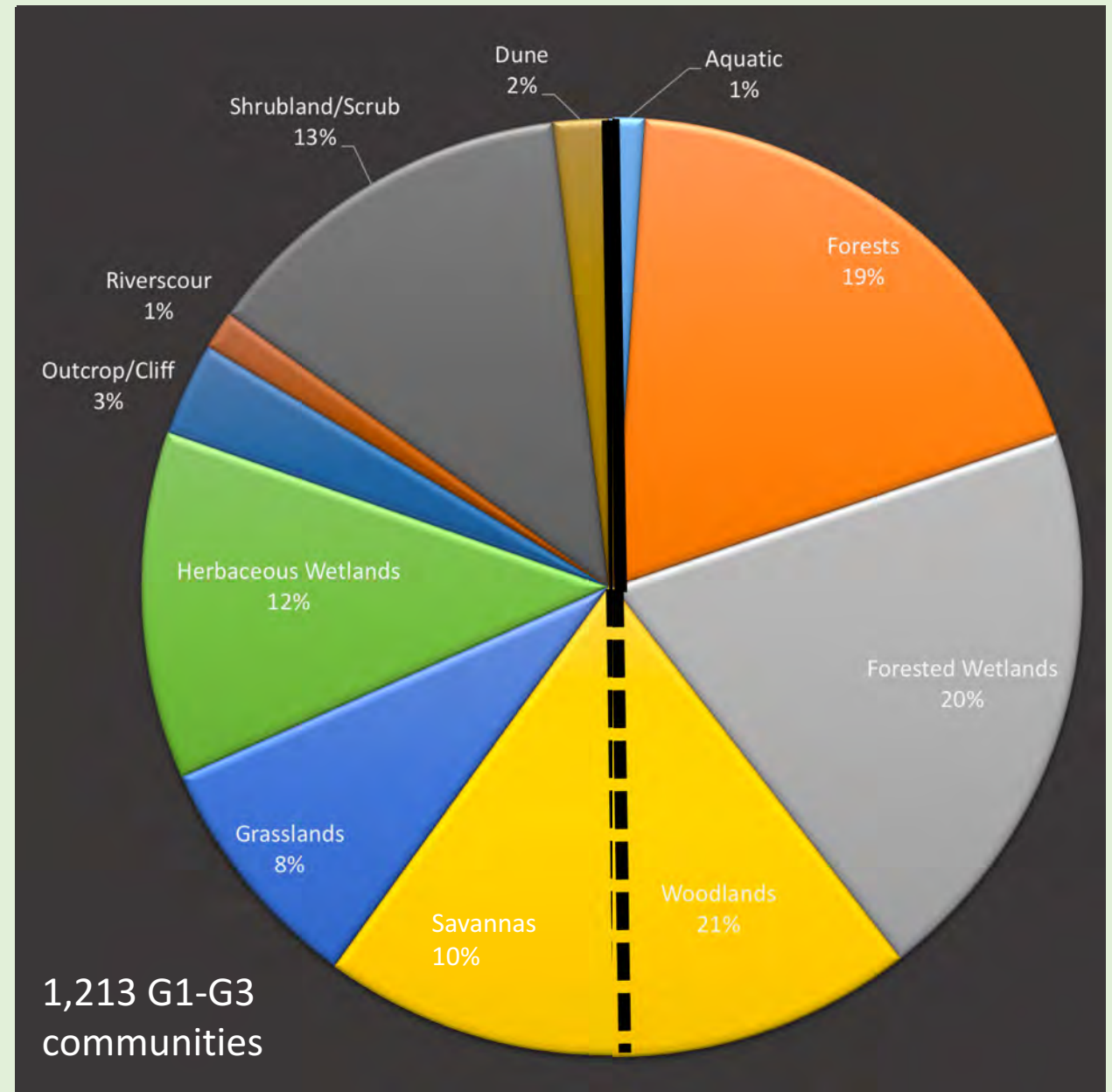
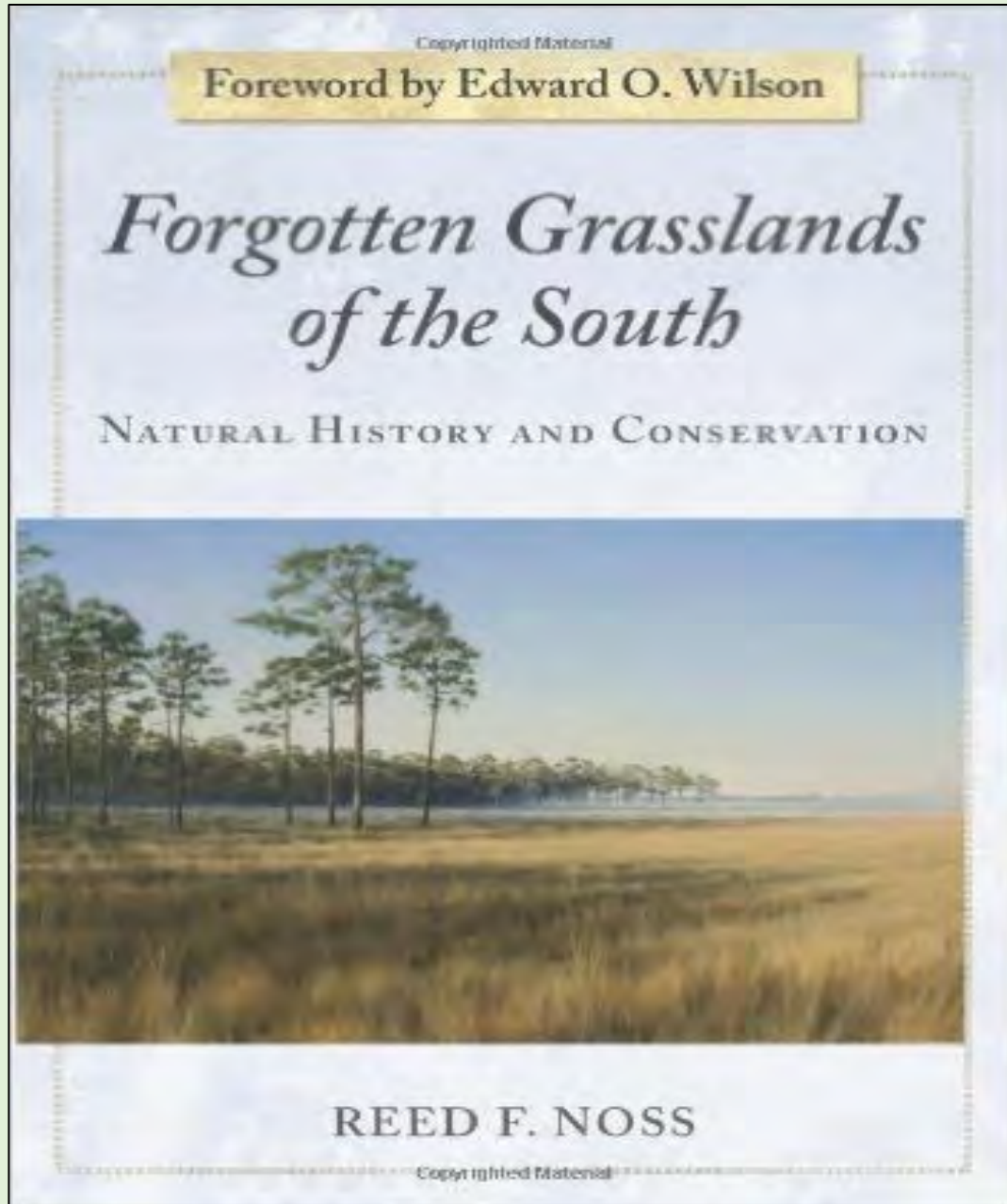
Estill and Cruzan (2001)

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Estill and Cruzan (2001)

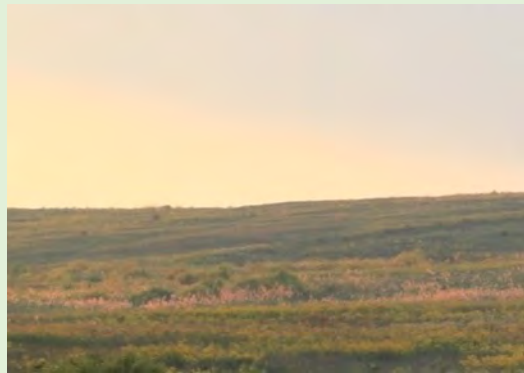
Can we afford to let our last remnants slip into oblivion?



Can we afford to let our last remnants slip into oblivion?



Savannas



Prairies



Barrens



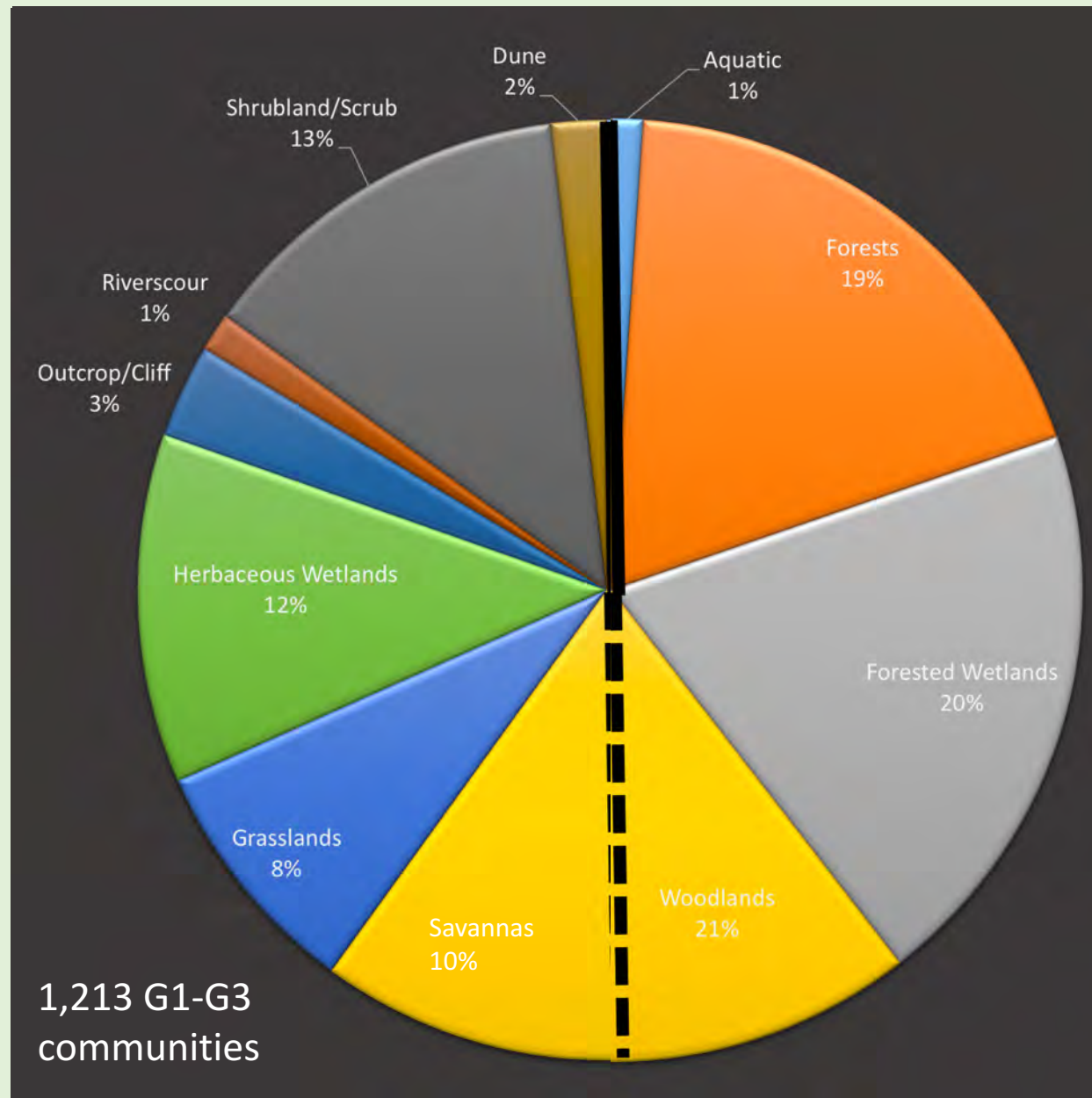
Meadows / Bogs



Glades



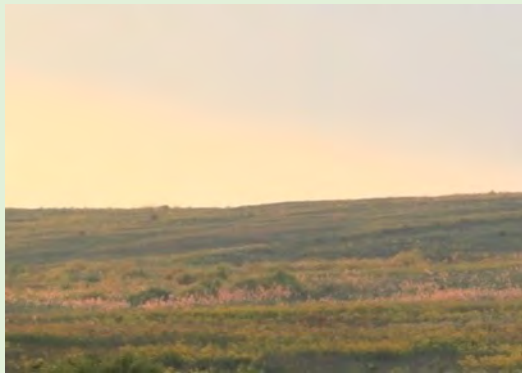
Grassland Ponds



Can we afford to let our last remnants slip into oblivion?



