

The role of habitat connectivity in wild turkey biology and ecological attributes

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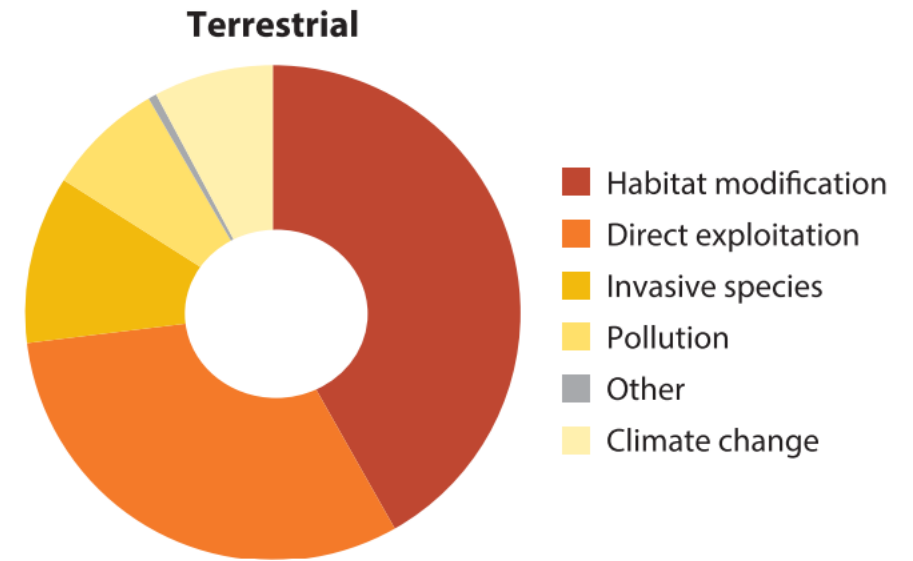


Image © 2024 Airbus



Altered Terrestrial Ecosystem

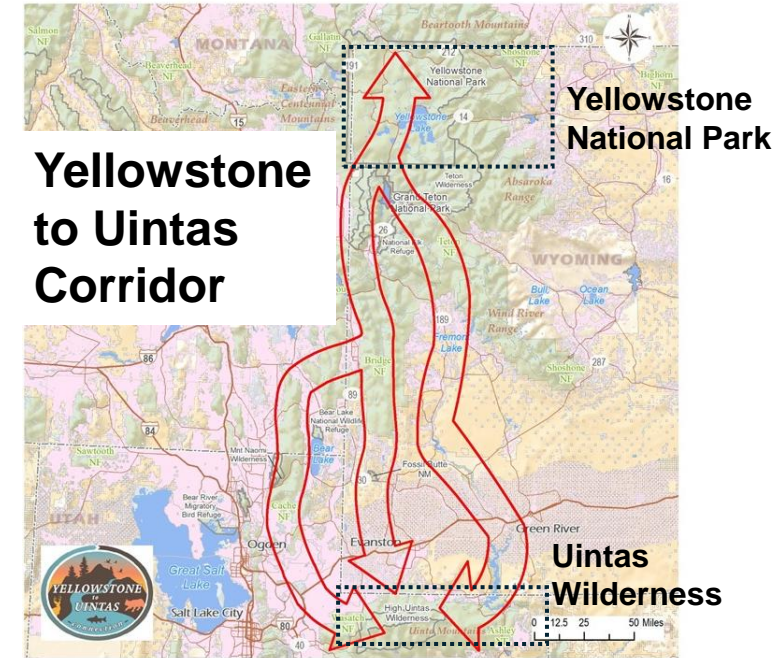
- Land use intensification drive loss of habitat
- Leads to fragmented landscapes
- Increase animal exposure to a suite of pressures



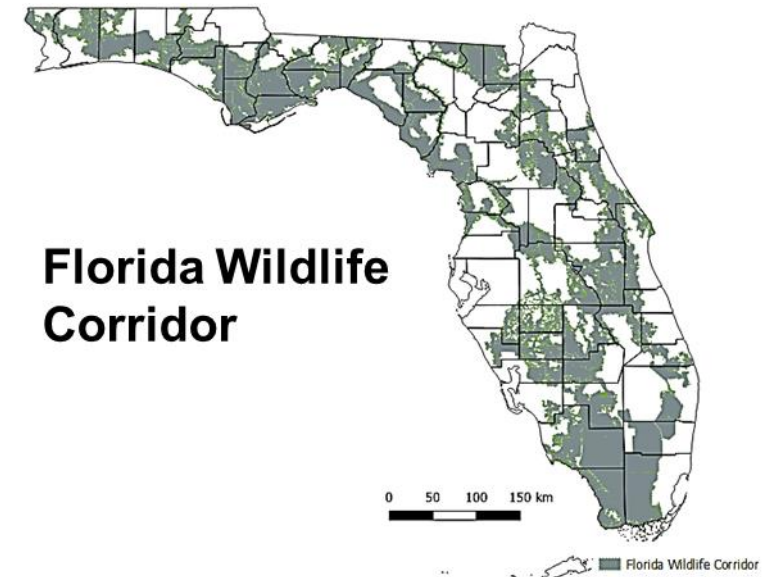
Young *et al*, 2016

Wildlife corridors and conservation

- Natural veg between protected areas
- Reduces landscape fragmentation
- Facilitate animal dispersal
- Species use determine corridor role
- Conservation efficacy, undetermined



