

Sustainability in Georgia Peanut Production

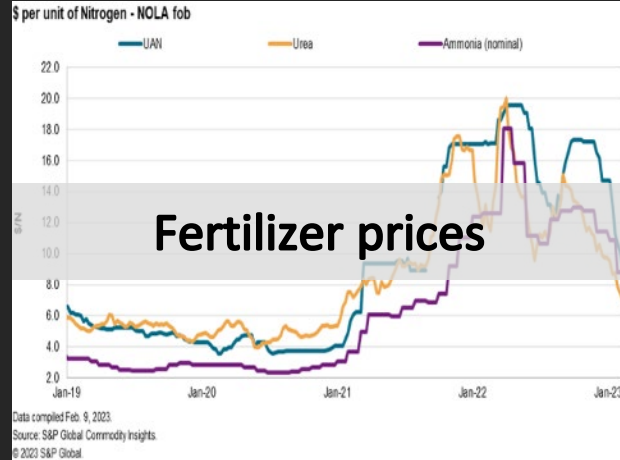


Taylor Randell Singleton
Extension Sustainability Specialist

Challenges in Agriculture



Pesticide resistance



Fertilizer prices



Global markets



Extreme weather



Regulatory challenges



Water



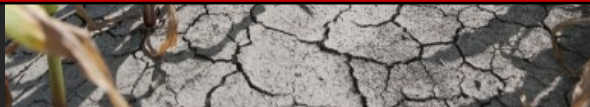
Pesticide stewardship

.....etc.

Challenges in Agriculture



Ensuring that farms can adapt and remain sustainable is a huge challenge!



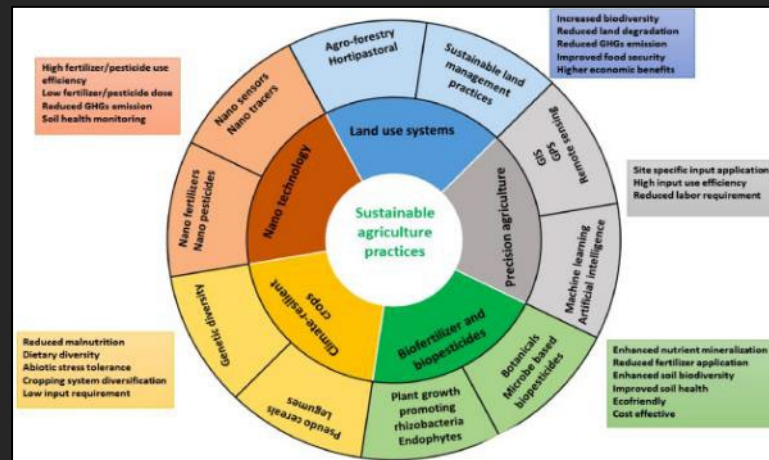
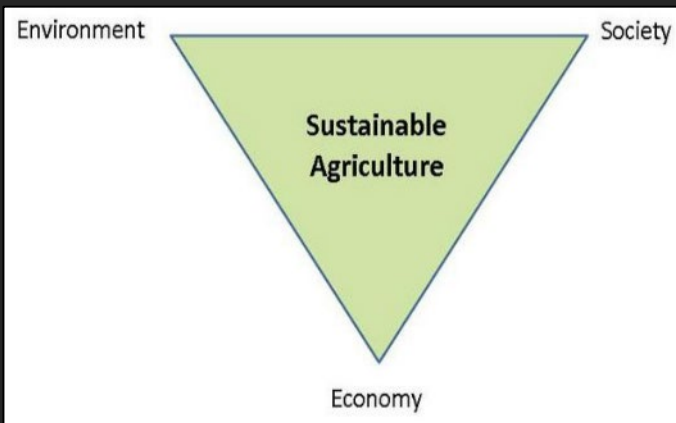
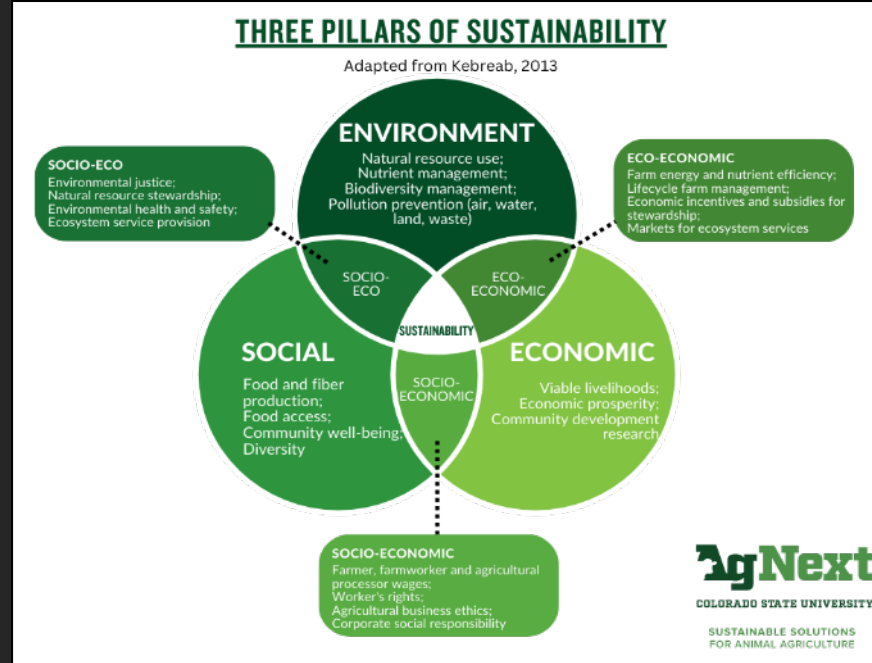
.....etc.

Sustainability - Defined

To pursue sustainability is to create and maintain the conditions under which humans and nature can exist in productive harmony to support present and future generations.

-U.S. EPA on Sustainability

Sustainability – Defined



What Does This Really Mean???