Savannas



Prairies



Barrens



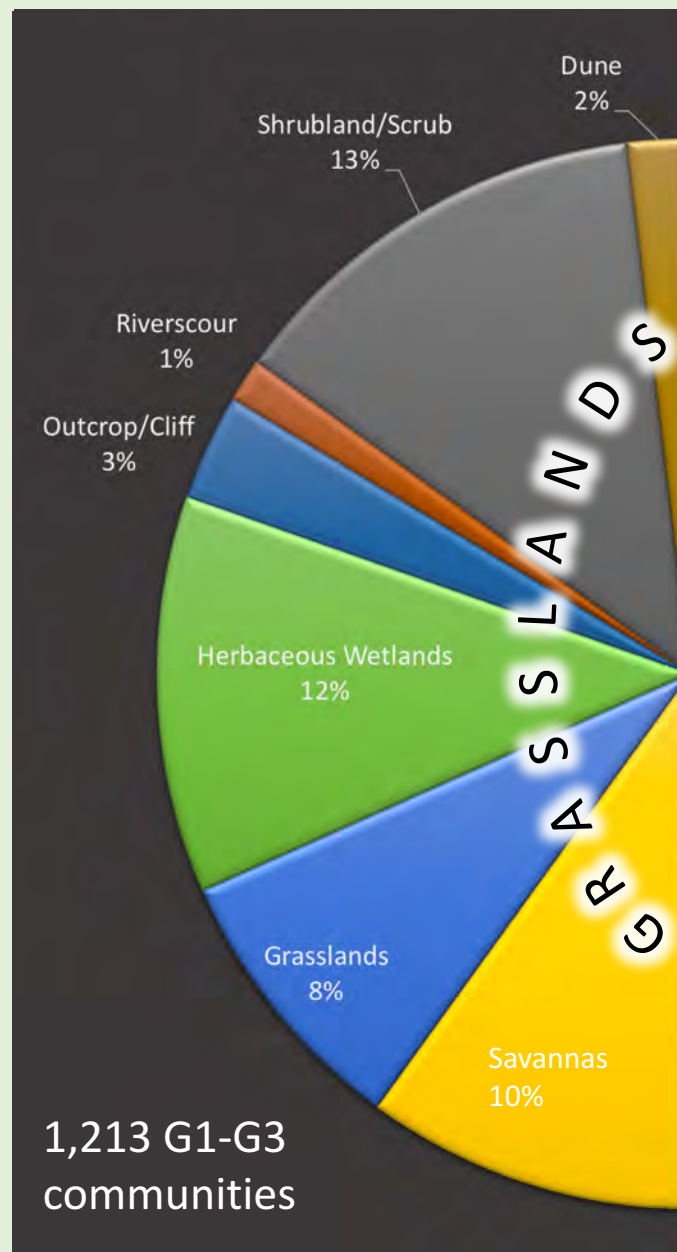
Meadows / Bogs



Glades

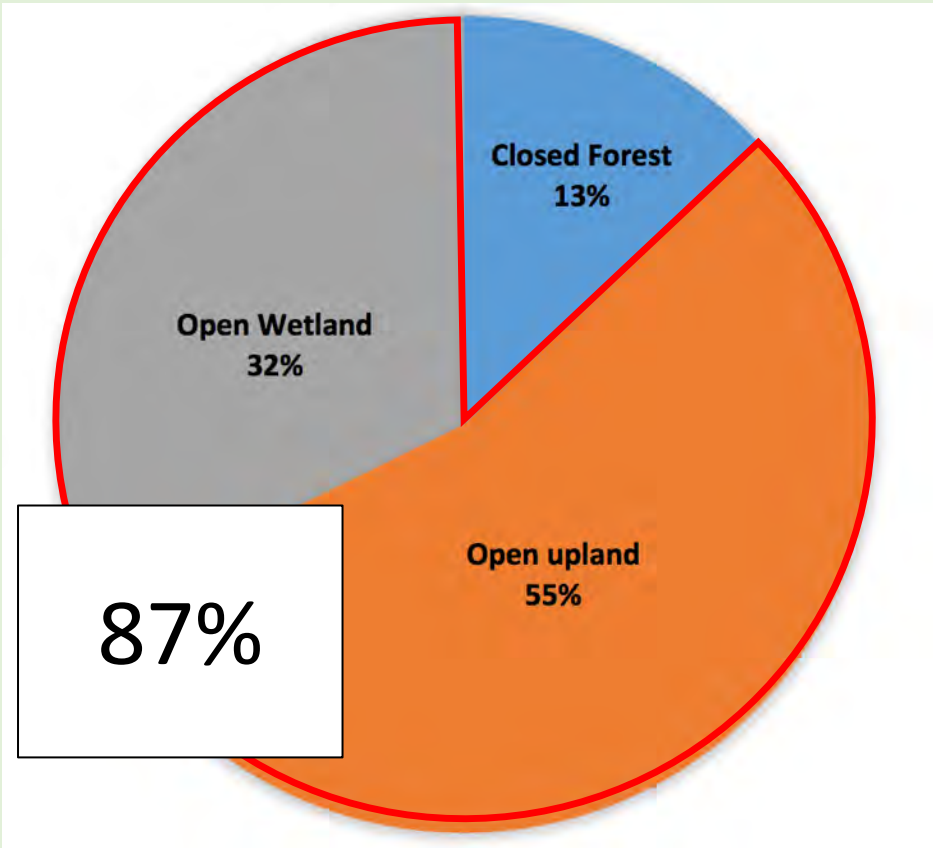


Grassland Ponds

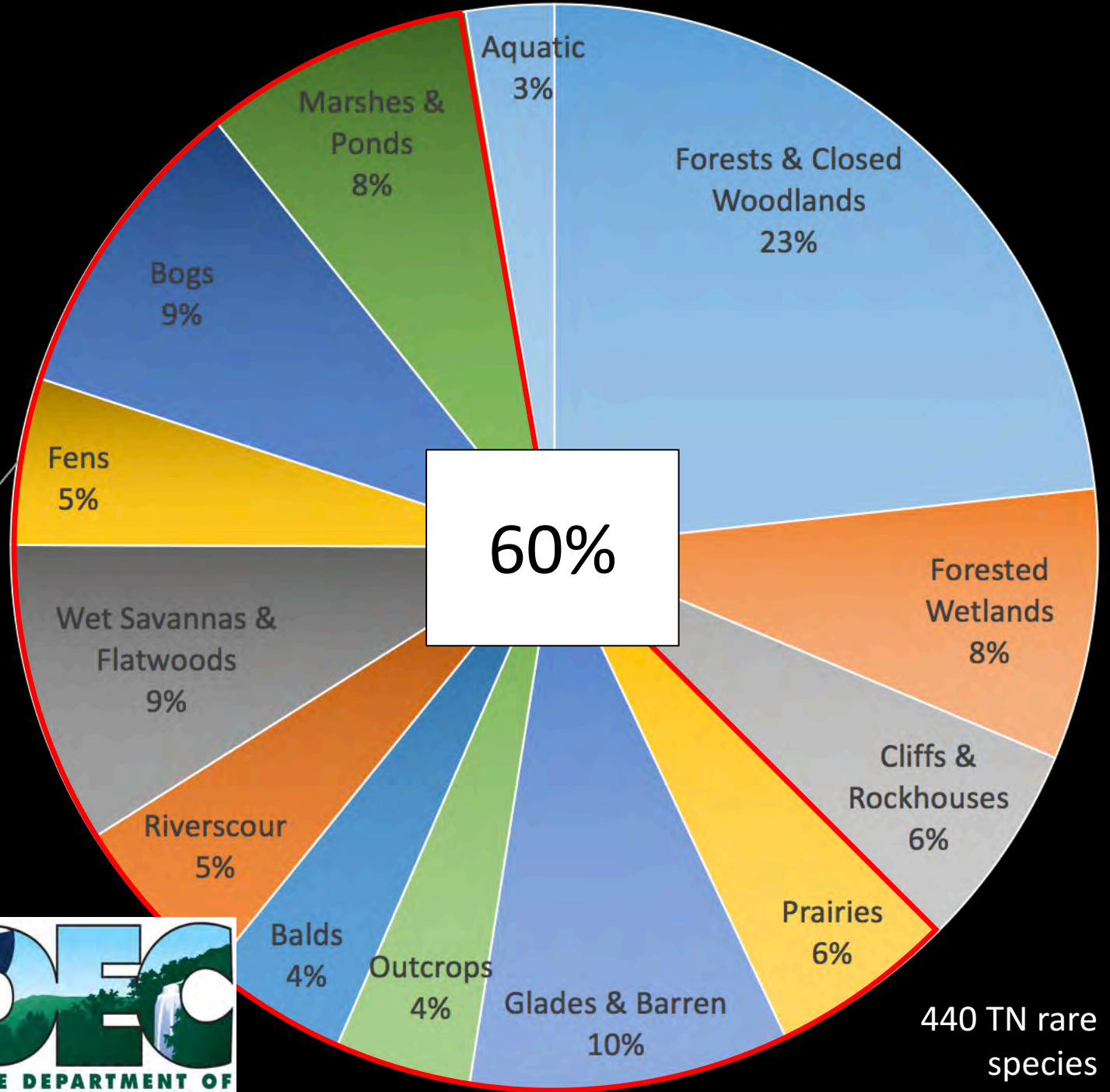


49%
grasslands

Plant Biodiversity

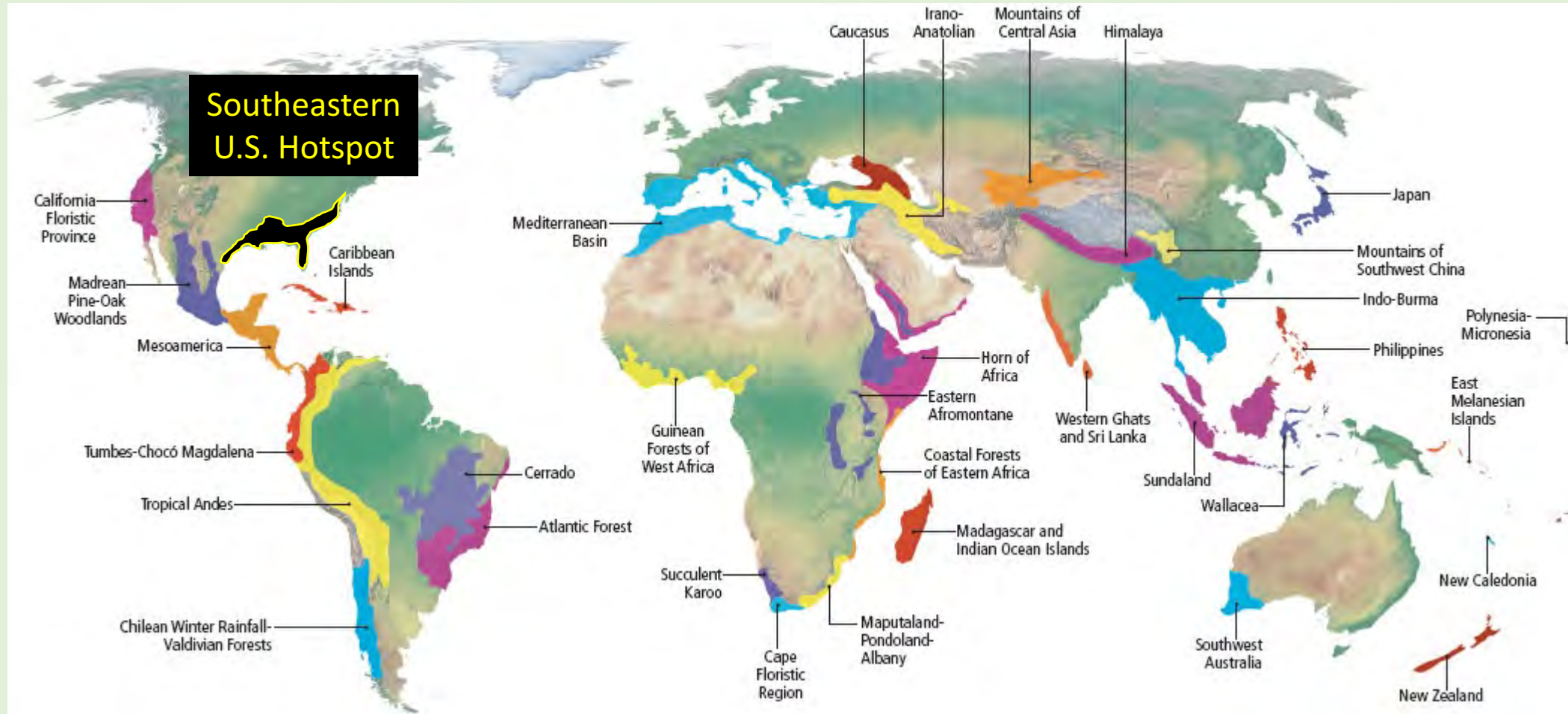


62 federal-listed species



440 TN rare species

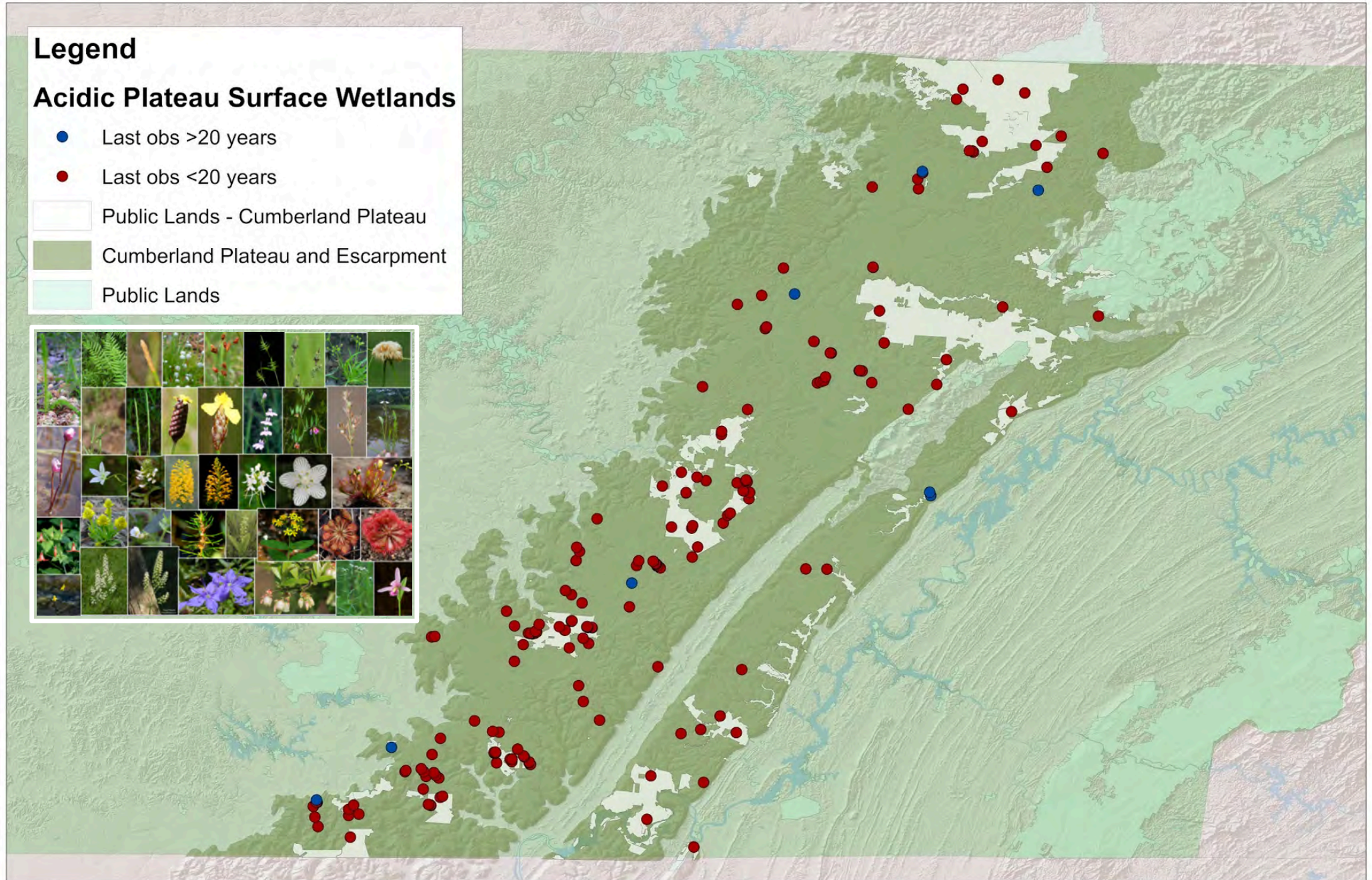
Global Biodiversity Hotspots

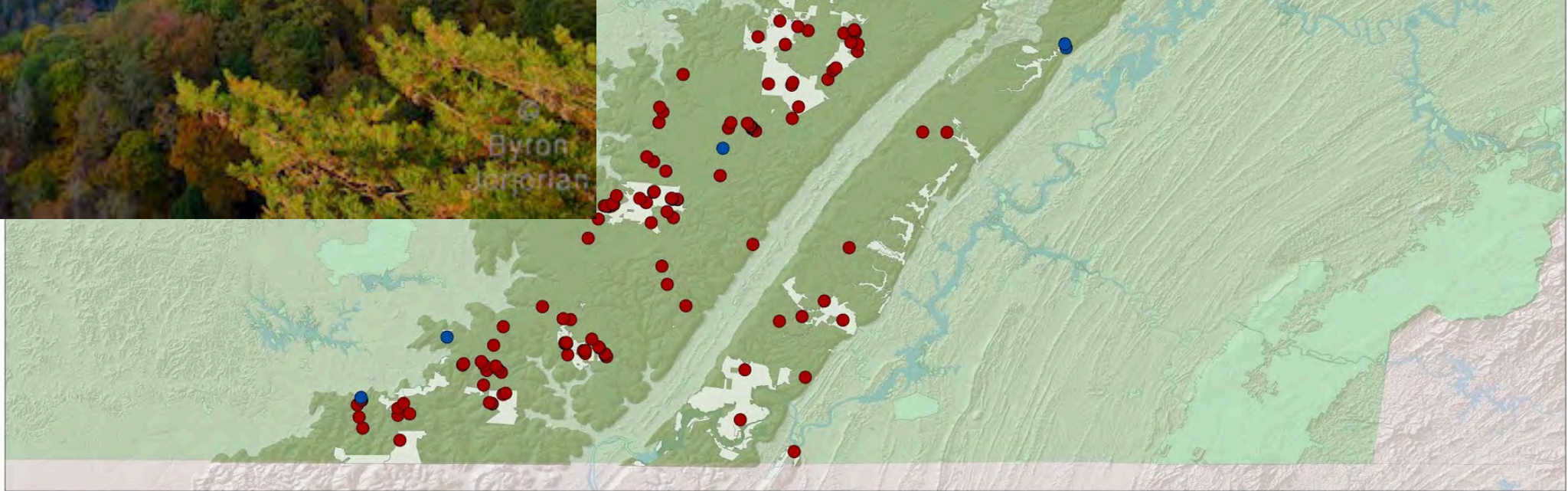


Legend

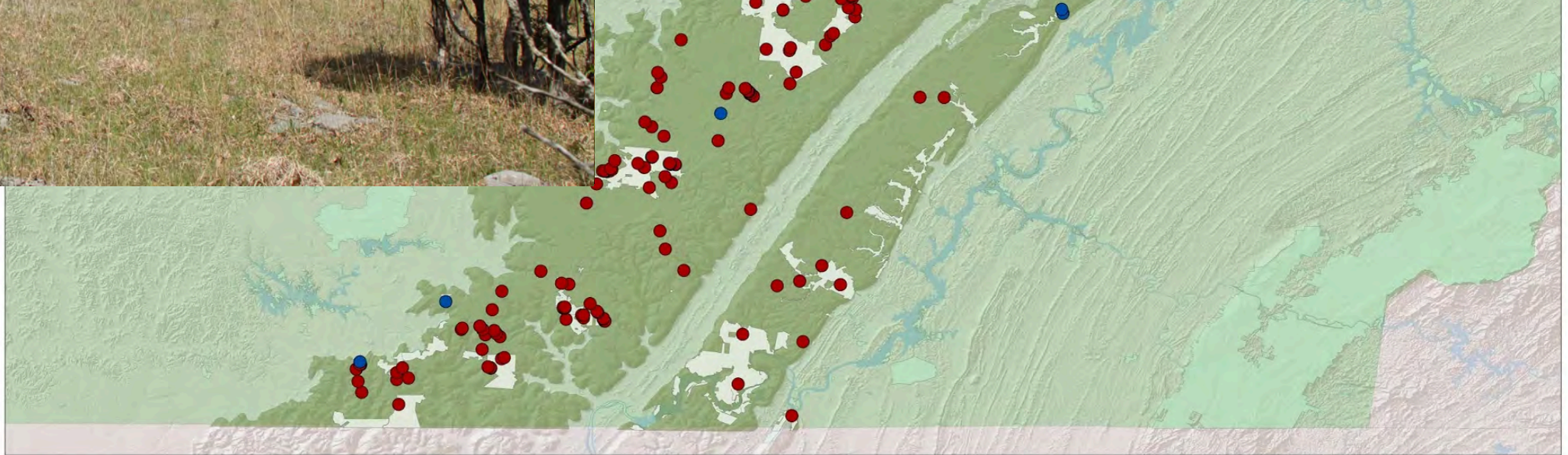
Acidic Plateau Surface Wetlands

- Last obs >20 years
- Last obs <20 years
- Public Lands - Cumberland Plateau
- Cumberland Plateau and Escarpment
- Public Lands

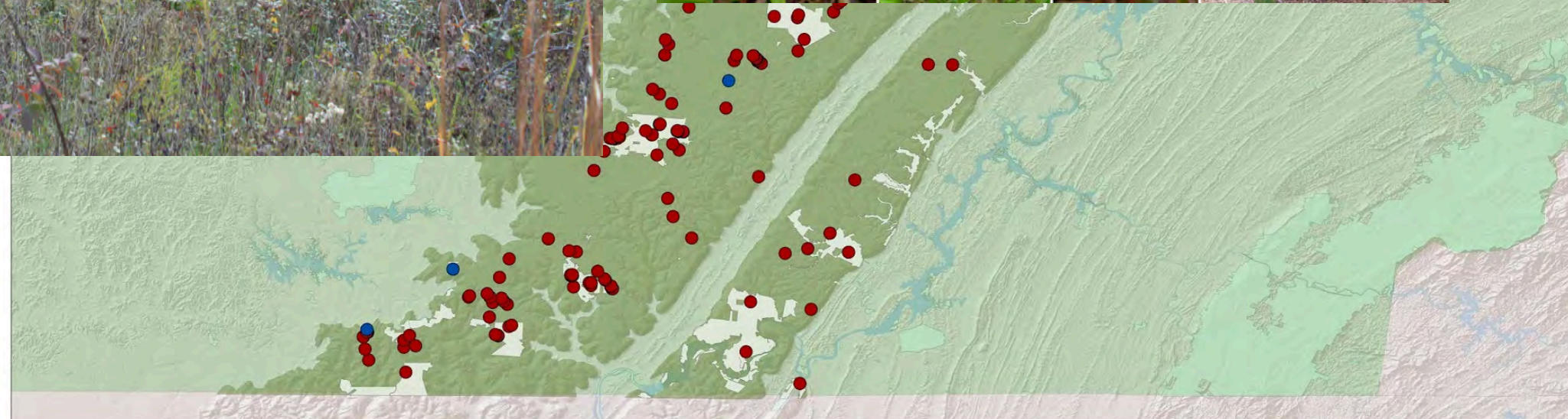




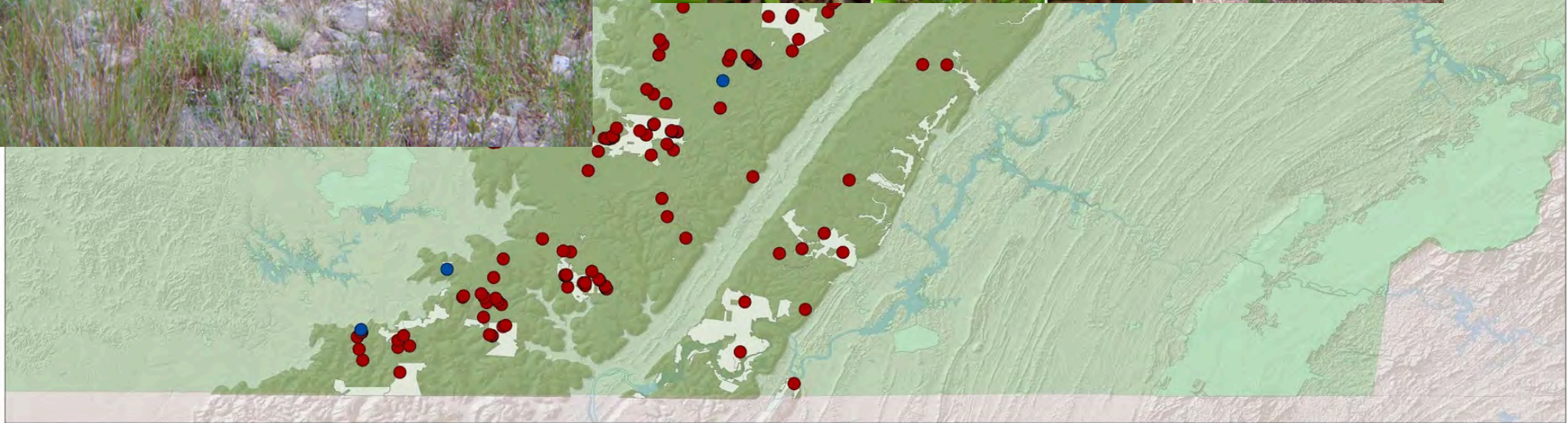
Map Credit: Sunny Fleming: Tennessee Division of Natural Areas



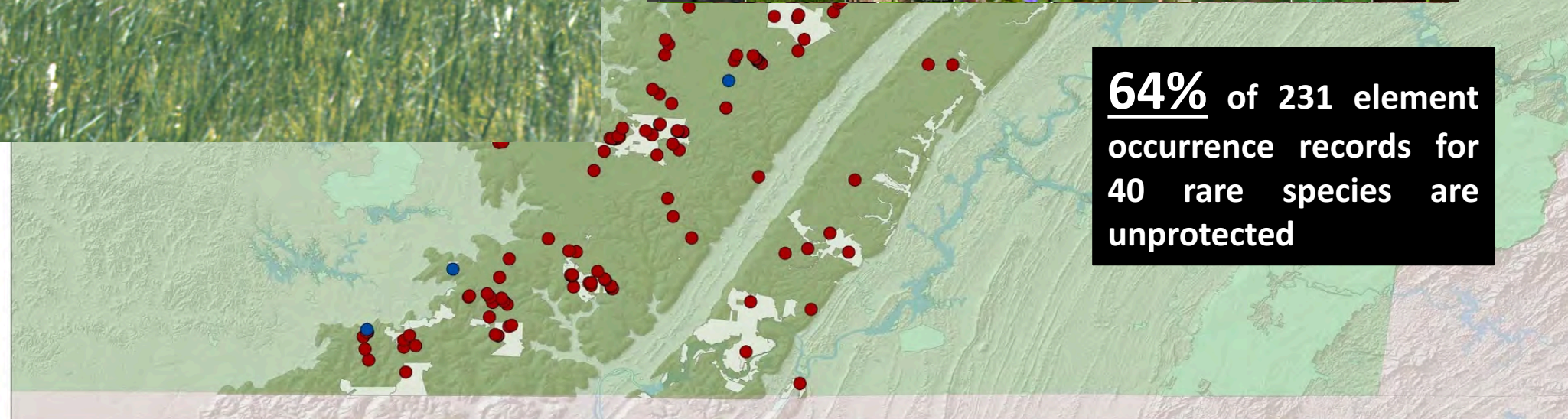
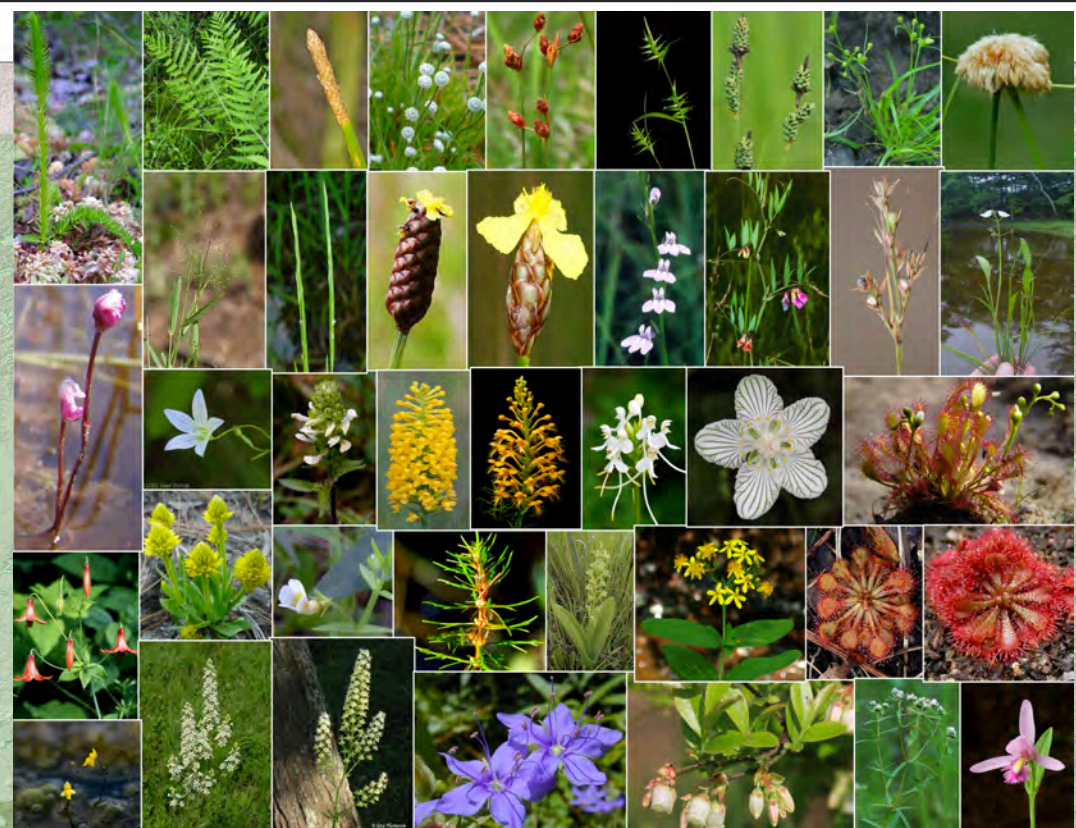
Map Credit: Sunny Fleming: Tennessee Division of Natural Areas



