

# UTILIZING THE KENTUCKY GAP ANALYSIS PROJECT AS A TOOL FOR CONSERVATION PLANNING: ASSESSING MANAGEMENT AREA DIVERSITY

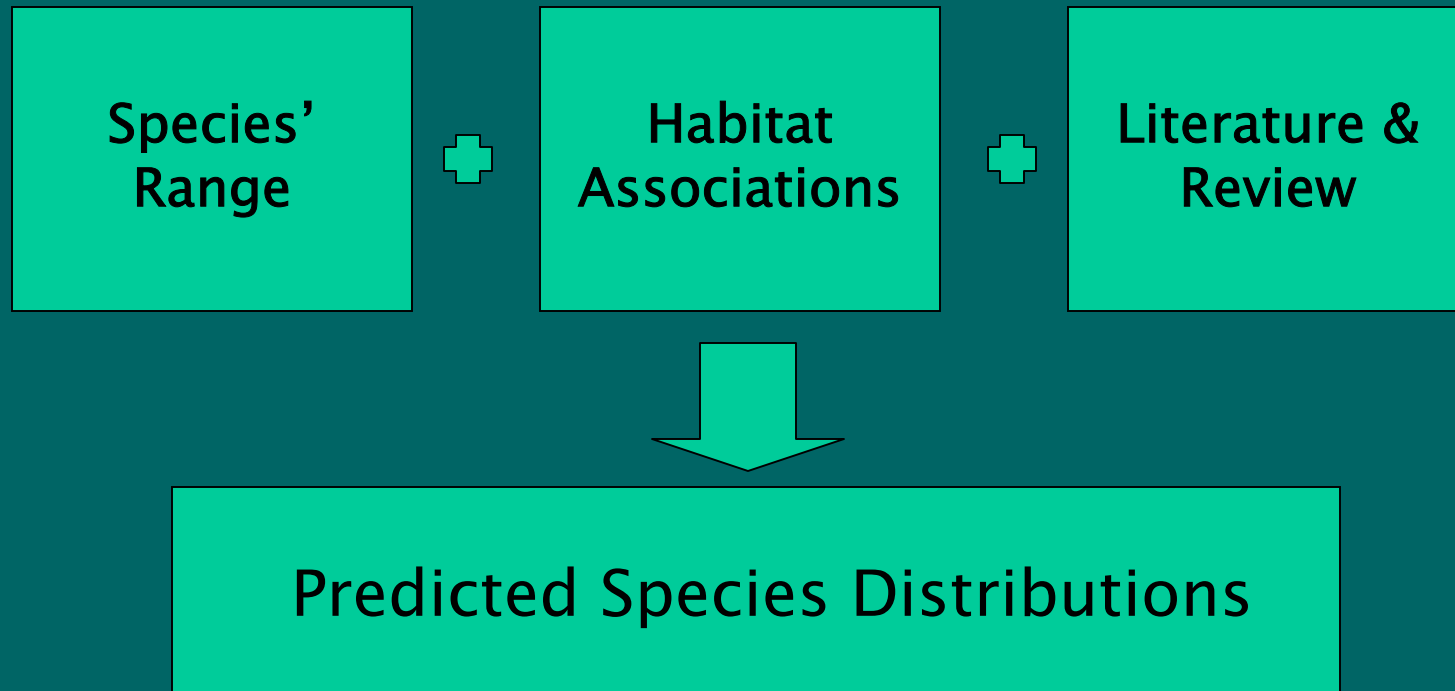
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# Kentucky GAP Analysis Project (KY-GAP)

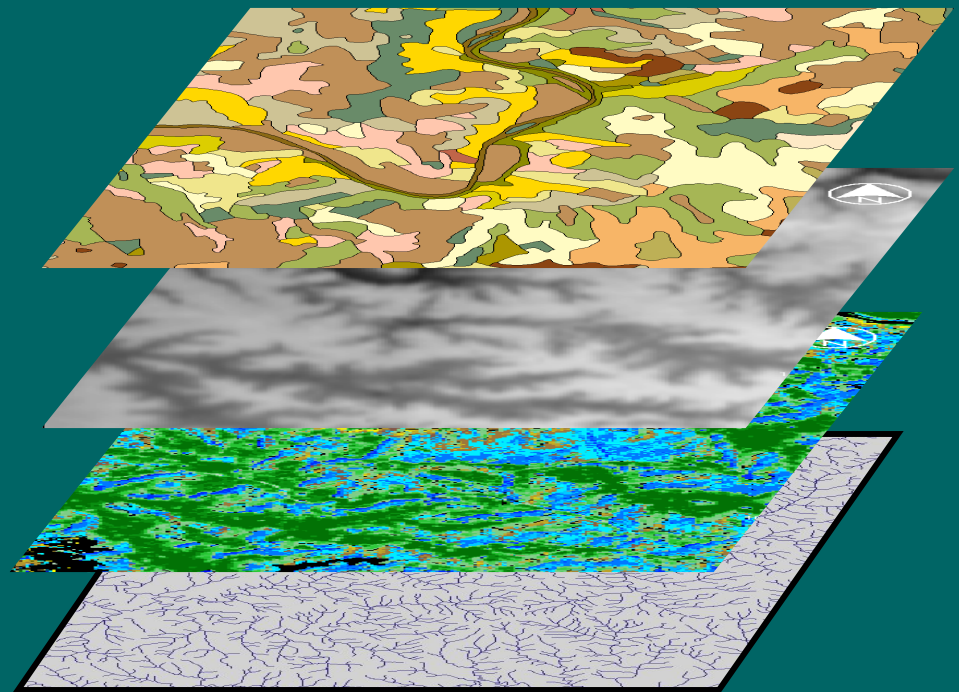
“Keeping Common Species Common”



