

Foraging Strategies of *Cardinalis
cardinalis* Populations in
Urbanized vs Rural Parks

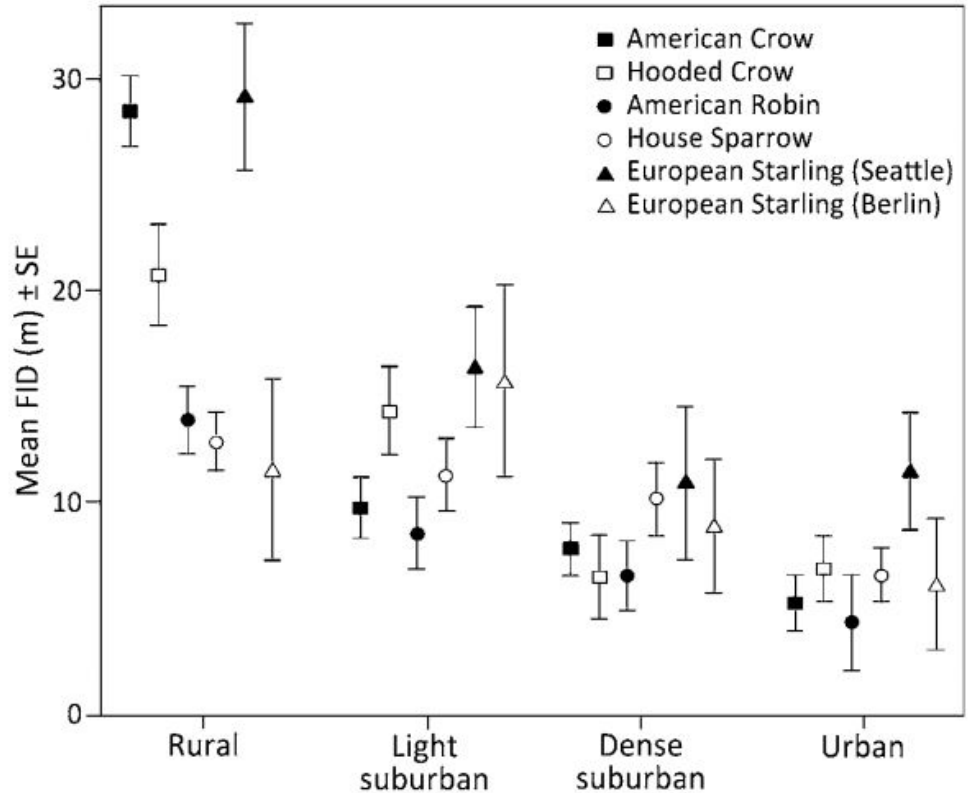
Brackenridge Park

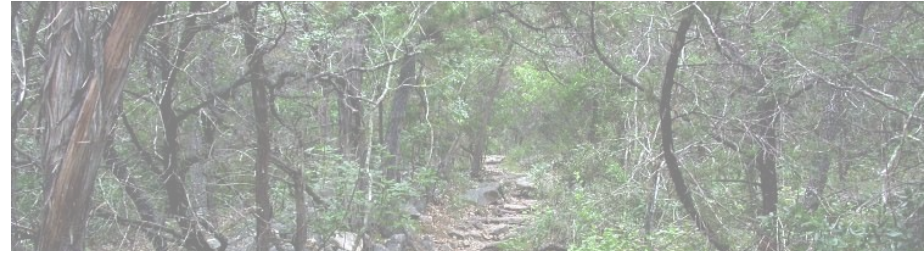


Friedrich Park



Urbanization Influences Bird Behavior





Q: Does foraging behavior differ between populations of northern cardinals in urbanized natural parks vs rural natural parks?