Map Credit: Sunny Fleming: Tennessee Division of Natural Areas

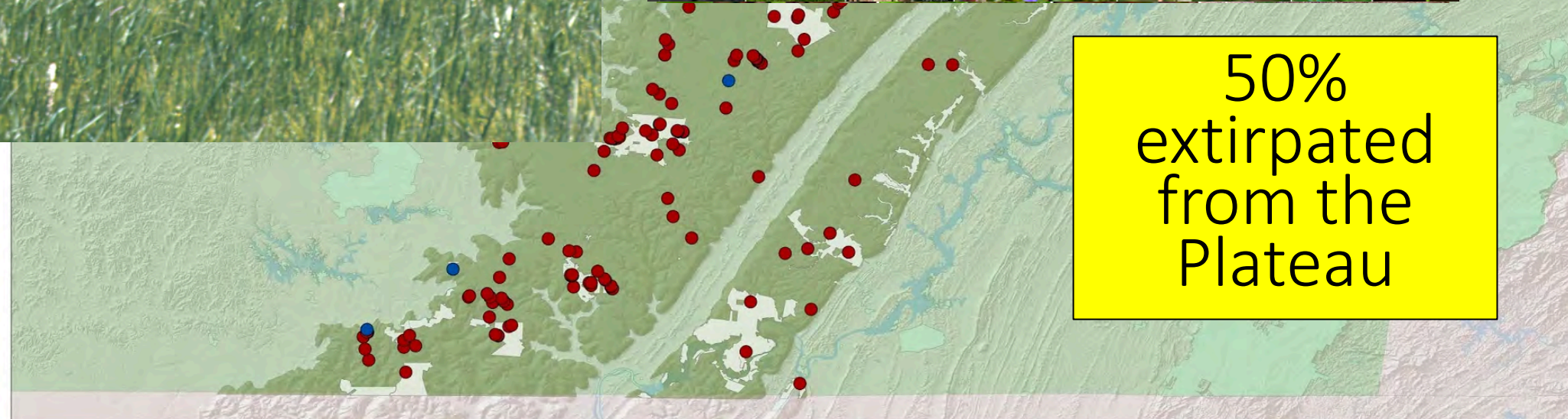


Map Credit: Sunny Fleming: Tennessee Division of Natural Areas



64% of 231 element occurrence records for 40 rare species are unprotected

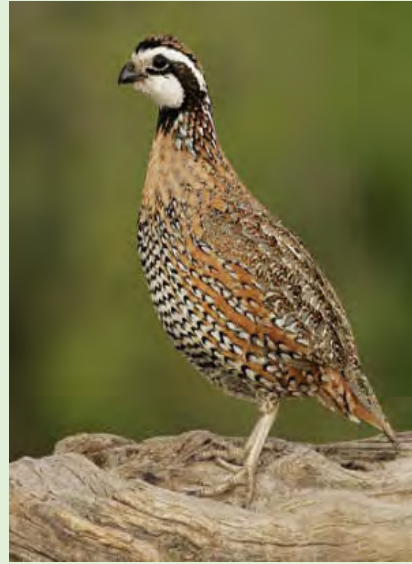
Map Credit: Sunny Fleming: Tennessee Division of Natural Areas



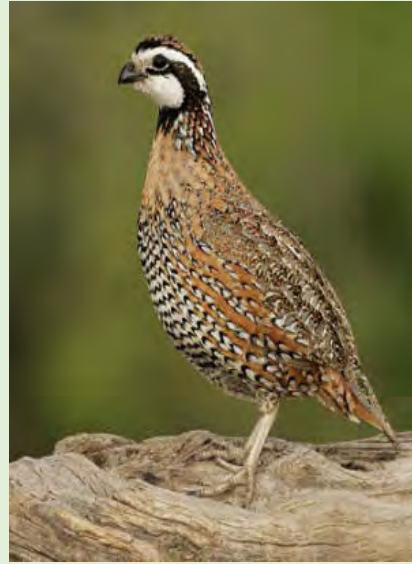
50%
extirpated
from the
Plateau

Map Credit: Sunny Fleming: Tennessee Division of Natural Areas

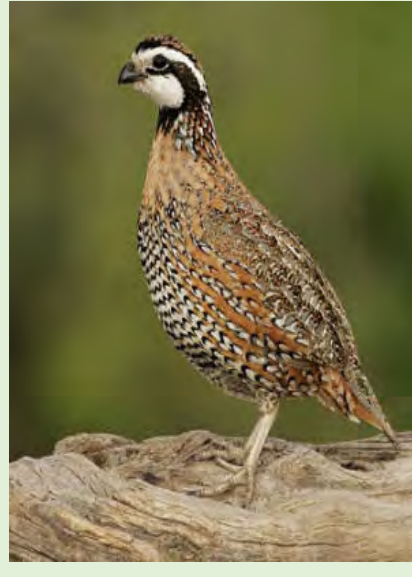
Ecological Collapse



Ecological Collapse



Ecological Collapse



Ecological Collapse

Renewed Interest in Grassland Conservation



Renewed Interest in Grassland Conservation



Can our grasslands survive into the 22nd century?



Until there is a coordinated effort to conserve, research, and rebuild them they will continue to slip into oblivion

The challenges facing Southeastern grasslands are complex

Major Knowledge Gaps

Extreme Rarity

Scarcity of Funding

Diminished Resources

Declining Expertise



The challenges facing Southeastern grasslands are complex

Major Knowledge Gaps

Extreme Rarity

Scarcity of Funding

Diminished Resources

Declining Expertise



Saving our grasslands will require...

- **unparalleled long-term financial commitment from philanthropy and grants**
- **support at local, regional, state, and national levels**
- **leadership and coordination**
- **investments in infrastructure and organization**
- **multifaceted commitment combining preservation, restoration, recreation, rescue, research, education and outreach, market-driven approaches, and seedbanking**



SGI
Southeastern Grasslands Initiative

SGI Objectives

- **Research**





SGI
Southeastern Grasslands Initiative

SGI Objectives

- **Research**
- **Education**





SGI
Southeastern Grasslands Initiative

SGI Objectives

- **Research**
- **Education**
- **Consultation**





SGI
Southeastern Grasslands Initiative

SGI Objectives

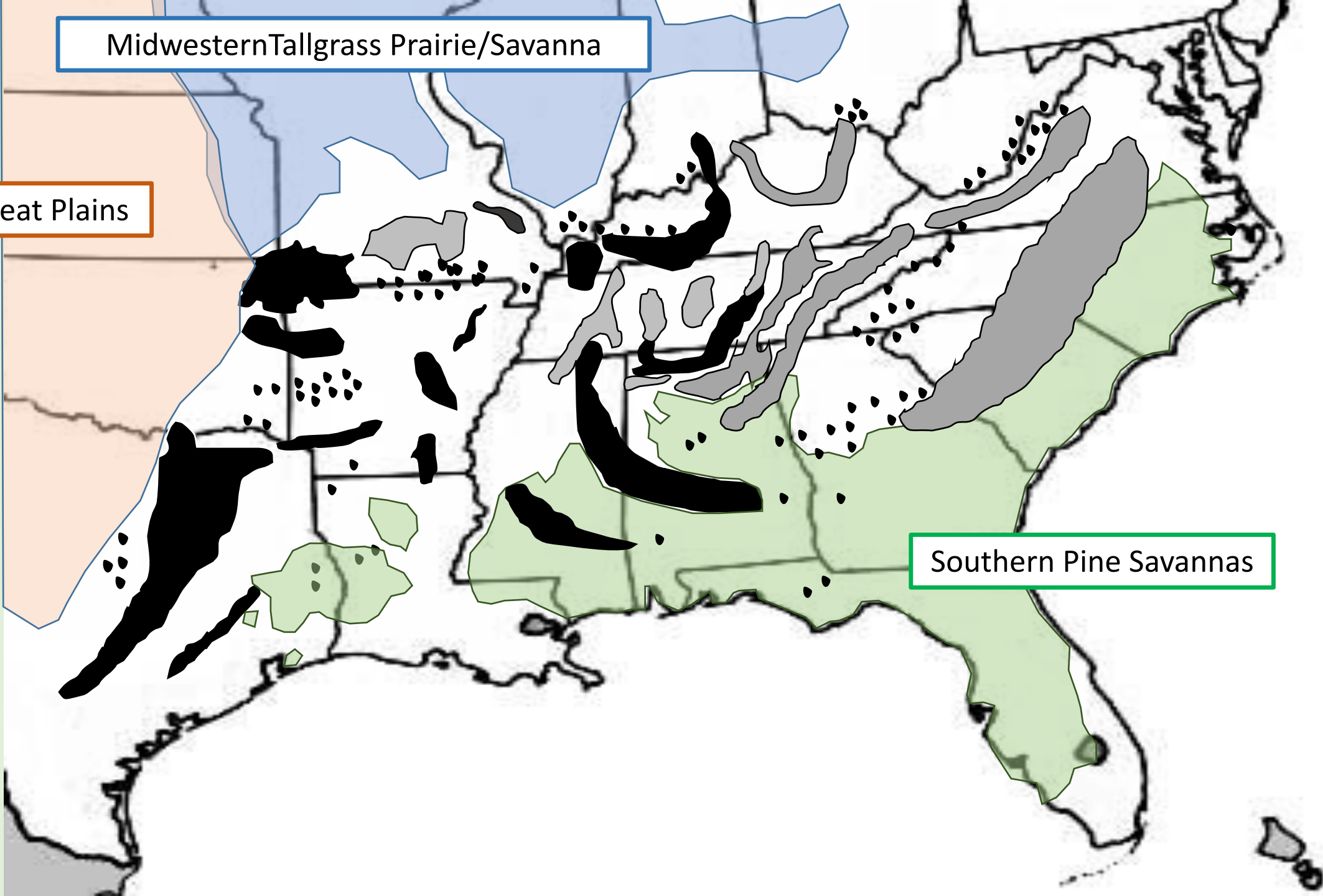
- **Research**
- **Education**
- **Consultation**
- **Granting Program**