<https://yellowstoneuintas.org/about-us/the-corridor>



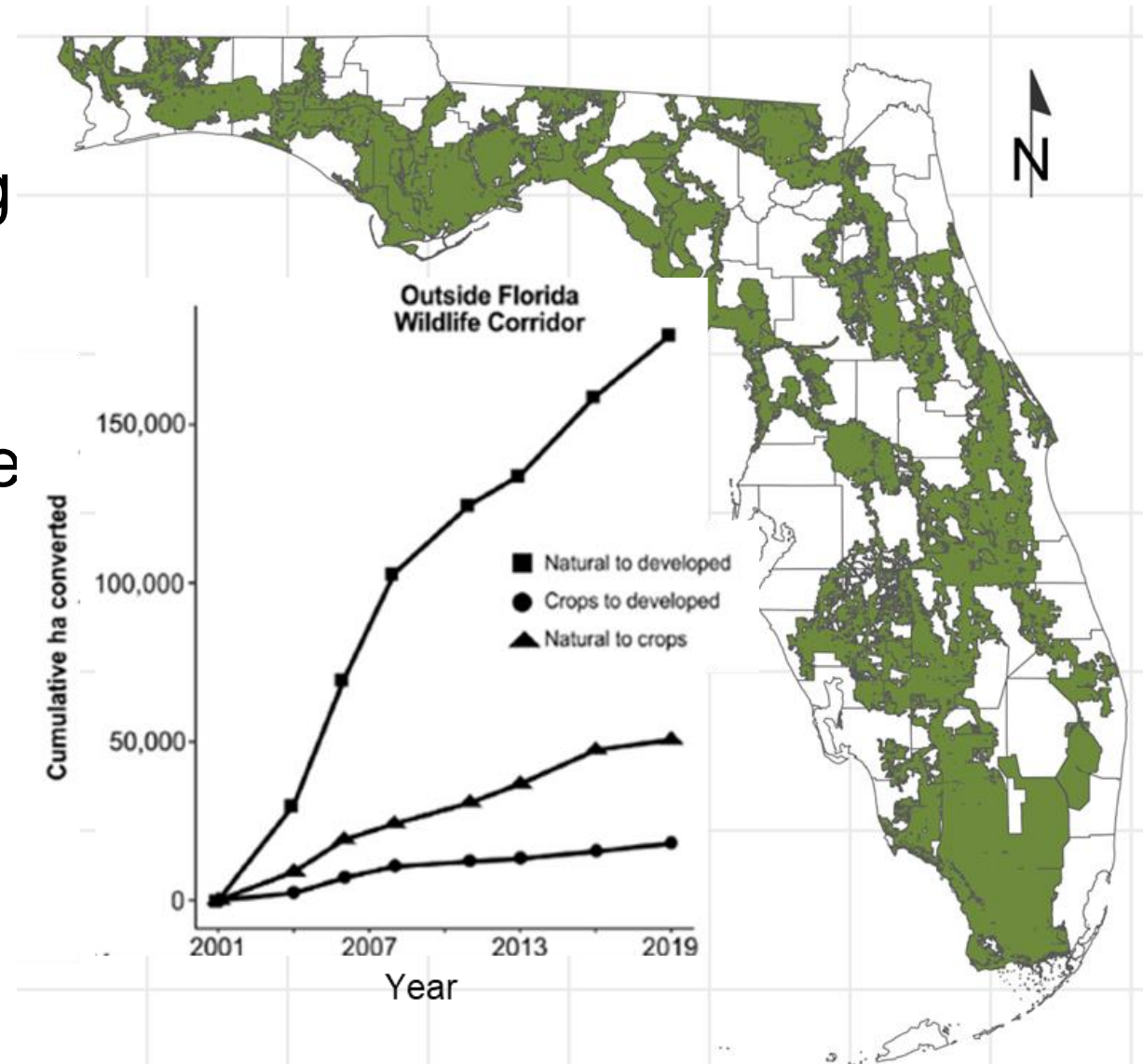
Wild turkey



- Pop declines at the species range
- Distribution and productivity may respond to landscape processes
- Corridors effects not evaluated on wild turkey
- Land-use-climate compounded effects in the southeast

Florida Wildlife Corridor (FLWC)

- FL rapidly losing natural veg cover (Daskin et al,2024)
- FLWC= public land & private easements
- FLWC Act, 2021



Objectives

- Investigate dynamics of occupancy and relative abundance
- Determine effects FLWC on occupancy, relative abundance and productivity

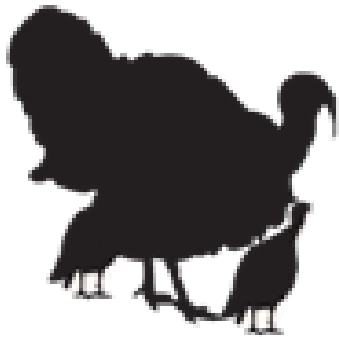


Methods

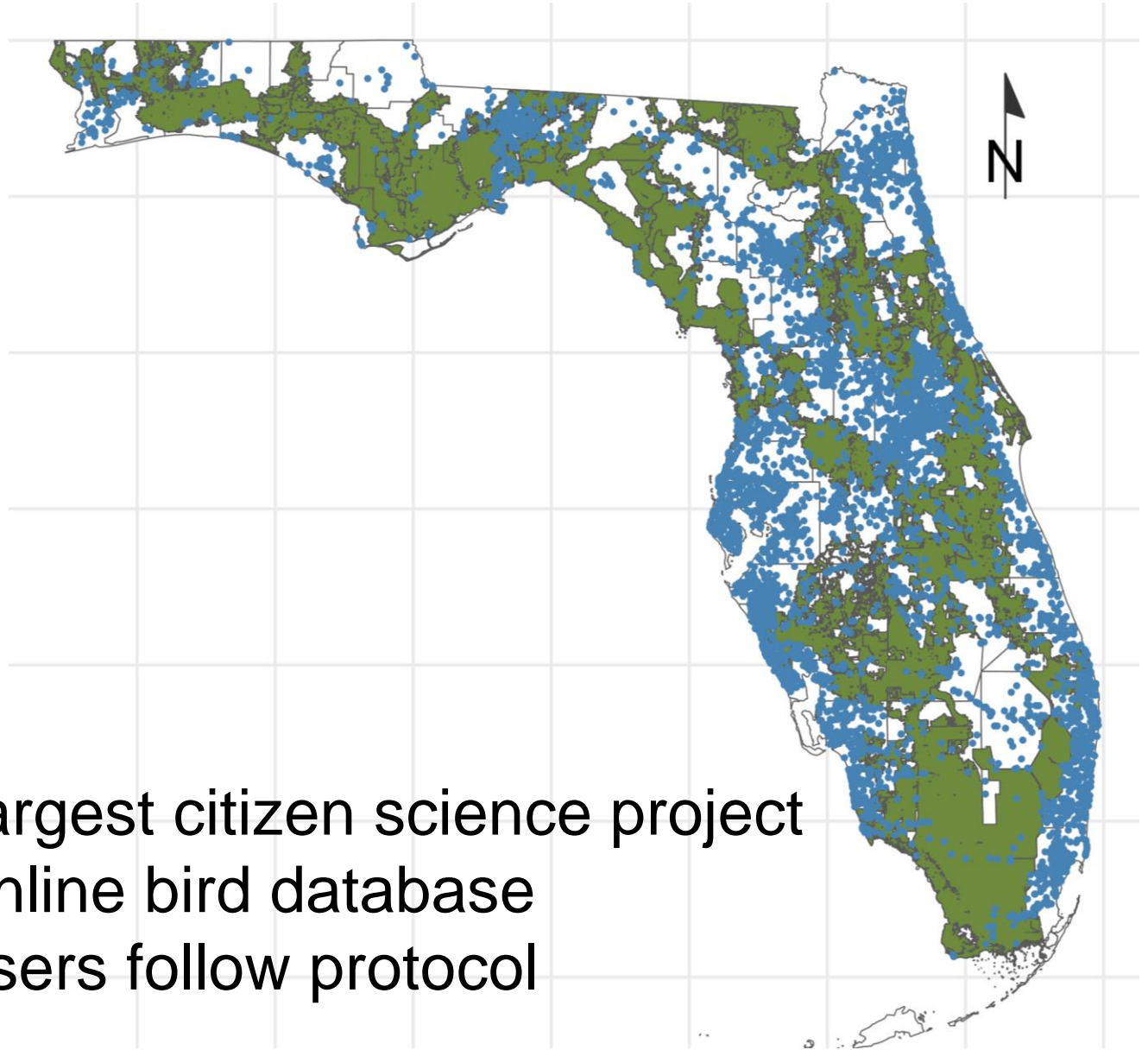
- Brooding data/June-August
- 2020-2023
- Demographic information

