

Do Overall Land Management Practices Positively Contribute to Fledgling Success in Bluebirds, Tree Swallows, Carolina Chickadees, and House Wrens? (2012-2022)

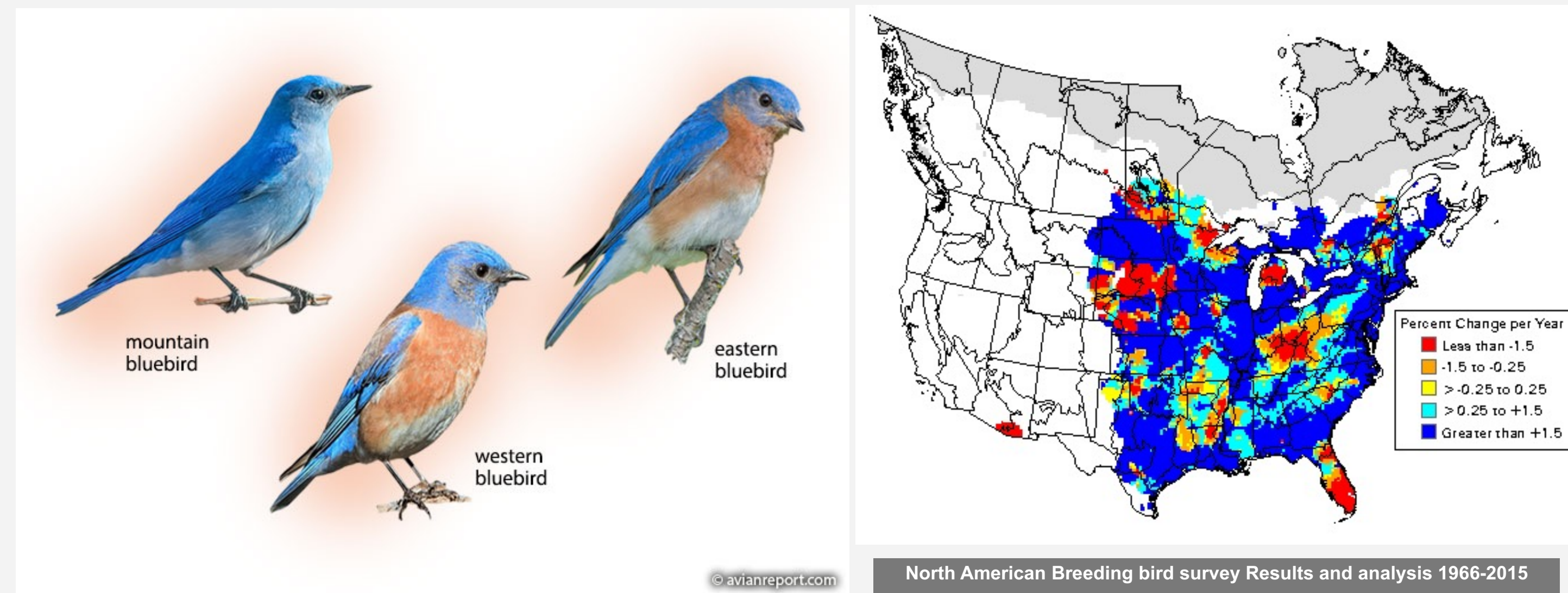
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Methods

Firstly, data collected by staff and volunteers from 2012-2022 was compiled and organized into data tables. This collected data occurred weekly with trained staff and volunteers observing birdbox inhabitants as well as their life cycle stage and health condition. Next, both maps and ArcGIS were used to determine which areas had undergone land management practices. Finally, analysis of data was completed comparing presence to absence of land management practices.

