



Designing Alternative Futures:

An Application of GIS for Land Use Planning

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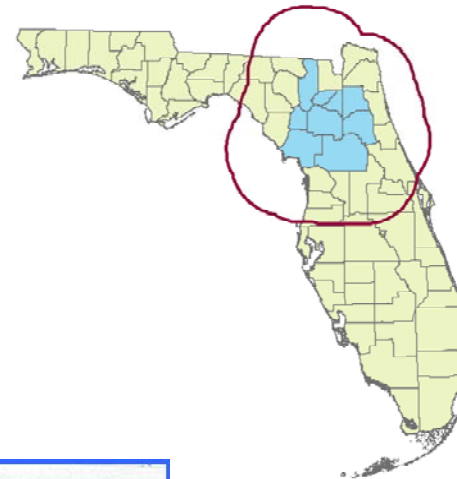
Reality

- Every Year, Florida accommodates an additional 300,000 people.
- That means that every day 821 people move to this state.
- The study region will accommodate 1 million more people by 2035.
- With resources and land at a minimum, how do we manage this growth?

Project Purpose

- Identify areas suitable for major land uses.
- Identify areas of potential land use conflict.
- Provide alternative visions of North Central Florida's future.
- Provide a toolbox for implementing North Central Florida's future vision.

North Central Florida Study Area



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Land Use Role Players:

Define the optimal conditions that will accommodate a conservation and preservation land use.



CONSERVATION

Optimize the productivity, diversity, and sustainability of agricultural lands in the study region in the coming century.



AGRICULTURE

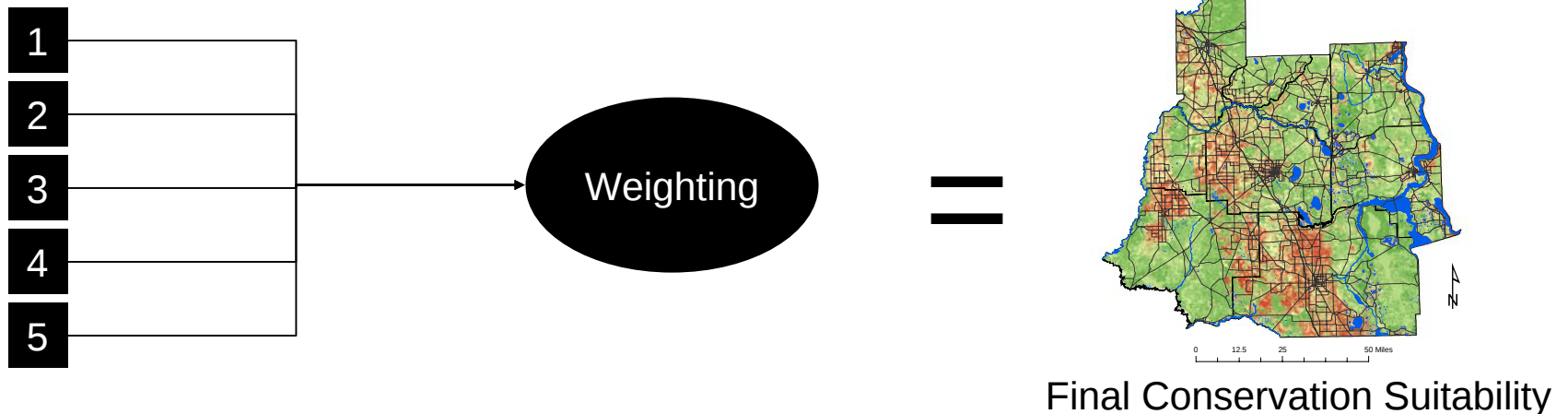
Maximize potential for urban development while enhancing the quality of life for a growing population within North Central Florida up to 2100.