eBird

Presence/Non-detection
(Presence=3072,
Non-det=17826)

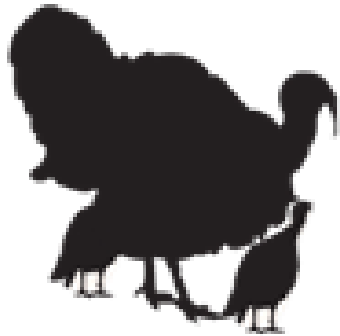


- Largest citizen science project
- Online bird database
- Users follow protocol

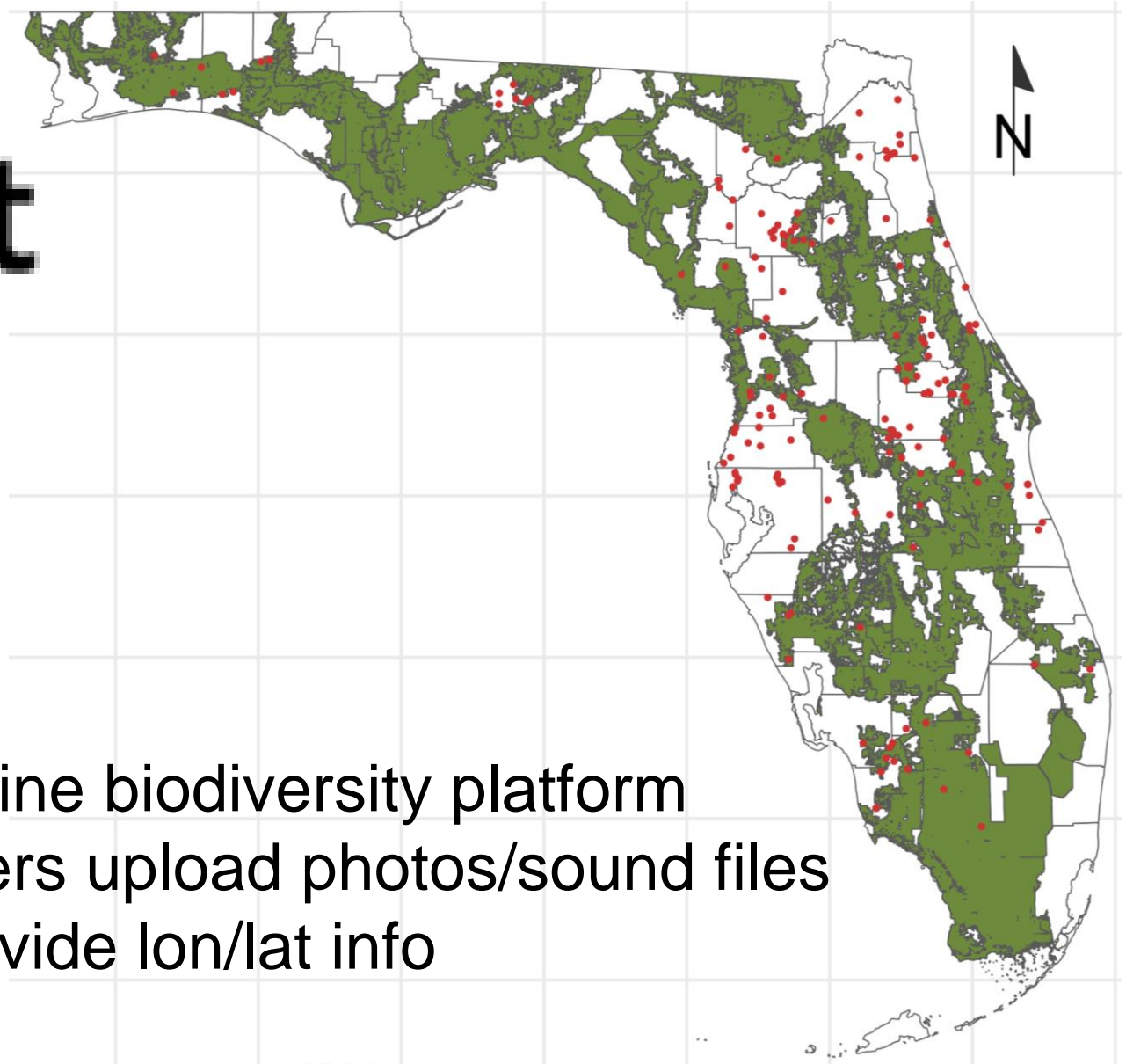


iNaturalist

Presence only
(N=182)

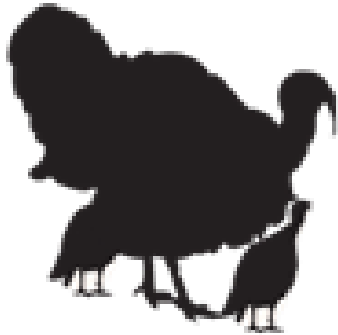


- Online biodiversity platform
- Users upload photos/sound files
- Provide lon/lat info

