

Longwood University

Digital Commons @ Longwood University

Fall Showcase for Research and Creative Inquiry

Office of Student Research

Fall 11-8-2021

Squirrels on Longwood's Campus

Kelsey English

Miguel Diaz

Lloyd Dominguez

Rebecca Mills

Follow this and additional works at: https://digitalcommons.longwood.edu/rci_fall



Part of the [Biology Commons](#)

Recommended Citation

English, Kelsey; Diaz, Miguel; Dominguez, Lloyd; and Mills, Rebecca, "Squirrels on Longwood's Campus" (2021). *Fall Showcase for Research and Creative Inquiry*. 121.

https://digitalcommons.longwood.edu/rci_fall/121

This Poster is brought to you for free and open access by the Office of Student Research at Digital Commons @ Longwood University. It has been accepted for inclusion in Fall Showcase for Research and Creative Inquiry by an authorized administrator of Digital Commons @ Longwood University. For more information, please contact hamiltonma@longwood.edu, alwinehd@longwood.edu.

Squirrels on Longwood Campus

Miguel Diaz, Lloyd Dominguez, Kelsey English, and Rebecca Mills

Department of Biology, Longwood University
BIOL 341: Ecology



Introduction

- Research shows that there are significant differences in behavior between rural animals and urban animals.
- Urban squirrels are shown to have higher aggression compared to rural squirrels (Merrick et al, 2016; Parker & Nilon, 2012).
- Urban squirrels are also shown to have less wariness to humans as they become more habituated to human activity (Merrick et al, 2016; Parker & Nilon, 2012; Uchida et al, 2016)

Research Question

What is the distribution, abundance, and behavior of squirrels on campus at Longwood University?



Methods

- Went out to our study sites to observe the distribution of squirrels (stubbs lawn, cox/wheeler, chichester, and fitness center).
- Collected data on the environment and on the squirrels in each site (calculated canopy cover, abundance of squirrels, and behavior).
- Surveyed Longwood students on distribution, frequency, and activity/behavior of squirrels throughout campus.
- Calculated our personal observations with the observations from other Longwood student.