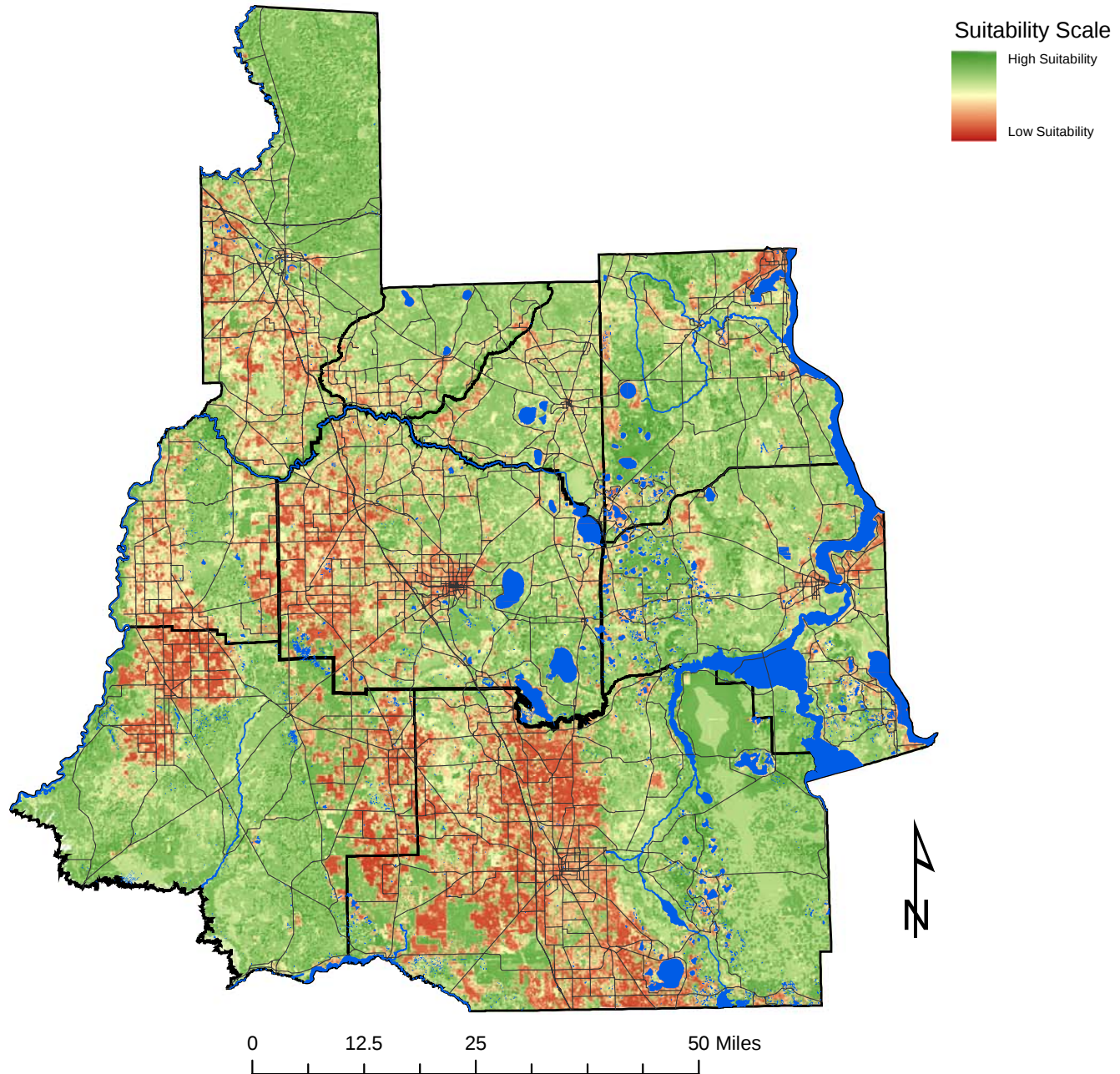
URBAN

Conservation Land Use Questions:

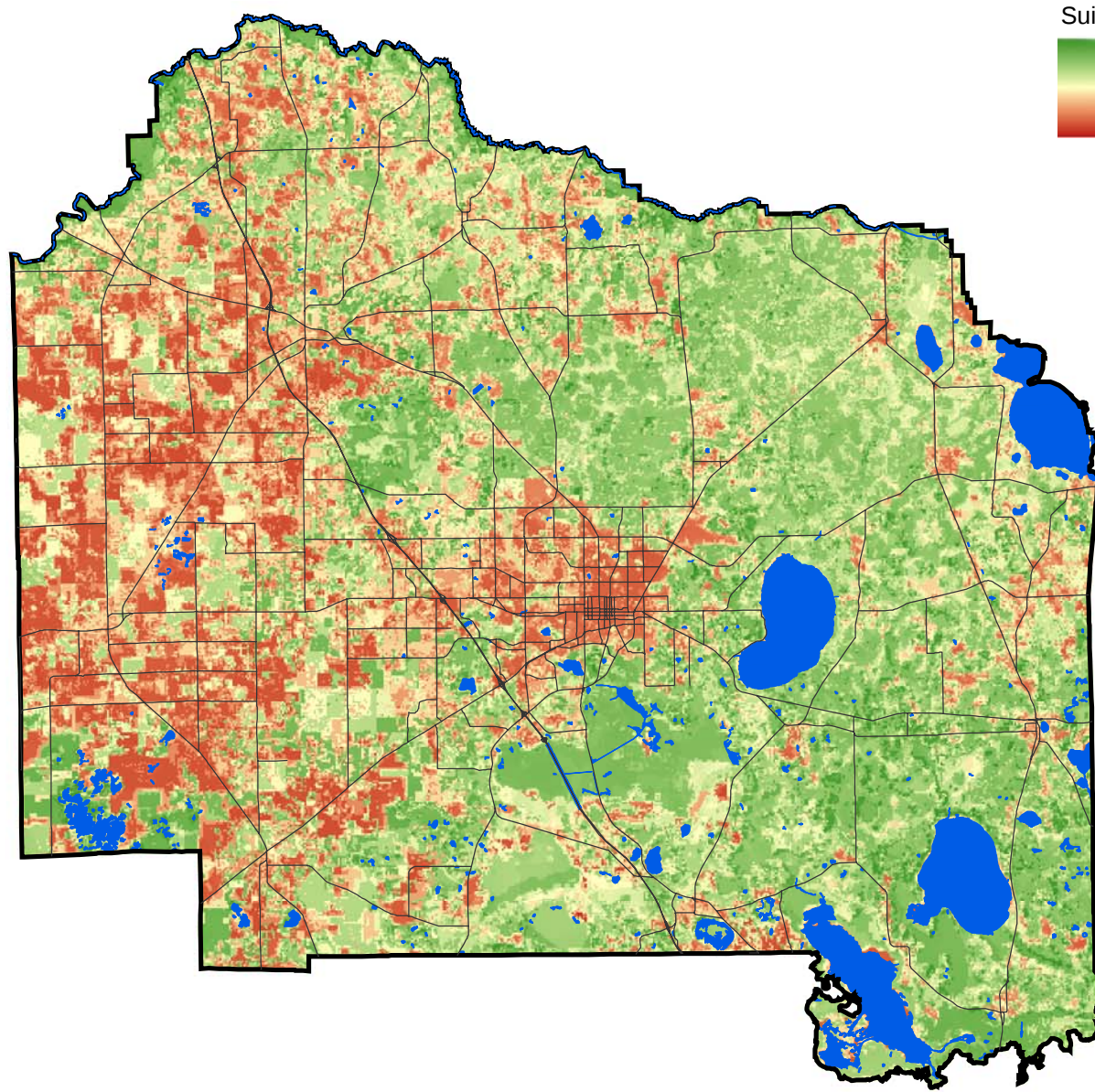
1. How do we protect and conserve biodiversity?
2. How do we protect and conserve surface waters for future use?
2. How do we protect and conserve groundwater recharge zones?
3. How do we protect and conserve areas that allow the process of fire to naturally return?
4. How do we protect and conserve wetlands and floodplains for the services they provide such as flood control, filtration of contaminant, erosion control and key nutrient cycles?
5. How do we protect lands which provide opportunities to increase aerial extent and connectivity?



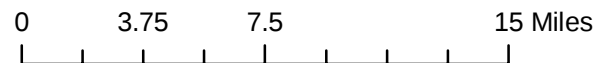
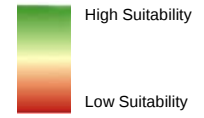
Final Conservation Suitability