In my mind, this means:

To pursue sustainability is to understand and anticipate how farms, cropping systems, and production practices will need to change in the years to come, and prepare for these changes ahead of time

- Sustainability is to ensure:
 1. Economical feasibility
 2. Flexibility and adaptability
 3. Environmental soundness



Georgia Peanut Sustainability



Productive Farmland & Economical Products



Healthy Land/Water for Habitat & Other Ecological Services



Generational Farms Continue to Steward the Land

Ag Sustainability

- Incredible opportunity to support this need for GA agriculture
 - Interdisciplinary, whole-farm approach
 - Sustainable cropping systems
 - Agronomic + specialty crops
 - Emphasis in pesticide stewardship
- Understand practices that support the *farm* and the *environment*:
 - Cultural/Mechanical/Chemical



Traditional Sustainability

- Foundational concepts:
 - Cover crops
 - Erosion mitigation/soil health
 - Pollinator protection/habitat
 - Climate-smart practices (*minimize inputs where applicable*)

***Advance sustainable
cropping systems +
farm health***



Cover Crops

- Numerous environmental/economic benefits:



Weed Suppression



Soil Health/Quality



Water Quality



Soil Fertility

- MANY options depending on your goals
- Location, equipment, resources, cropping systems, etc.
- Acres vary in GA....not a fit for everyone BUT need to understand barriers

Cover Crops

- What specie(s) to plant?
 - Benefits/value of each
- When to plant/terminate?
 - Pros/Cons
- Maximize system productivity?
 - Economic
 - Environmental/ecological
 - Combination of factors?



Erosion Mitigation/Soil Health

- Numerous environmental/ecological benefits:



Conservation Tillage



Grassed Waterways



Filter/Prairie Strips



Terrace/Contours

- Landscape, equipment, resources, cropping system, etc.
- Support overall health of the land and the farm
- Need to understand barriers to implementation

Erosion Mitigation/Soil Health

- What practices are suitable?
 - Service needed
 - Landscape/Topography
- How to install?
 - Equipment
 - Resources
- Maximize system productivity?
 - Economic
 - Environmental/ecological
 - Combination of factors?



Pollinator Protection/Habitat

- Numerous environmental/ecological benefits:



Establish Habitat



Maintain Habitat



Support Pollinators

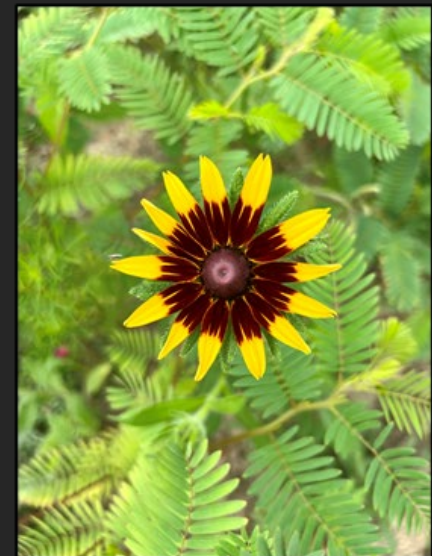


Value to System

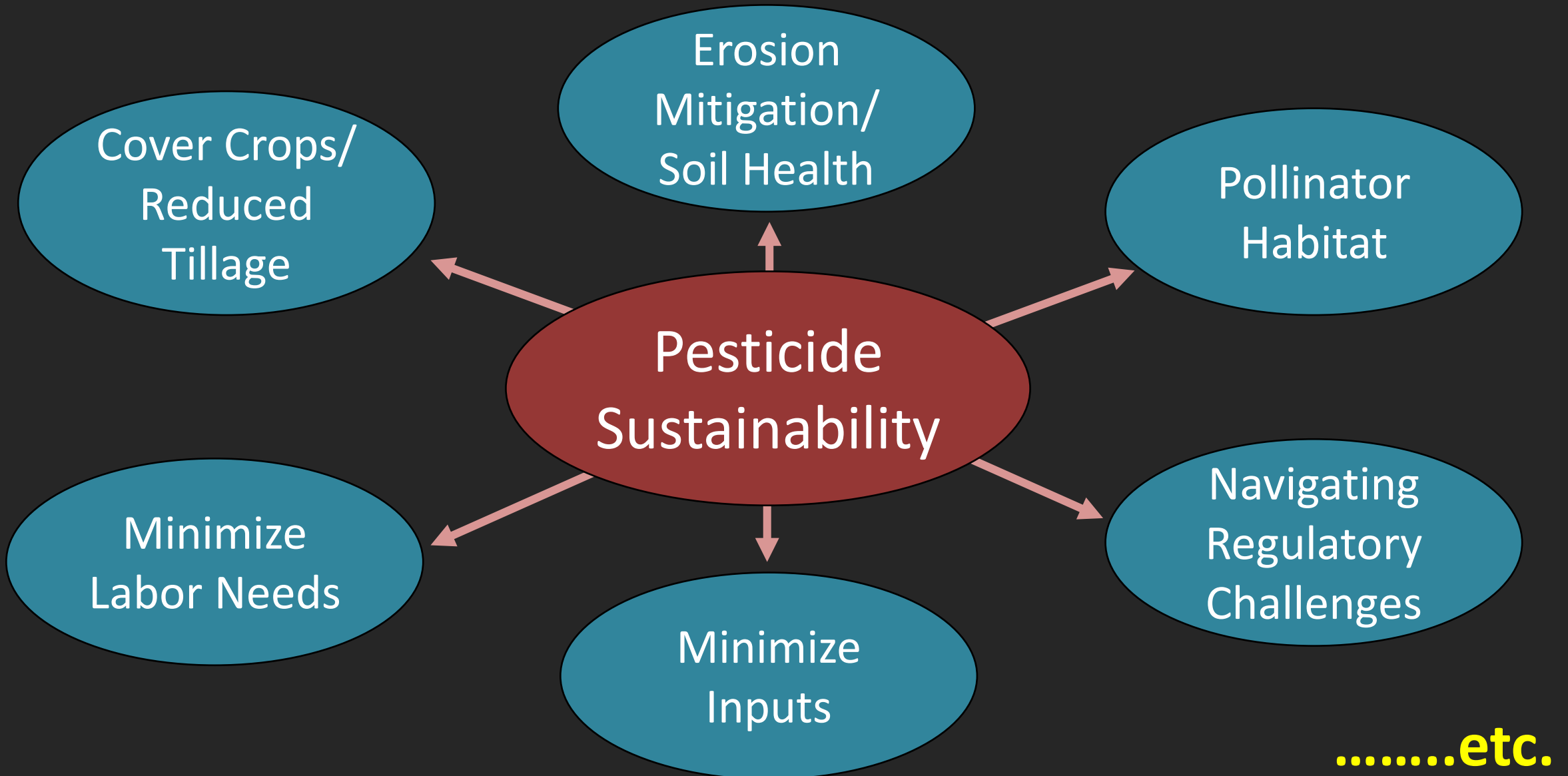
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- Support overall health of the land and the farm
- Need to understand barriers to implementation