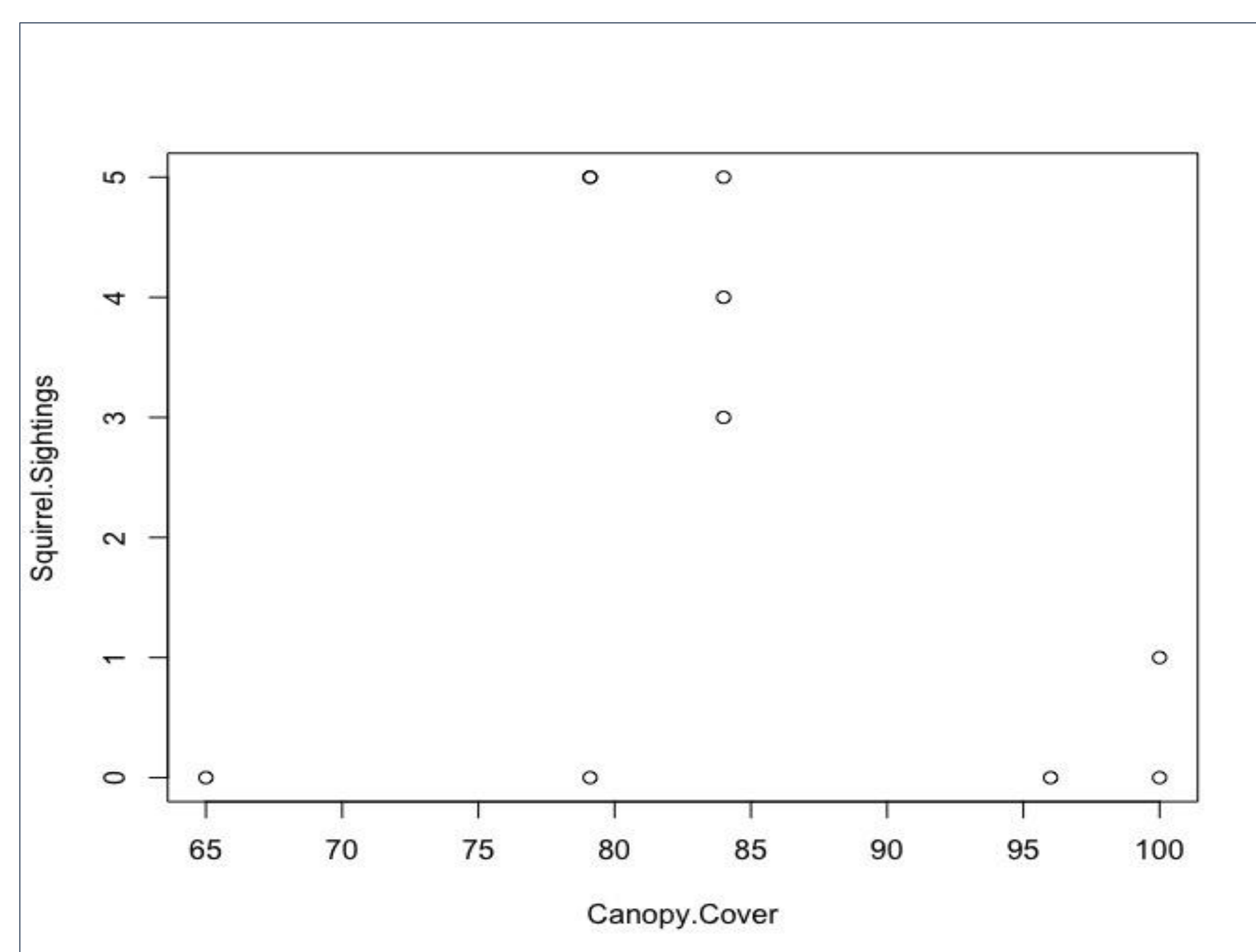


Figure 1. Scatter plot of canopy cover and number of squirrel sightings



Results

Observational Results

- Mean squirrel sighting: 2.3
- No correlation between squirrel abundance and canopy cover (Figure 1).
- Stubbs Lawn had the highest frequency of all sites, with 56% of all sightings

Survey Results

- Distribution: highest frequency of squirrels reported in Cox & Wheeler (Figure 2).
- Abundance: average of 4.6 squirrel sightings per day on LU campus
- Activity: highly active, 82% of squirrels were reported to be moving around (Figure 3).