Identify “gaps” between biodiversity and management

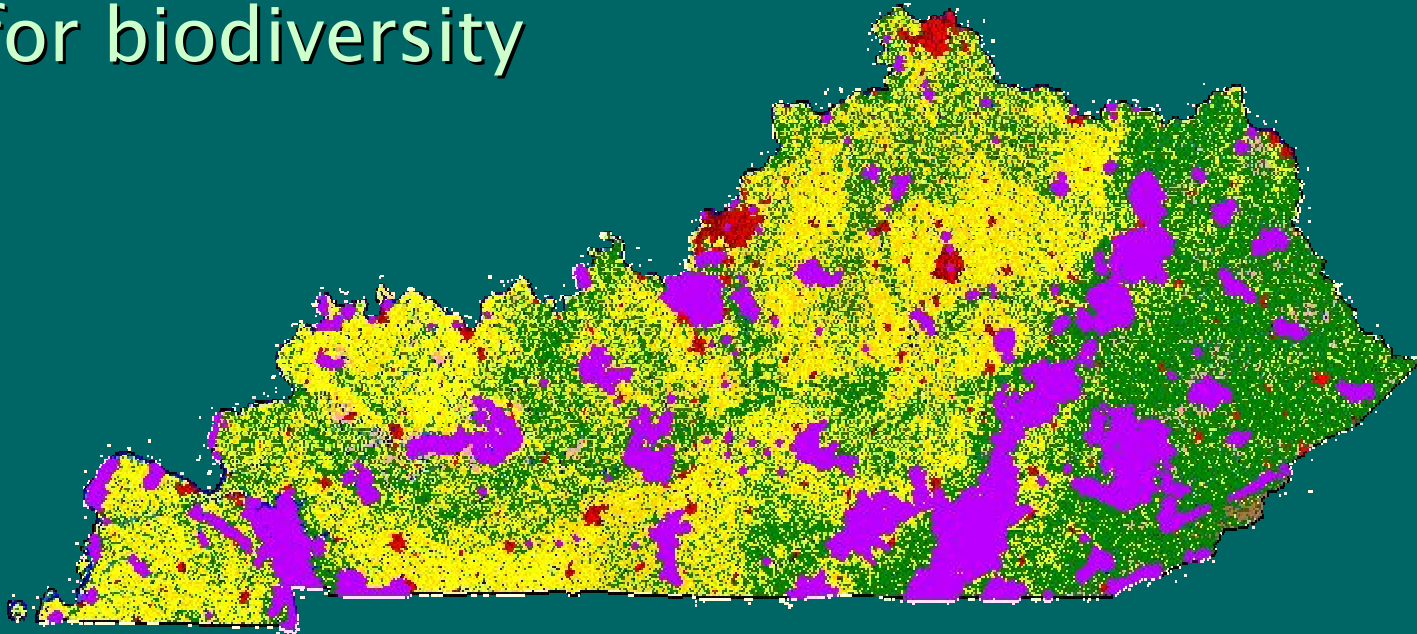
# Tools for Conservation Planning

- Species Richness
- Land Stewardship
- Vegetation Types
- Habitat Diversity
- Wetland / Aquatic Areas
- Land use



# Using KY-GAP to Assess Diversity of Management Areas

- Evaluation of existing preserves / parks
- Identification of new locations valuable for biodiversity