Pollinator Protection/Habitat

- How to establish on farm?
 - Species
 - Technique
 - Weed control
- How to maintain year after year?
- Maximize system productivity?
 - Economic
 - Environmental/ecological
 - Combination of factors?



Overall Farm Sustainability



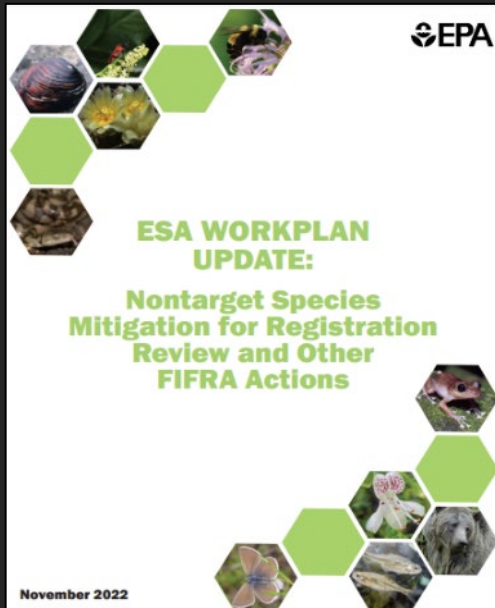
Pesticide Stewardship

- Agriculture sustainability currently relies heavily on pesticide use:
 - *Economical and environmental* standpoint
- Without the ability to use pesticides:
 - Crop yield loss from weed competition?
 - Burndown cover crops before strip-tillage?
 - Attractive product for the consumer?
 - Capitalize farm investments?



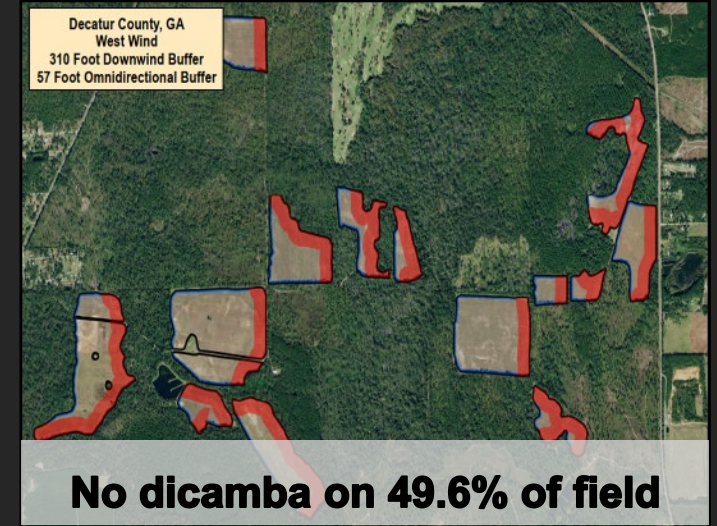
Challenging Times Ahead

- Pesticides (sustainability) face enormous hurdles
 - Regulatory restrictions (ESA, FIFRA, etc.)
 - Pesticide resistance
 - On-farm impacts *today* – adapt on the GO!



Challenging Times Ahead

- Georgia Impacts thus far:
 - Pesticide-use buffers
 - Product restrictions in the state
 - Widespread resistance

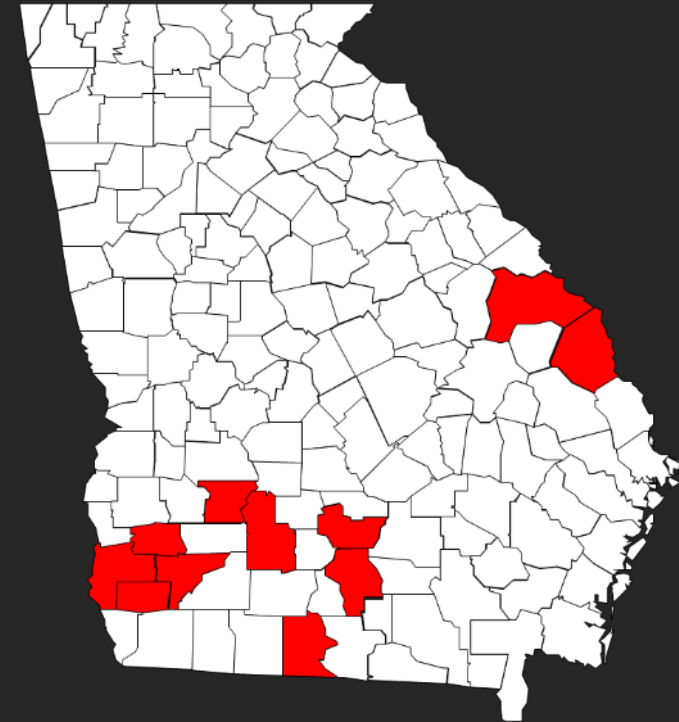


What is needed...RESEARCH AND EDUCATION



Adapt and Overcome

- Research focused on local needs
 - Growers need ability to use products they rely on
- Georgia Pilot Program
 - Cooperative effort to tackle pesticide restrictions on state/local level



Challenges in Georgia Agriculture

- Pesticides critical to produce a *sustainable crop* are threatened
 - Without pesticides, we *cannot ensure the survival of our farms*
- Efforts to protect listed species by EPA is *critically important and supported by all of Georgia agriculture*

