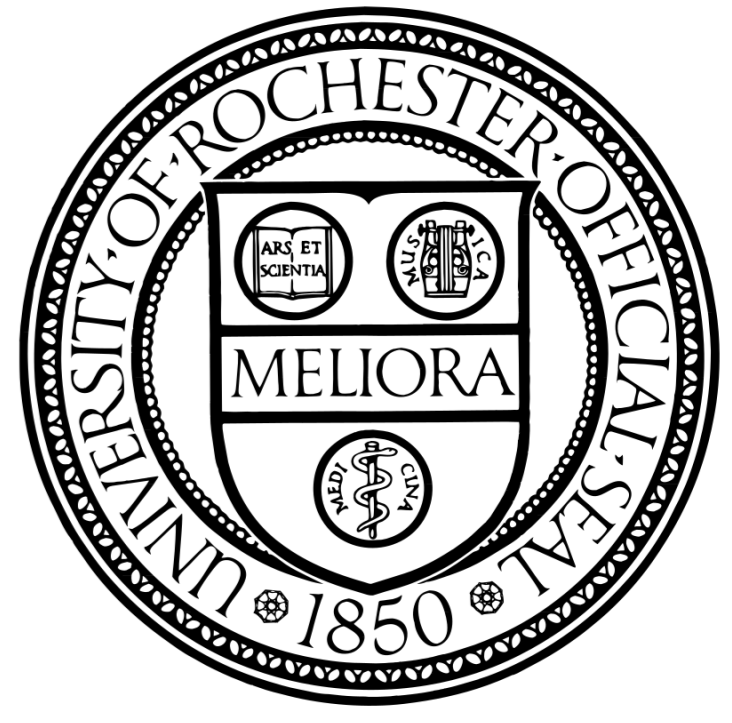


Smash the Crash: Study of Bird-Window Collisions at University of Rochester



Smash the Crash is a bird-window collision research initiative driven by the University of Rochester students and faculty. We aim to determine the number and location of collisions on campus. Our work consists of two ongoing investigations: 1) a monitoring program of ten buildings conducted by a team of trained, dedicated volunteers and 2) a university-wide citizen science survey that anyone can join anytime.⁴

Introduction



Figure 2. Imprint from where a bird has struck a window. [2]

The University of Rochester is considered a hot spot for window collisions. Leading models of bird-window collisions predict that, on average, 716 birds will die annually on the River Campus alone, but we do not yet have an official count.³ To begin advocating for a safer environment for birds, we first need to accurately know how many birds our windows are killing, and which buildings pose the greatest threat.⁴

Seasonality

There are increases in bird collisions during fall and spring migrations due to greater movement in bird populations and because birds are less familiar with the landscape along their migratory routes.⁵ Additionally, fatalities in fall migration are consistently greater than in spring migration, likely due to a larger proportion of young, relatively inexperienced birds.⁶