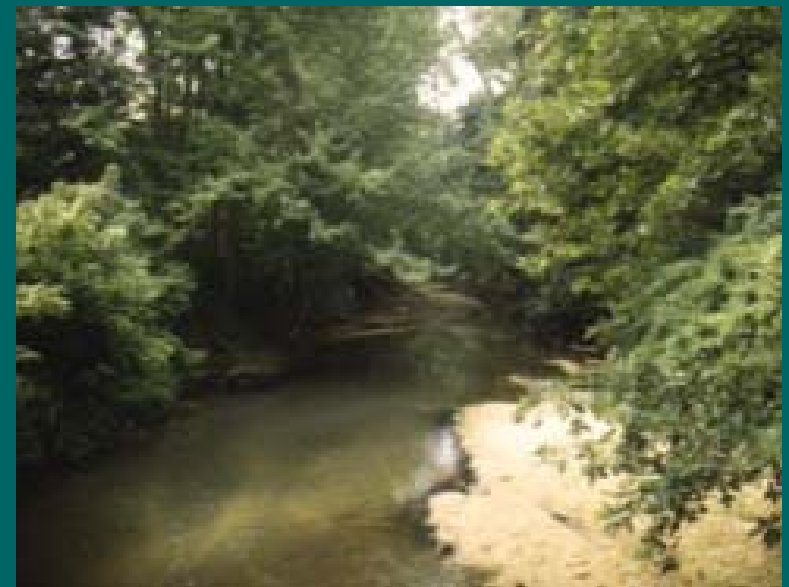
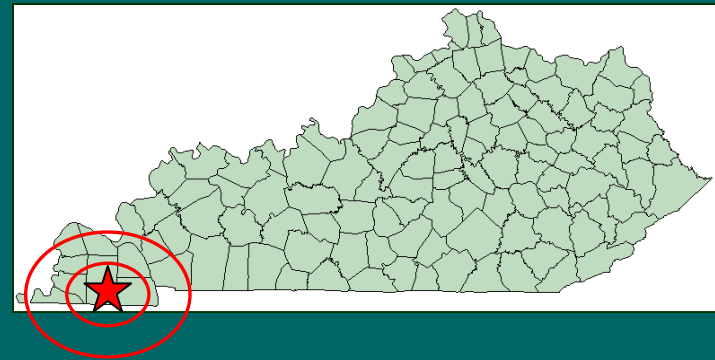
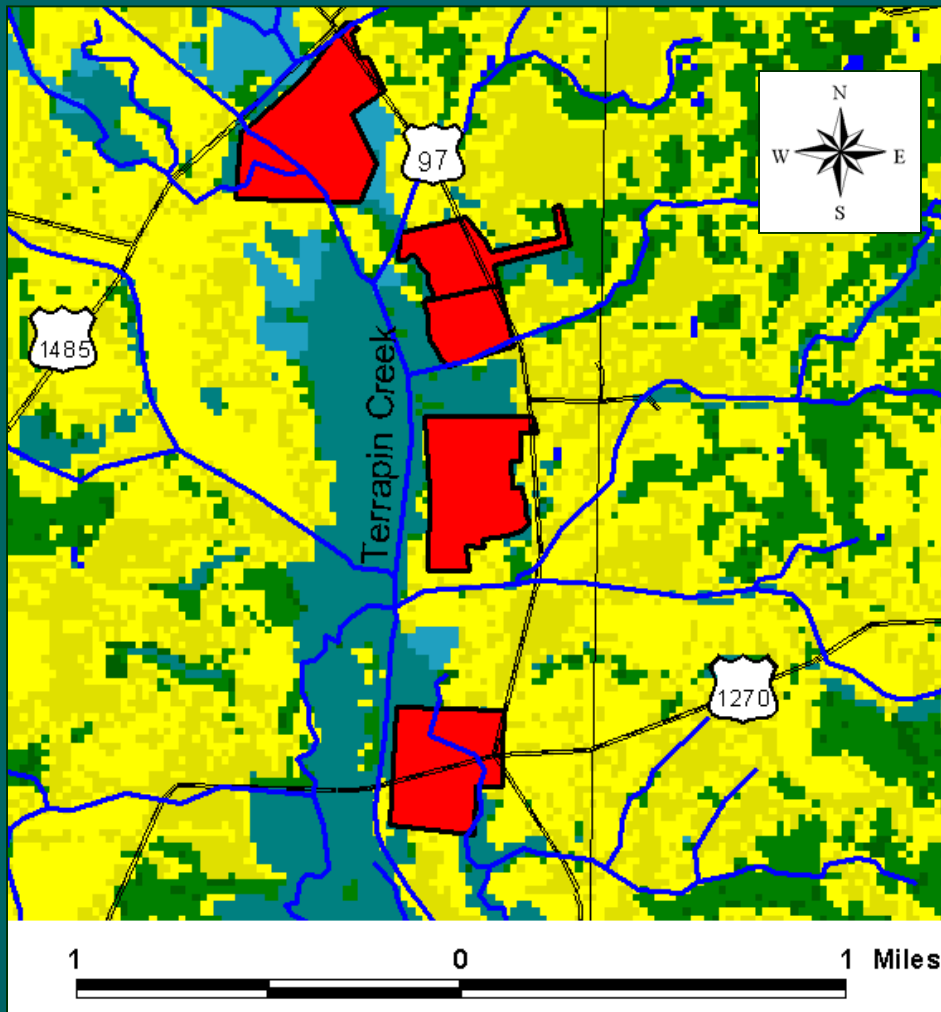
# Purpose

Use KY-GAP data to evaluate a management area in terms