

Analyzing Fatal Bird-Window Collisions Occurring on USU's C&SS Building, Brigham City, Utah

Jacob Larkin, Hunter Martin, Taylor Kenyon, Brooklyn Kotter, Cristian Soto, Karissa Sears, and Dr. Jessica Habashi
Department of Biology – College of Science – Utah State University

Introduction

Window collisions are the second highest anthropogenic cause of bird death in the world, in the U.S alone they account for between 365,000,000 and 988,000,000 bird deaths each year.³ As such, they are a major cause for nationwide conservation concerns. For our project, we are investigating fatal bird-window collisions on the Classroom and Student Services Building (C&SS building) at the USU campus in Brigham City, UT 84302. (Shown below)



We have identified the C&SS building as a potential location for a high frequency of bird-window collisions because of its several large windows.

- Multiple studies have indicated that window area was positively correlated with the amount of window strikes.^{1,2}

Objective:

- Investigate the number of fatal bird window collisions that occur on the C&SS building, then determine if it is larger than the expected number of fatal window collisions per month for a low-rise non-residential building. The expected number is between 0 – 6 collisions per month.³

Methods

- During the months of August through November of 2020, surveys of the C&SS building were conducted 5 days a week by ourselves and faculty at USU Brigham City. We were looking for collision evidence such as:
 - Body imprints on a window.
 - Feathers stuck to a window.
 - Feathers located on the ground near a window.
 - The carcass of a bird found near a window
- Data obtained from these surveys was then collated with data obtained from surveys in the years 2017-2019.

Results

Year:	Month:	# of Fatal Collisions:	Yearly Total:
2017	August	2	12
	September	2	
	October	4	
	November	4	
2018	April	1	15
	May	0	
	June	0	
	July	1	
	August	2	
	September	4	
	October	5	
	November	2	
2019	August	0	5
	September	2	
	October	1	
	November	2	
2020	August	0	3
	September	0	
	October	2	
	November	1	

Conclusions

- In the years of 2017-2020, the amount of fatal bird-window collisions on the C&SS building did not fall outside the expected number of collisions per month for a low-rise non-residential building.
- Despite not falling outside norms, efforts should still be made to reduce the needless fatalities. We suggest that campus administrators investigate cost-effective mitigation efforts such as parachute cords placed on windows or window decals.

Future Directions

- 68.97% of recorded collisions occurred on the east side of the building. Future studies could investigate the factors that caused this majority of collisions.
- Surveys could be expanded to USU's Milton P. Miller Building and the larger Brigham City area to investigate possible hotspots for collisions.
- Current surveys only cover a portion of each year. A 12-month survey has begun from August 2020 to August 2021. 12-month studies will continue for multiple years. The data obtained will be used to answer the question: "Is there a time of year collisions are more frequent?" To answer the question, an ANOVA will be used to see if there is a significant difference in the mean number of collisions between any months of year. If there are significant differences, a Tukey test will be employed to detect where the differences lie.

Bibliography

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Carcass of a Red Breasted Nuthatch collected outside the C&SS building