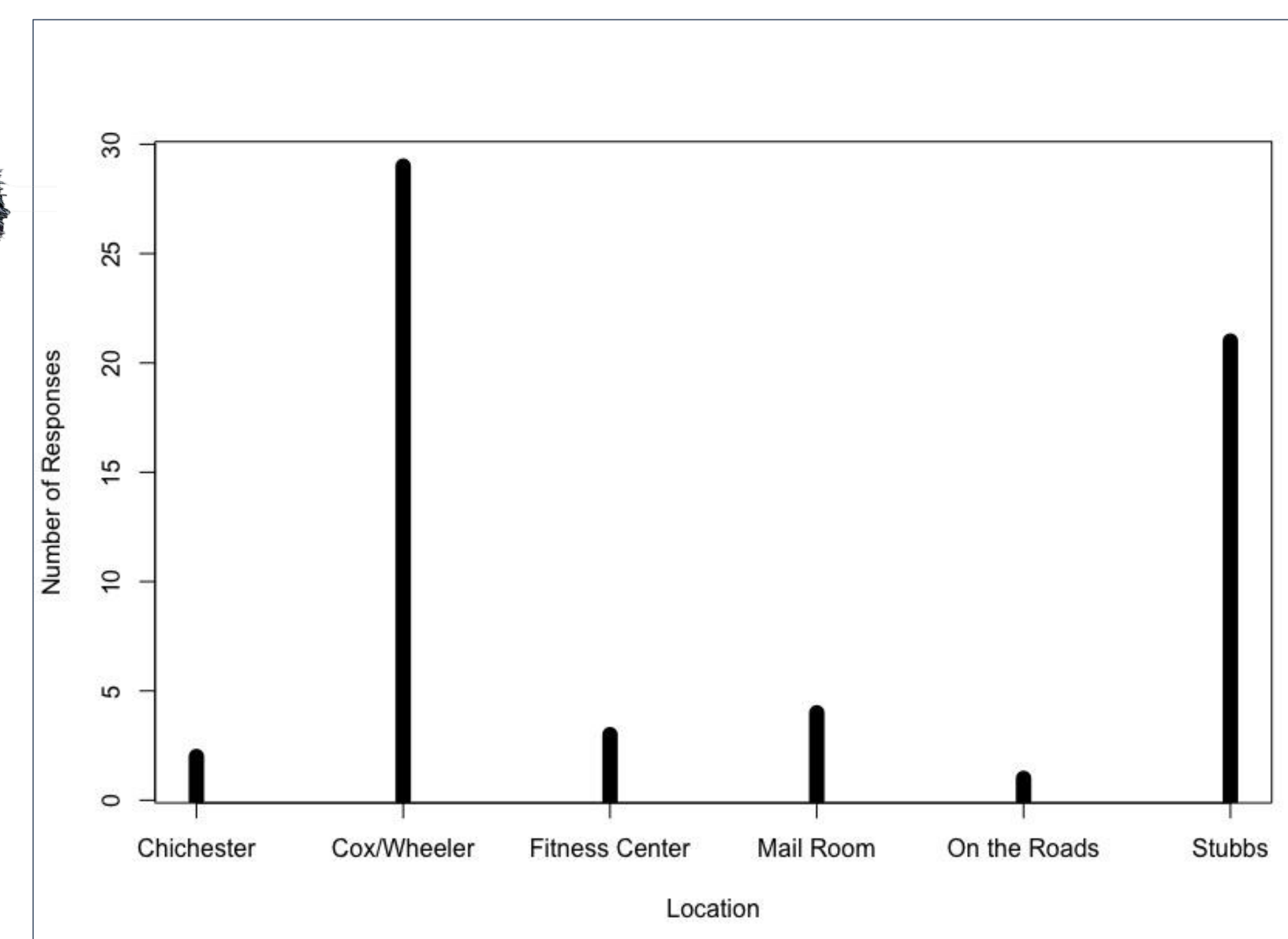


Figure 2. The number of squirrel sightings in each location at Longwood University by Longwood students.