of its biodiversity significance

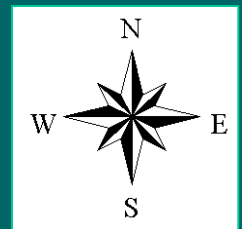
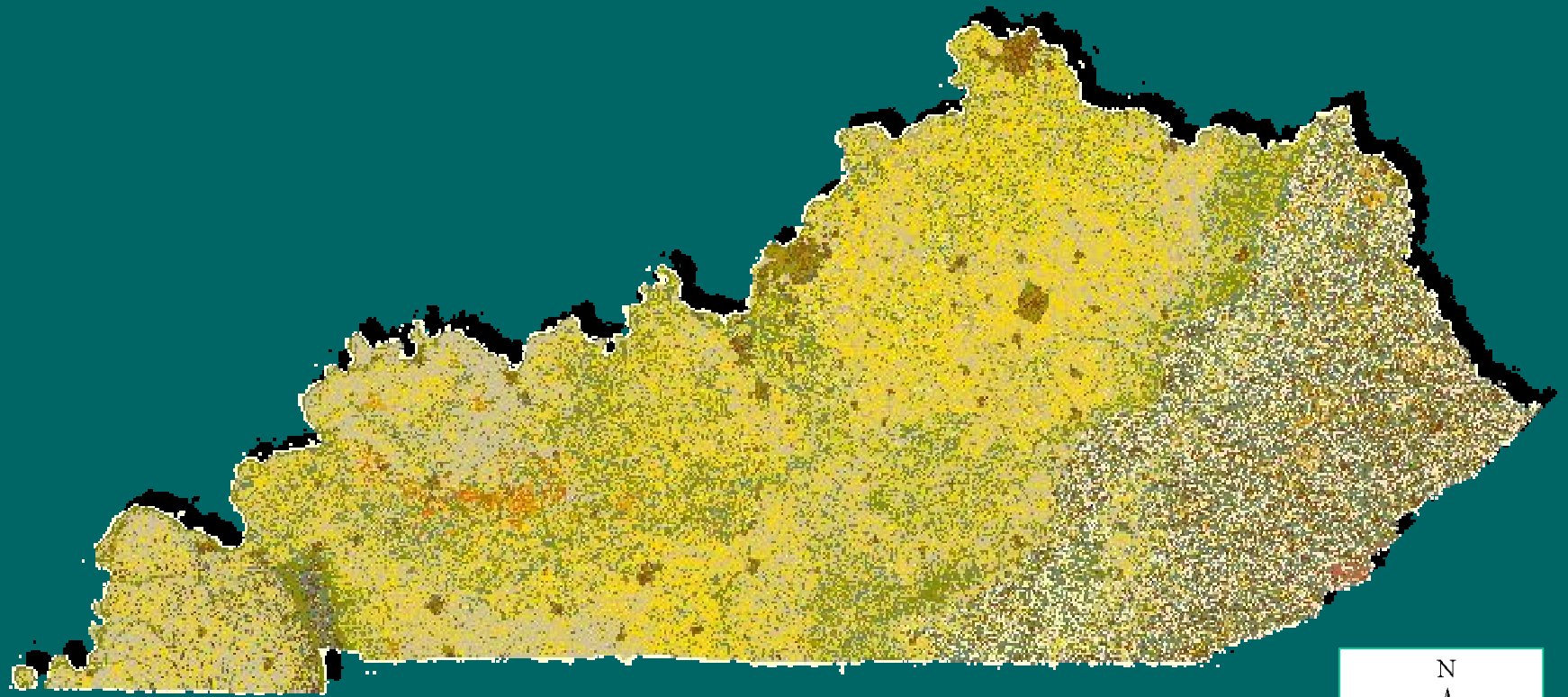
- Habitat Composition
- Species Richness/Diversity
- Special Concerns