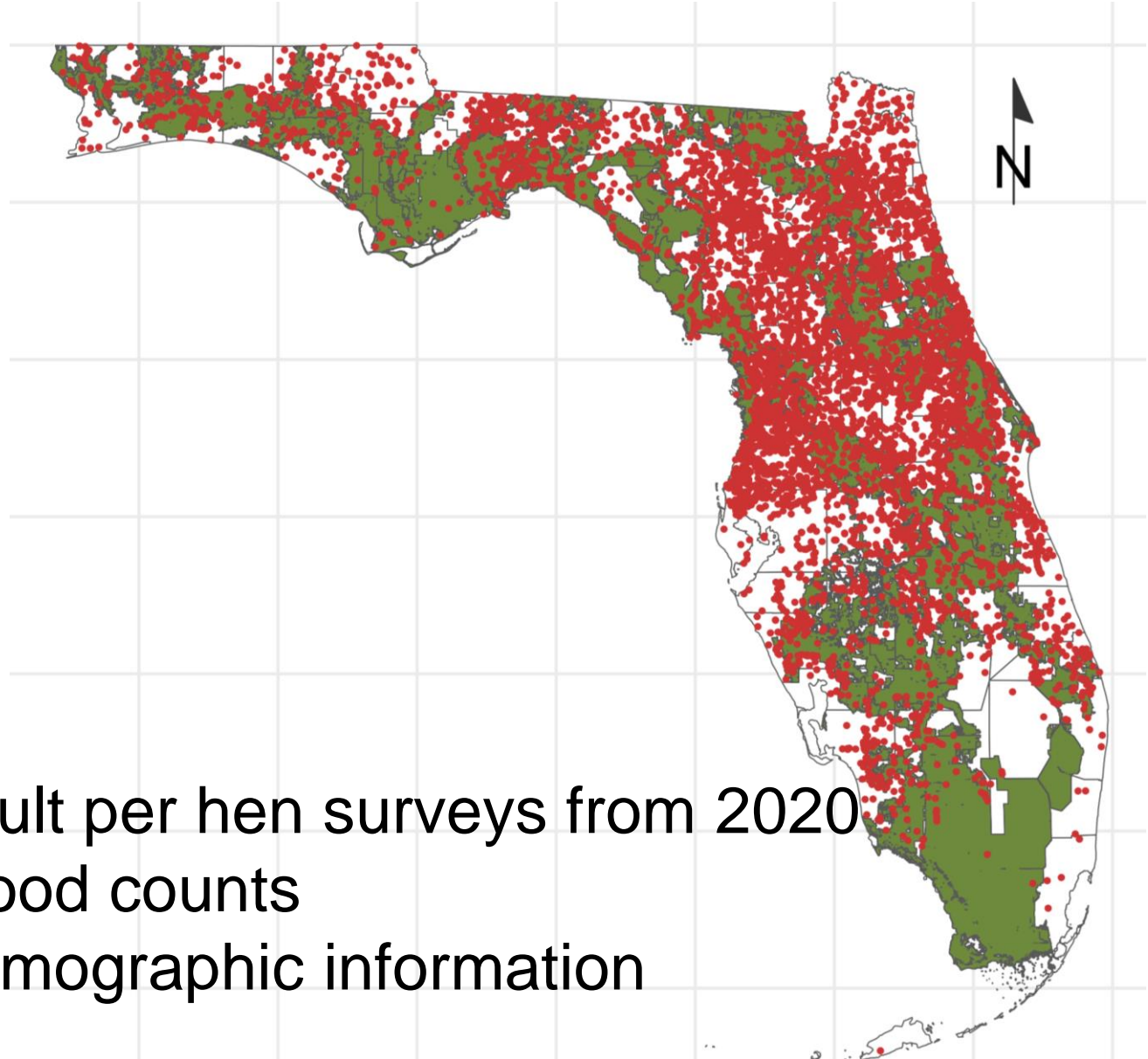




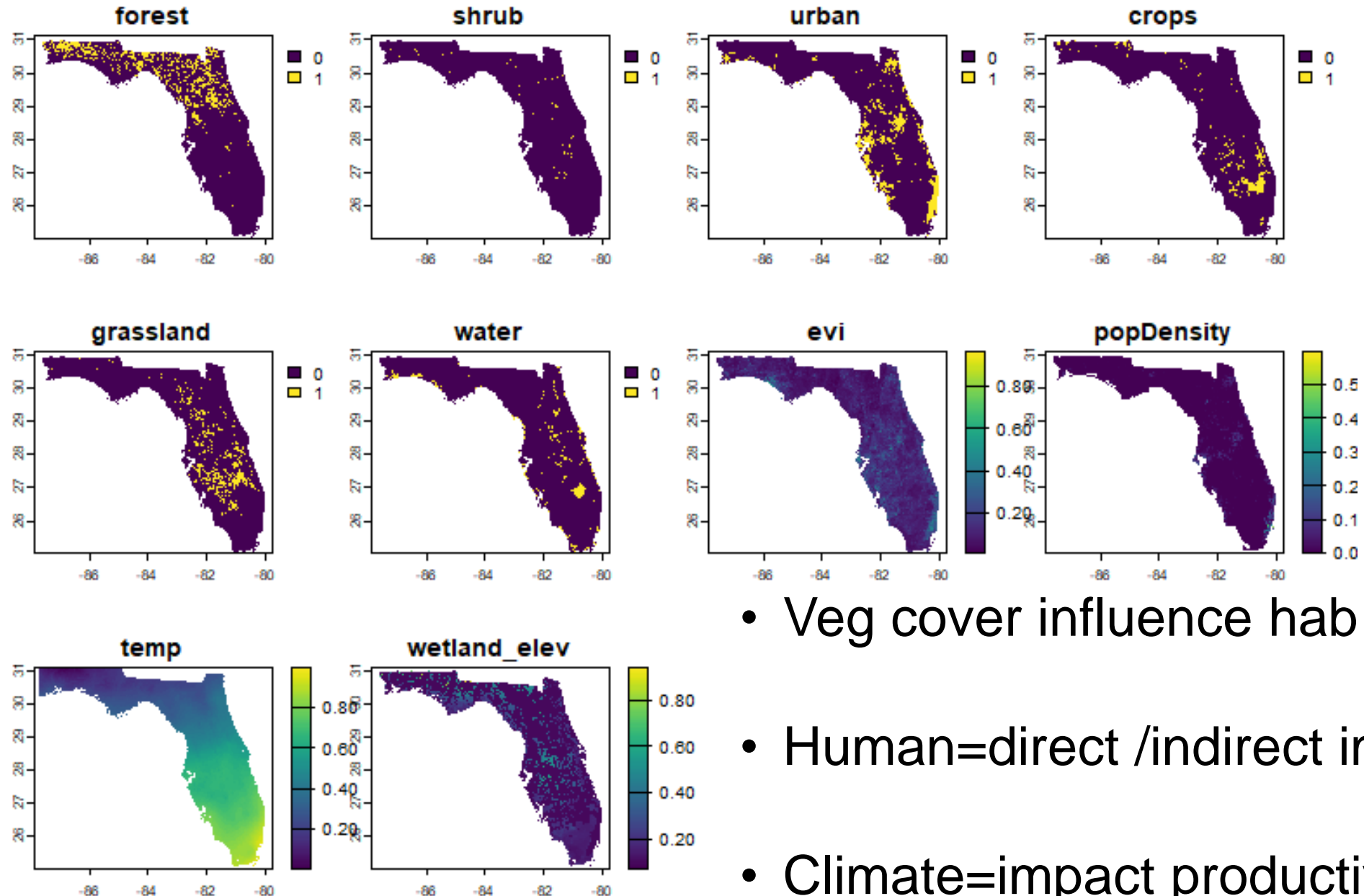
Counts
(N=5958)