Background



- Second Cavity Nesting
- 20th Century
- Population Decrease in Bluebirds:
 1. Invasive species Presence
 2. Urbanization
 3. Pesticide use
 - Habitat
 - Diet
- Fledging
 - 16-21 Days
 - Leaving the nest: Feathers
 - Beginning of Independence

Land Management Practices



- Implementation/Care of Birdboxes
 - Predator Deterrence
- Invasive Species Removal
- Prairie installation
- Controlled Burns, Mowing

Goals

Plant Success

Pollinator Increase

Greater Food Presence

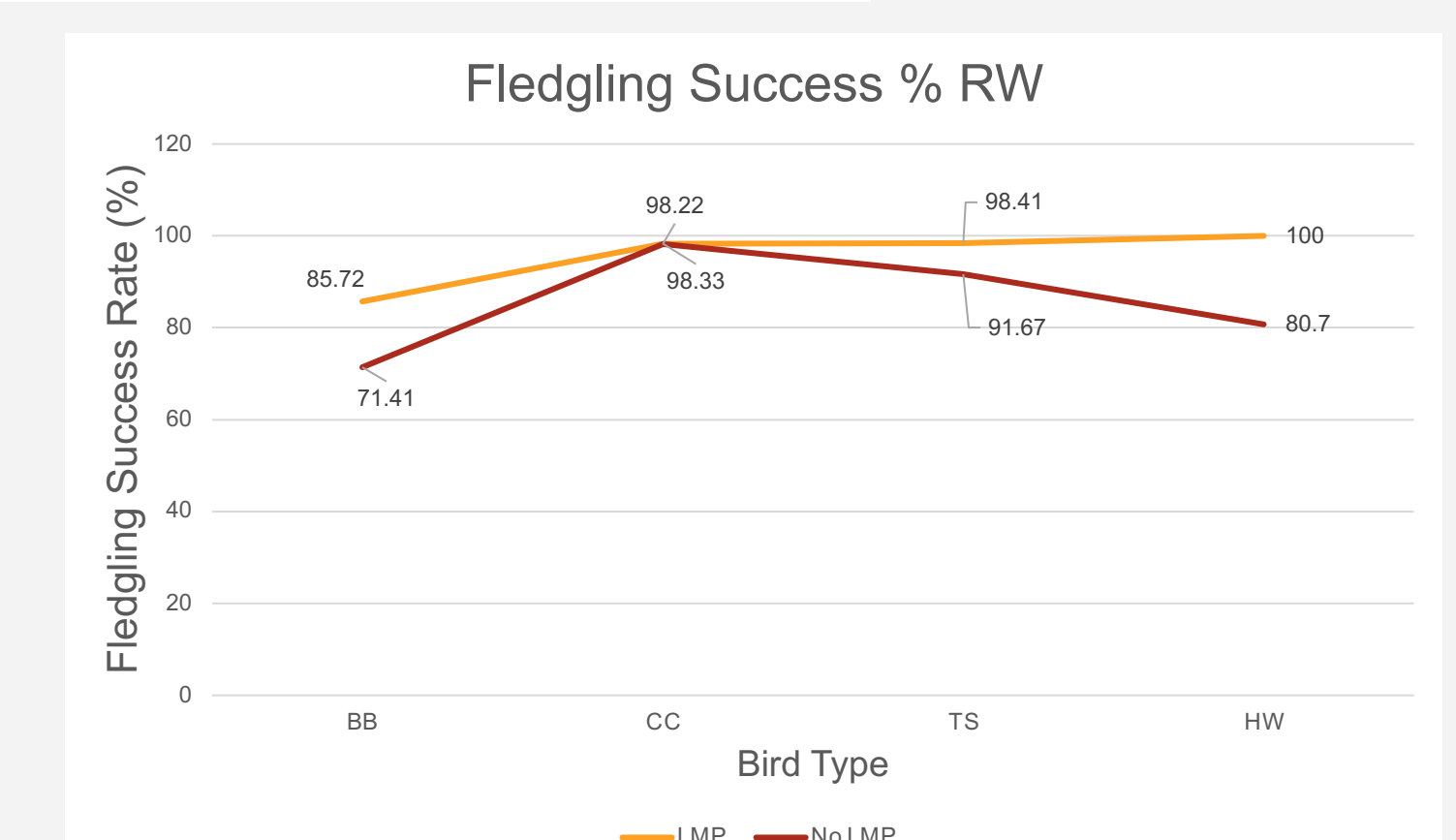
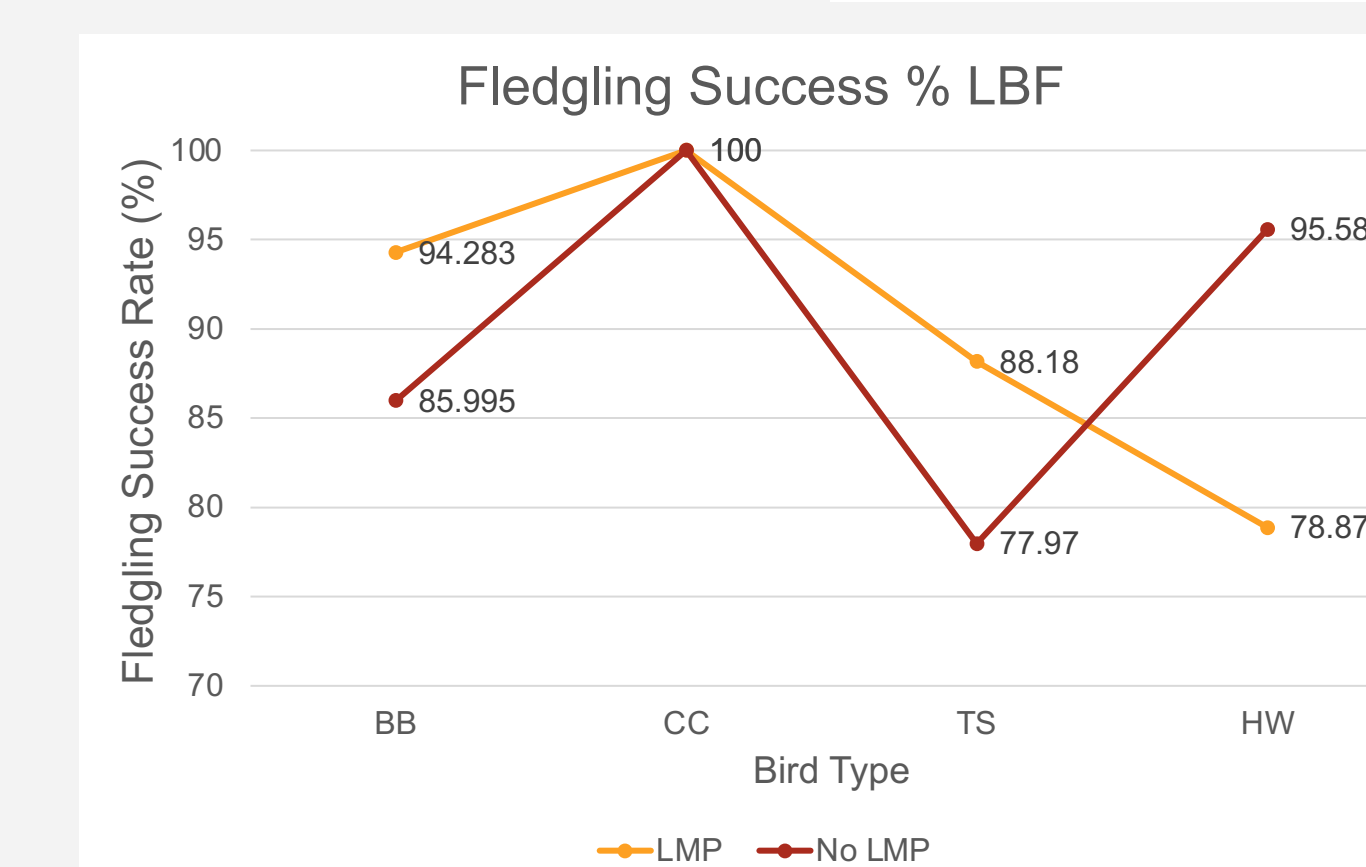