Banning pesticide use from entire counties limits the ability to farm effectively



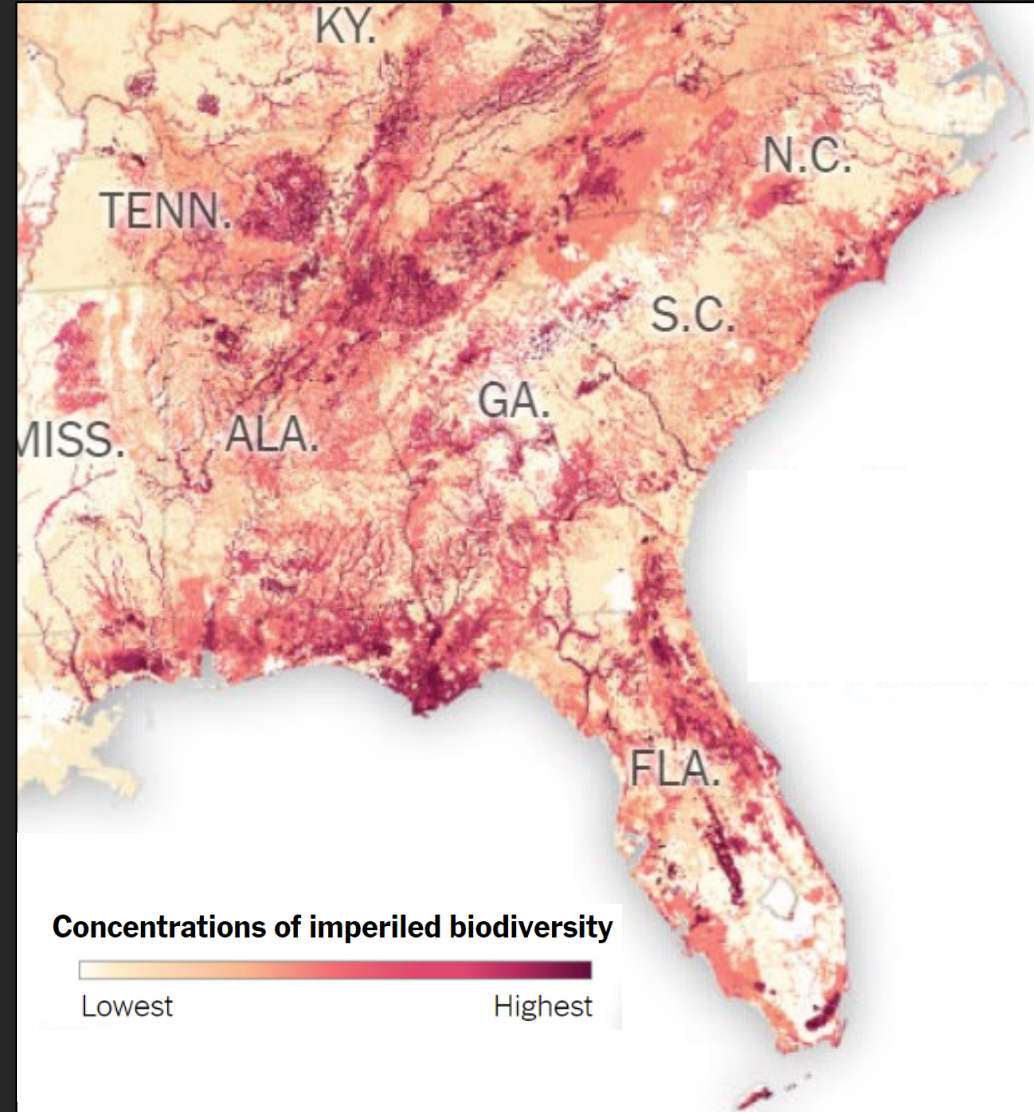
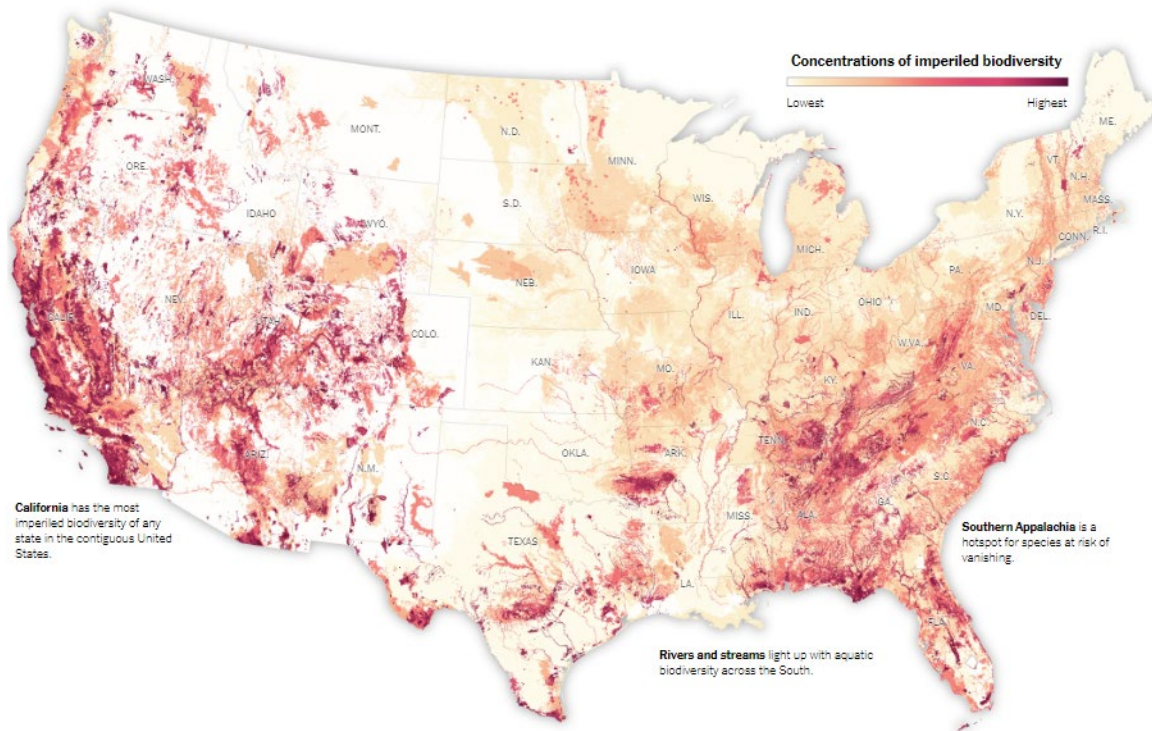
U.S. Biodiversity Distribution

The New York Times

This Map Shows Where Biodiversity Is Most at Risk in America

By Catrin Einhorn and Nadja Popovich March 3, 2022

Let your eyes wander to the areas of this map that deepen into red. They are the places in the lower 48 United States most likely to have plants and animals at high risk of global extinction.