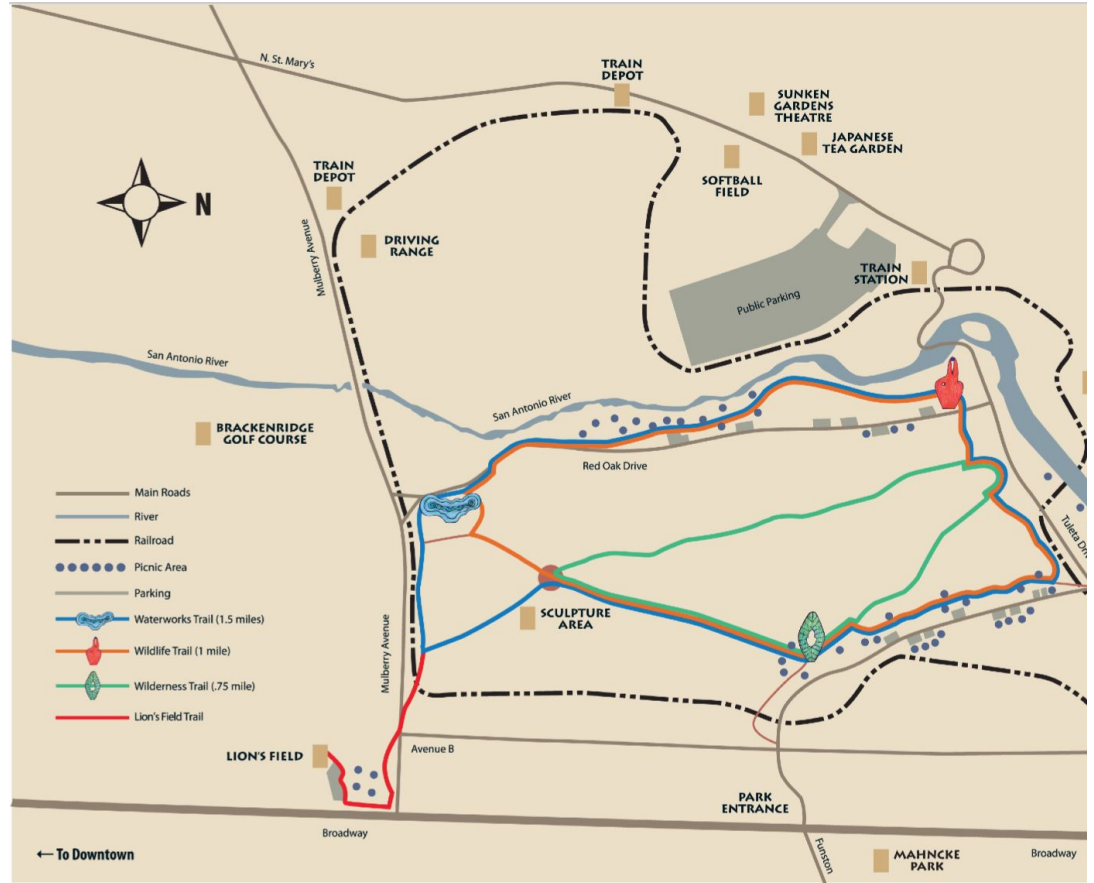


H: Cardinals in urbanized parks will modify their foraging behavior due to habituation to humans.



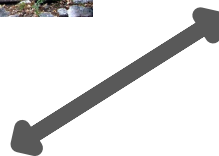
Prediction 1

Urban cardinals will forage closer to the trails.



Prediction 2

Cardinals in urbanized parks will spend more time foraging on the ground than in the trees than cardinals at Friedrichs.



Methods

1. Go to Brackenridge Park each evening prior to sunset for each survey day.
2. Do a preliminary survey of both parks to determine sites of cardinal activity.
 - a. Mark off a 10m x 10m square that covers the site where cardinals are found.
 - b. Assign each location a number (1,2,3,...,n).
 - c. Survey all sites on each visit.
3. If found, observe each cardinal at the site for a 1-minute interval.
 - a. Record amount of time spent on the ground during the minute.
4. Record each **foraging** bird's distance from the trail.
5. Record each bird's GPS location using a Trimble.

Timeline

March 23:

Scope out field sites (areas with cardinal populations)

March 24:

Scope out and field sites

April 6:

Collect data at Brackenridge

April 7:

Collect data at Friedrich

April 13:

Collect data at Brackenridge

April 14:

Collect data at Friedrich



References

Beissinger S. R. & D. R. Osborne D. R. 1982. Effects of Urbanization on Avian Community Organization. *The Condor* 34: 75-83.

Clucas, B. and J. M. Marzluff. 2012. Attitudes and Actions Towards Birds in Urban Areas: Human Cultural Differences Influence Bird Behavior. *The Auk* 121 (1): 8-16.

Methods

1. Go to Brackenridge Park each evening prior to sunset for each survey day.
2. Divide the total trails in each park into sections of equal length.
 - a. Mark off a 10m x 10m square that covers the site where cardinals are found.
 - b. Assign each location a number (1,2,3,...,n).
 - c. Use a random number generator to determine the plots that will be surveyed each day. Survey $\frac{1}{3}$ of the total number of sites.
3. If found, observe each cardinal at the site for a 1-minute interval.
 - a. Record amount of time spent on the ground during the minute.
4. Record each **foraging** bird's distance from the trail.
5. Record each bird's GPS location using a Trimble.

Rubric

- ❑ Clarity of rationale
- ❑ Feasibility of aims
- ❑ Logical specific aims
- ❑ Methods and Timeline
- ❑ Expected results and pitfalls
- ❑ Question, hypothesis and predictions
- ❑ Research on what makes the question and hypothesis biologically relevant
- ❑ Research on what is known on this topic
- ❑ Include citations and references