- Poult per hen surveys from 2020
- Brood counts
- Demographic information

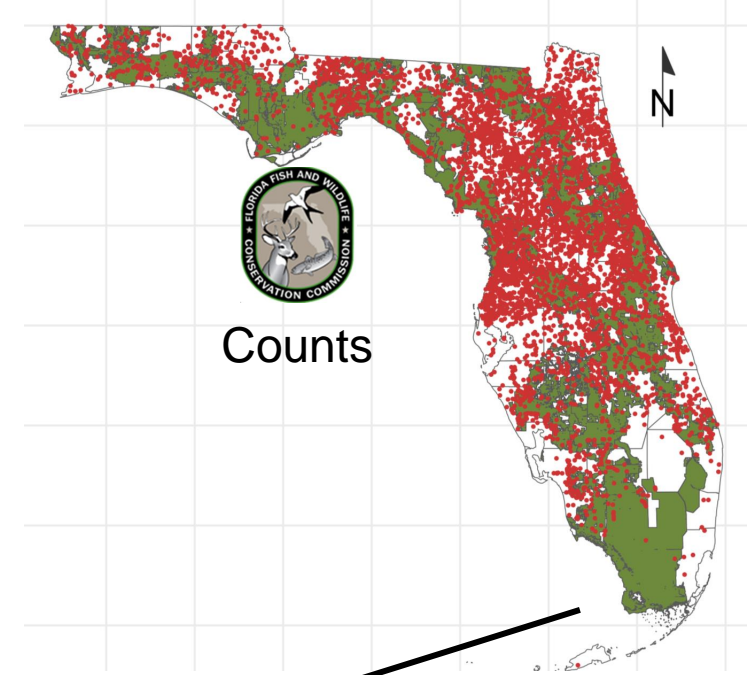
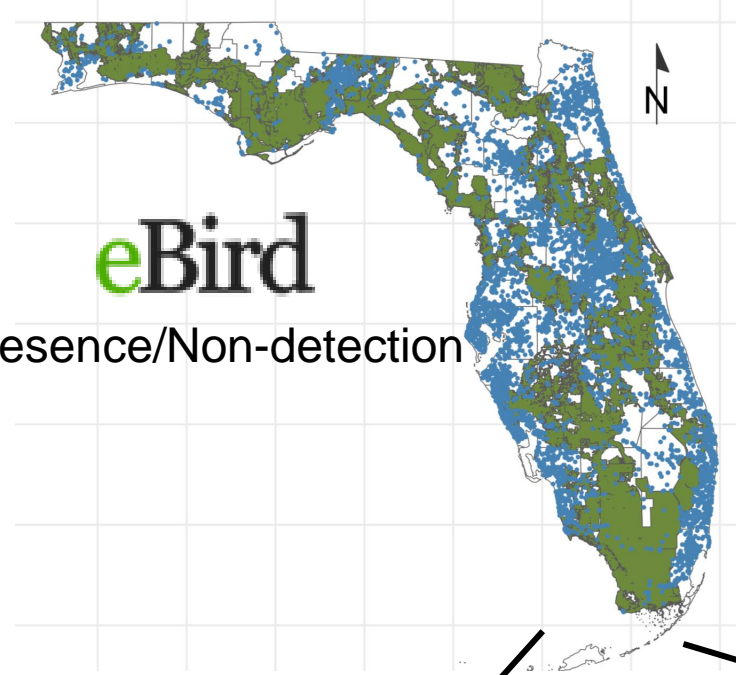


Environmental variables



- Veg cover influence hab selection
- Human=direct /indirect impacts
- Climate=impact productivity