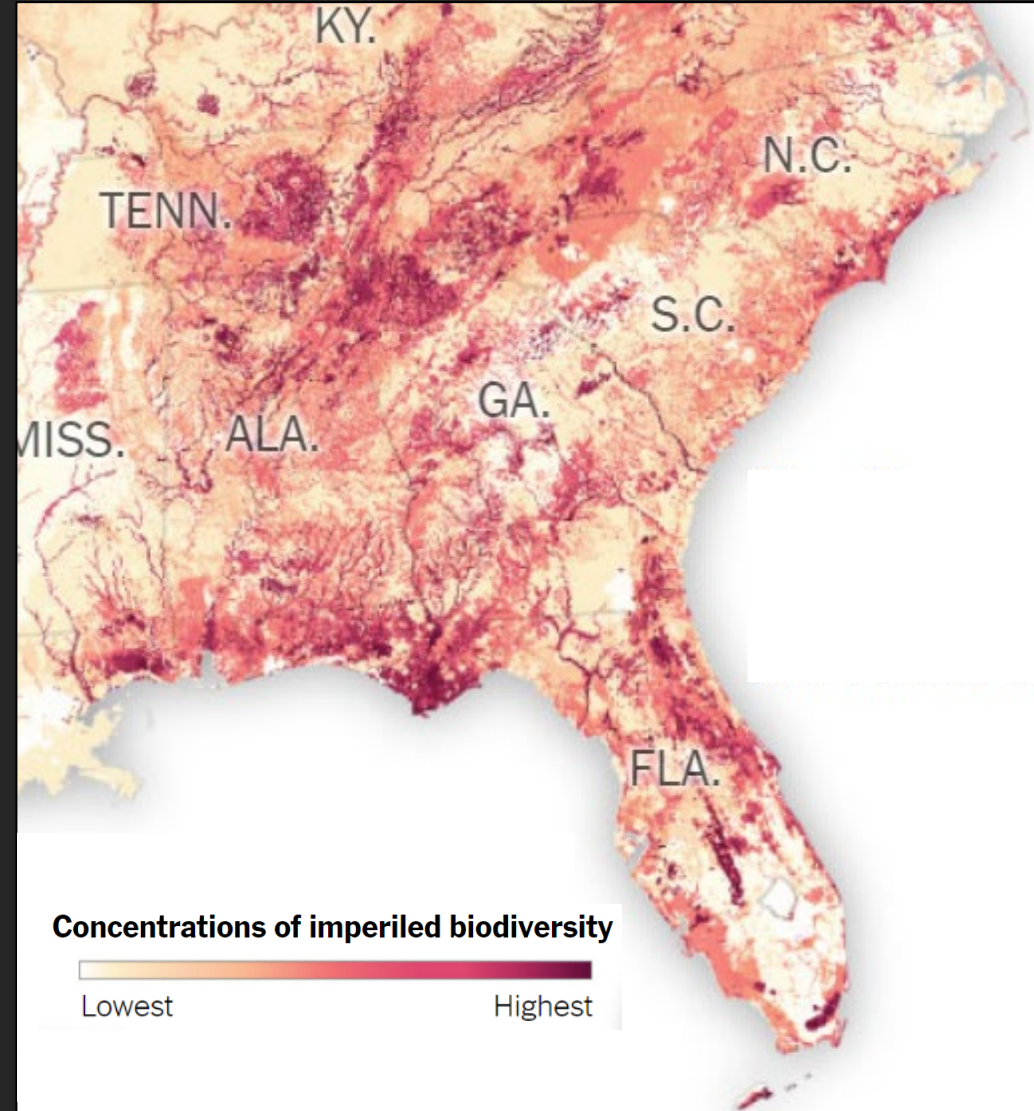
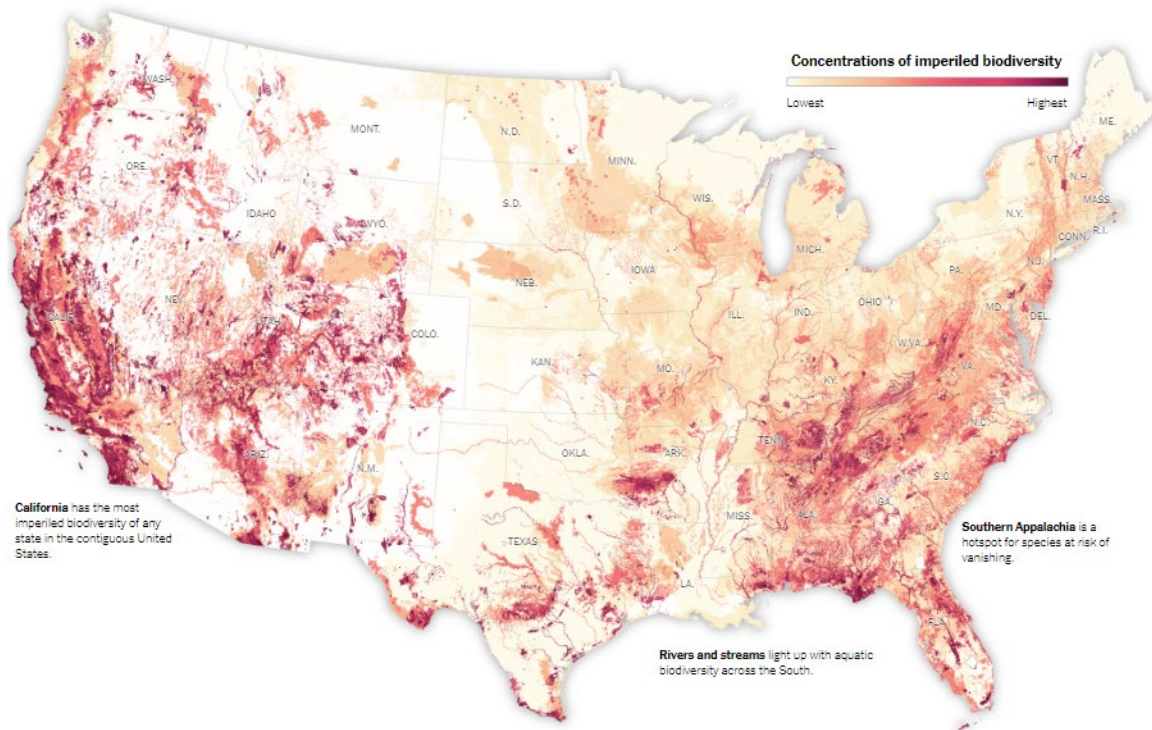
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