Final Conservation Suitability



Suitability Scale



next

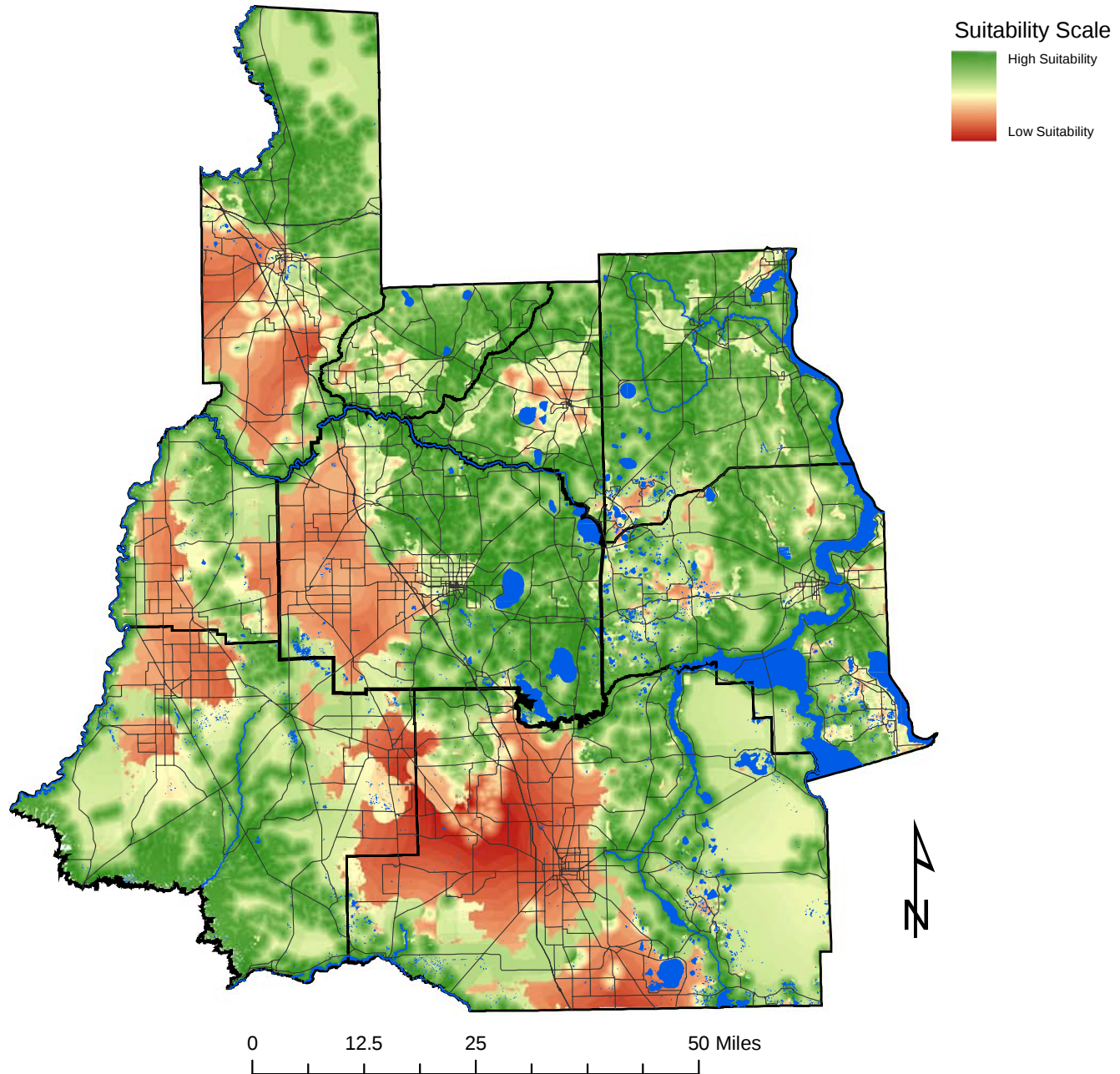
How do we protect lands which provide opportunities to increase aerial extent and connectivity?