Midwestern Tallgrass Prairie/Savanna

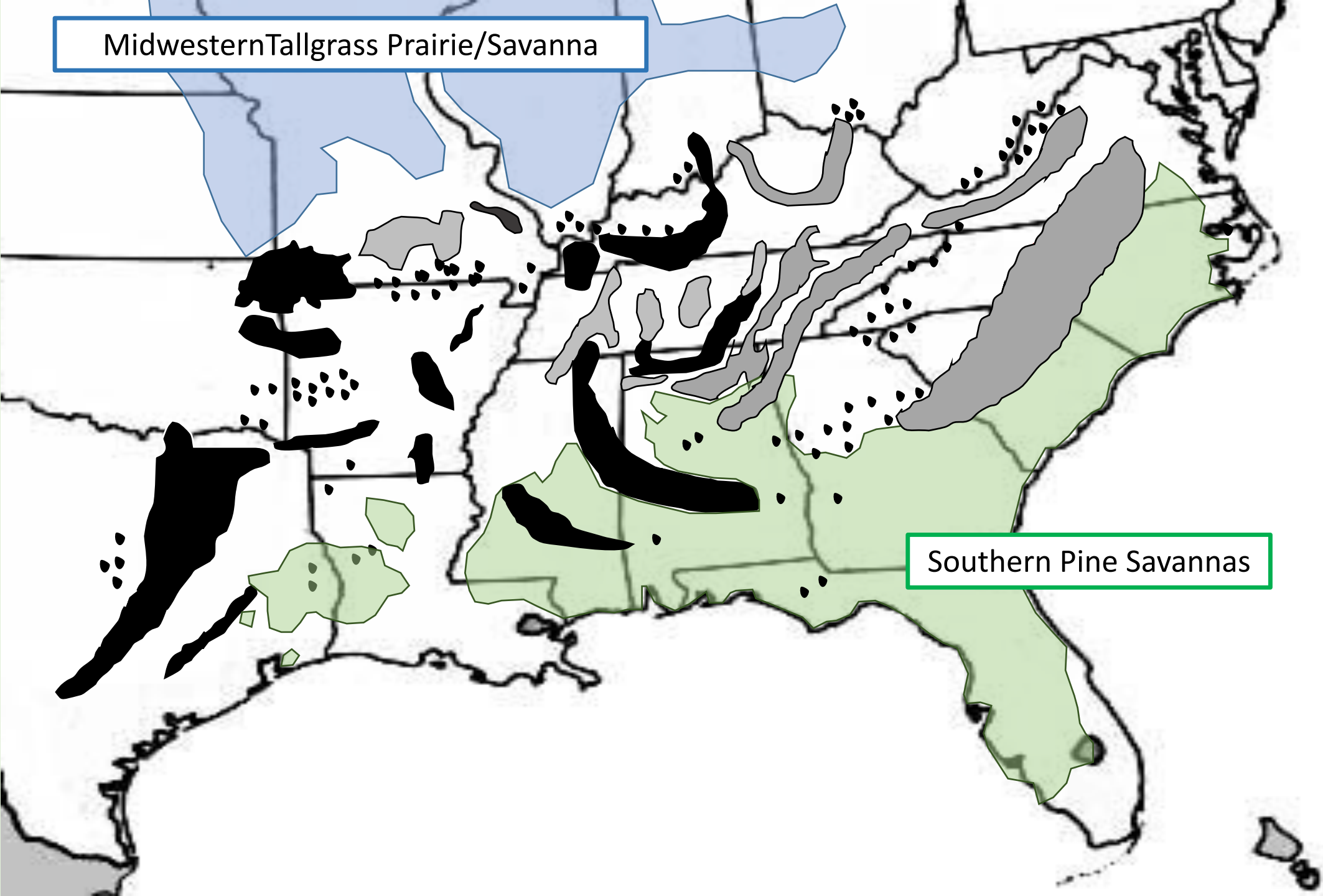
Great Plains

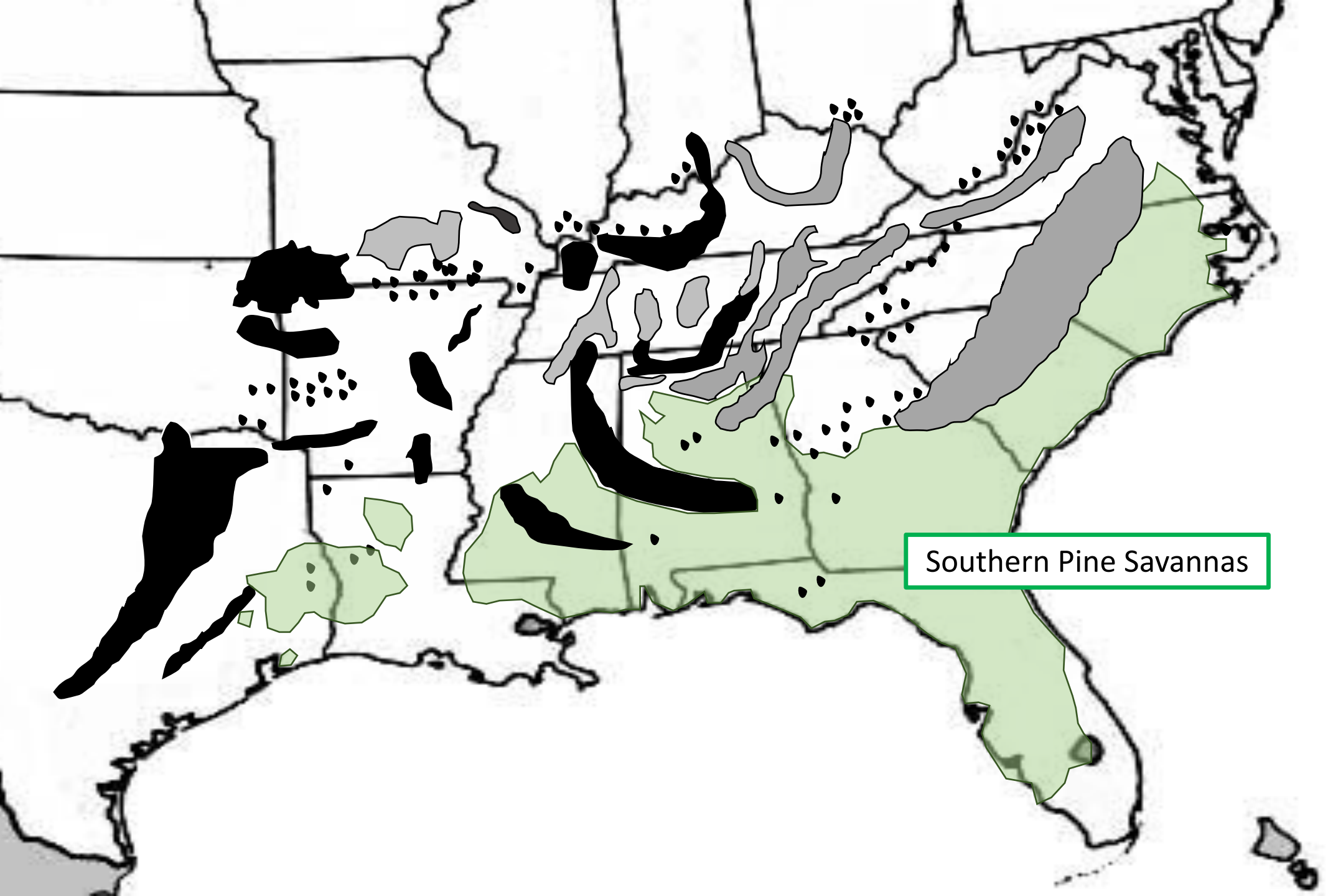
Southern Pine Savannas



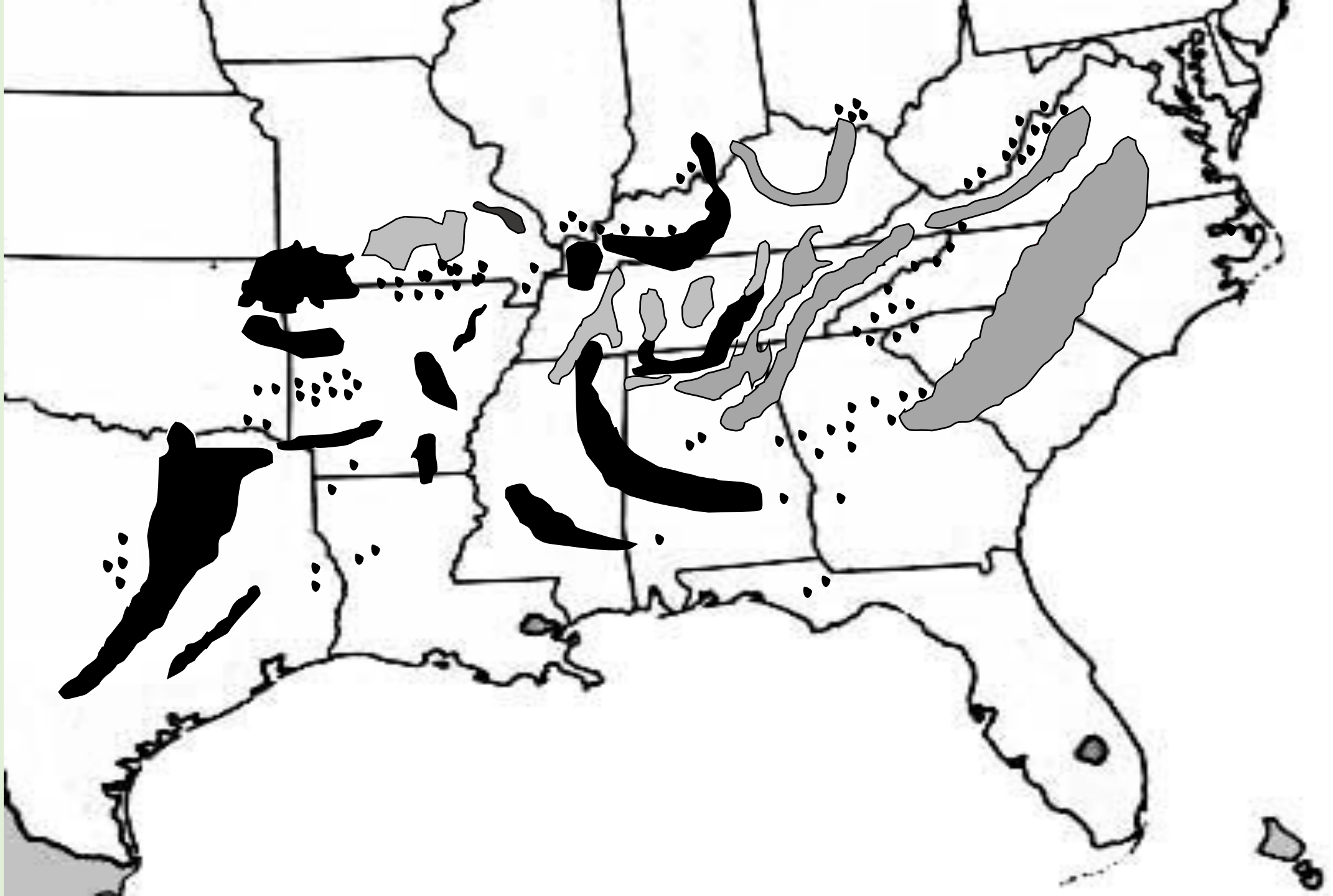
Midwestern Tallgrass Prairie/Savanna

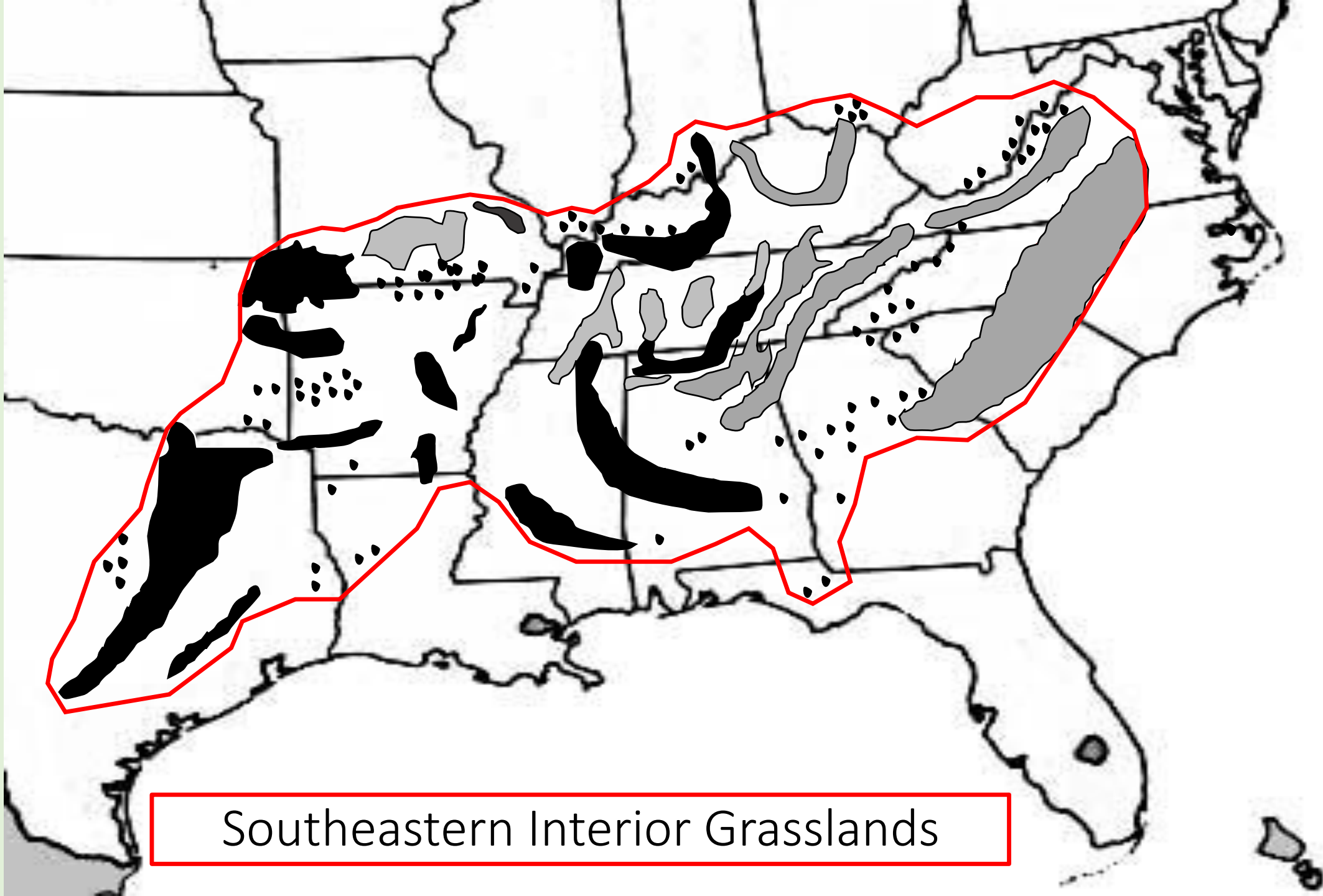
Southern Pine Savannas





Southern Pine Savannas





Southeastern Interior Grasslands

The SGI Focal Area

Interior Highlands

Interior Plateaus

Cumberland Plateau

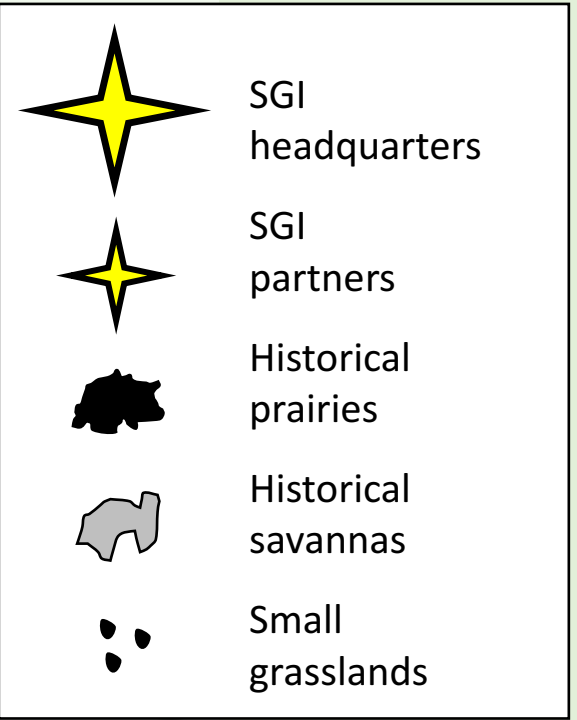
Ridge and Valley

Piedmont

Blue Ridge Mountains

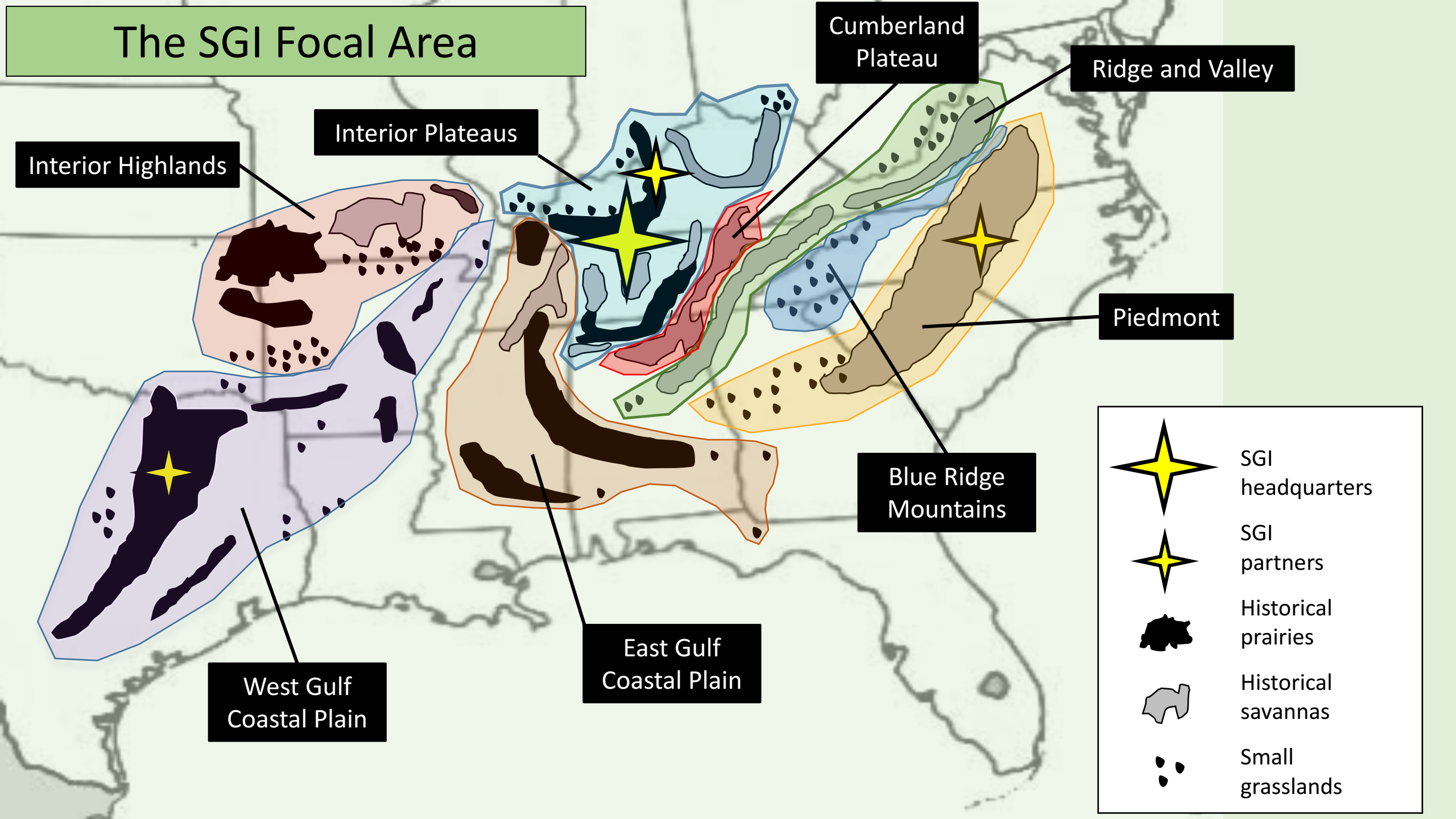
East Gulf Coastal Plain

West Gulf Coastal Plain



The legend is located in the bottom right corner of the map. It contains five entries, each with a symbol and a text label:

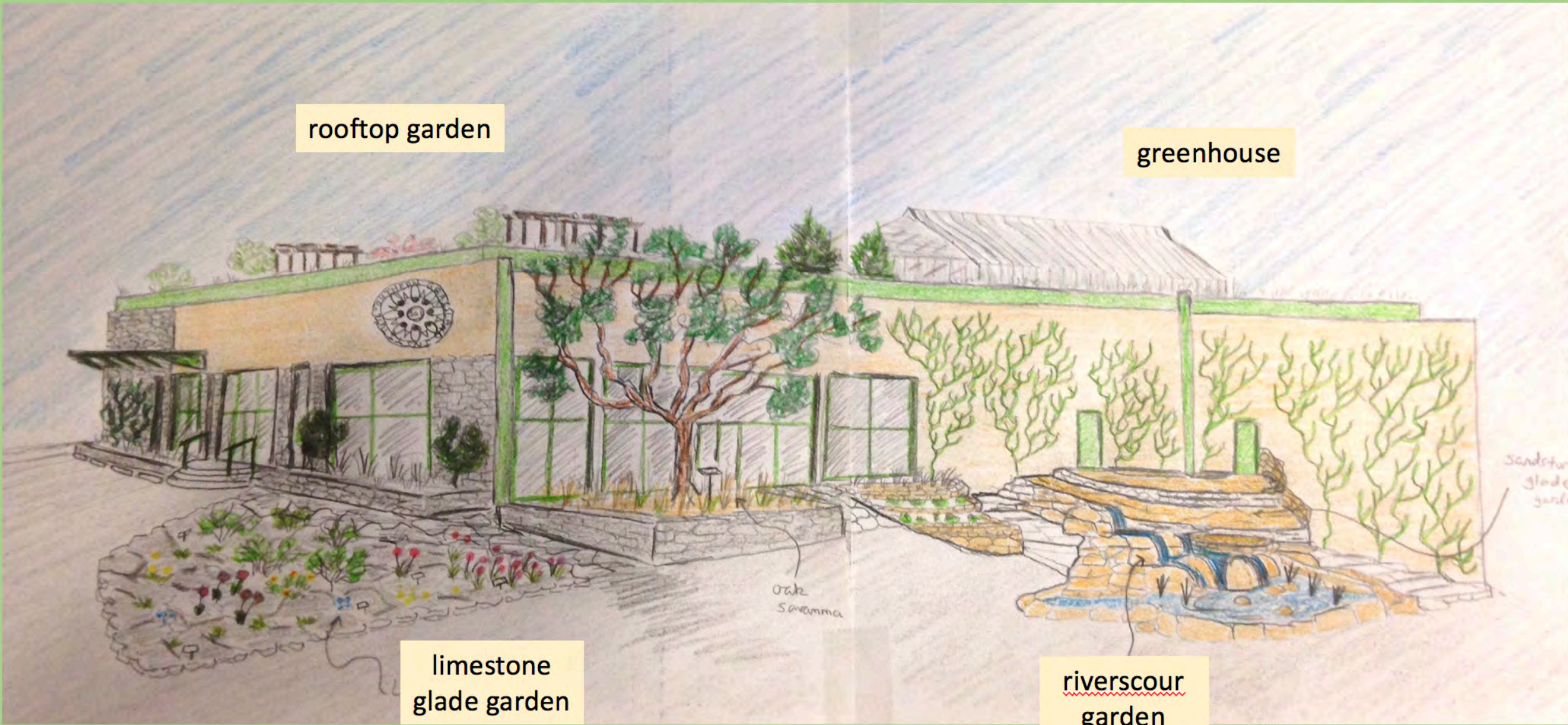
- A large yellow four-pointed star symbol next to the text "SGI headquarters".
- A smaller yellow four-pointed star symbol next to the text "SGI partners".
- A solid black irregular shape symbol next to the text "Historical prairies".
- A light gray irregular shape symbol next to the text "Historical savannas".
- A cluster of three small black dots symbol next to the text "Small grasslands".



The Southeastern Grassland Biodiversity Center

rooftop garden

greenhouse



limestone
glade garden

riverscour
garden

sandstone
glade
garden

oak
savanna

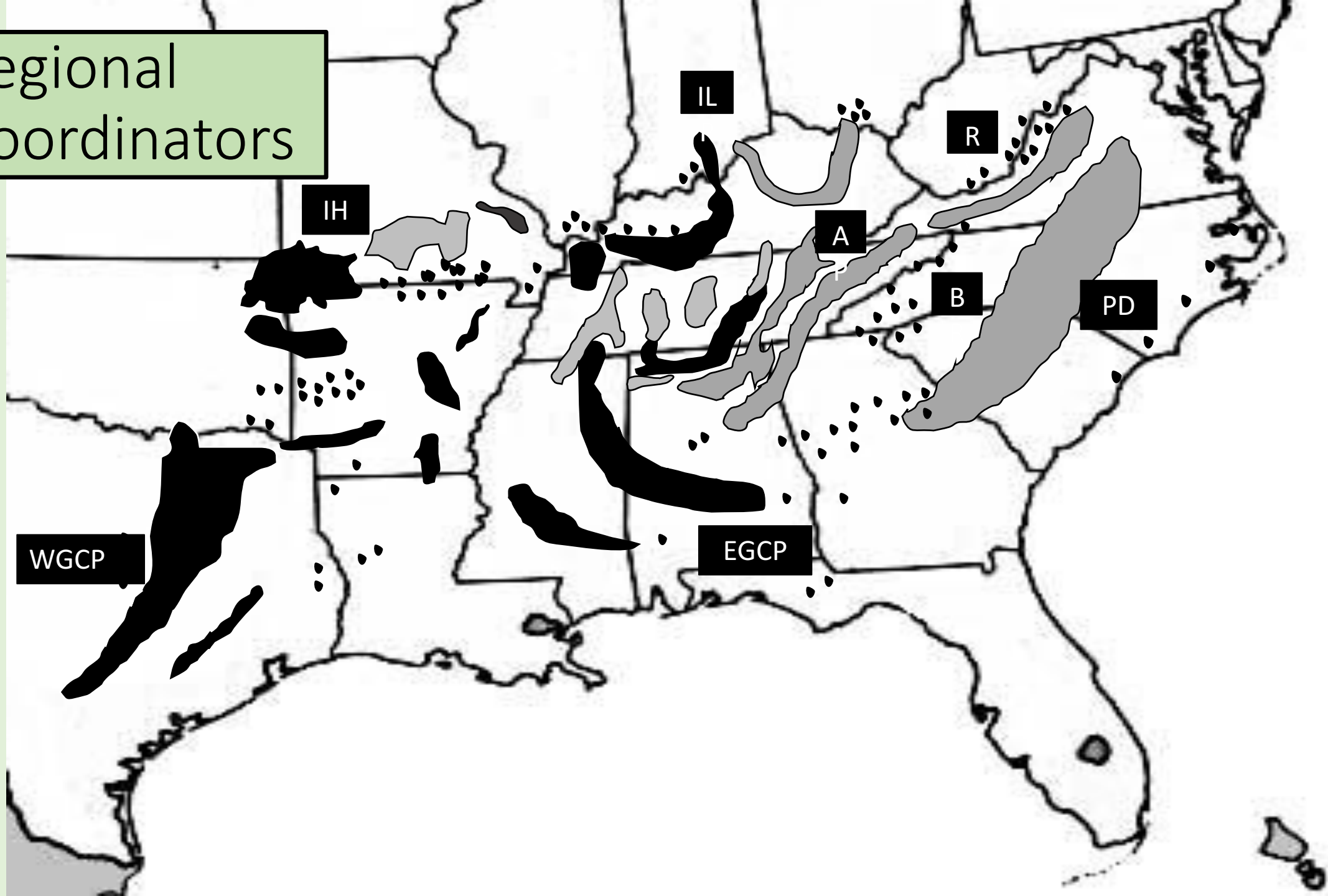
Headquarters of the Southeastern Grasslands Initiative