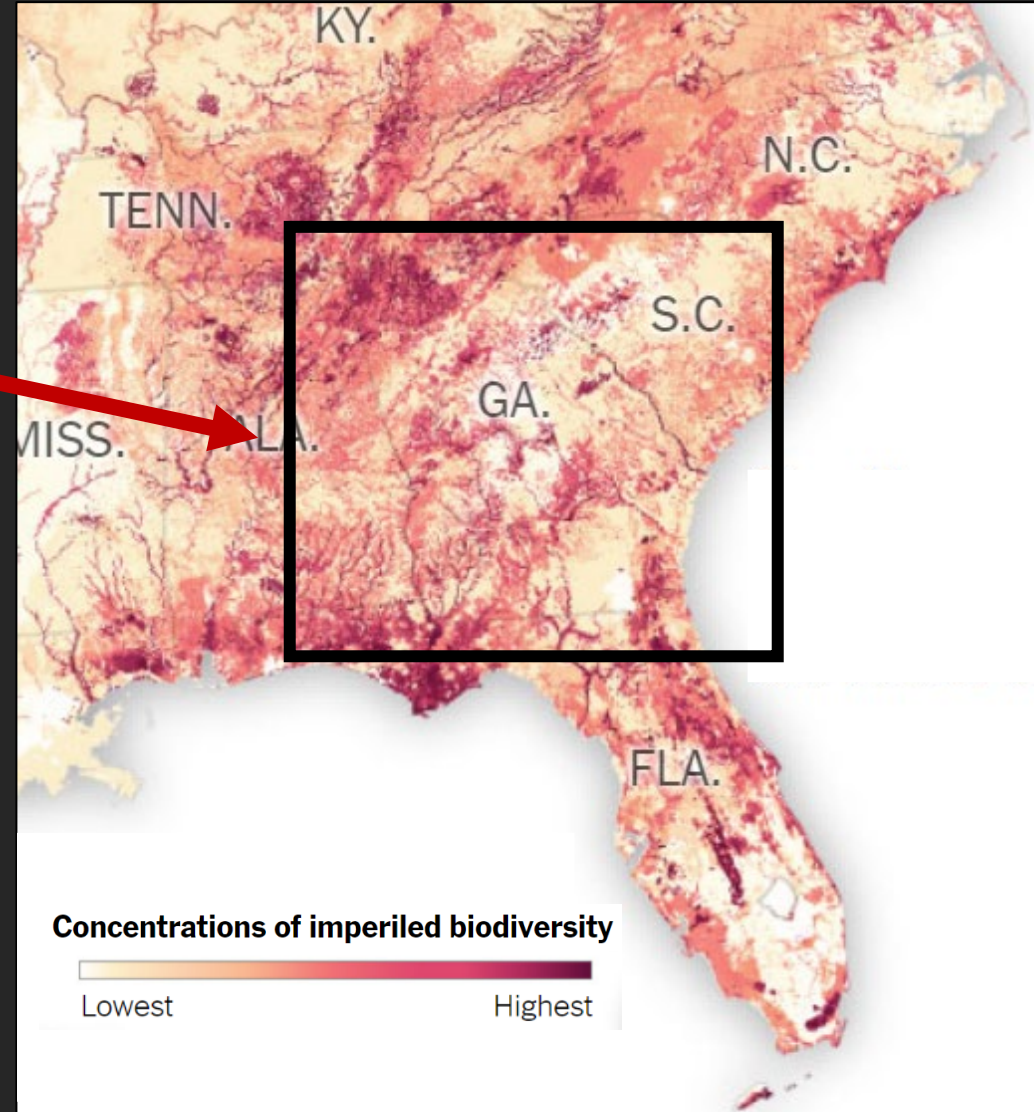
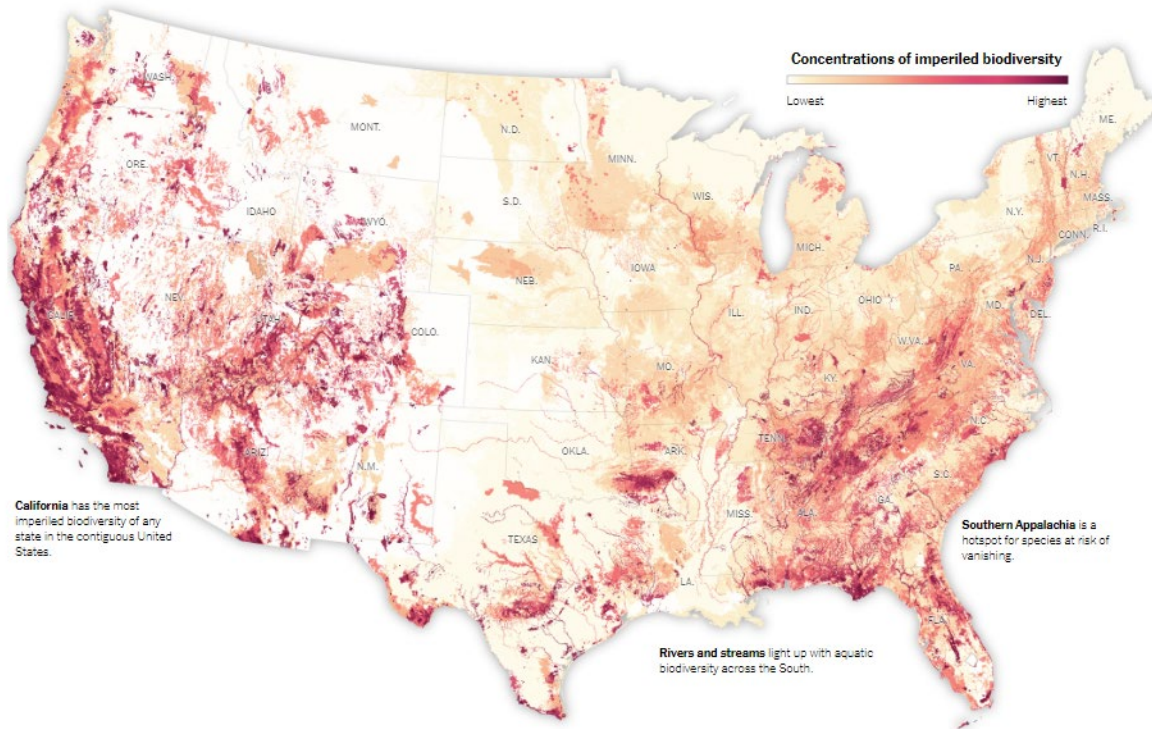
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