Models



- Occupancy model



Occupancy

- Integrated model

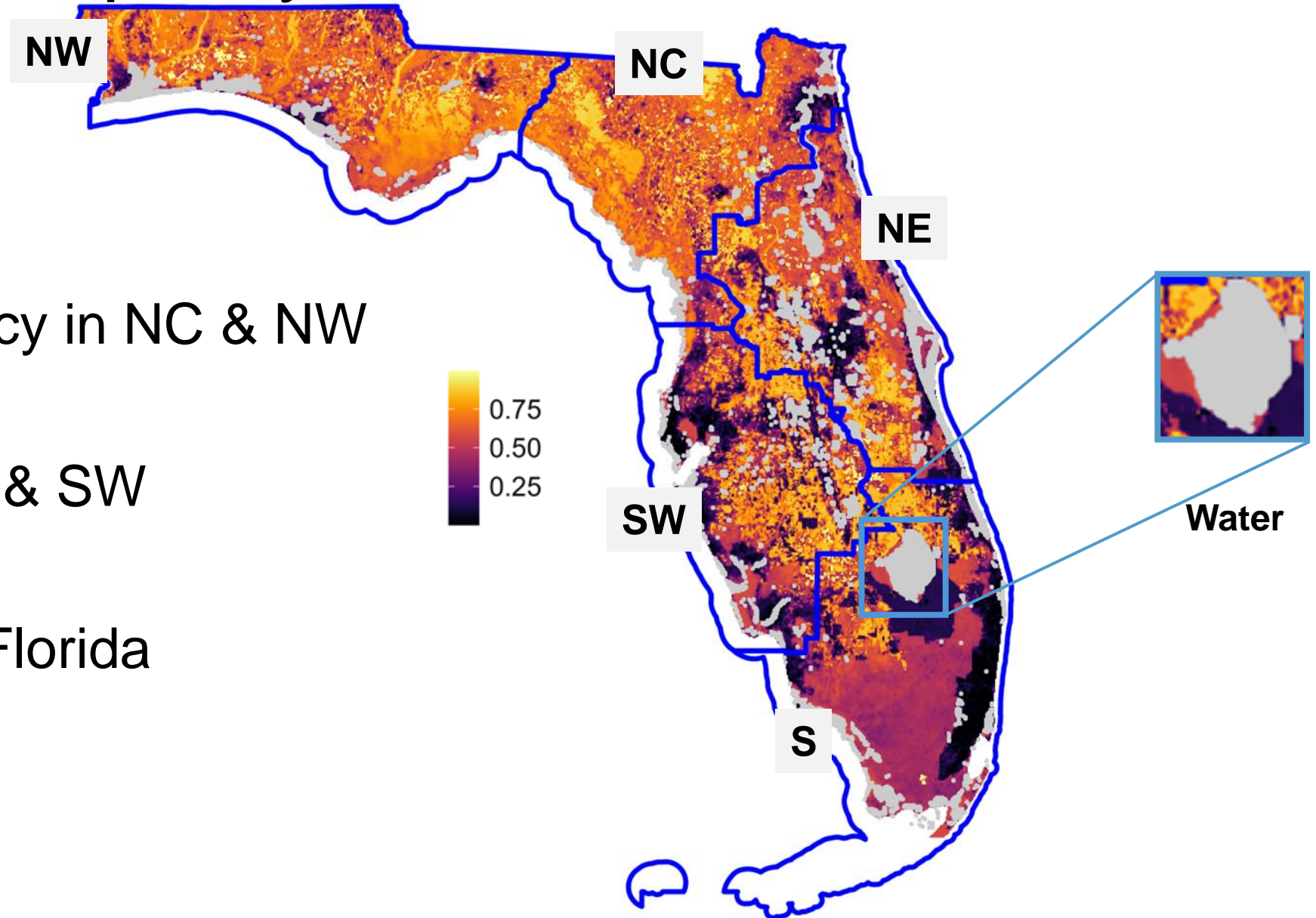


Relative abundance

- Regression models=variability within and outside FLWC

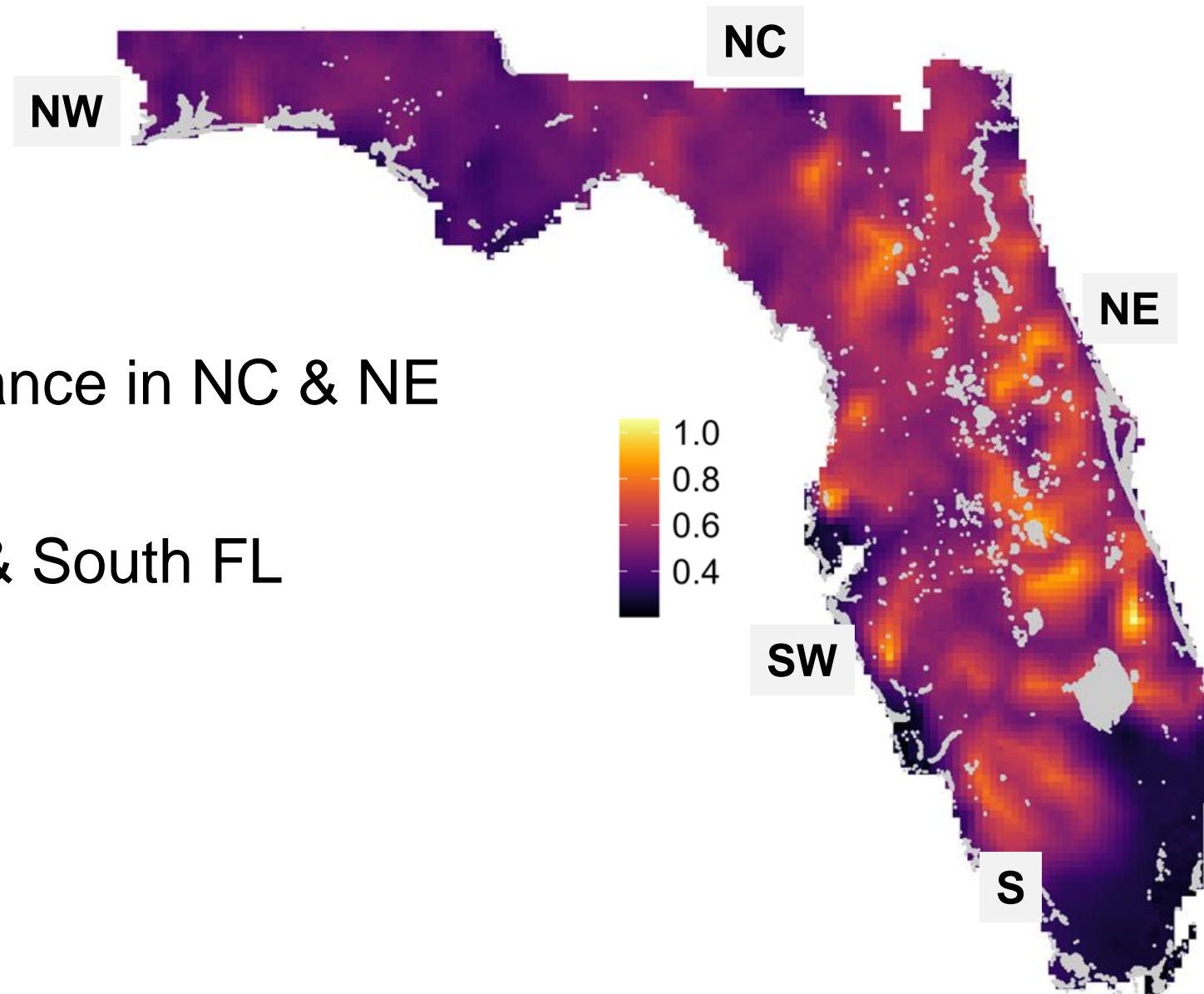
Results : Occupancy distribution

- High occupancy in NC & NW
- Various in NE & SW
- Low in south Florida



