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.
The Last 1%

Postage stamp prairies
The Last 1%
Sacred Gems
Sacred Gems
Sacred Gems

Baker Prairie, Arkansas
Sacred Gems

Baker Prairie, Arkansas
Hazel Dell Meadow, Kentucky
Sacred Gems

Baker Prairie, Arkansas
Hazel Dell Meadow, Kentucky
Brockdell Rd Powerline, Tennessee
Sacred Gems

Coosa Prairie, Georgia
Sacred Gems

Baker Prairie, Arkansas
Hazel Dell Meadow, Kentucky
Brockdell Rd Powerline, Tennessee
Coosa Prairie, Georgia
Suther Prairie, North Carolina

Suther Prairie, North Carolina
“What the modern Southern grasslands lack in size they make up for in biodiversity”

Estill and Cruzan (2001)
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New Species Being Described

- Grassland Species: 78%
- Non-Grassland Species: 22%

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99 species

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21 New Grasshopper Species From Southeastern Grasslands
Hill (2015)

Estill and Cruzan (2001)
Can we afford to let our last remnants slip into oblivion?

1,213 G1-G3 communities
Can we afford to let our last remnants slip into oblivion?

[Diagram showing various habitats and their percentages: Savannas 10%, Prairies 13%, Barrens 1%, Meadows/Bogs 3%, Glades 2%, Grassland Ponds 11%, Shrubland/Scrub 2%, Outcrop/Cliff 1%, Riverscour 1%, Aquatic 1%, Forests 19%, Forested Wetlands 20%, Grasslands 8%, Savannas 10%, Woodlands 21%.]

1,213 G1-G3 communities
Can we afford to let our last remnants slip into oblivion?

Savannas
Prairies
Barrens
Meadows / Bogs
Glades
Grassland Ponds

49% grasslands

1,213 G1-G3 communities

Pie chart showing:
- Grasslands: 49%
- Savannas: 10%
- Herbaceous Wetlands: 12%
- Outcrop/Cliff: 3%
- Grasslands: 8%
- Shrubland/Scrub: 13%
- Riverscours: 1%
- Dune: 2%
Plant Biodiversity

- Open Upland: 55%
- Open Wetland: 32%
- Closed Forest: 13%

87%

62 federal-listed species

440 TN rare species

60%

- Forests & Closed Woodlands: 23%
- Aquatic: 3%
- Marshes & Ponds: 8%
- Bogs: 9%
- Fens: 5%
- Wet Savannas & Flatwoods: 9%
- Riverscour: 5%
- Balds: 4%
- Glades & Barren: 10%
- Cliffs & Rockhouses: 8%
- Prairies: 6%
- Forested Wetlands: 8%
- Outcrops: 4%
Global Biodiversity Hotspots

Southeastern U.S. Hotspot
Map Credit: Sunny Fleming: Tennessee Division of Natural Areas
64% of 231 element occurrence records for 40 rare species are unprotected.
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50% extirpated from the Plateau.
Ecological Collapse
Ecological Collapse
Ecological Collapse
Renewed Interest in Grassland Conservation
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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
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- 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, re-creation, rescue, research, education and outreach, market-driven approaches, and **seedbanking**
SGI Objectives

- Research
SGI Objectives

- Research
- Education
SGI Objectives

- Research
- Education
- Consultation
**SGI Objectives**

- Research
- Education
- Consultation
- Granting Program
Great Plains

Midwestern Tallgrass Prairie/Savanna

Southern Pine Savannas
Midwestern Tallgrass Prairie/Savanna

Southern Pine Savannas
The Southeastern Grassland Biodiversity Center

- rooftop garden
- greenhouse
- limestone glade garden
- riverscour garden
Headquarters of the Southeastern Grasslands Initiative
A Seedbank to Serve the Mid-South U.S.
Regional Coordinators
Regional Coordinators
Regional Coordinators
How will we be funded?
What kinds of projects will we support?

- Donors
- Corporate Sponsors
- Grants & Contracts
- Market Proceeds
What kinds of projects will we support?

Dr. Alan Weakley
Chair, Grassland Advisory Board
What kinds of projects will we support?

$75,000
What kinds of projects will we support?

- $75,000
- $100,000
What kinds of projects will we support?

- $75,000
- $100,000
- $150,000
What kinds of projects will we support?

- $150,000
- $100,000
- $75,000
- $100,000
- $150,000
- $30,000

SGI

EDUCATE
SEEDBANK
RESEARCH
RESOLVE
RECREATE
RESTORE
What kinds of projects will we support?

- $100,000
- $150,000
- $75,000
- $25,000
- $30,000
- $25,000
What kinds of projects will we support?

- $100,000
- $150,000
- $75,000
- $75,000
- $25,000
- $30,000
- $150,000
Seedbanking Urgently Needed
Rare Species

Fremont’s Leatherflower
Ecosystem Reconstruction – Can we go back?
Rebuilding A Forgotten Ecosystem
Grassland Flora of the Pennyroyal Plain

- DRY FORB: 38%
- WETLAND FORB: 13%
- MESC FORB: 8%
- WETLAND GRAMINOID: 12%
- MESC GRAMINOID: 6%
- WOODLAND GRAMINOID: 3%
- DRY GRAMINOID: 7%
- WOODLAND FORB: 8%
- UPLAND SHRUB: 4%
- WETLAND SHRUB: 1%

Grassland Flora of the Pennyroyal Plain

- Grassland Flora of the Pennyroyal Plain
Rebuilding A Forgotten Ecosystem

Grassland Flora of the Pennyroyal Plain

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SGI is actively seeking partners and we need collaboration, volunteers, and funding.
“...25 years will be too late...”
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