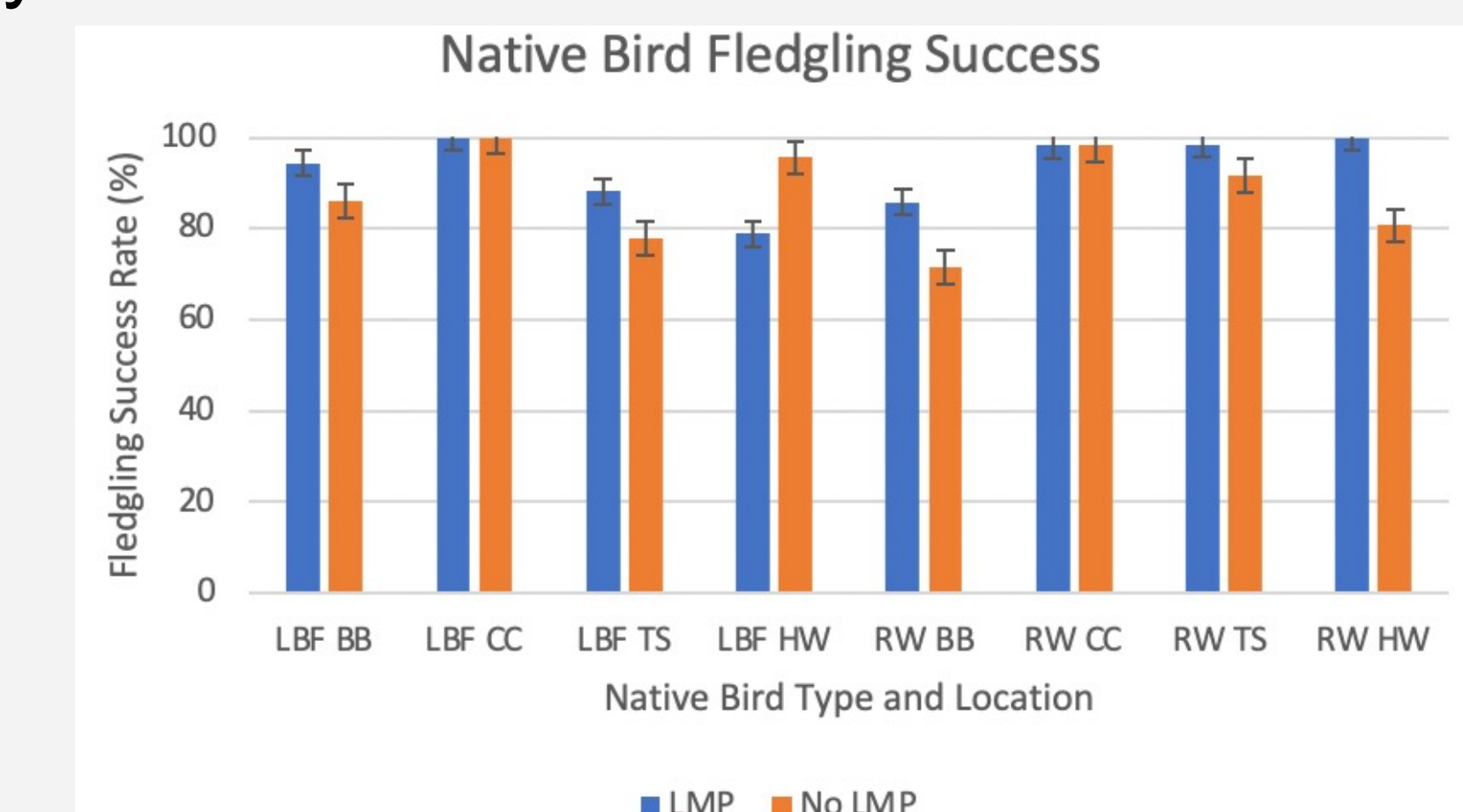
Results



Arc GIS Map: Rowe Woods

Arc GIS Map: Long Branch Farm

- Training
- Surveys: Nest type, condition of nest/box, inhabitants in/near nest, etc.
- Weekly



Conclusion

Since none of the data yielded statistically significant results, land management practices contribution alone to fledgling success cannot be determined. However, the presence of land management practices is clearly one factor in determining condition of habitat as well as food and health. Further experimentation is warranted, especially on the prevalence and diversity of birds at the Cincinnati Nature Center. As of current data collected, the null hypothesis is accepted that land management practices do not contribute significantly on fledgling success in bluebirds, tree swallows, Carolina chickadees, and house wrens with land management practices put into effect (2012-2022).

References

- Begazo, Alfredo. "Which Bluebird Species Are You Seeing in Your State?" *Avian Report*, 3 June 2023, avianreport.com/bluebird-species-in-north-america/.
- Minnesota Breeding Bird Atlas, mnbirdatlas.org/species/eastern-bluebird/.