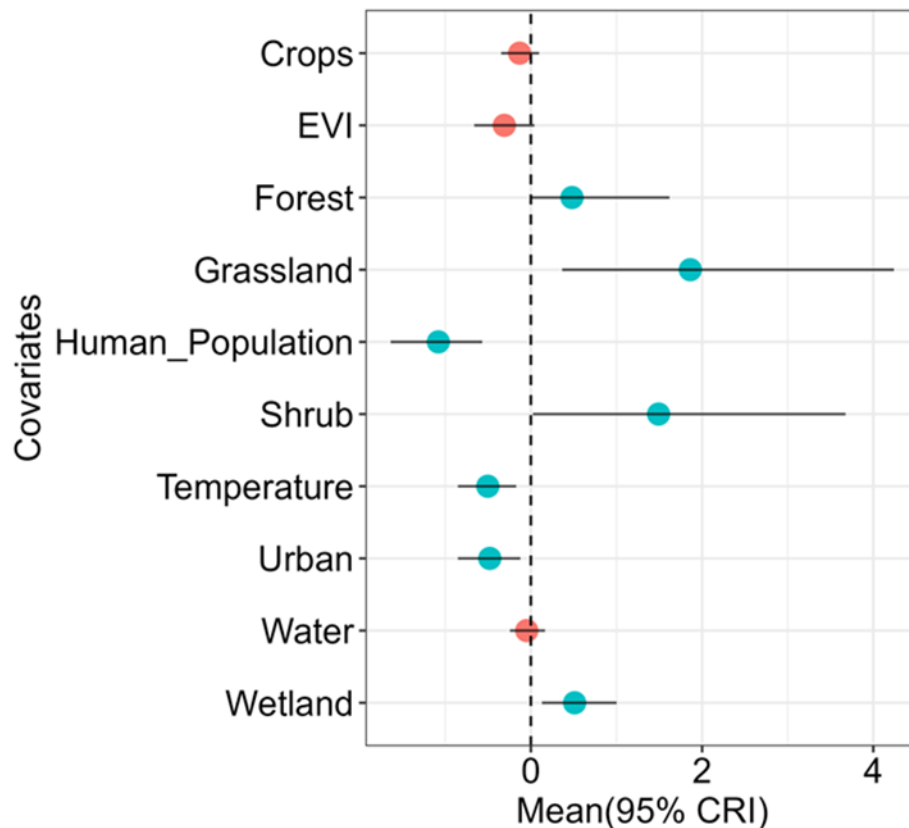
Relative abundance

- High abundance in NC & NE
- Low in NW & South FL

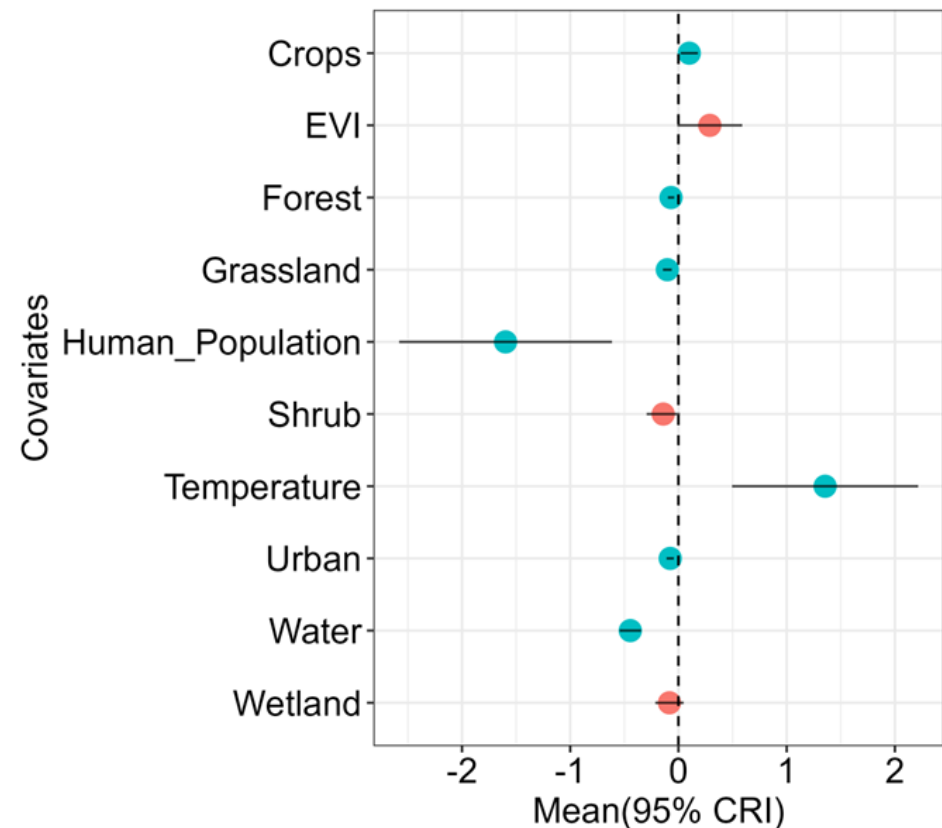


- Urbanization and human population reduce both occupancy and abundance
- Temperature reduce occupancy and increase abundance
- Vegetation cover increase occupancy