# A Case Study:

## Terrapin Creek State Nature Preserve

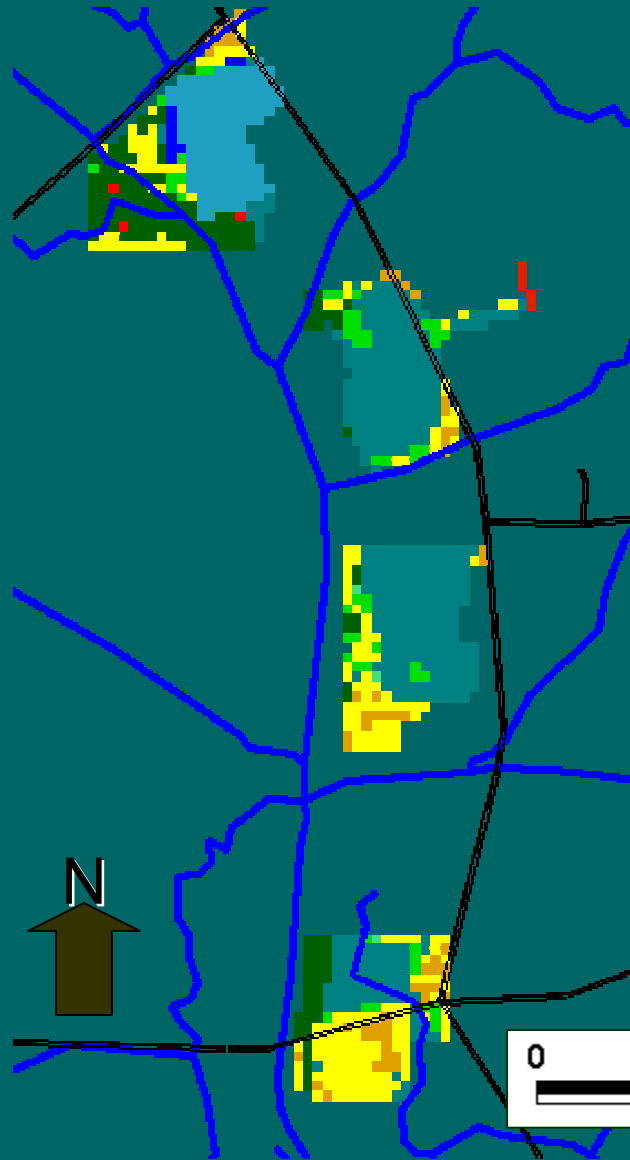


# Habitat / Vegetation Composition



# Habitat Diversity (Within Preserve)

## 10 Habitat Types



Agricultural

21%

Shrub  
Wetland

13%

15%

Riparian Forest

40%

Floodplain  
Forest

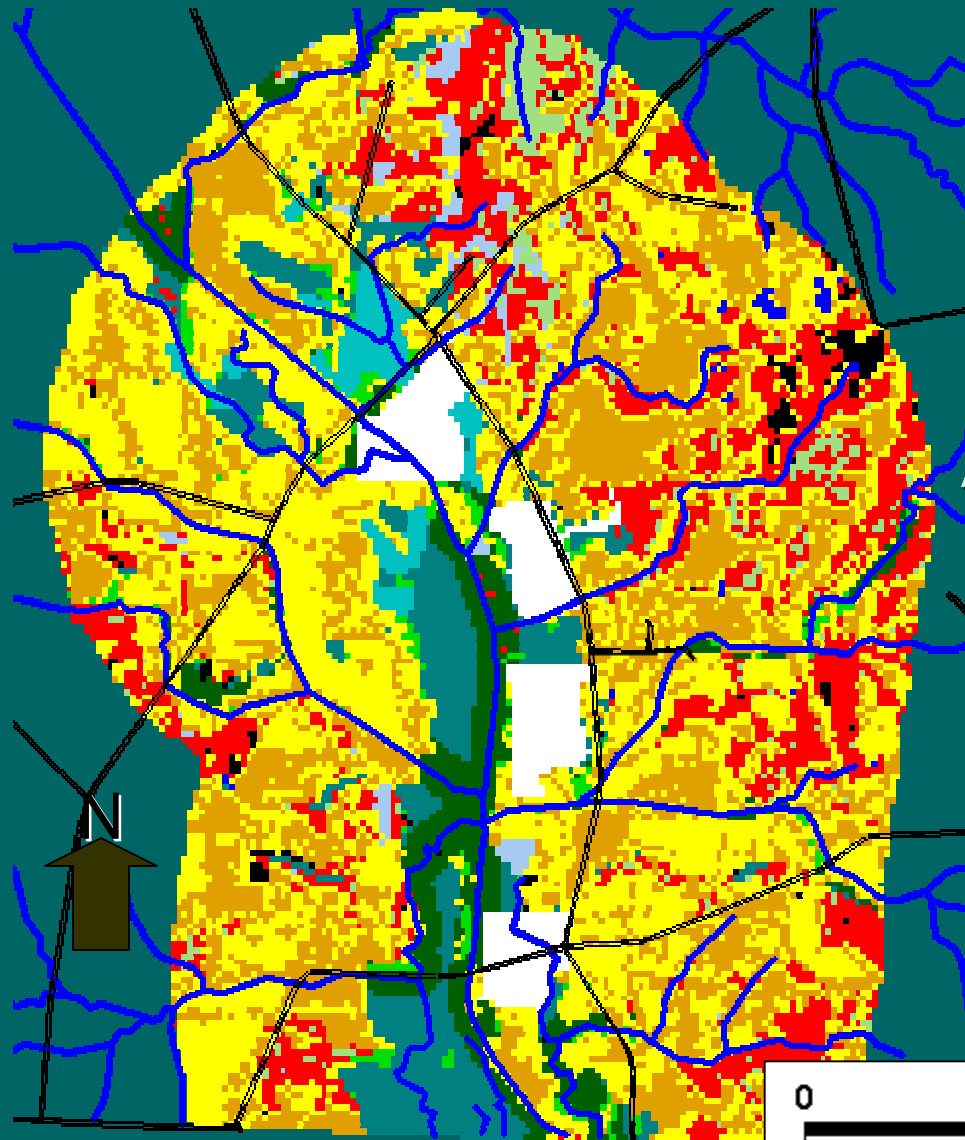
0

0.8 Miles



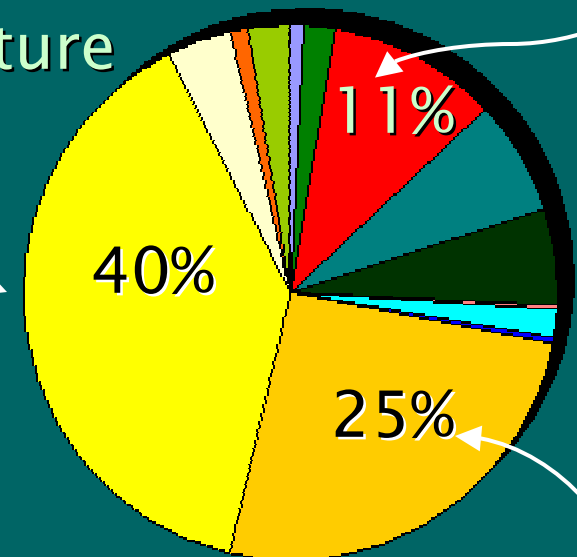
# Habitat Diversity (1 mile radius)