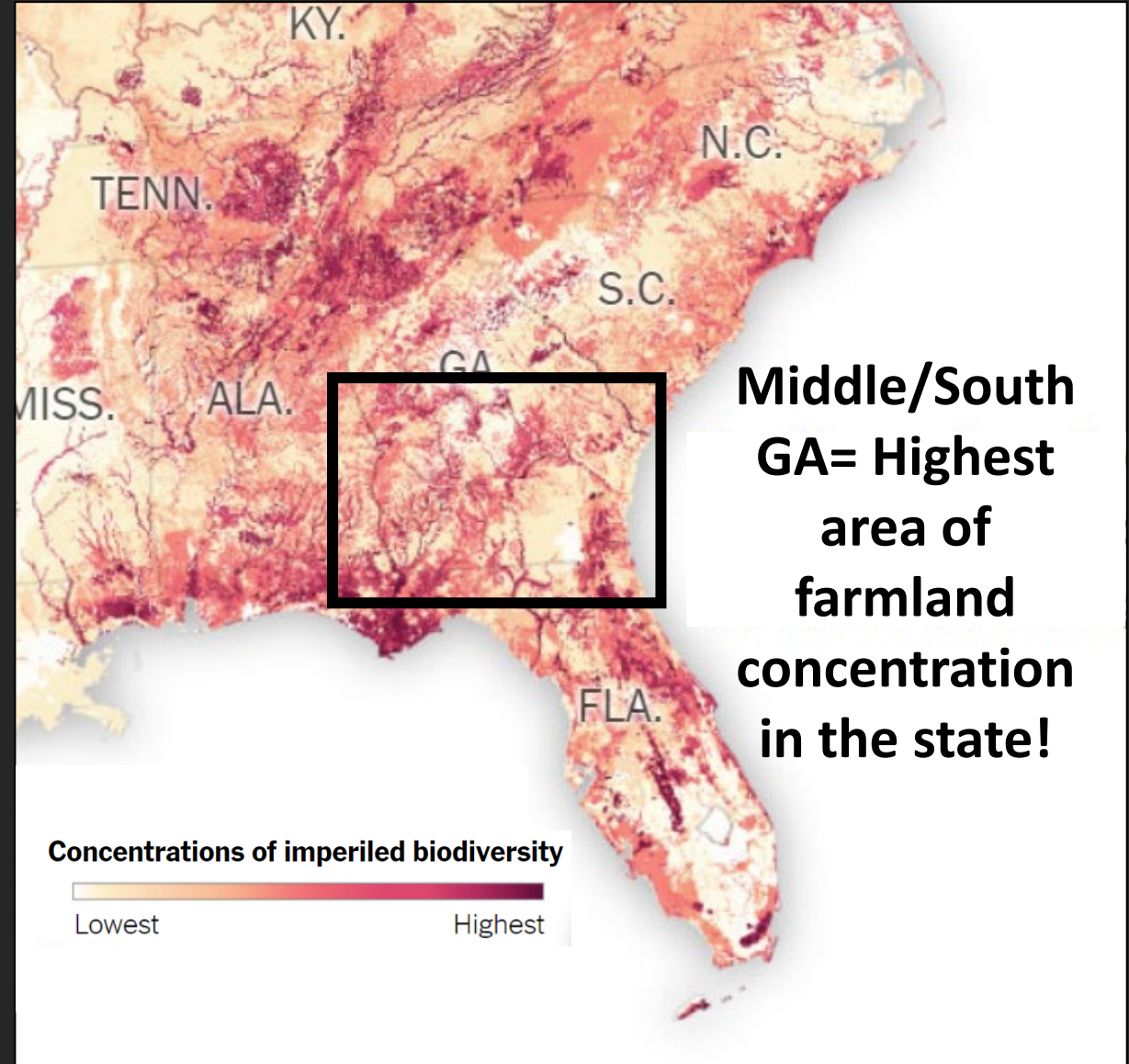
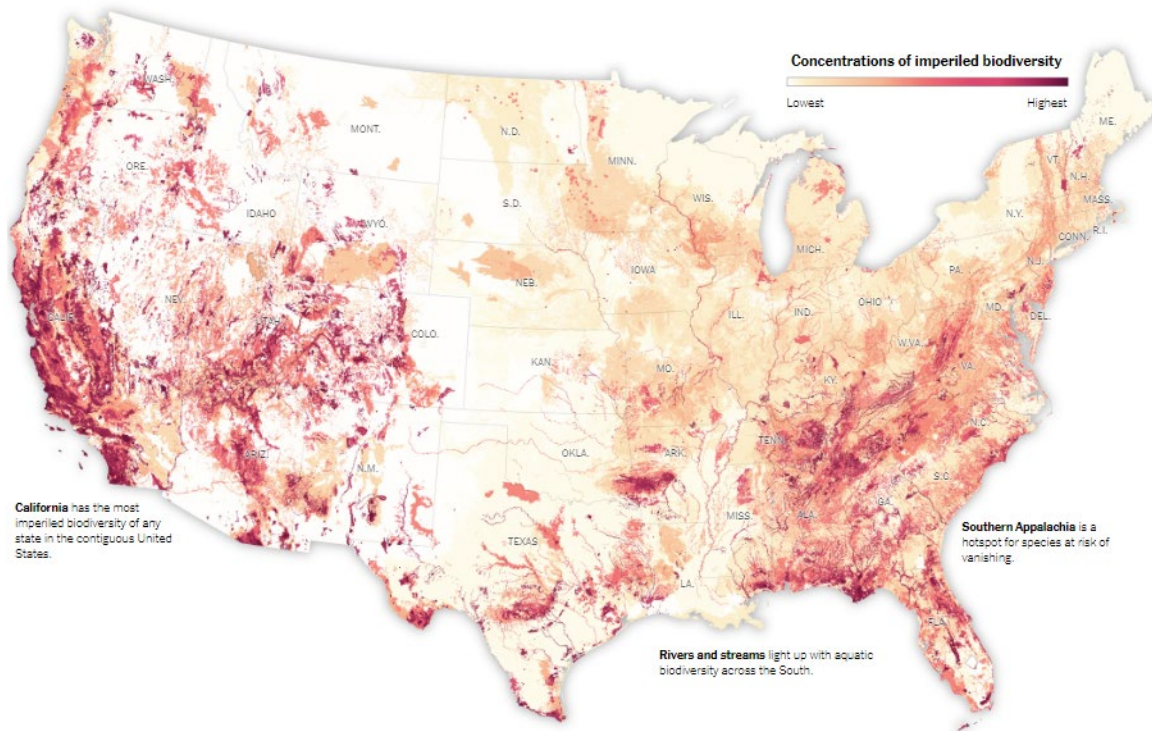
What does this mean for GA Agriculture?