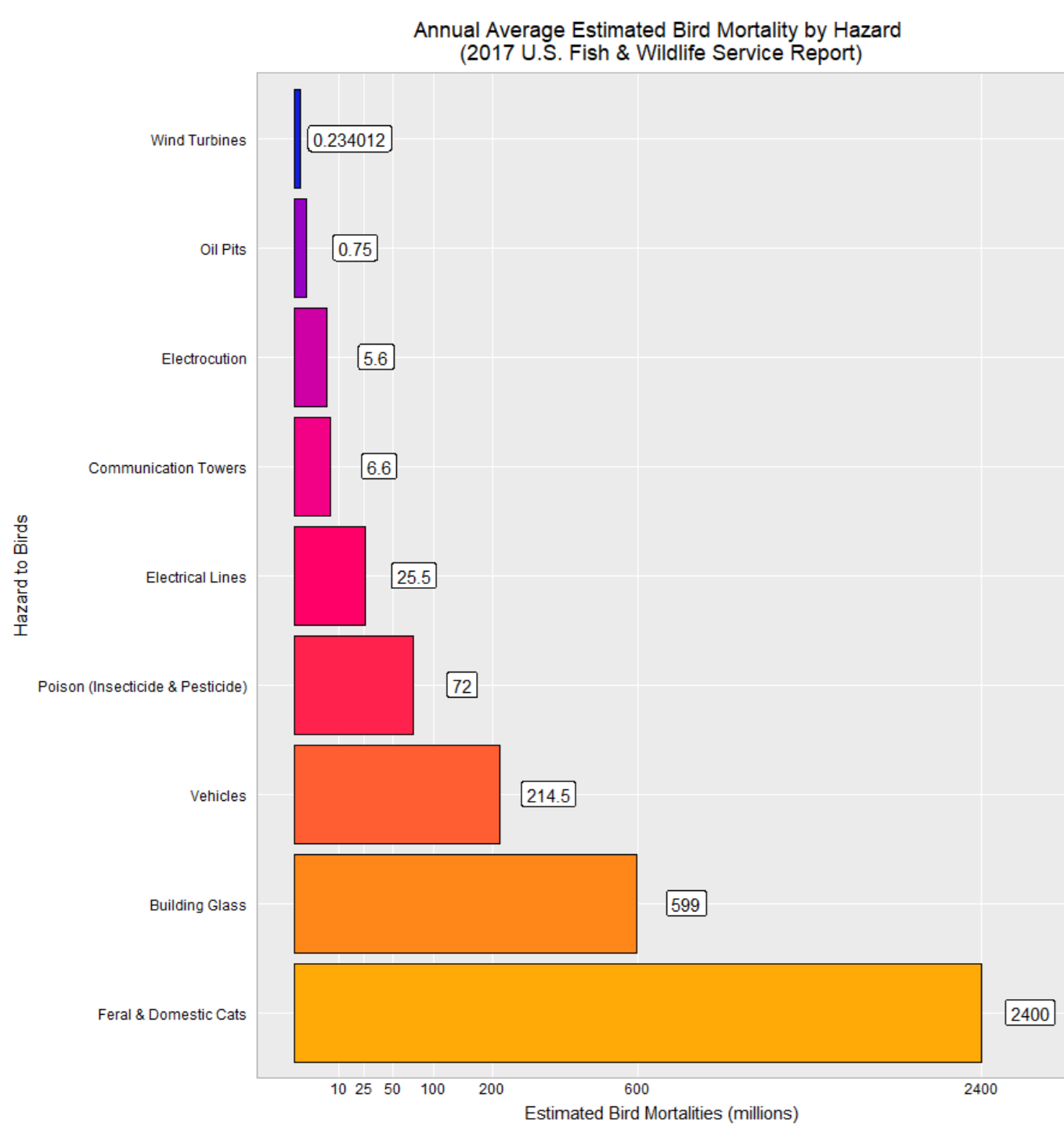


Figure 1. Human-related Causes of Bird Mortality. [1]

