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

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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:

  1. Body imprints on a window.
  2. Feathers stuck to a window.
  3. Feathers located on the ground near a window.
  4. 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 influenced 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 the year. If there are significant differences, a Tukey test will be employed to detect where the differences lie.

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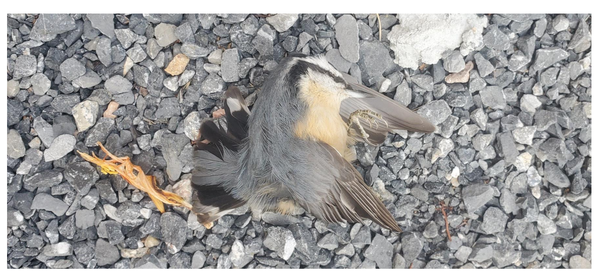

Carcass of a Red Breasted Nuthatch collected outside the C&SS building