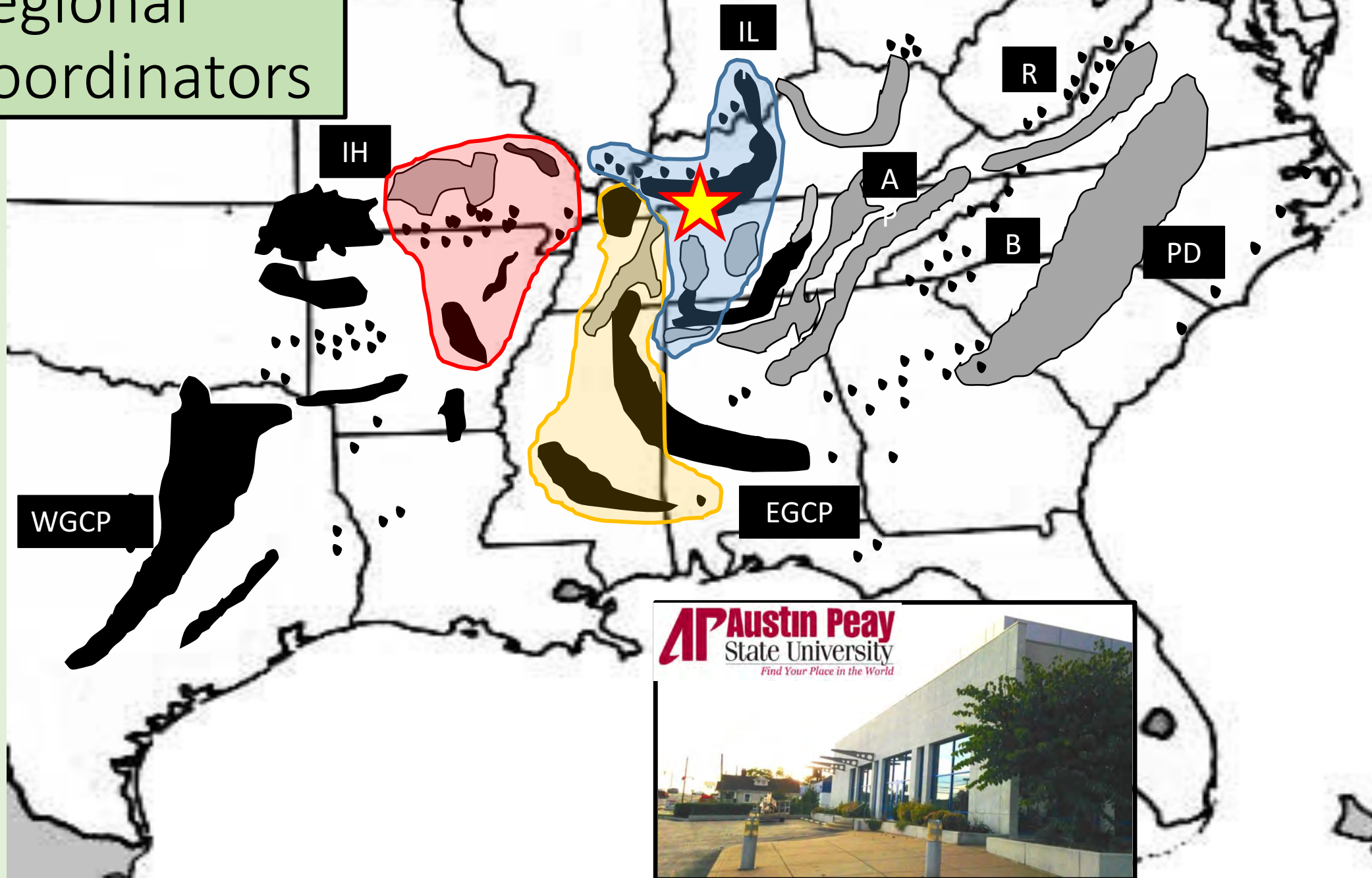
A Seedbank to Serve the Mid-South U.S.



Regional Coordinators



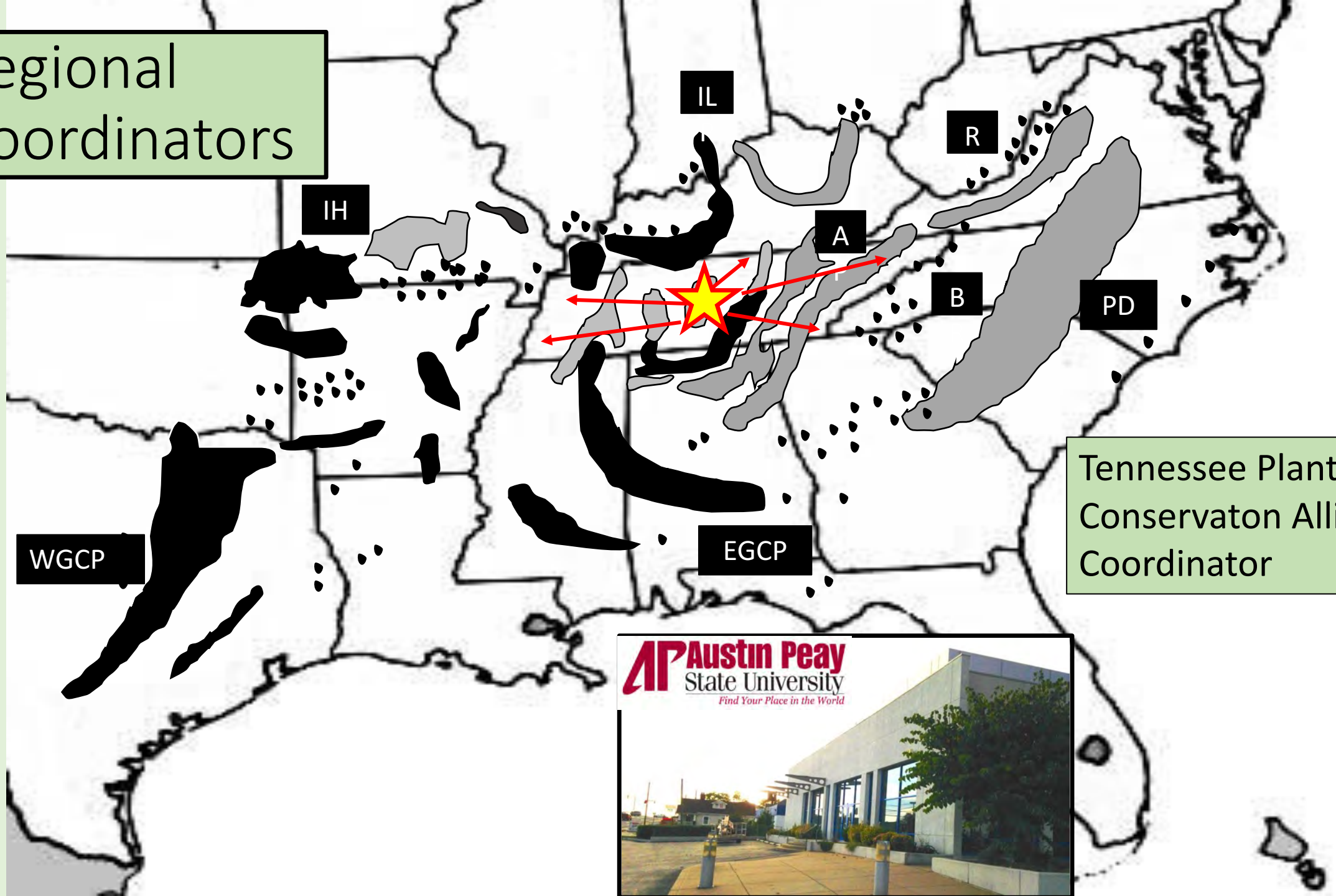
Regional Coordinators



Regional Coordinators



Regional Coordinators



WGCP

IH

IL

R

A

B

PD

EGCP

Tennessee Plant
Conservaton Alliance
Coordinator



Regional Coordinators

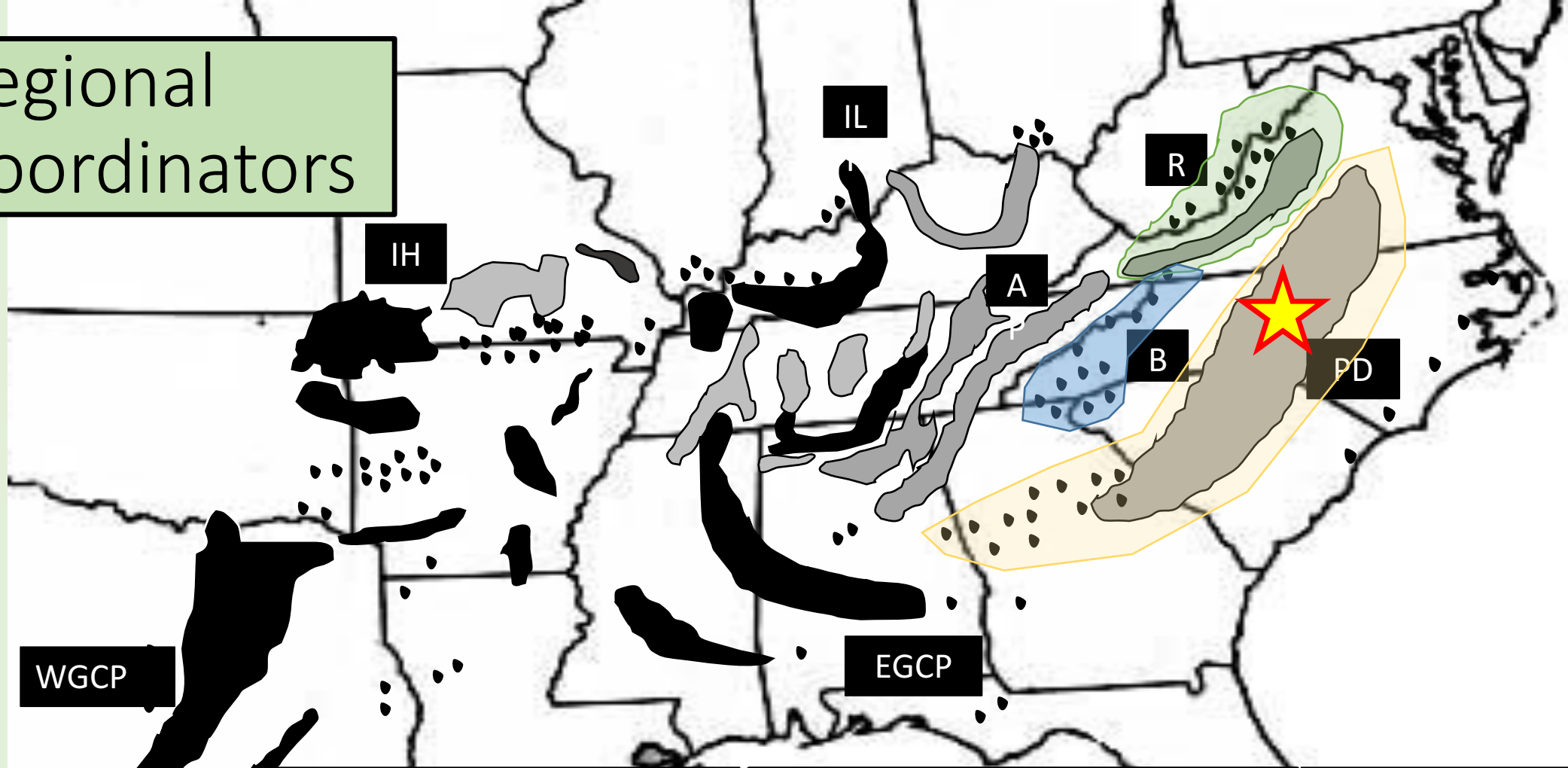


WGCP

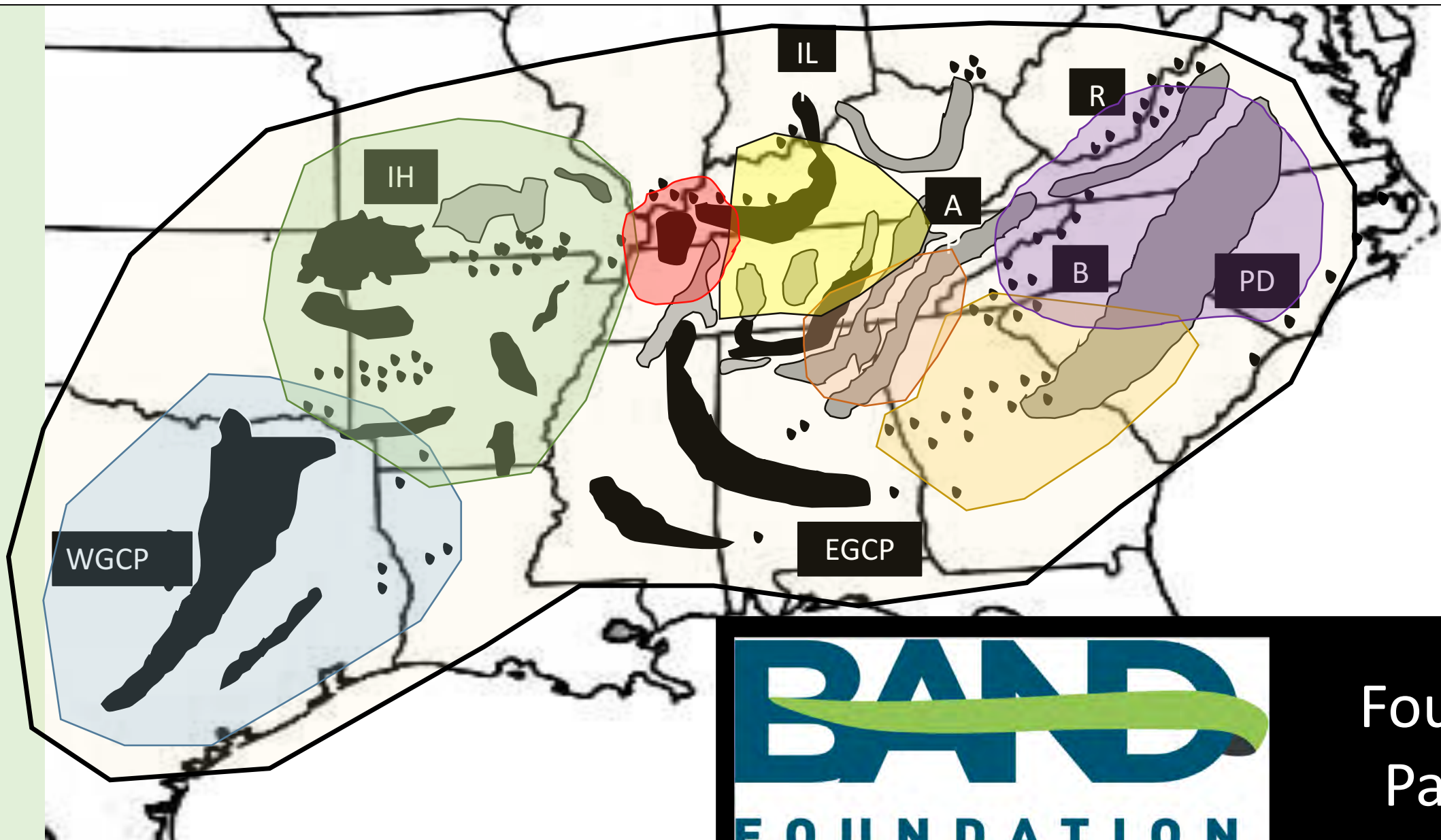
 **BOTANICAL RESEARCH INSTITUTE OF TEXAS**
Plant to planet.



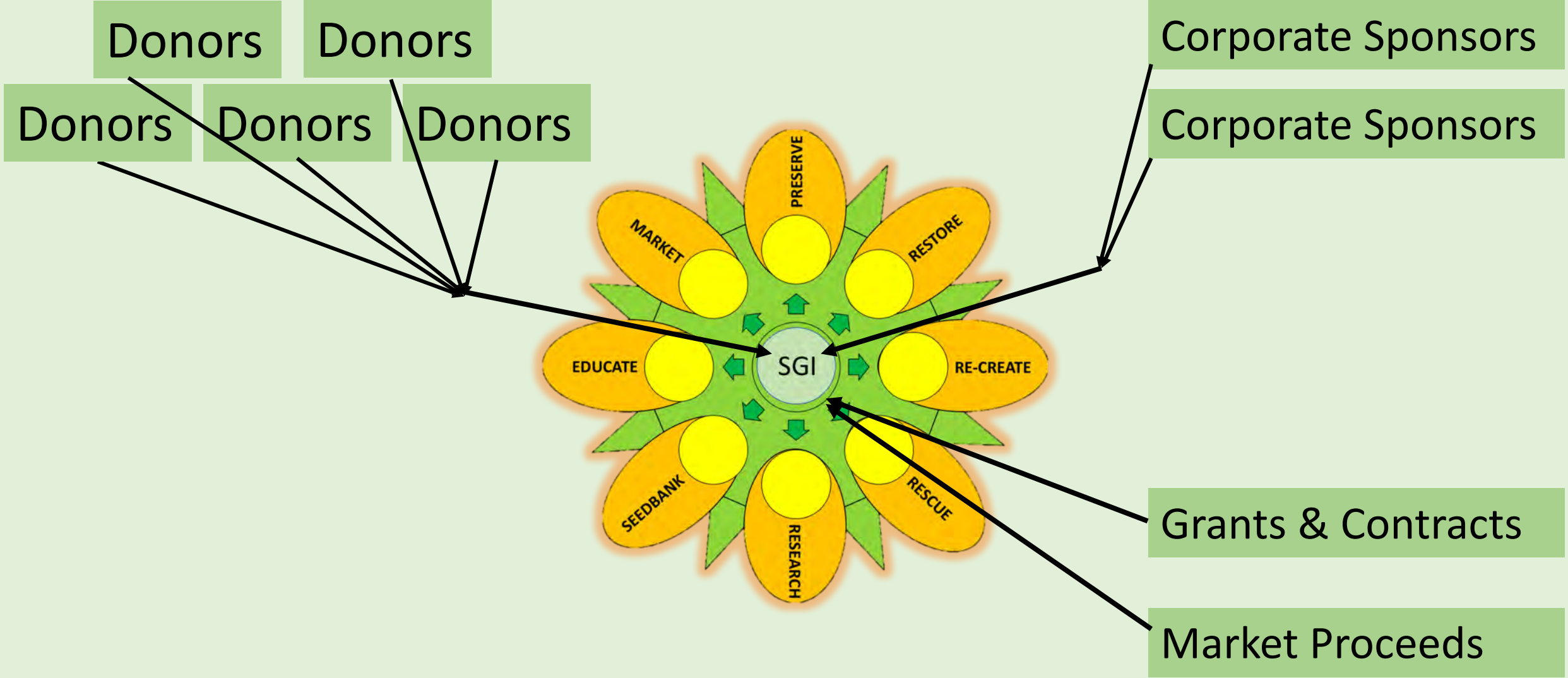
Regional Coordinators



How will we be funded?



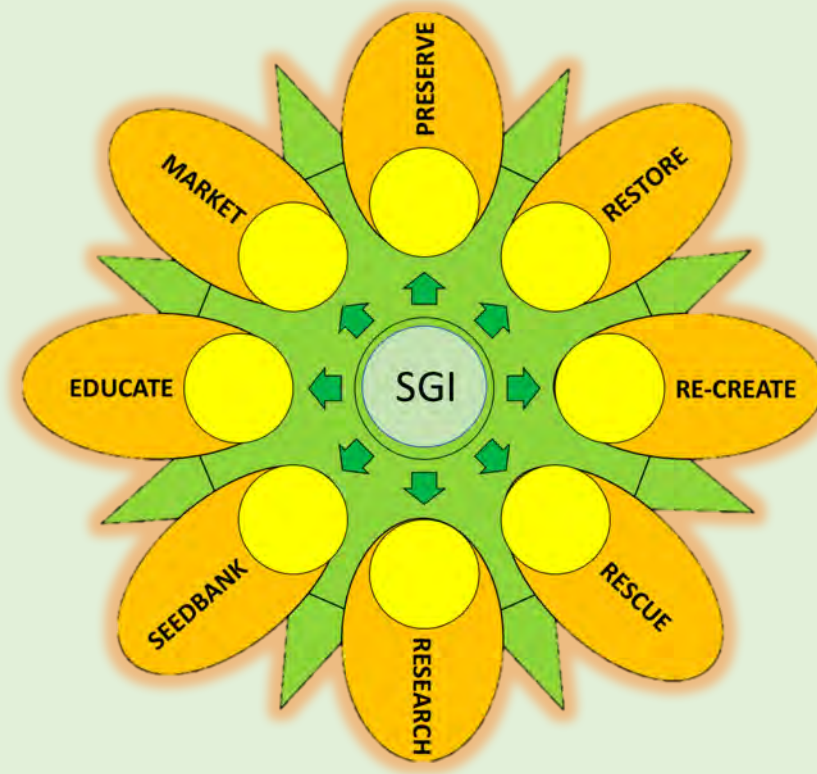
What kinds of projects will we support?