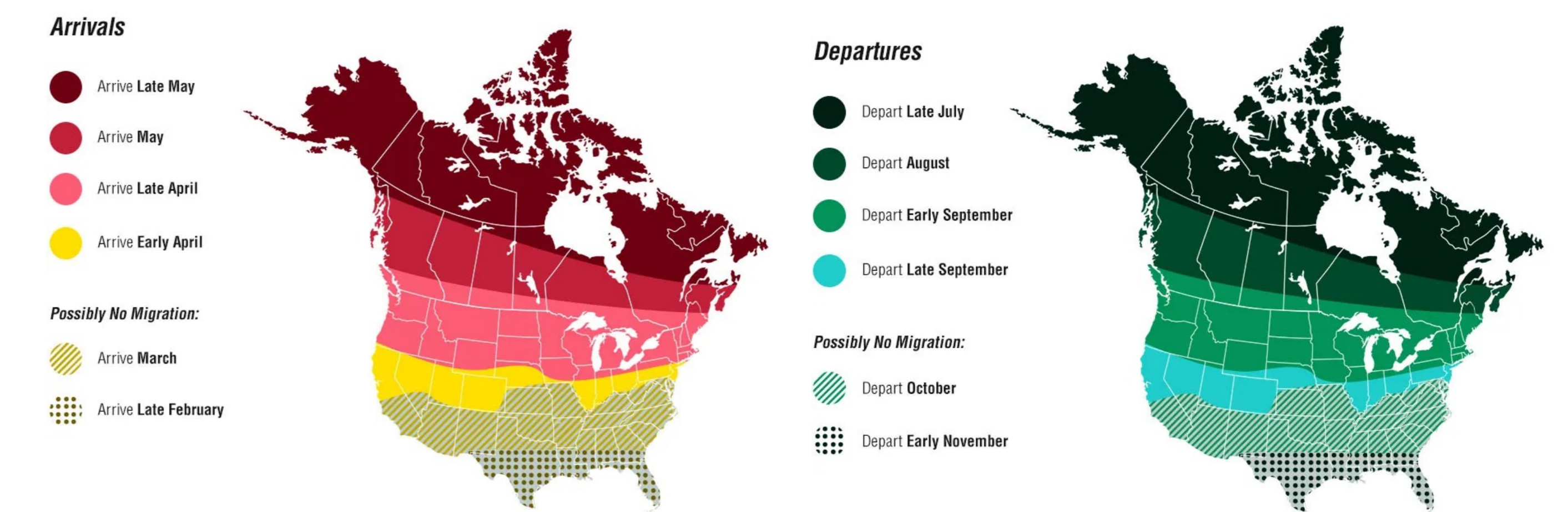


Figure 3. Map featuring various zones and key time periods for spring and fall migration. [3]

Studying the Problem

Collision data for our study was collected through volunteer-led monitoring of campus buildings every other day in Fall 2024, looking for any potential signs of bird-window collisions and report sightings through our Collision Report Form.

Data is represented via ArcGIS Online mapping. Each green point on the map represents a distinct collision sighting, with color gradients used to illustrate a higher density of sightings in particular areas on campus.