Measures

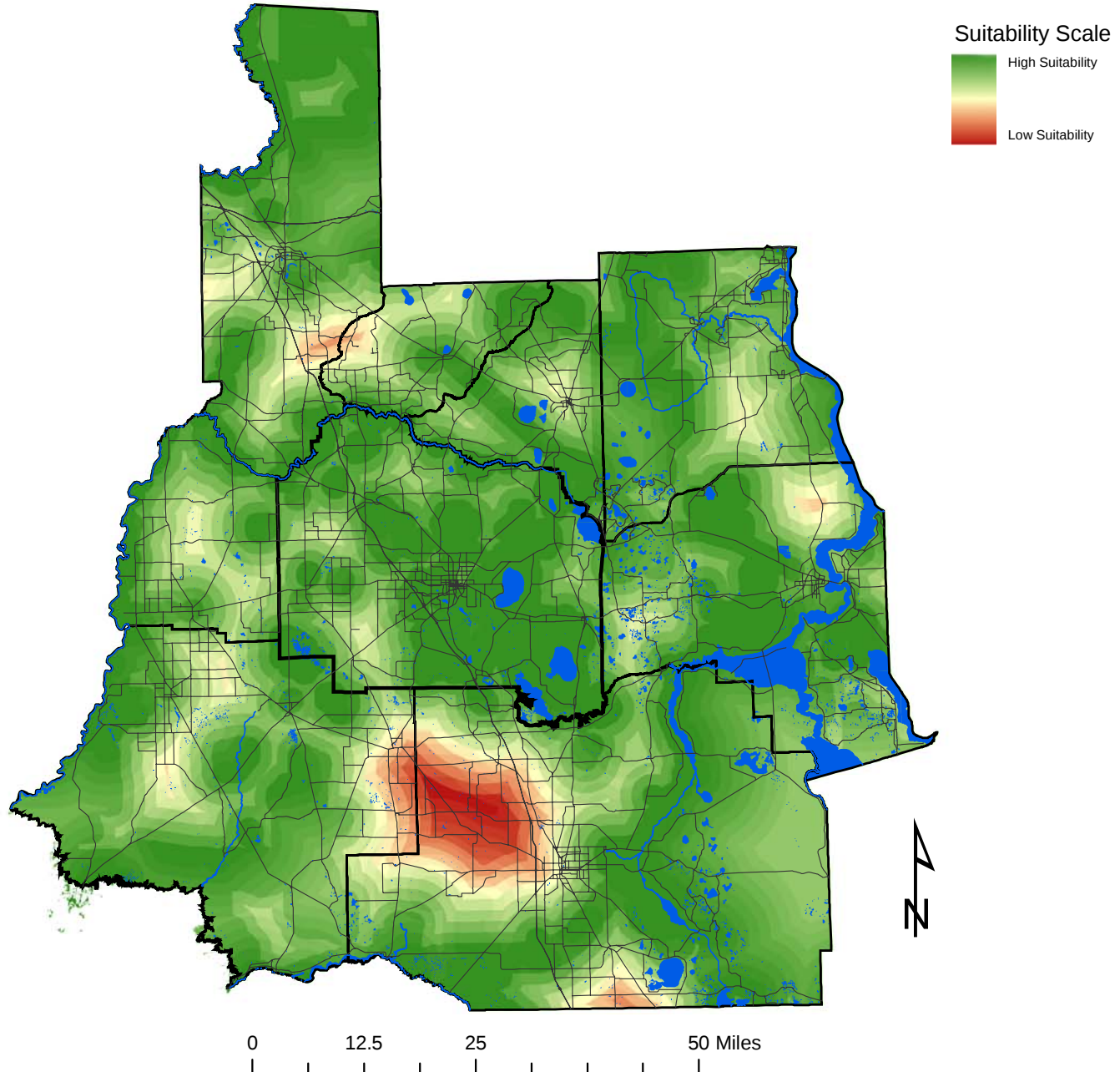
- 5.1 Identify and protect land with close proximity or adjacency to existing and proposed conservation lands, to strengthen connectivity.
- 5.2 Identify and protect potential sites for eco-corridors across major roadways.
- 5.3 Identify and protect riparian systems.