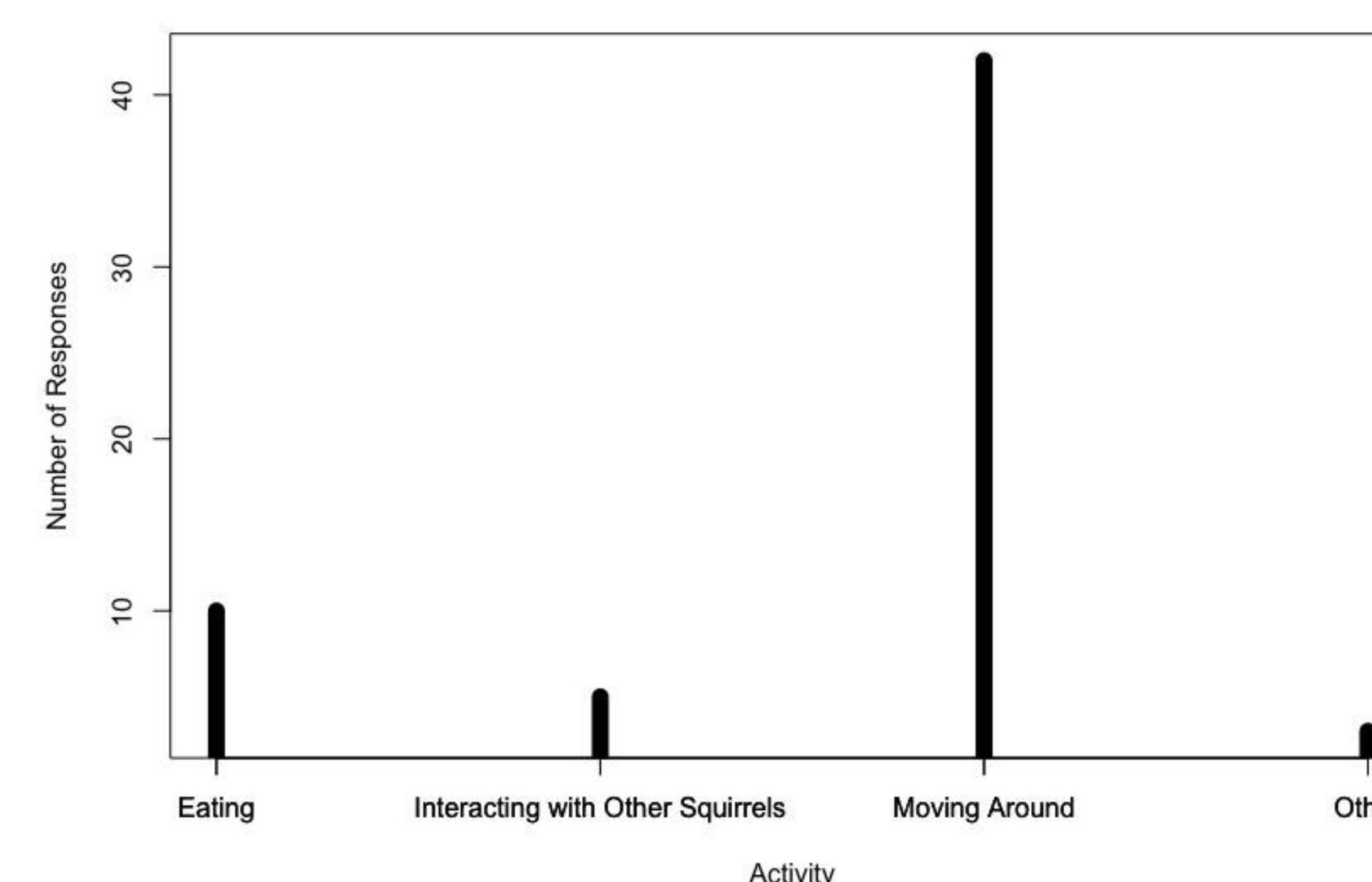


Figure 3. Squirrel behaviors and counts reported by Longwood students via survey.



Conclusions

- Squirrels are highly active on Longwood's campus and are able to adapt to various locations, regardless of canopy coverage.
- Squirrels on campus were most observed in locations with high canopy cover (Cox & Wheeler) compared to locations with low canopy cover (Brock Commons)

Limitations:

- Squirrel counts and behaviors were only observed in the afternoon
- Weather affected our ability to spot squirrels

References

- Merrick, M. J., Evans, K. L., & Bertolino, S. A. N. D. R. O. (2016). Urban grey squirrel ecology, associated impacts and management challenges. *The Grey Squirrel: Ecology Management of an Invasive Species in Europe*, 57-77.
- Parker, T. S., & Nilon, C. H. (2012). Urban landscape characteristics correlated with the synurbization of wildlife. *Landscape and Urban Planning*, 106(4), 316-325.
- Uchida, K., Suzuki, K., Shimamoto, T., Yanagawa, H., & Koizumi, I. (2016). Seasonal variation of flight initiation distance in Eurasian red squirrels in urban versus rural habitat. *Journal of Zoology*, 298(3), 225-231.

Acknowledgments

We would like to thank Dr. Fortino, the Department of Biological and Environmental Sciences, and all students who participated in our survey.