The New York Times

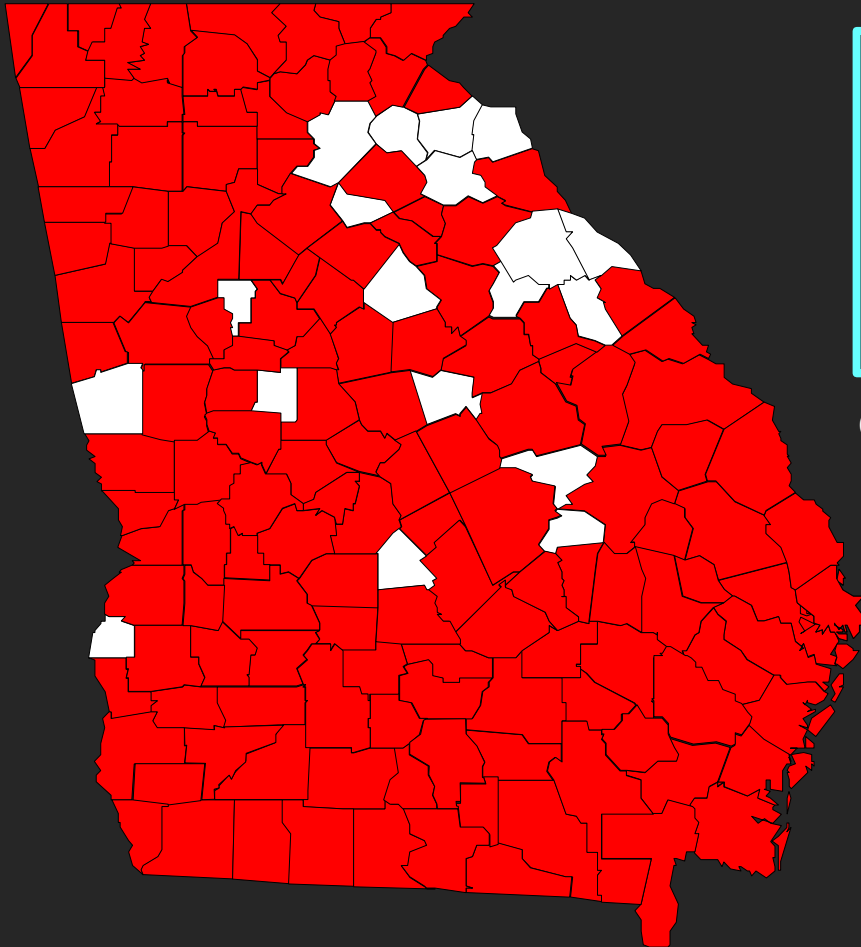
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Counties with Threatened and Endangered Species



140 out of 159 counties have threatened/endangered species

Counties with threatened/endangered species highlighted in red.

Plants:
30 species

Invertebrates:
23 species

Birds:
5 species

Reptiles/
Amphibians:
8 species

Fish:
7 species

Mammals:
4 species

Total: 78 species

Things to Consider Moving Forward....

- Changing pesticide regulations:
 - Challenges with registration/reregistration due to ESA/FIFRA
 - Mitigate spray drift/surface runoff/erosion to protect species
- Proposed extra practices to use pesticide product:
 - Mitigation menu of options
 - Traditional sustainability and best management practices
 - Ex. cover crops, conservation tillage, filter strips, etc.

Things to Consider Moving Forward....

- Creative and flexible when determining “*value*”:
 - Some practices may not show direct \$\$\$ benefit
 - May be indirectly tied into yield increases
- Investments in farm health promotes:
 - Generational longevity of the farm
 - Environmental sustainability
 - Regulatory cooperation



Thank You!
Questions/Comments?