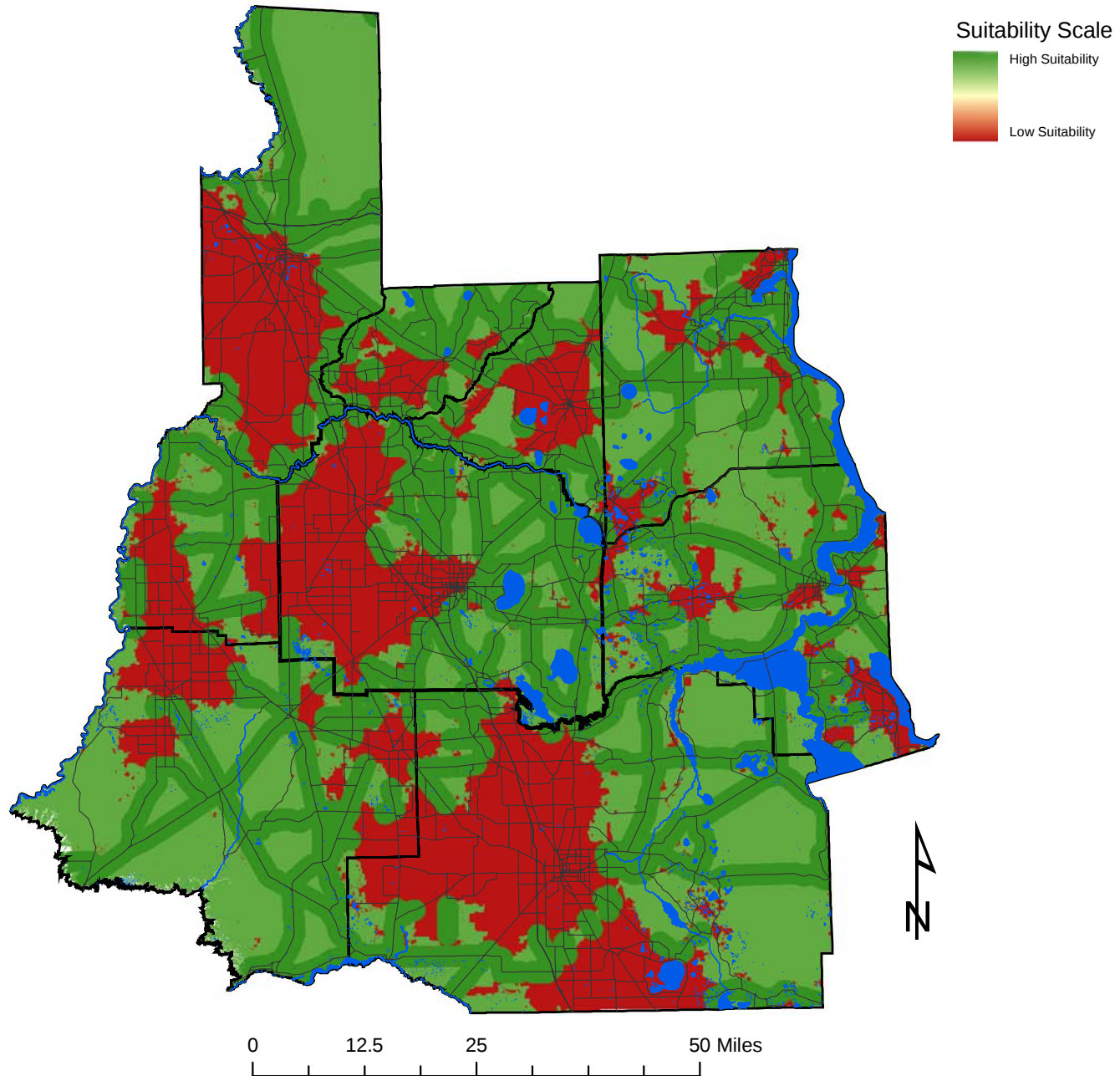
Final Connectivity Suitability



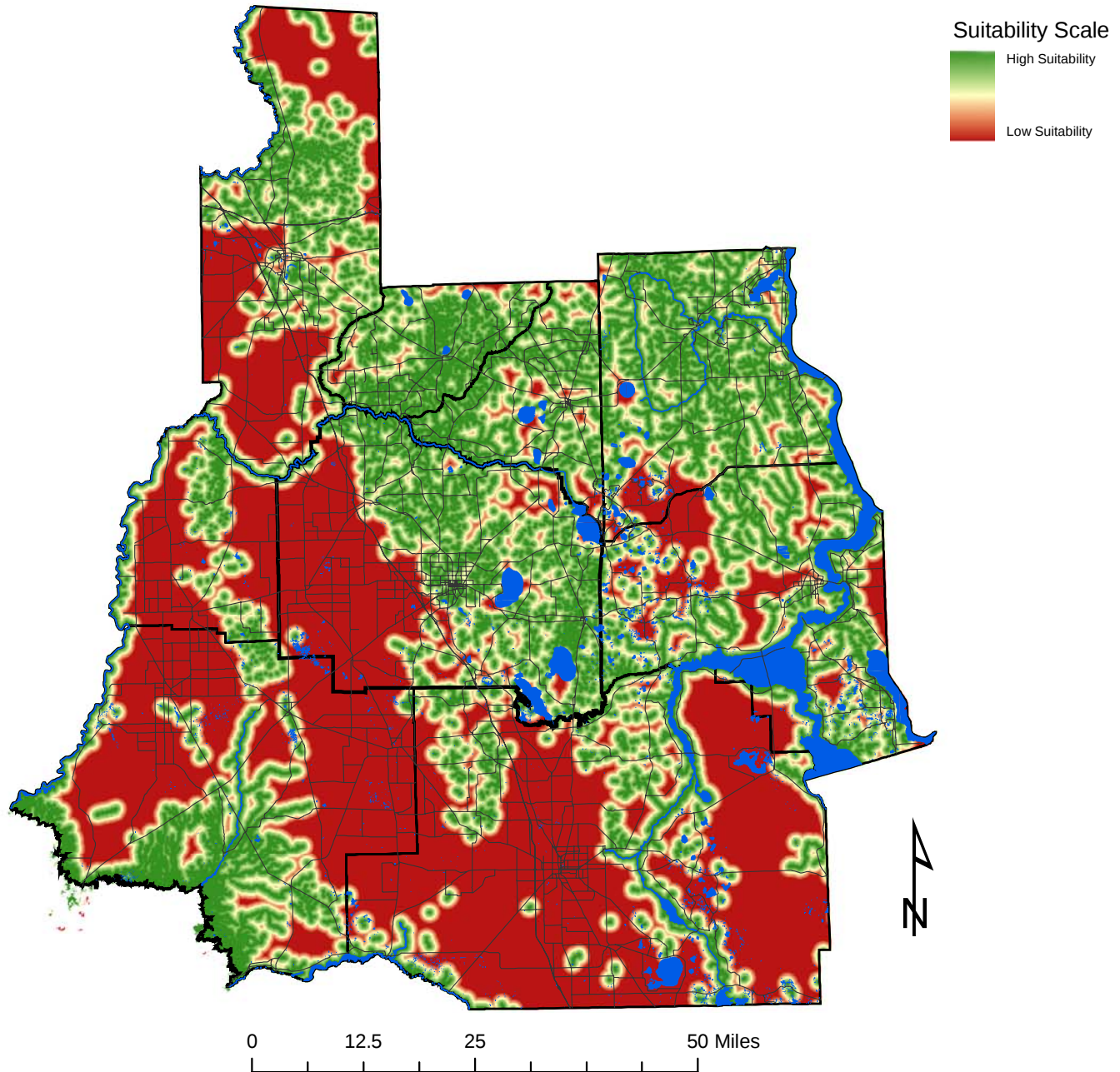
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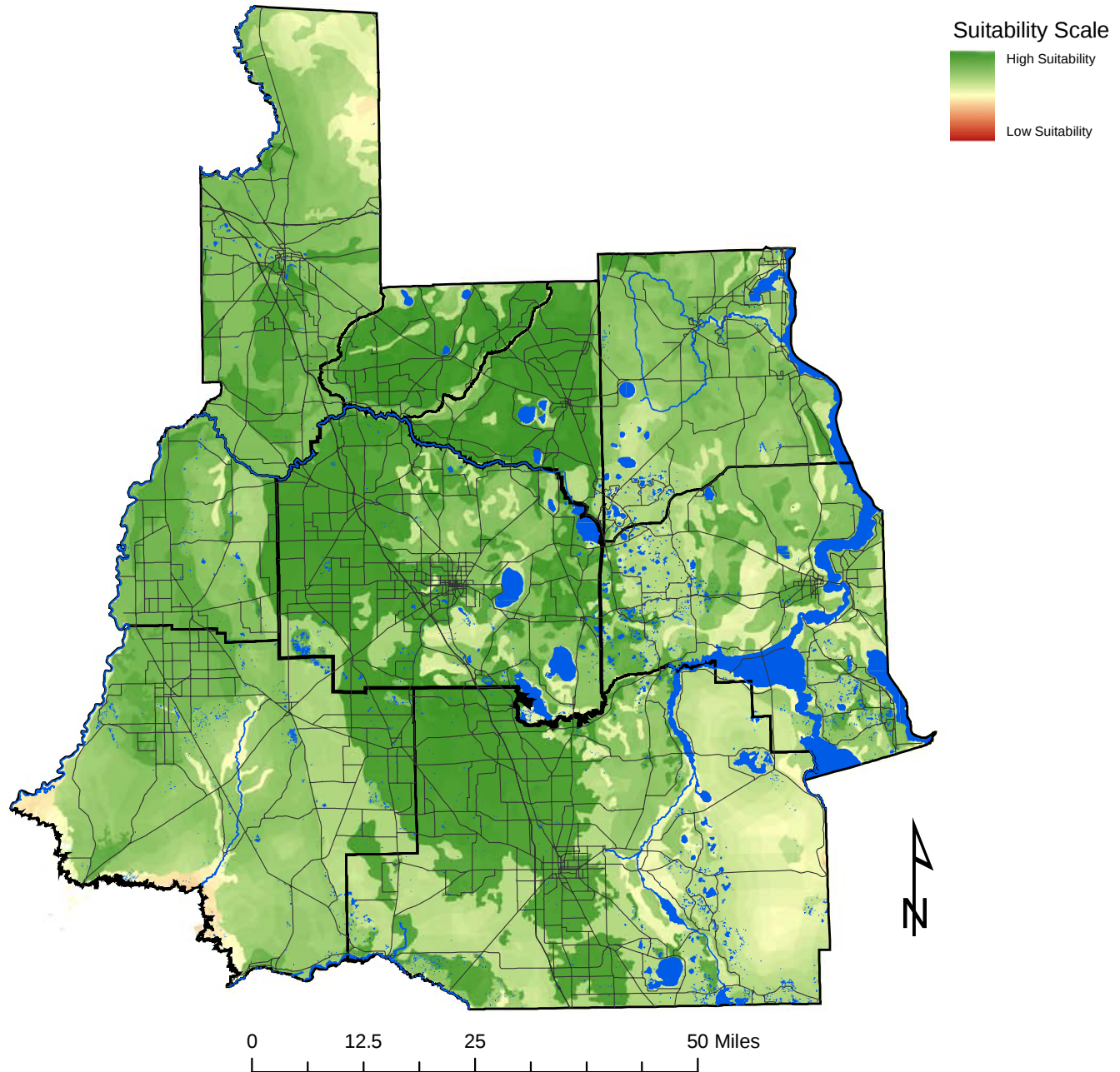
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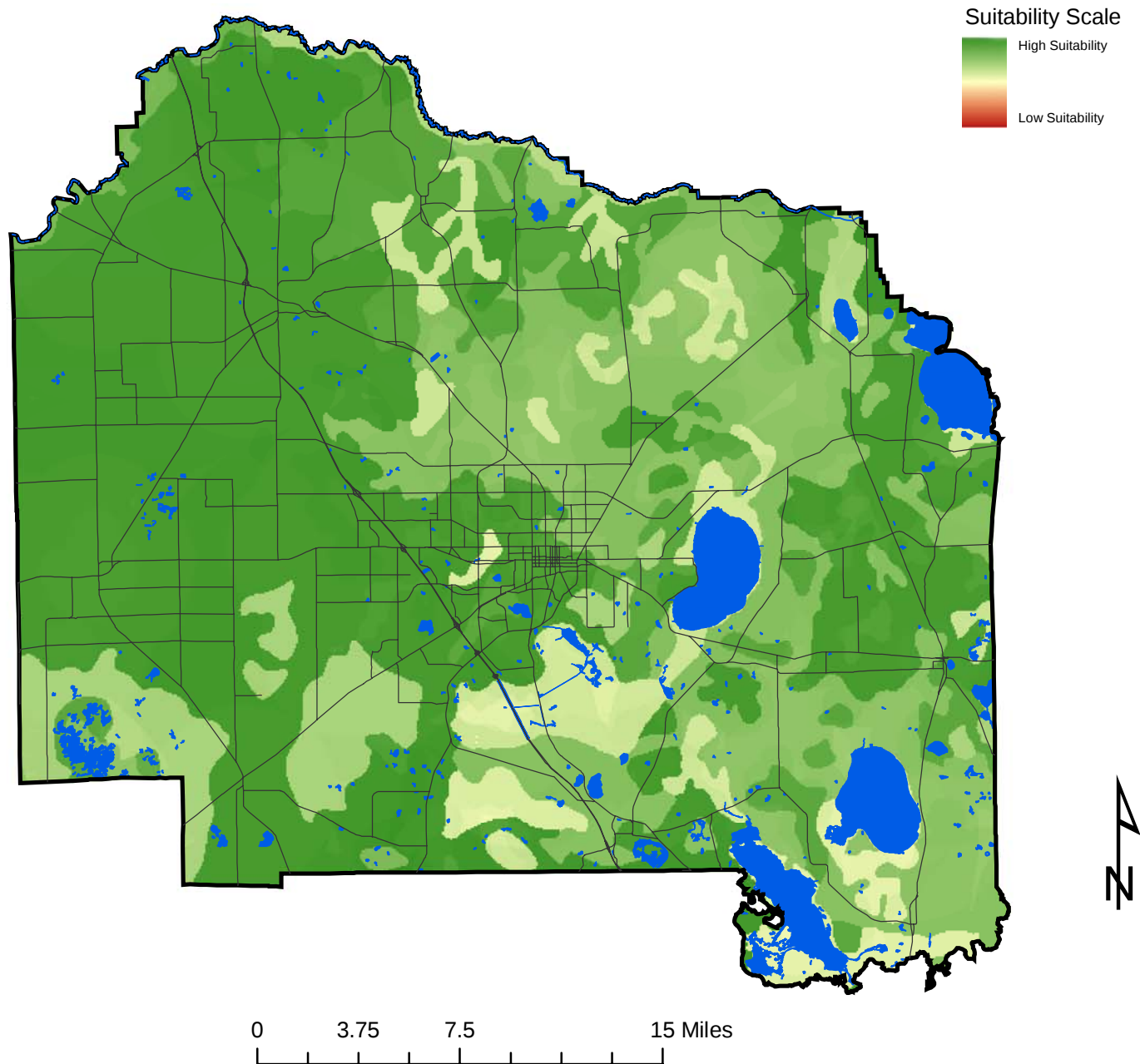
Agriculture Land Use Questions:

1. Where are lands suitable for cropland/row crops?
2. Where are lands suitable for timberland/silviculture?
3. Where are lands suitable for grazing land /pasture land?
4. Where are lands suitable for orchards and groves?
5. Where are lands suitable for livestock?
6. Where are lands suitable for dairies?
7. Where are lands suitable for nurseries/greenhouse production?

Final Agriculture Suitability



Final Agriculture Suitability



Urban Land Use Goals:

1. How do we maximize the opportunity for residential development?
2. How do we maximize the opportunity for retail and office professional commercial development?
3. Where are the optimal locations for medium and heavy industrial development?