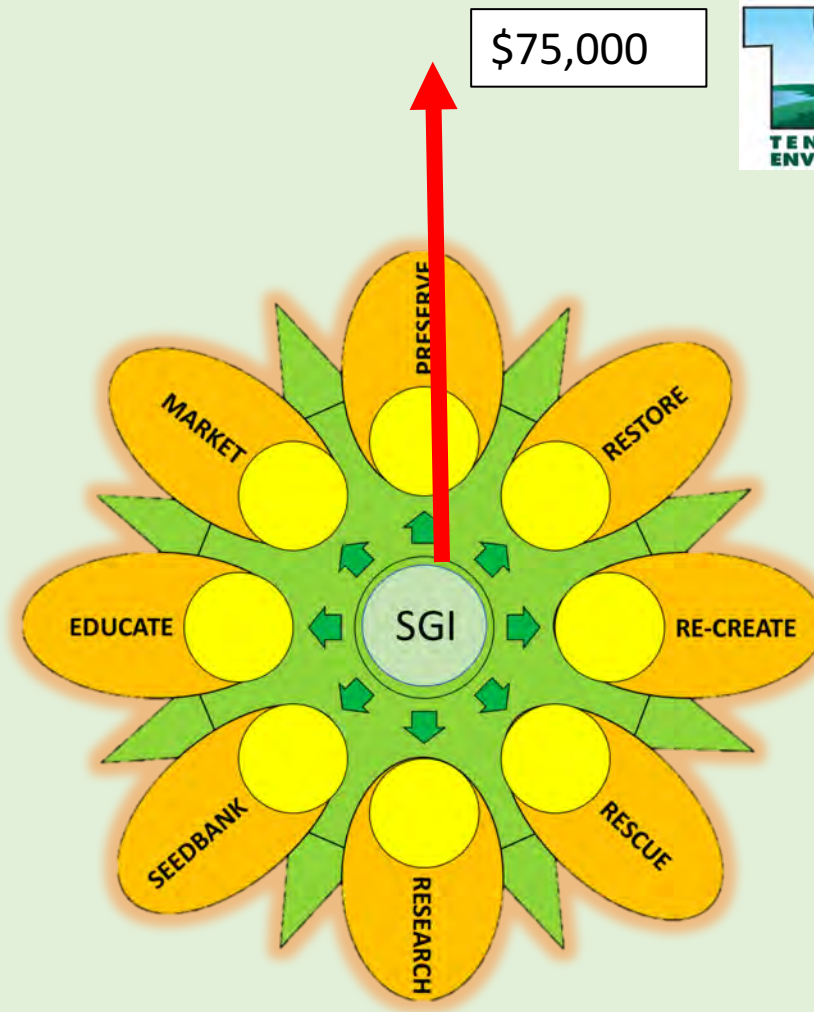
What kinds of projects will we support?



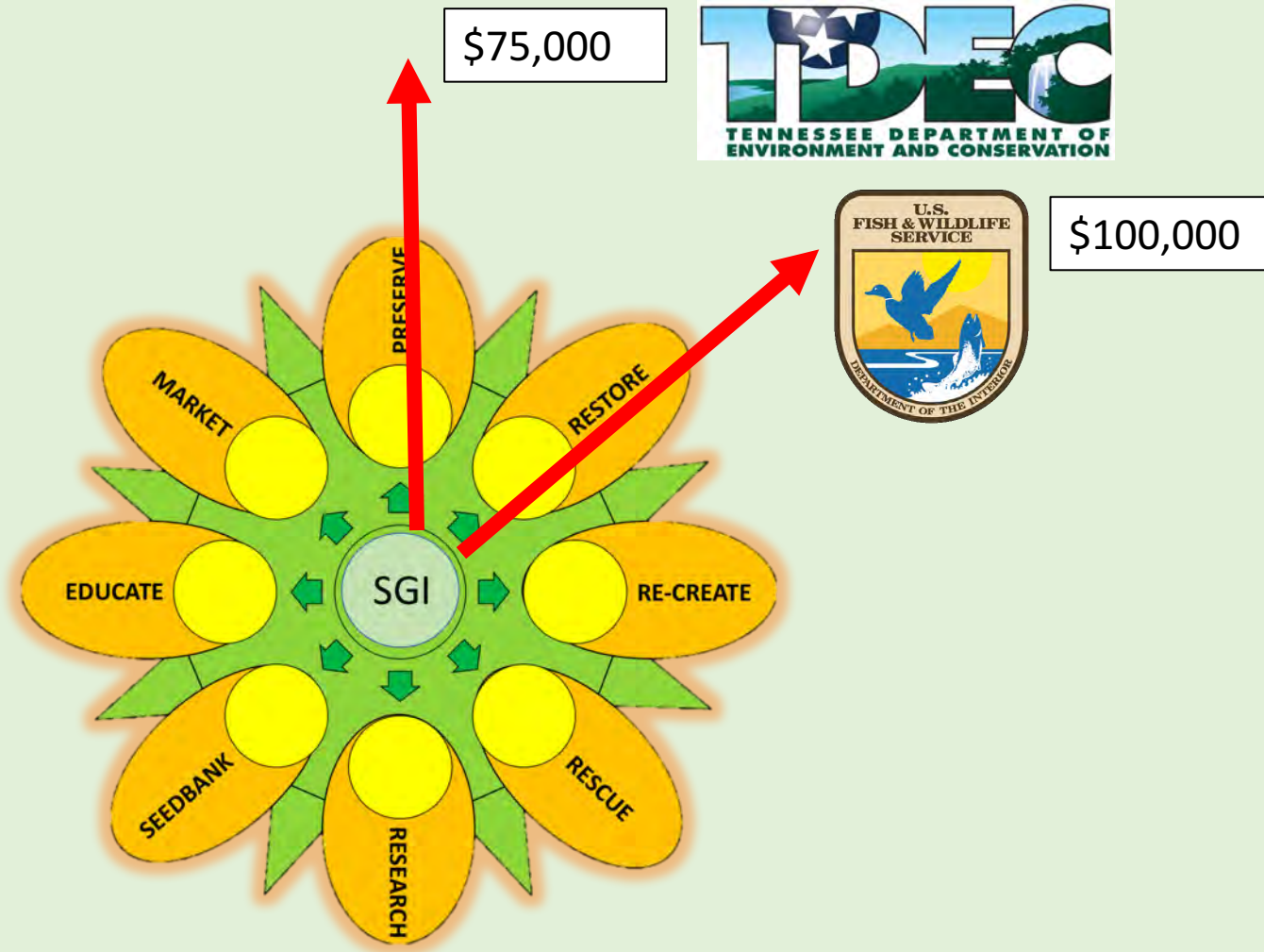
Dr. Alan Weakley
Chair, Grassland
Advisory Board



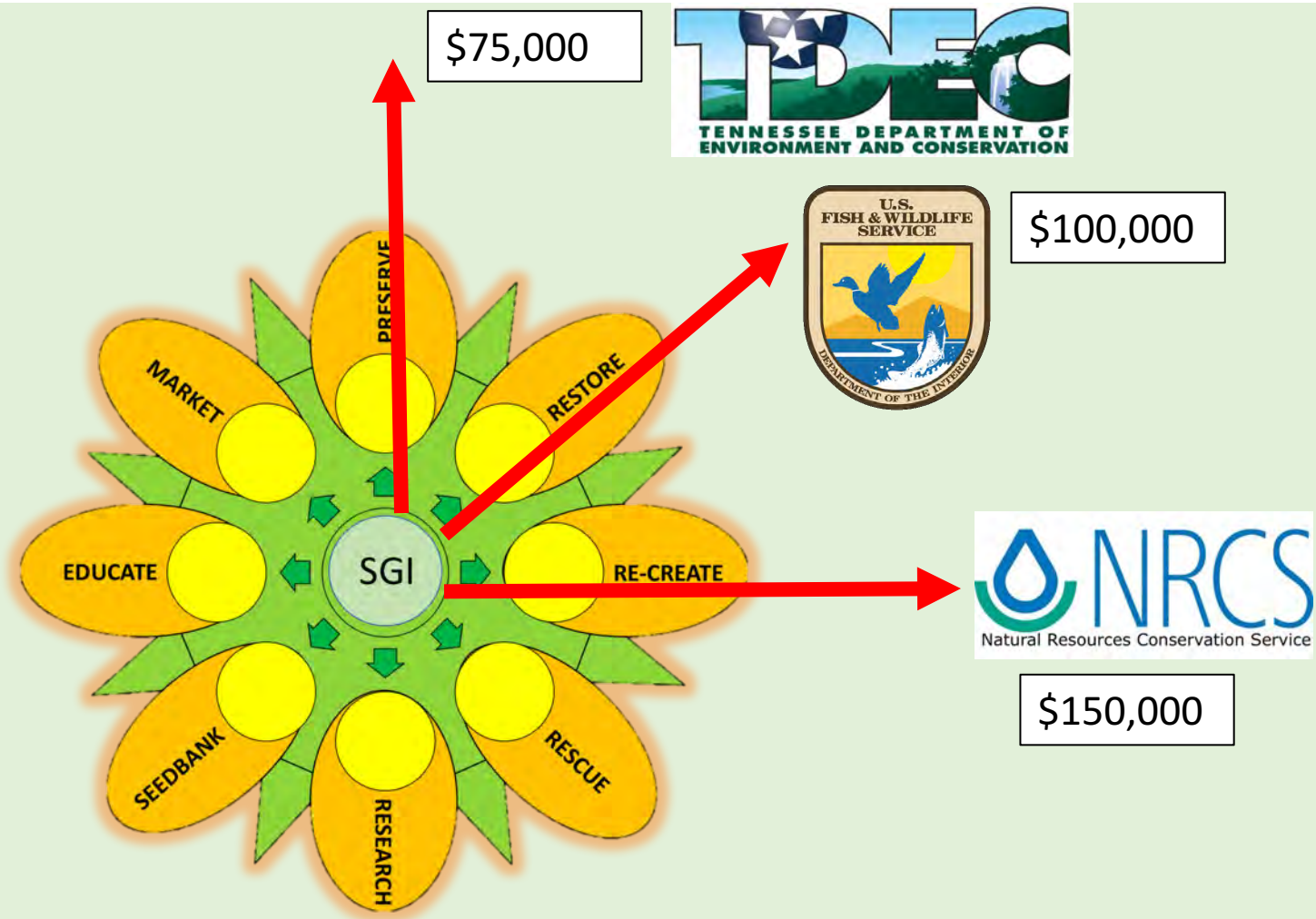
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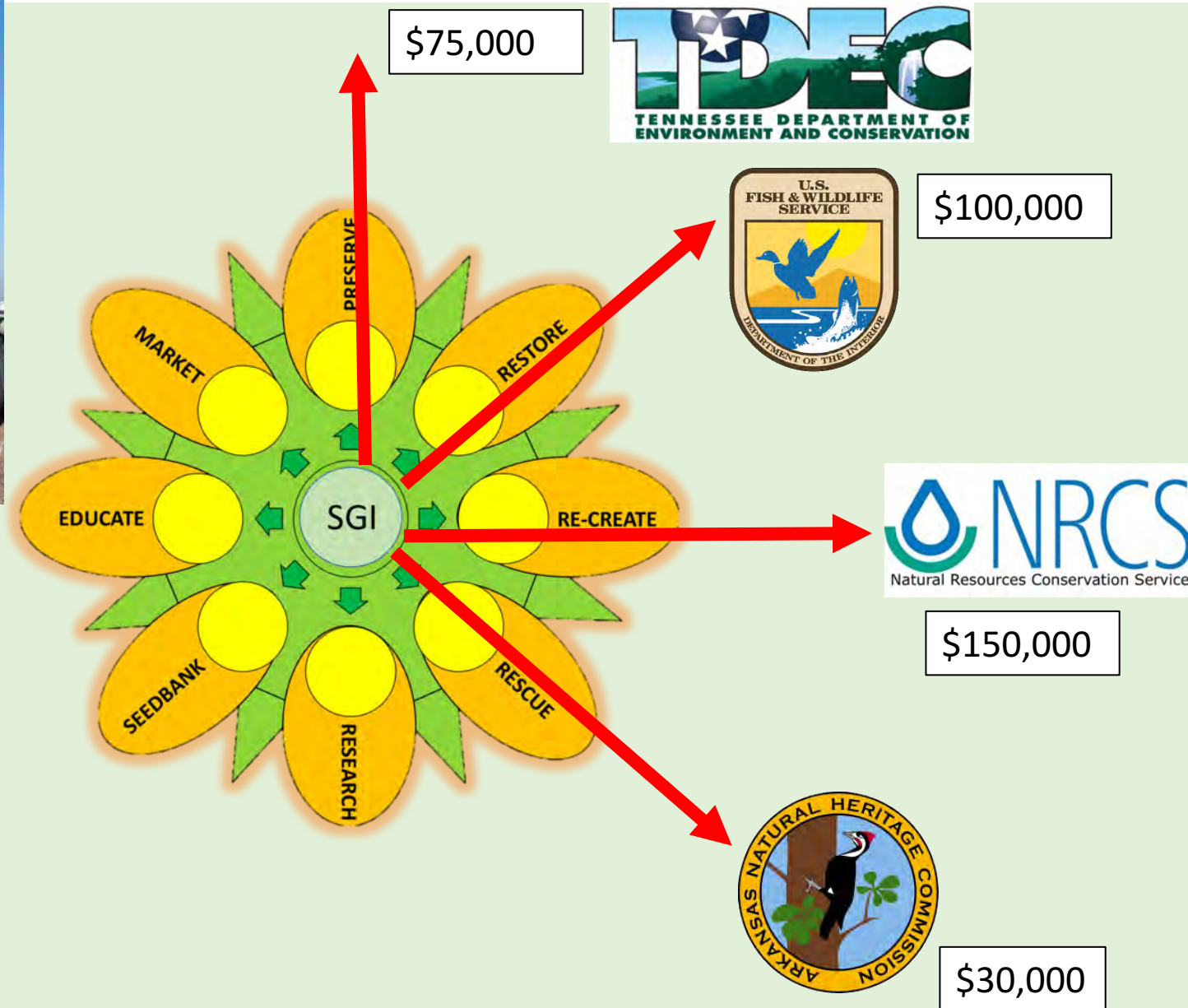
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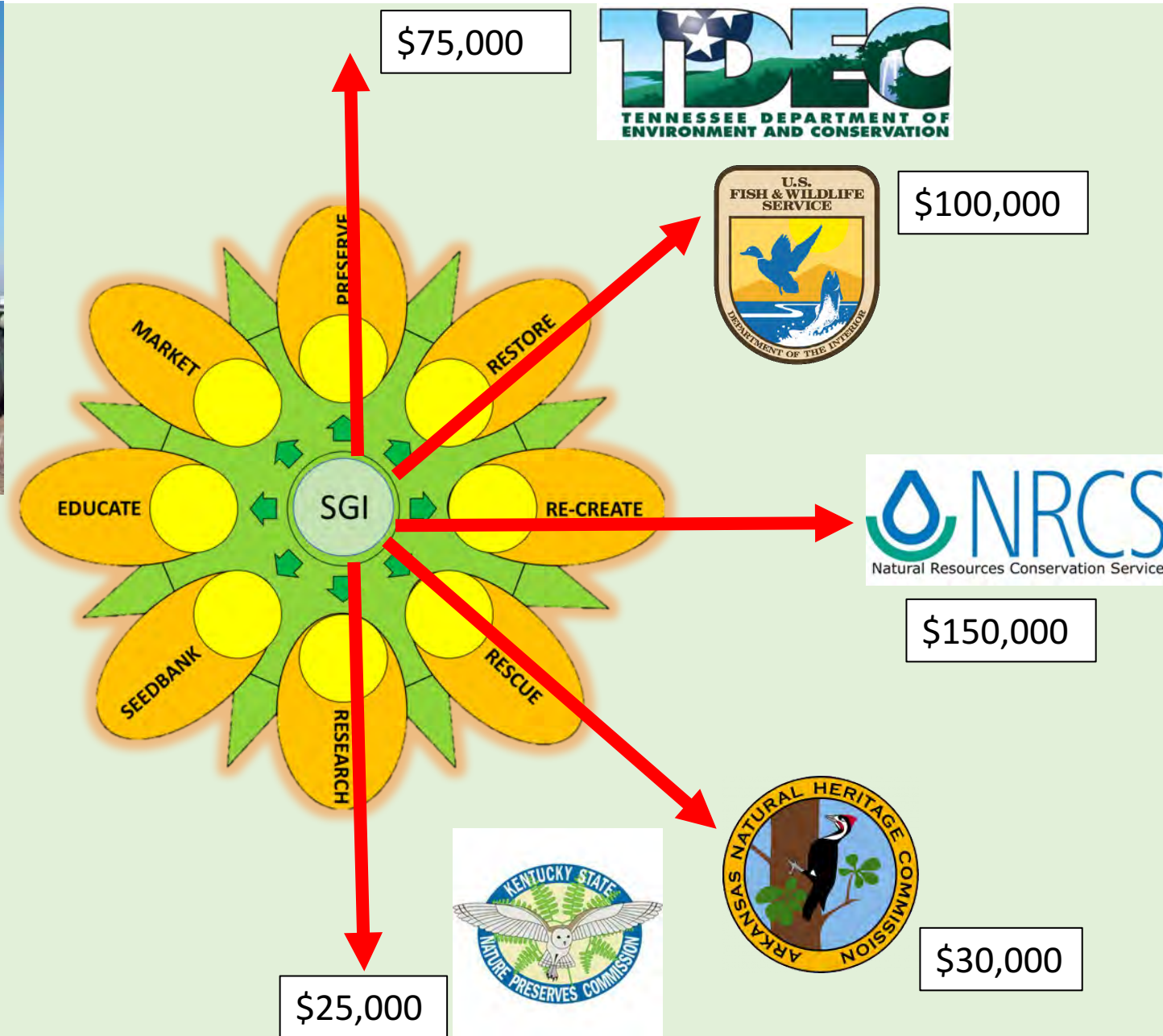
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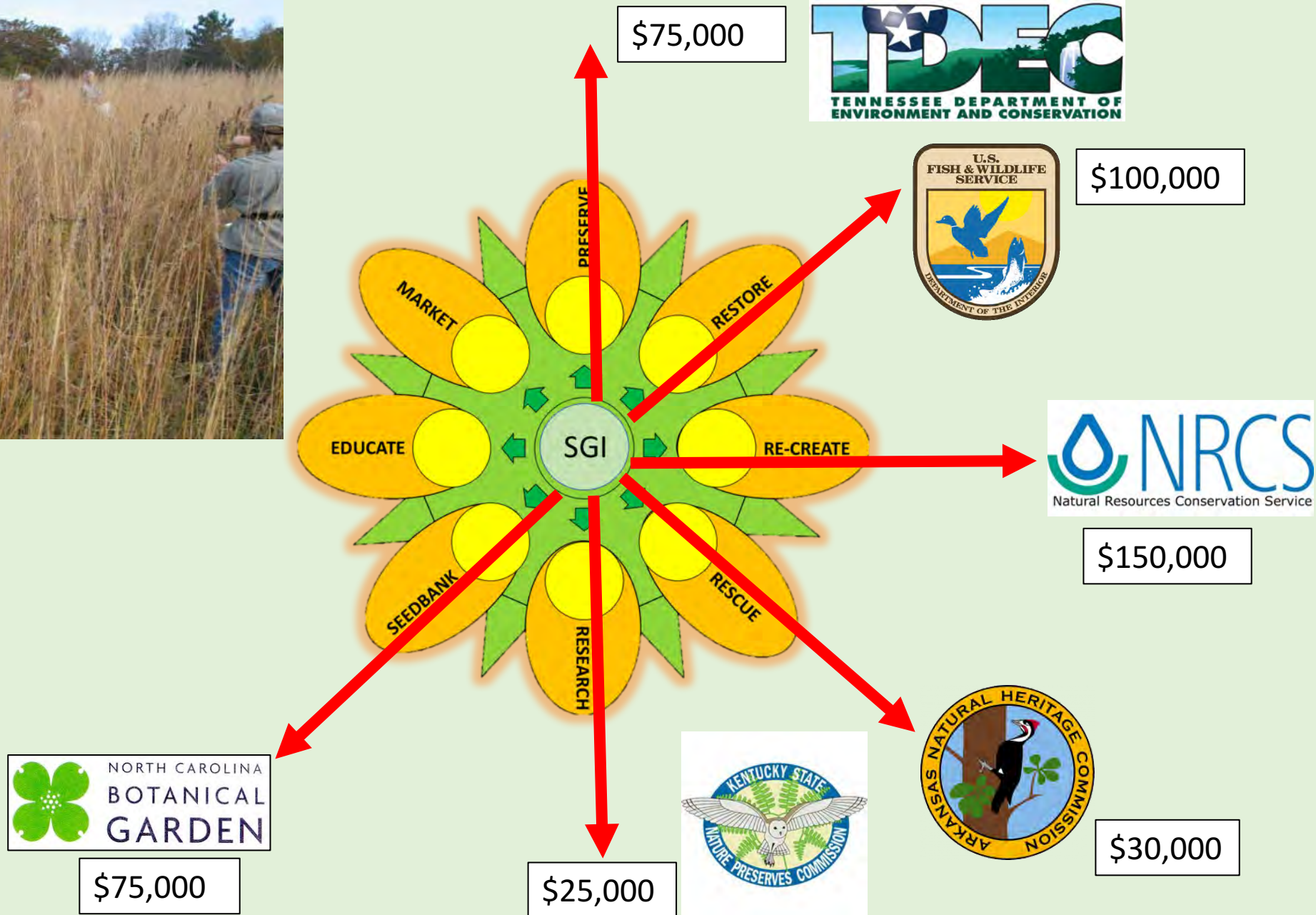
What kinds of projects will we support?