## 14 Habitat Types



Agriculture

Dry-Mesic Oak  
Forest

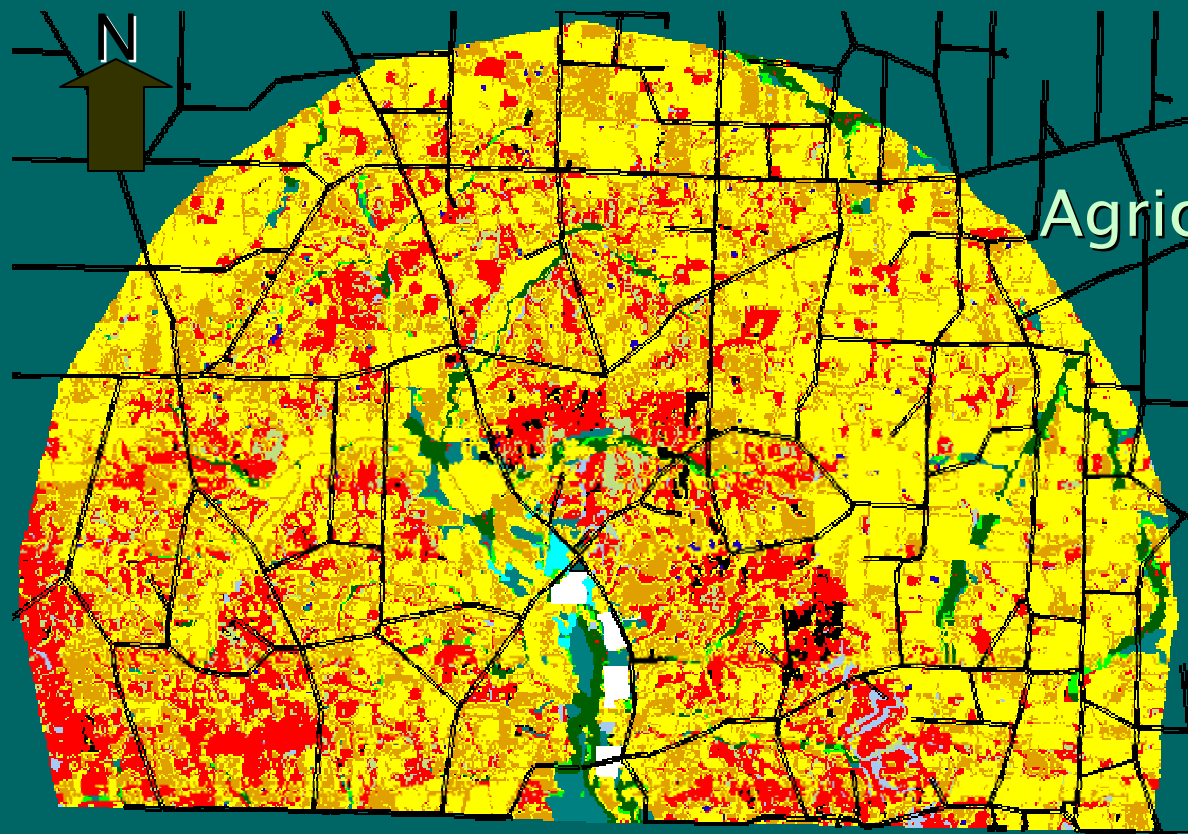


Pasture/Grassland

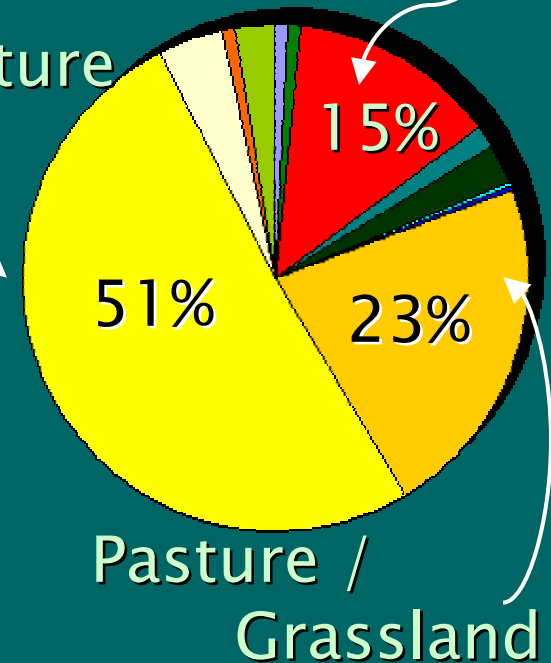
0 1 Miles

# Habitat Diversity (5 mile radius)

## 14 Habitat Types



Dry-Mesic Oak Forest



# Reliability of Predicted Distributions : Small Mammals in TCSNP

KY-GAP predicted  