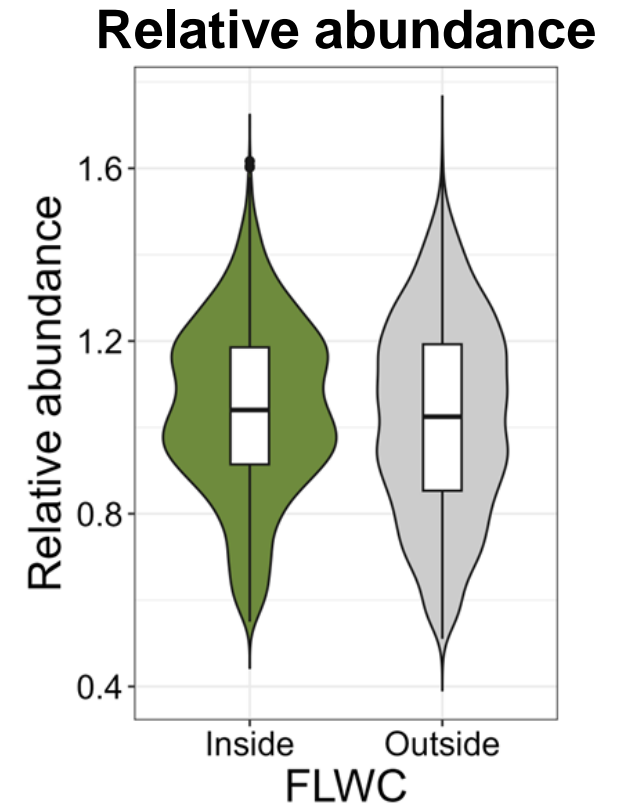
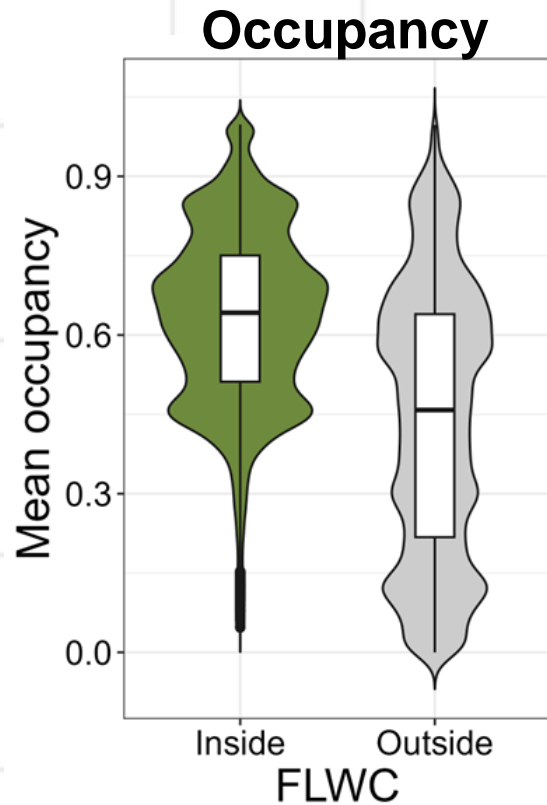
Occupancy effects



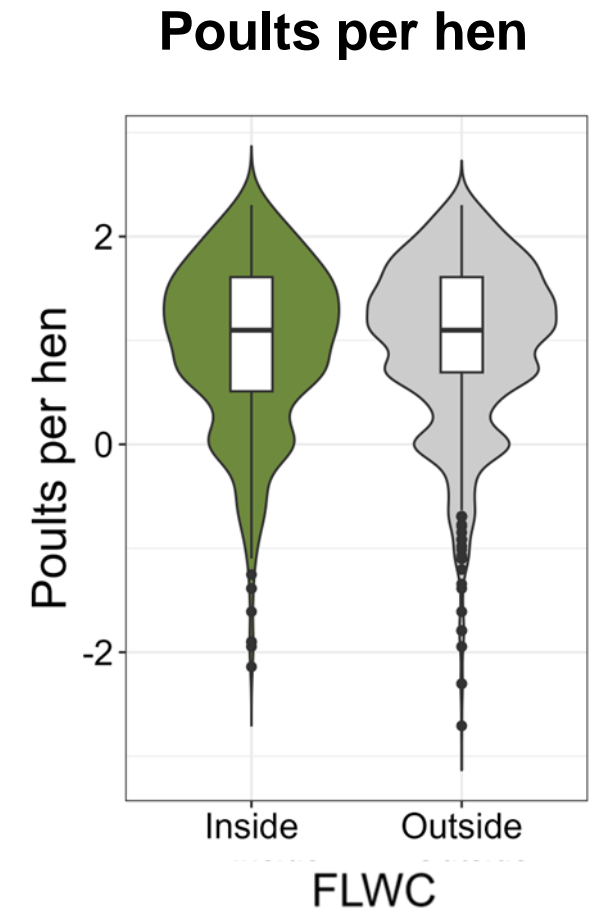
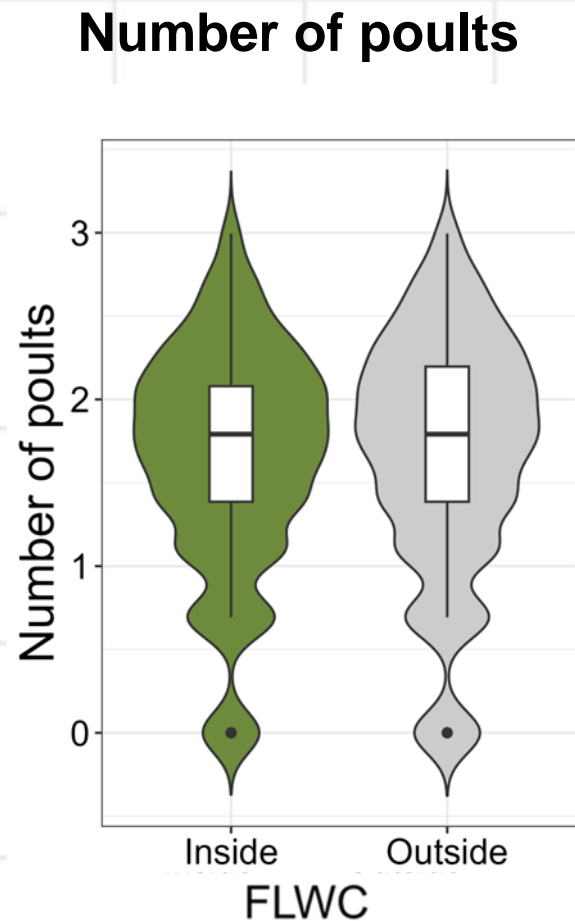
Relative abundance effects



- Occupancy = sig high inside FLWC
- Relative abundance = sig high inside FLWC



- #poults & poult per hen = similar inside/outside FLWC



Discussion

- FLWC may protect suitable turkey habitat
- Urbanization/hum pop impacts turkey conservation
- Successful conservation= maintenance of habitat inside the FLWC

Conclusion

- FLWC Act may protect critical habitat
- Critical for endemic Osceola in peninsular FL
- Turkey habitat available outside the FLWC
- Structured surveys to compliment citizen data

Acknowledgements

- Angeline Meeks
- Bobbi Carpenter
- Juliana Ofalt
- Emma Zietler