What kinds of projects will we support?

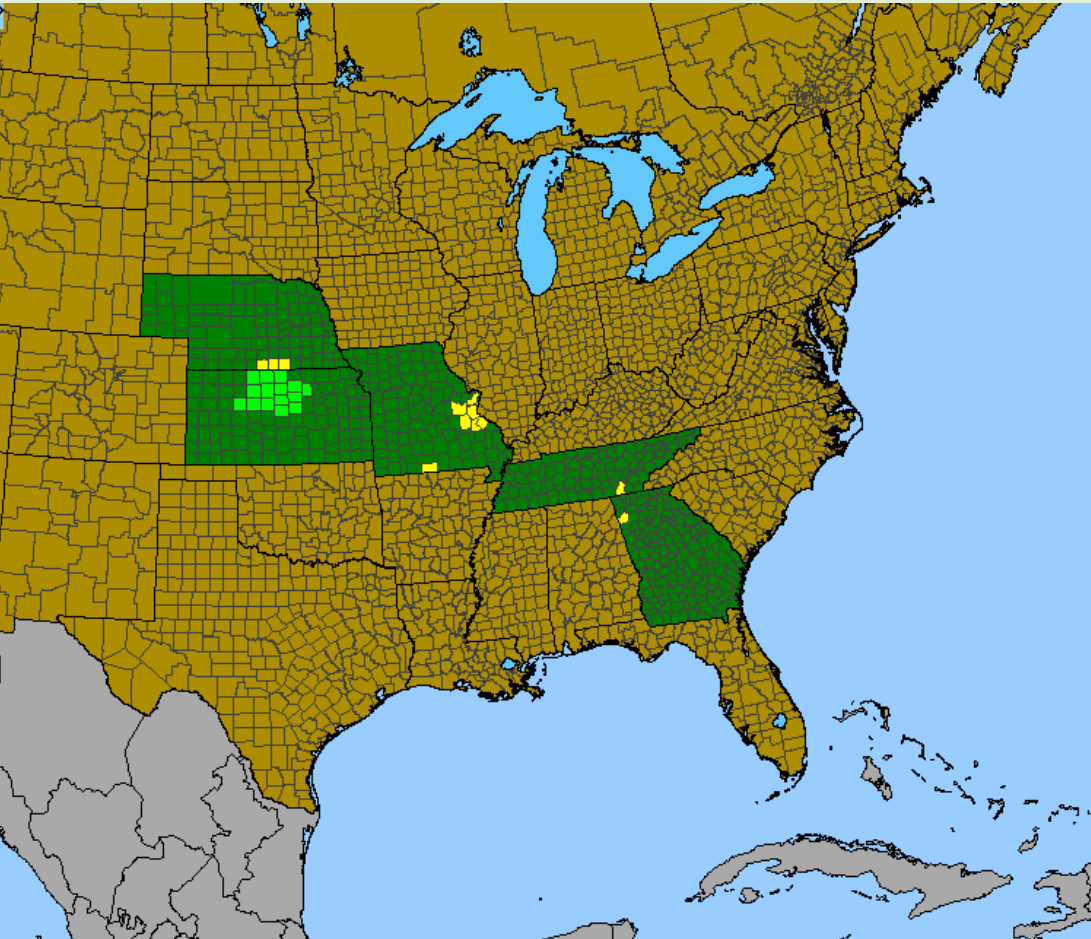


What kinds of projects will we support?