species'  
occurrence

17

Confirmed  
species'  
occurrence

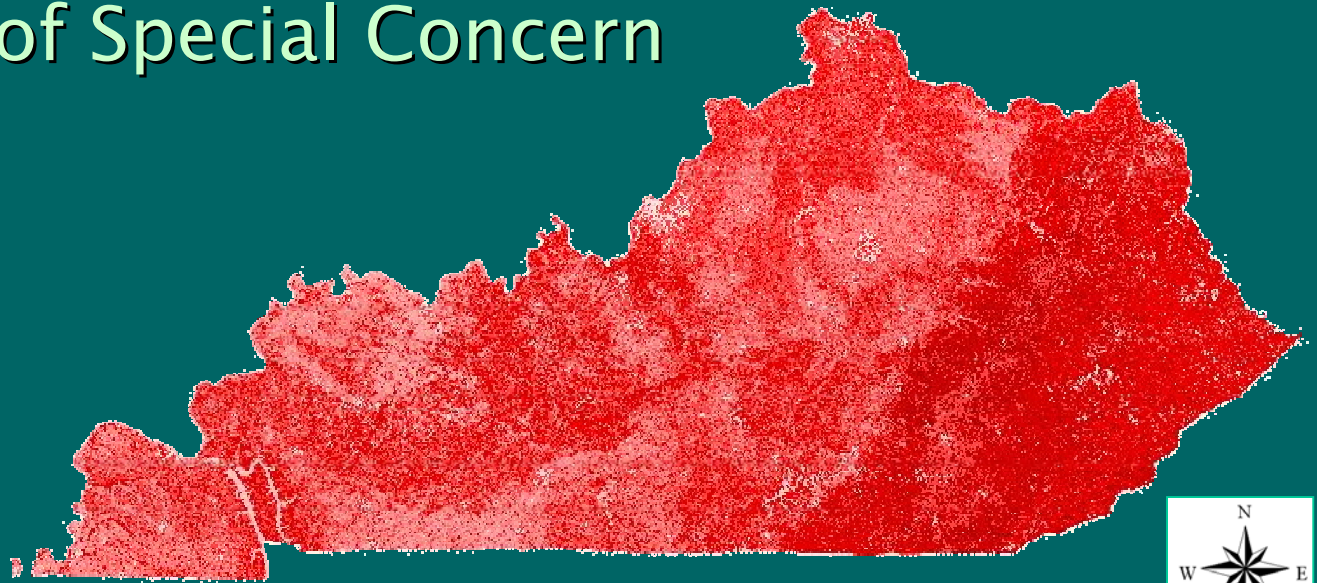
1,890 trap  
nights

14

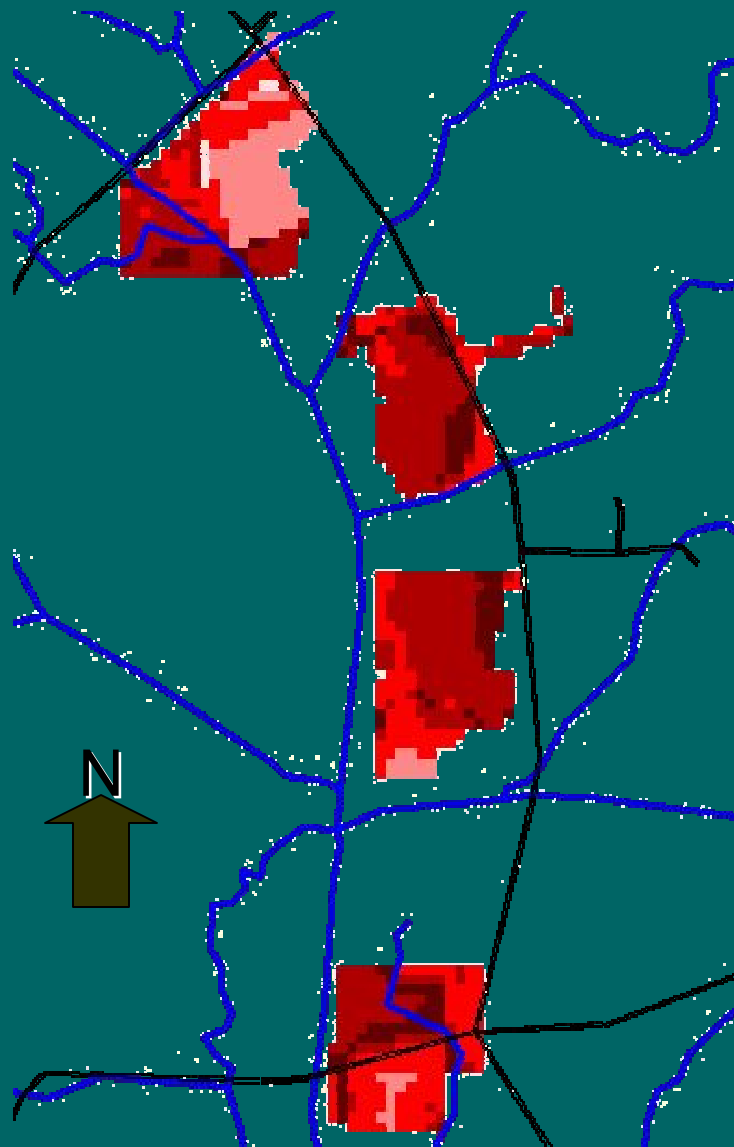
# Species Richness

As well as...

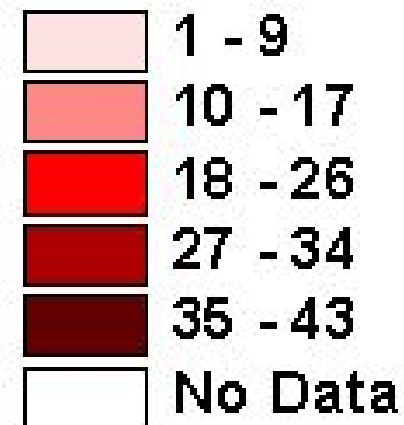
- Community Composition/  
Uniqueness
- Species of Special Concern



