Introduction

1. Study along gradients has been fruitful for ecological research.
   1. ‘simpler gradients’ such as impervious cover, housing density
   2. Socio-economic potentially reveal other issues.
2. However, cities are not identical to one another, and therefore revealing trends along an urbanization gradient of one city may not translate to another.
   1. Some of the potential reasons
   2. These differences BETWEEN cities may therefore cause rise to observed differences in how common a species is or where it is located WITHIN a city
   3. The only way to explore this idea is to study gradients OF cities instead of a gradients within a single city.
3. UWIN is a way to answer questions at this scale.
   1. Large-scale and systematic survey, wherein partners follow a common study design (Magle et al. 2019).
   2. The goal of this study was to determine if (1) how densely populated a city is and (2) how much available green space within a city influences how common different species are or where they are located within a city.
   3. We predict that in densely populated cities, wildlife species would become less common and that they would be located within less densely populated portions of a city. Likewise, we predict that wildlife in cities with more greenspace would become more common (observed in more habitat patches) and that this could potentially allow species to be located within more densely populated portions of a city (WHY DO WE REALLY THINK THAT).

METHODS

Study sites

1. (Look at Magle paper and briefly cover this). Maybe talk to Travis about putting together a map that shows the sites but with a housing density layer instead of NLCD data?

Data collection

1. Cameras placed 4 times a year in January, April, July, and October.
2. Put on a tree roughly 1.5 meters from ground, angled in a downward facing direction towards a scented lure nailed to another tree roughly 0.1 meters from the ground.
3. Some cities included data from additional years (maybe a table?)
4. 8 species included in the analysis? DO WE REMOVE ANY?

Analysis

1. Single-season occupancy model
2. To explore differences within and between cities, we used group-mean centering of our single within-city variable.
   1. Math it
   2. Explain why it is useful
3. Write out the model with some math
4. Bayesian framework, lots of iterations, checked for convergence

Results

Discussion

Come up with some really cool unifying remarks about what an analysis of this type teaches us about urban ecology, and steps moving forward.