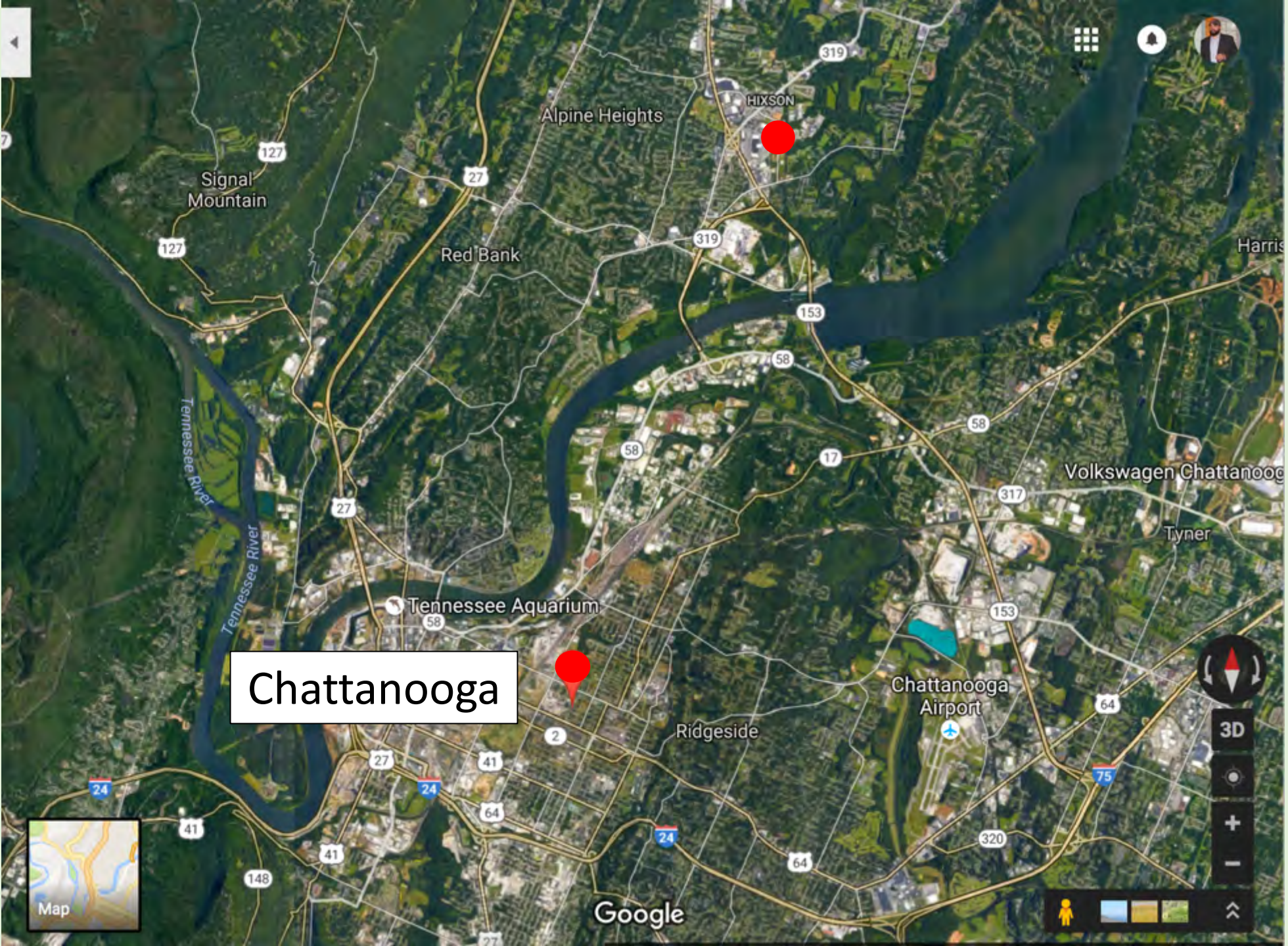


Seedbanking Urgently Needed

Rare Species



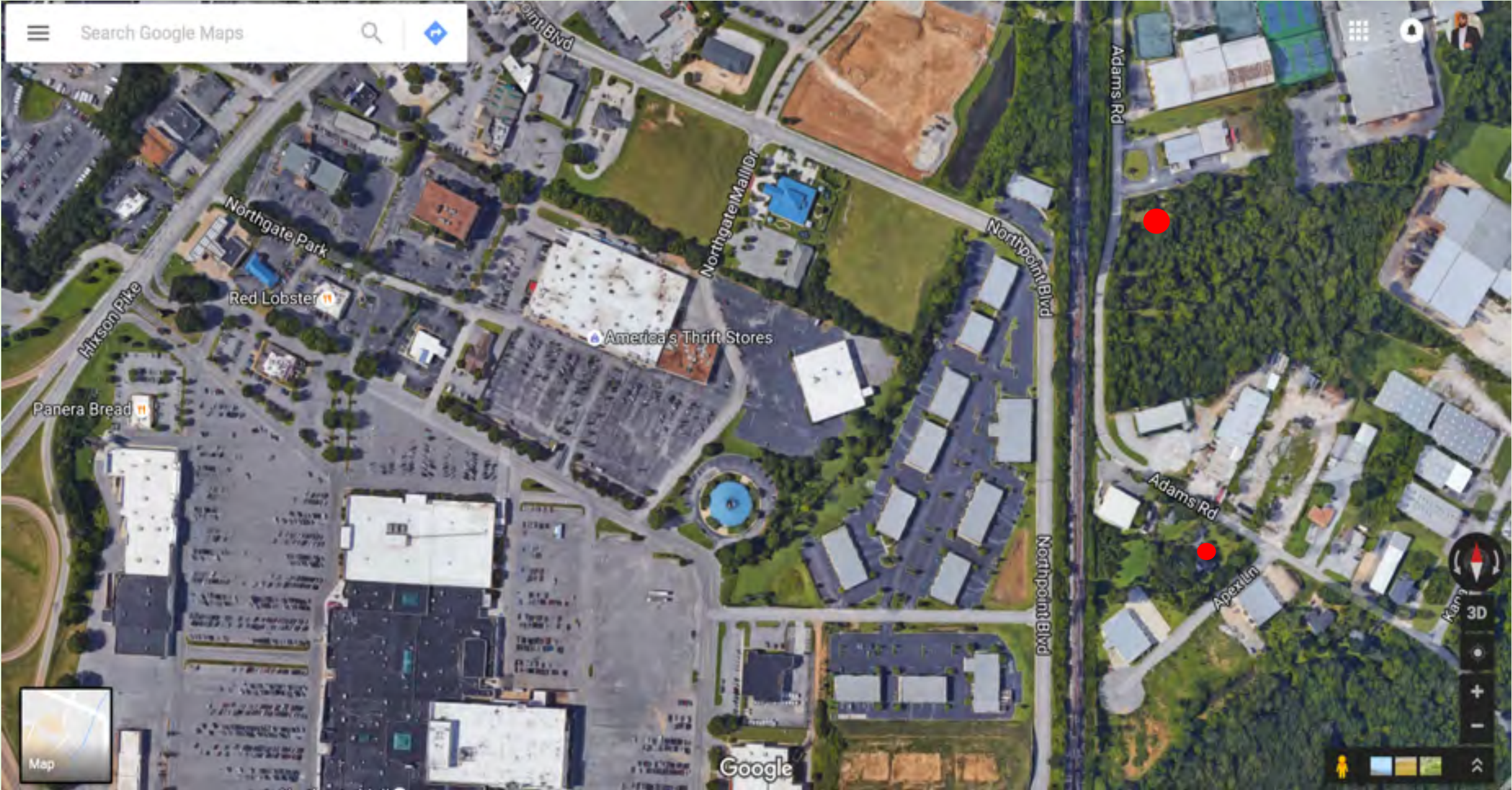
Fremont's Leatherflower



Chattanooga

Google

Search Google Maps



Panera Bread

Red Lobster

America's Thrift Stores

Northgate Park

Hixson Pike

Northgate Mall Dr

Northpoint Blvd

Adams Rd

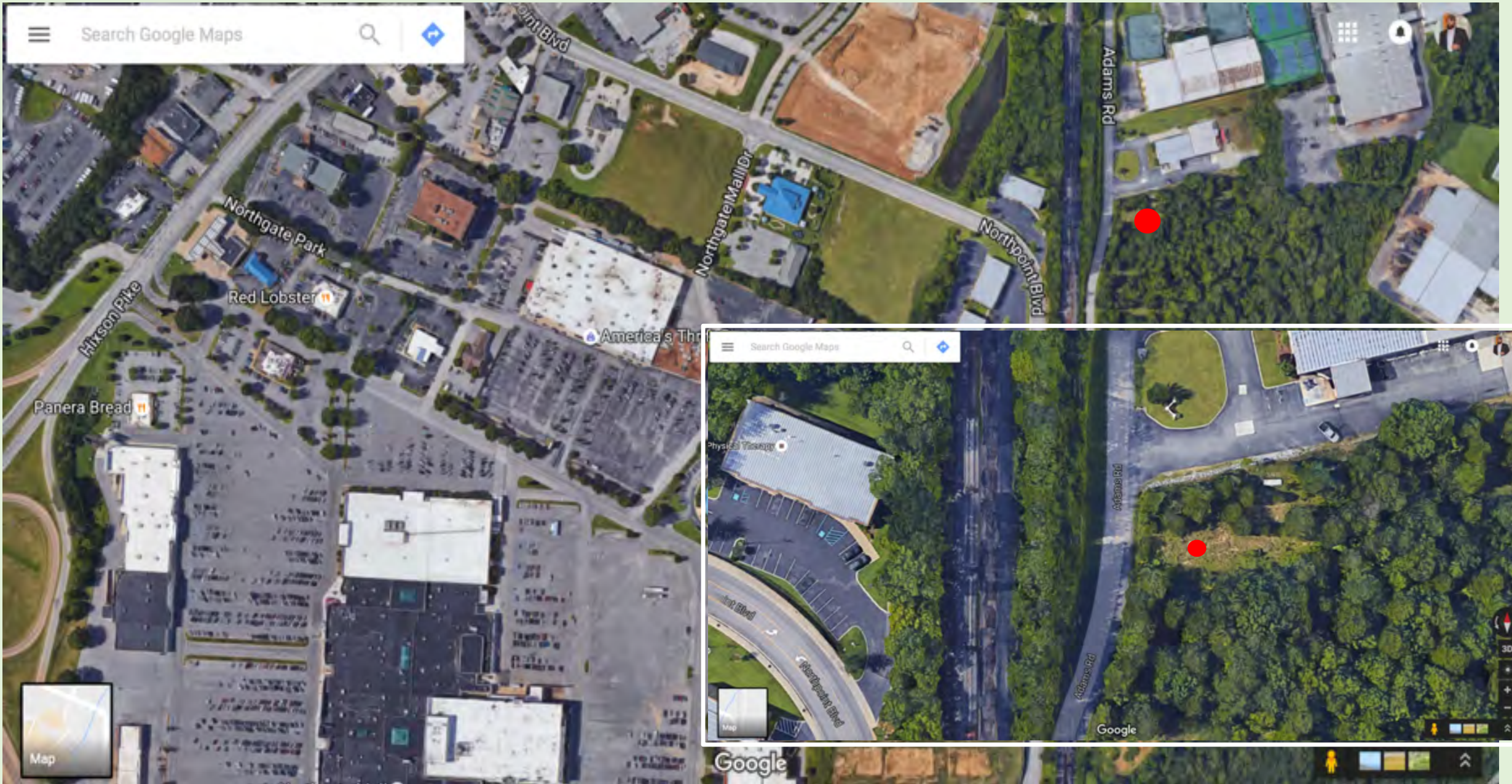
Adams Rd

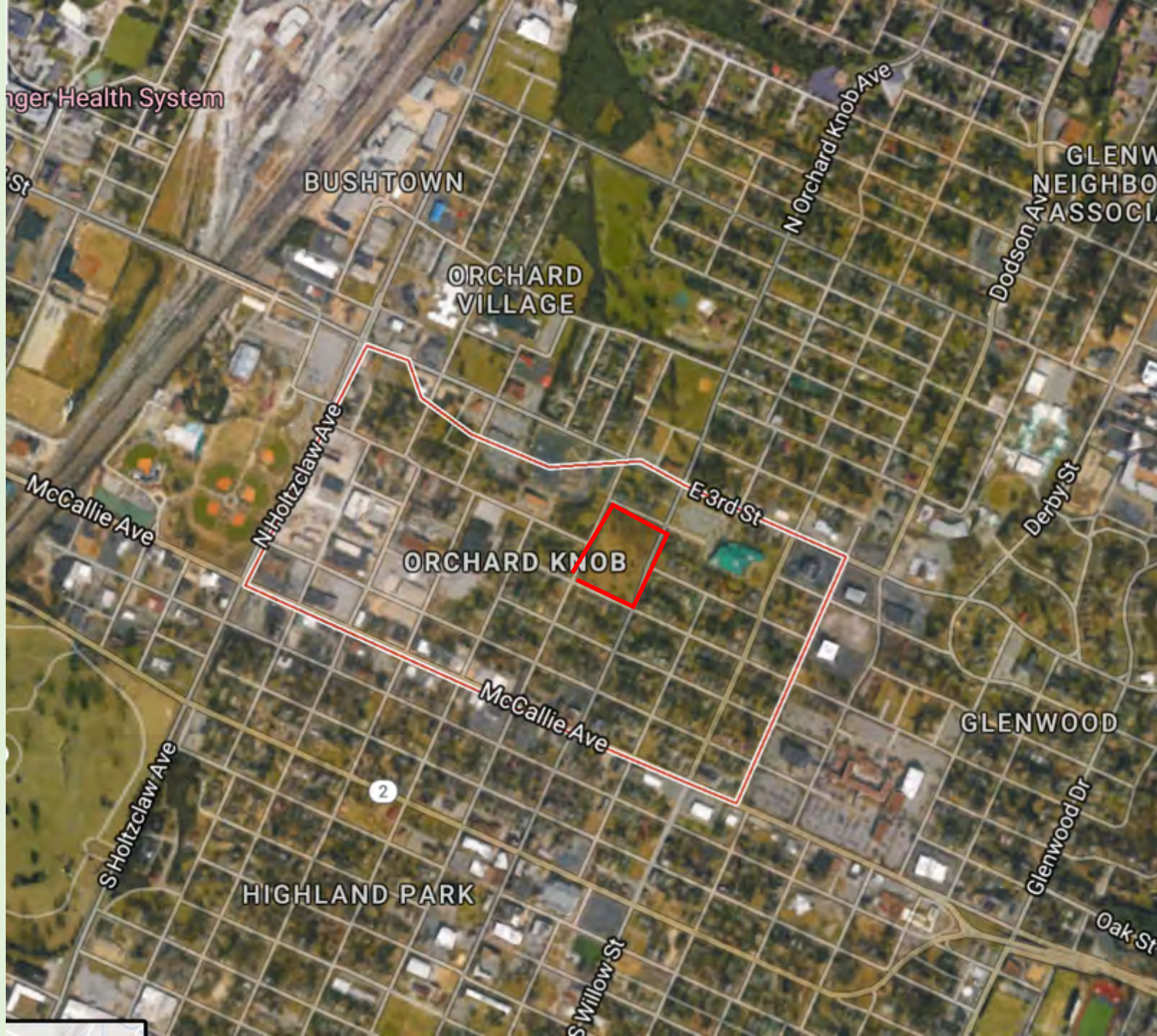
Apex Ln

Google

Map

3D







Ivy St

Ivy St

N Hickory St

E 5th St

E 5th St

Orchard Knob
Reservation

Orchard Knob
Baptist Church

E 4th St

N Orchard Knob

N Hawthorne

Reservation

erson

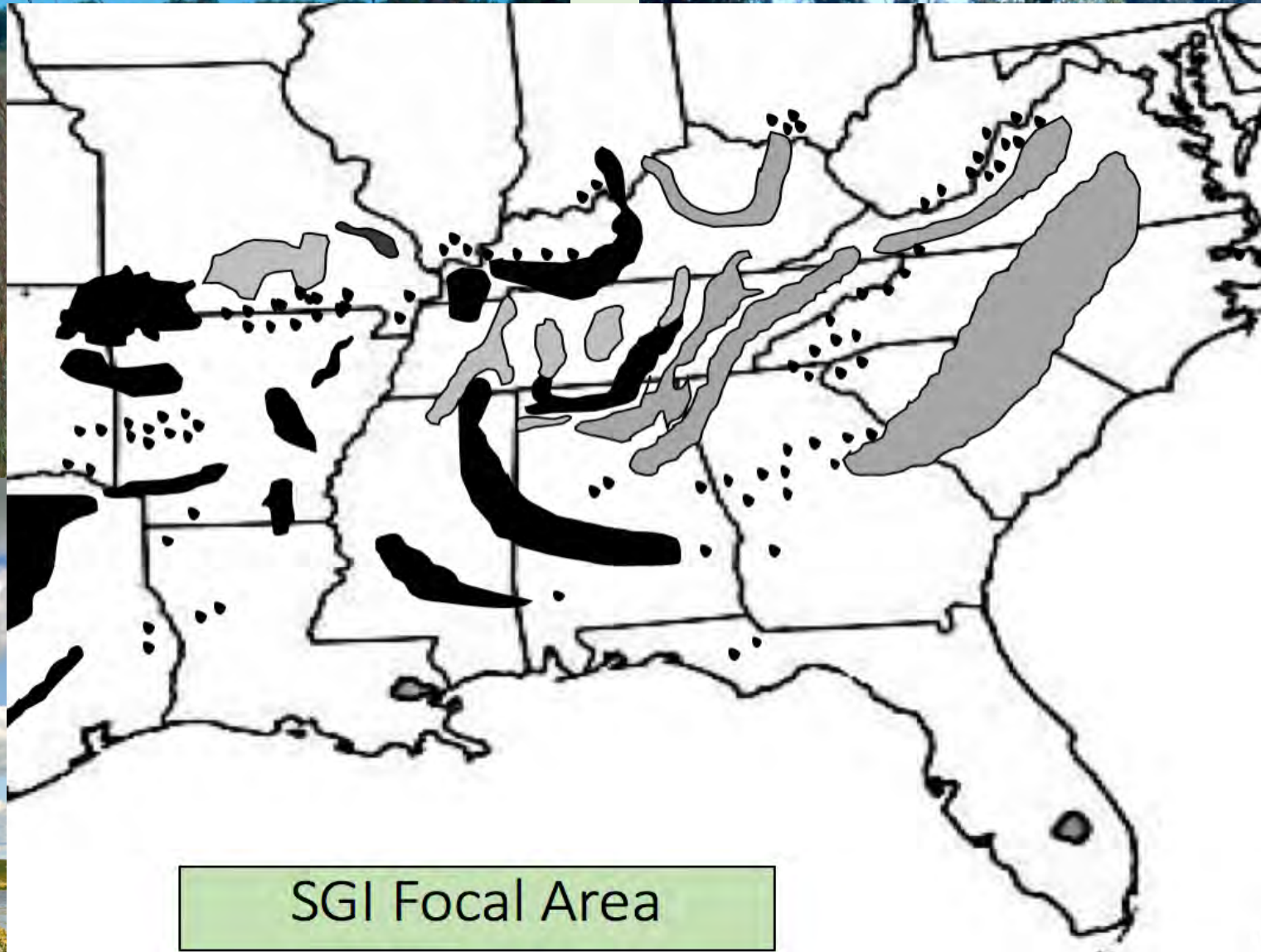
Apr 2016



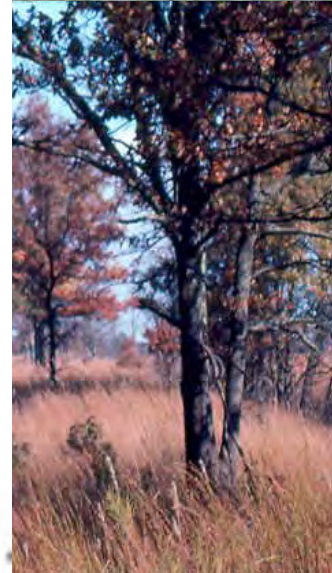
Ecosystem Reconstruction – Can we go back?



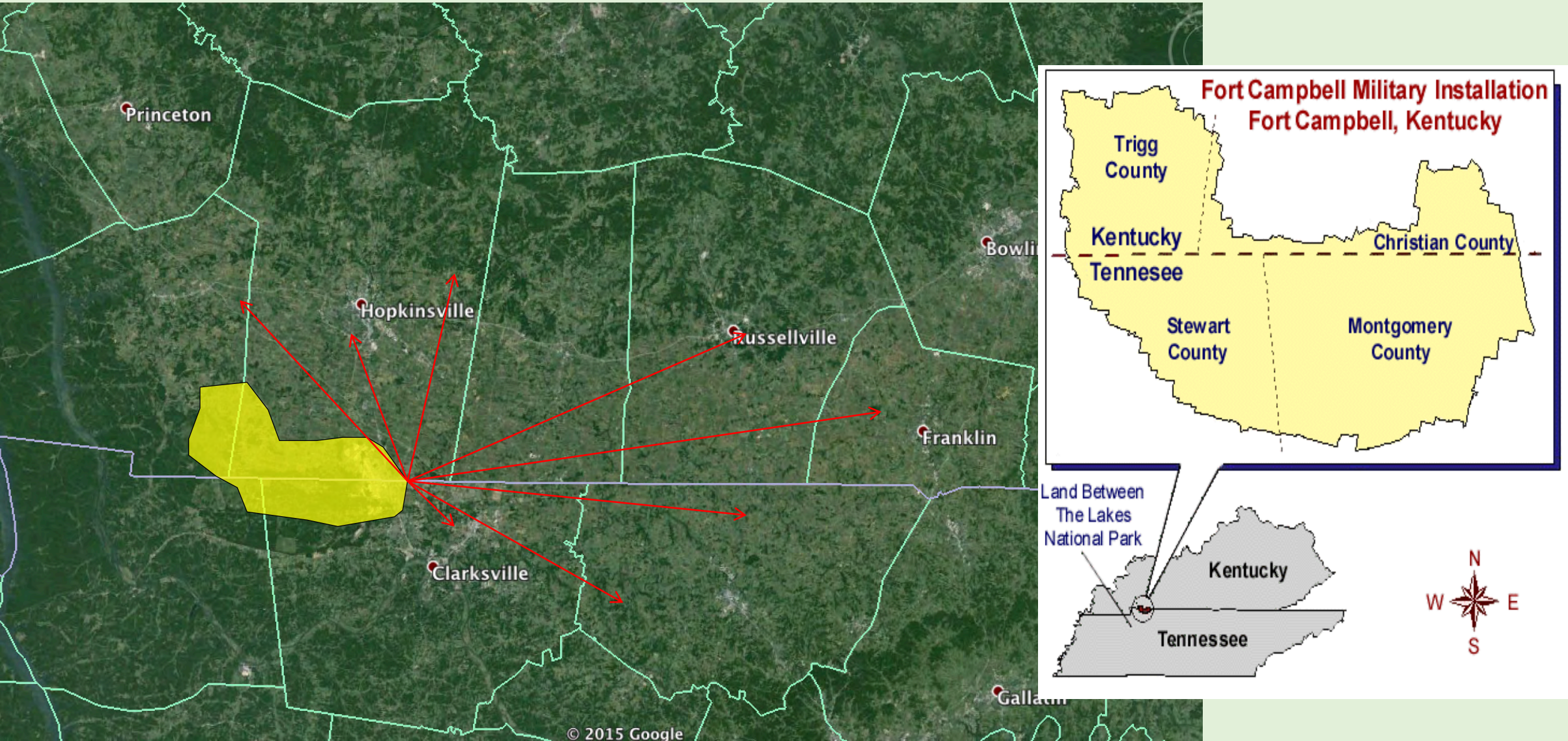




SGI Focal Area

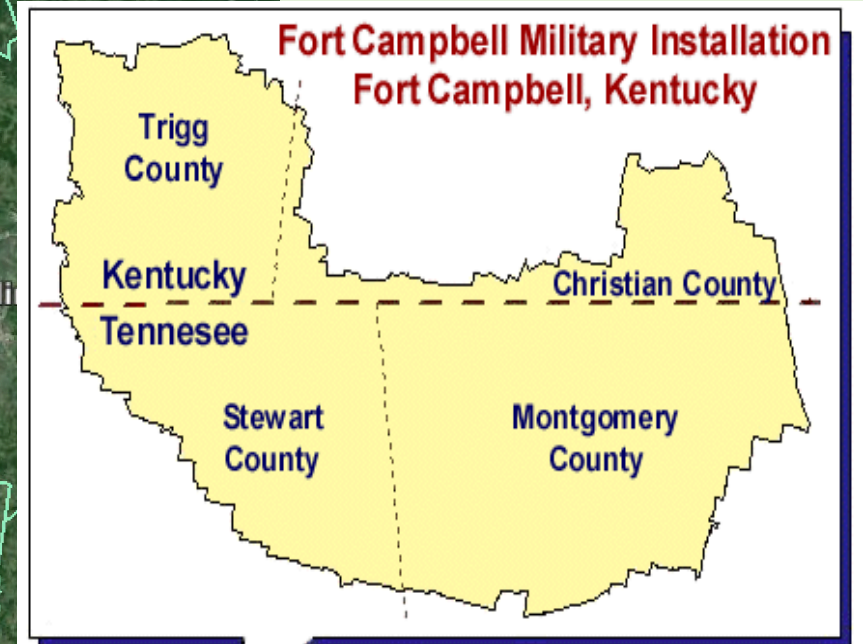
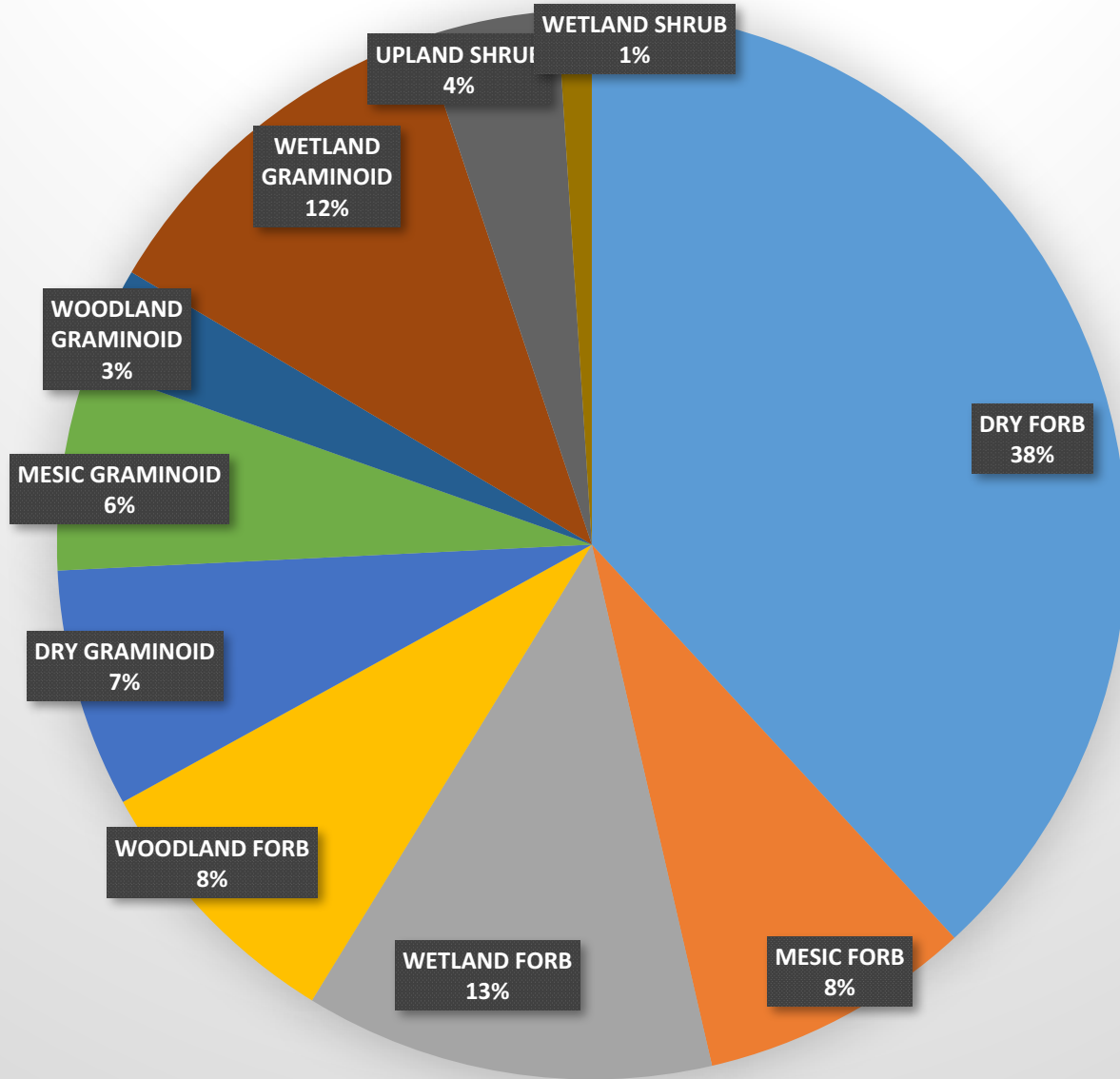


Rebuilding A Forgotten Ecosystem



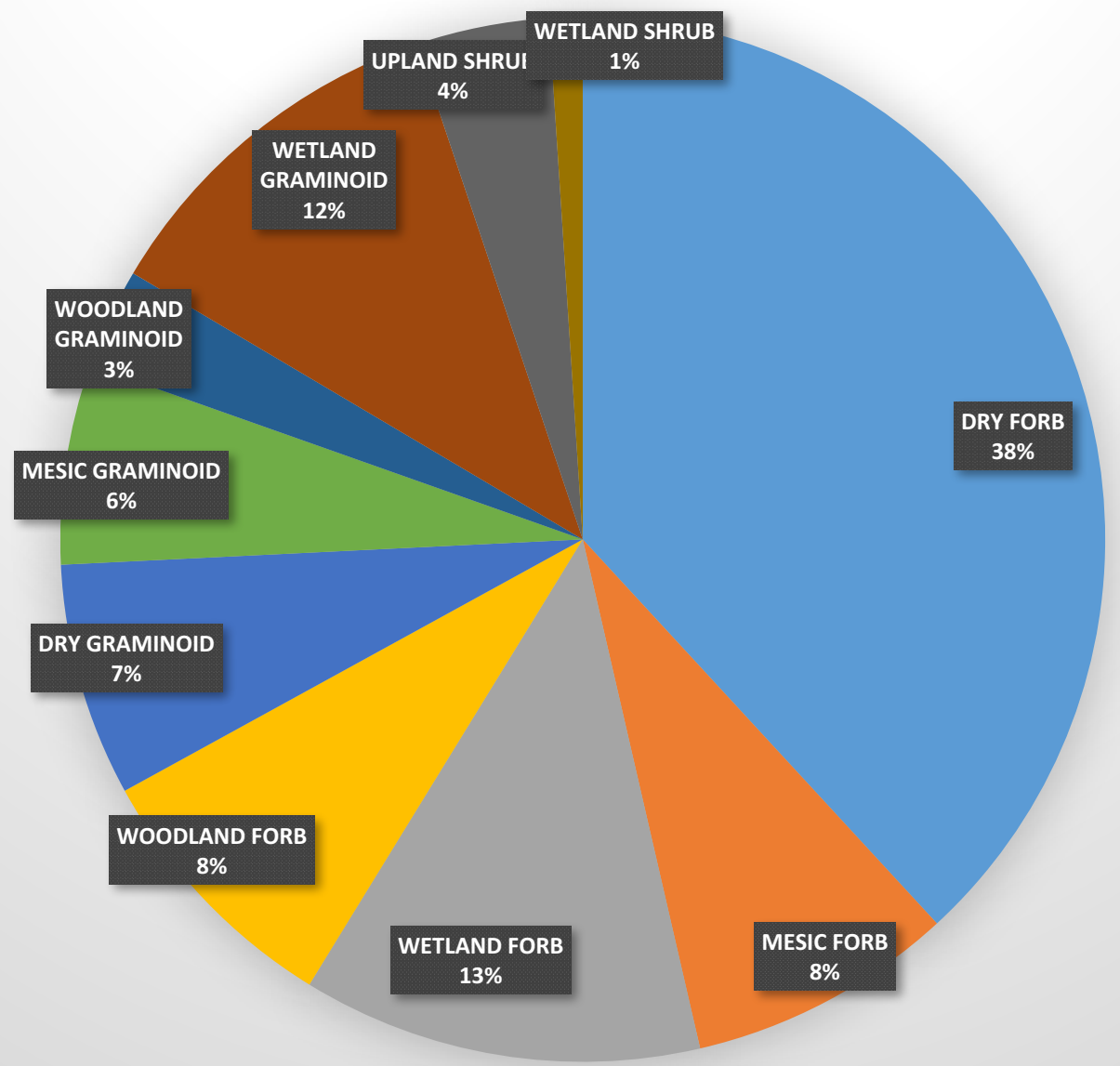
Open Ecosystem

Grassland Flora of the Pennyroyal Plain



Open Ecosystem

Grassland Flora of the Pennyroyal Plain

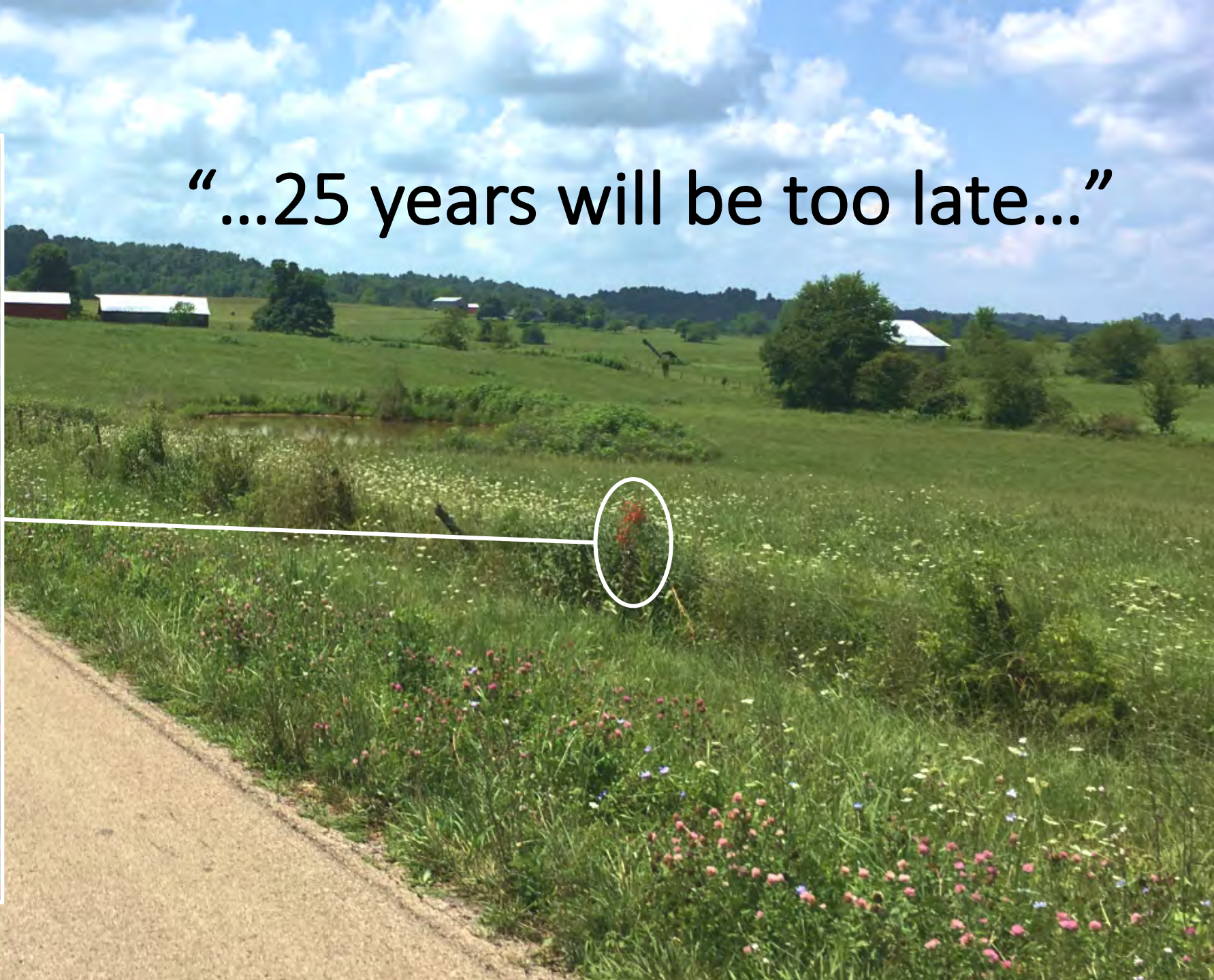


SGI is actively seeking partners and we need collaboration, volunteers, and funding





“...25 years will be too late...”



Questions?





The preceding presentation was delivered at the

2017 National Native Seed Conference

Washington, D.C. February 13-16, 2017

This and additional presentations available at <http://nativeseed.info>