# Species Richness (Mammals)



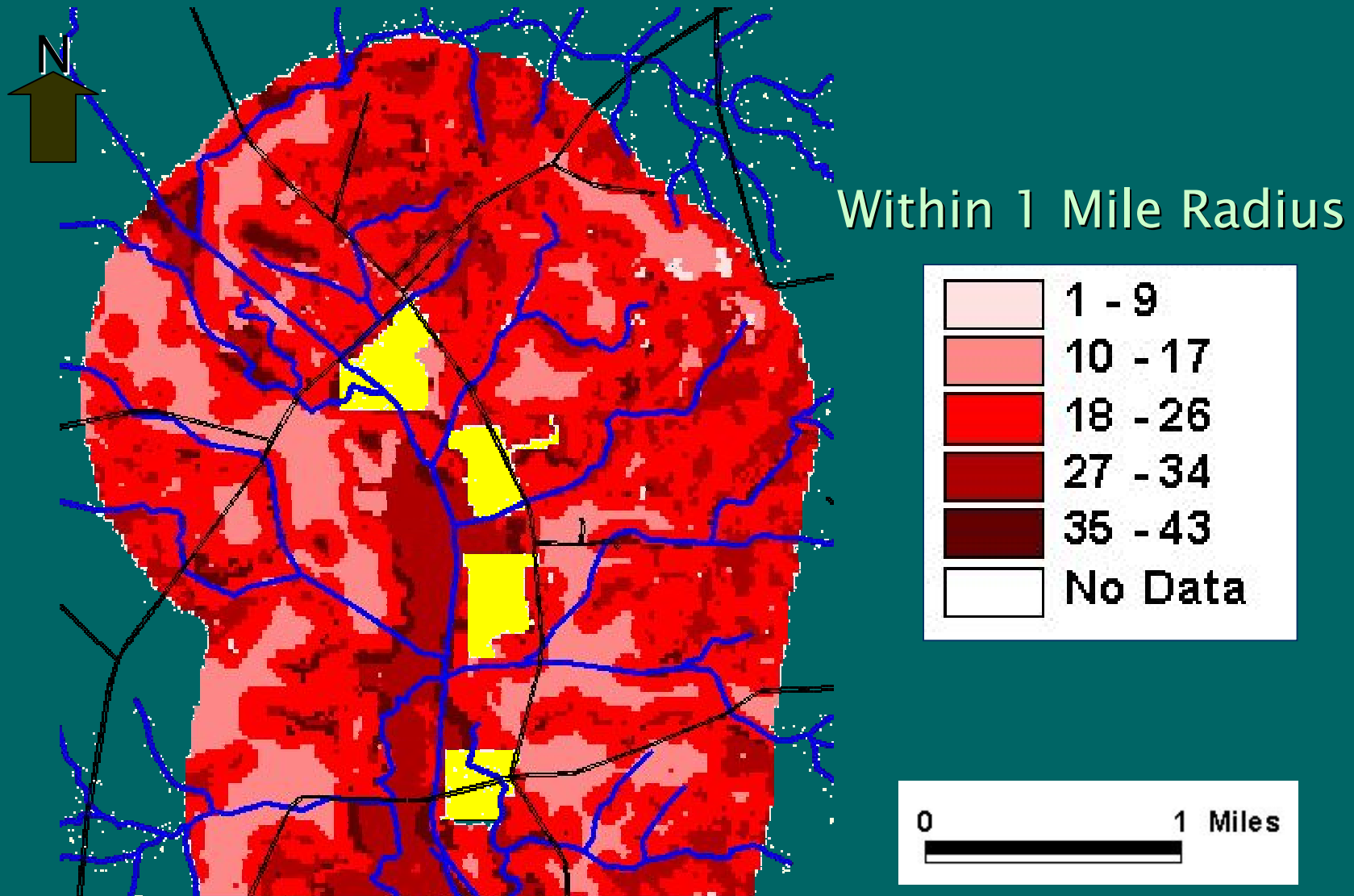
Within Preserve



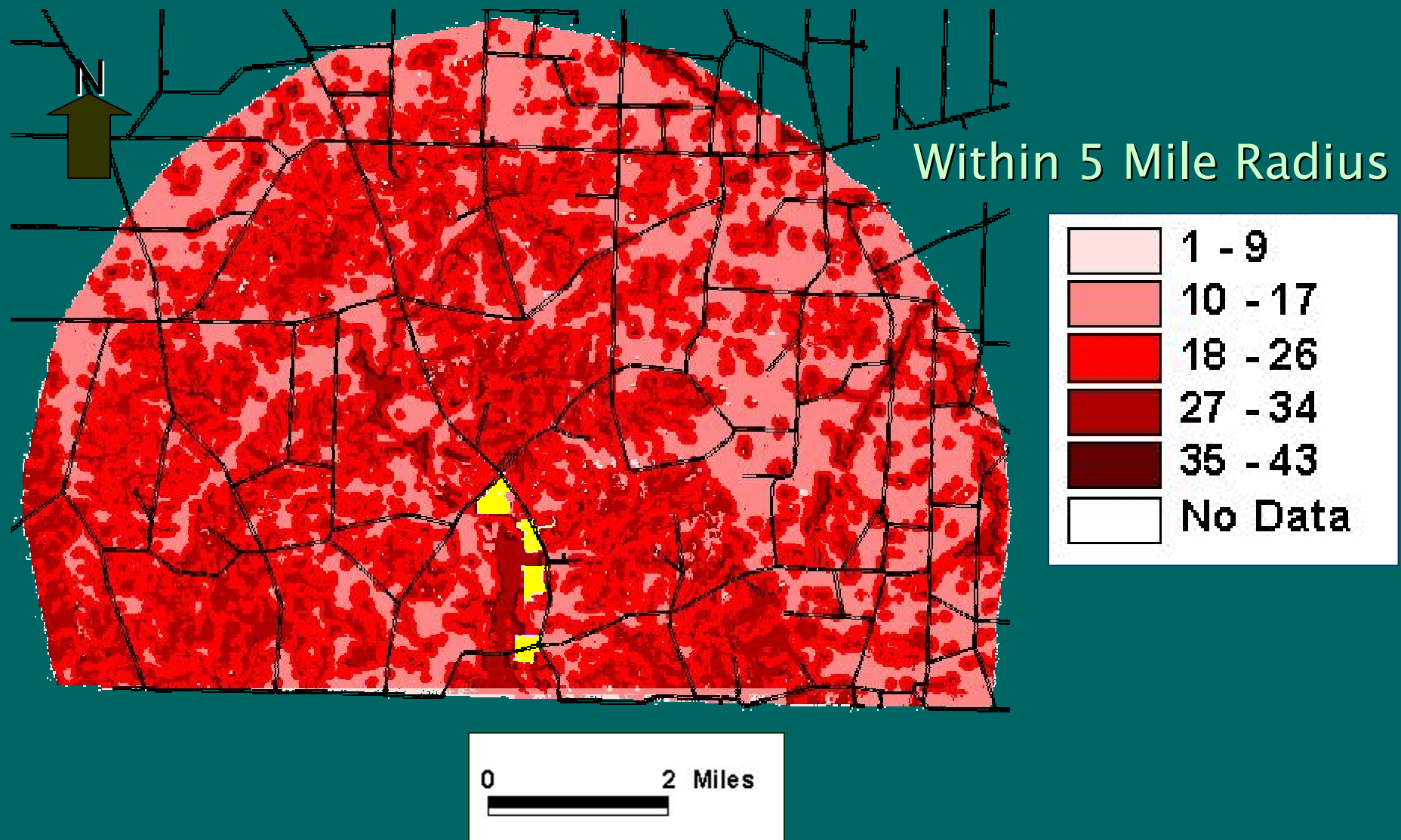
0 0.8 Miles



# Species Richness (Mammals)



# Species Richness (Mammals)



# Mammals of Special Concern/Interest

- Southeastern Myotis (*State Endangered*)
- Indiana Myotis (*Federal Endangered*)
- Rafinesque's Big-Eared Bat (*State Threatened*)



- American Beaver
- Swamp Rabbit
- Coyote
- White-tailed Deer



# Conclusion

- TCSNP is identified as a unique area high in diversity, by both GAP analysis and field evaluation
- KY GAP serves as a valuable tool for conservation planning and maintaining biodiversity

# Acknowledgements

National Gap Analysis Program

U.S. Department of Geological Survey

Kentucky Department of Fish and Wildlife

Mid-America Remote Sensing Center

Kentucky State Nature Preserves  
Commission