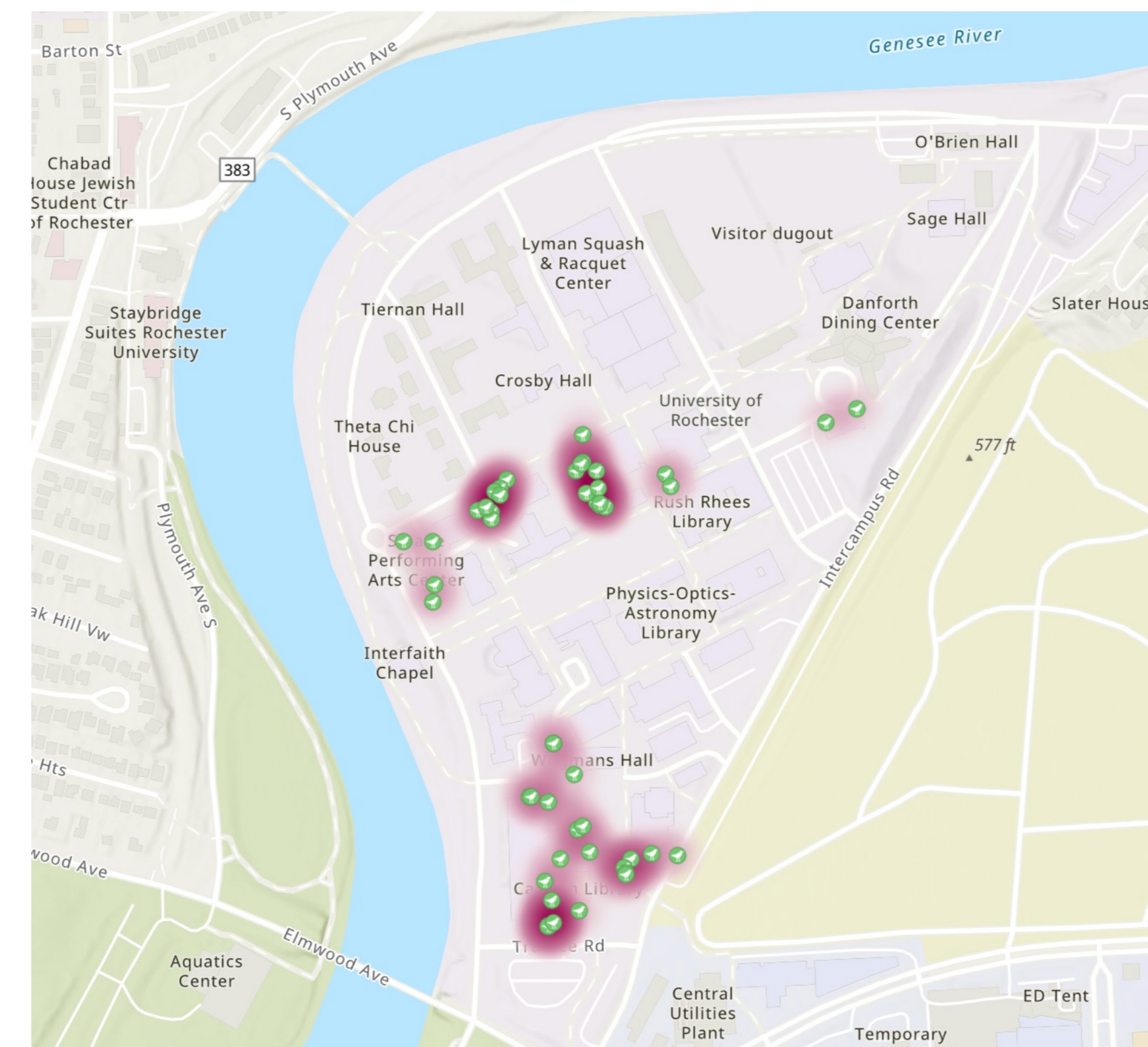


Figure 5. (left) Bird collision hotspot mapping via ArcGIS Online, UofR campus (right) white junco and black-throated green warbler, collided next to Hutchison Hall and Computer Studies Building, respectively.



Results & Discussion

The left hot spot map of UR campus shows the greatest density of collision-sightings to be clustered around particular buildings, specifically around LeChase Hall, Wilson Commons, Rettner Hall, Hutchinson Hall, and the Computer Science buildings. This is indicated by the high number of on the map. collisions per square area, illustrated via color intensity

- The clustering of large, tall buildings has a significant contribution to the rate of collisions.

Bird Collision Observation

Enter in details of your bird collision observation; protocol and other helpful information available at: <https://www.smashthecrashur.com/>

Observer*

Figure 4. Bird Collision Observation Survey

Future Work

- To expand the scope of our study to include other buildings, both on and off campus.
- To present our updated findings to students and the UR administration to increase awareness of this problem.
- To collaborate with campus newsletters and papers to promote our work, present our data at talks and events, and meet regularly with administrative members.
- To facilitate the implementation of bird-safe window films and encourage future construction to incorporate bird-safe glass panes in campus buildings.

References

Content

- (1) *Science* 2019, 366 (6461), 120-124.
- (2) <https://abcbirds.org/glass-collisions/why-birds-hit-glass/>
- (3) *The Condor* 2014, 116 (1), 8-23.
- (4) <https://www.smashthecrashur.com/overview/>
- (5) *Annals of the New York Academy of Sciences* 2008, 1134 (1), 233-266.
- (6) *The Condor: Ornithological Applications* 2014, 116 (1), 8-23.

Figures

- (1) <https://www.sibleyguides.com>
- (2) Ted - Flickr: DSC_0073
- (3) <https://www.perkypet.com>