

Collecting Bird Collision Data for Potential Bird Doting of Campus

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Abstract

This study examines bird-window collisions at Delaware Valley University, focusing on the Life Sciences Building, Mandell Stairwell, and Krauskopf Library. Though no birds were found during routine surveys, two fatalities—a Swainson's Thrush and an American Robin—were reported, as well as a Cooper's Hawk from the previous semester. After consulting experts and reviewing research, I found that installing bird-friendly window treatments, such as bird dots and external screens, can effectively reduce collisions. Given the east-facing glass of the Life Sciences Building, these measures are crucial to preventing further bird fatalities and addressing this often-overlooked issue.

Introduction

Bird-window collisions are a growing problem that harms both wildlife and human communities. Each year, millions of birds die from flying into windows, often due to reflections of trees, sky, or other surroundings on glass. Birds don't recognize windows as barriers, especially when they're transparent or reflect their environment (Klem, Saegner, and Brogle 2024). This issue contributes to declining bird populations and raises concerns for people living in areas with high bird mortality. This research examines the causes of bird-window collisions and offers solutions to protect birds while maintaining the function and appearance of our buildings.



Figure 2. Specimen of Swainson's thrush (olive-backed), as reported by Eli Jones. Migratory bird that was affected by the placement and direction of glass.

Methods

Literature Analysis

Hager et al. (2017) studied how building design, landscaping, and urbanization contribute to bird-window collisions, a leading cause of avian deaths in North America. Their findings emphasize the need for solutions like bird-safe window retrofits and lights-out programs during migration. Klem et al. (2024) documented 1,356 collisions over five years, finding that most strikes (90%) were perpendicular and caused severe injuries. Half of the collisions showed no visible damage but likely resulted in fatal internal injuries. The study estimates 1.28 to 5.19 billion birds die annually in the U.S. from collisions, with billions more globally, underscoring the need for effective deterrents.

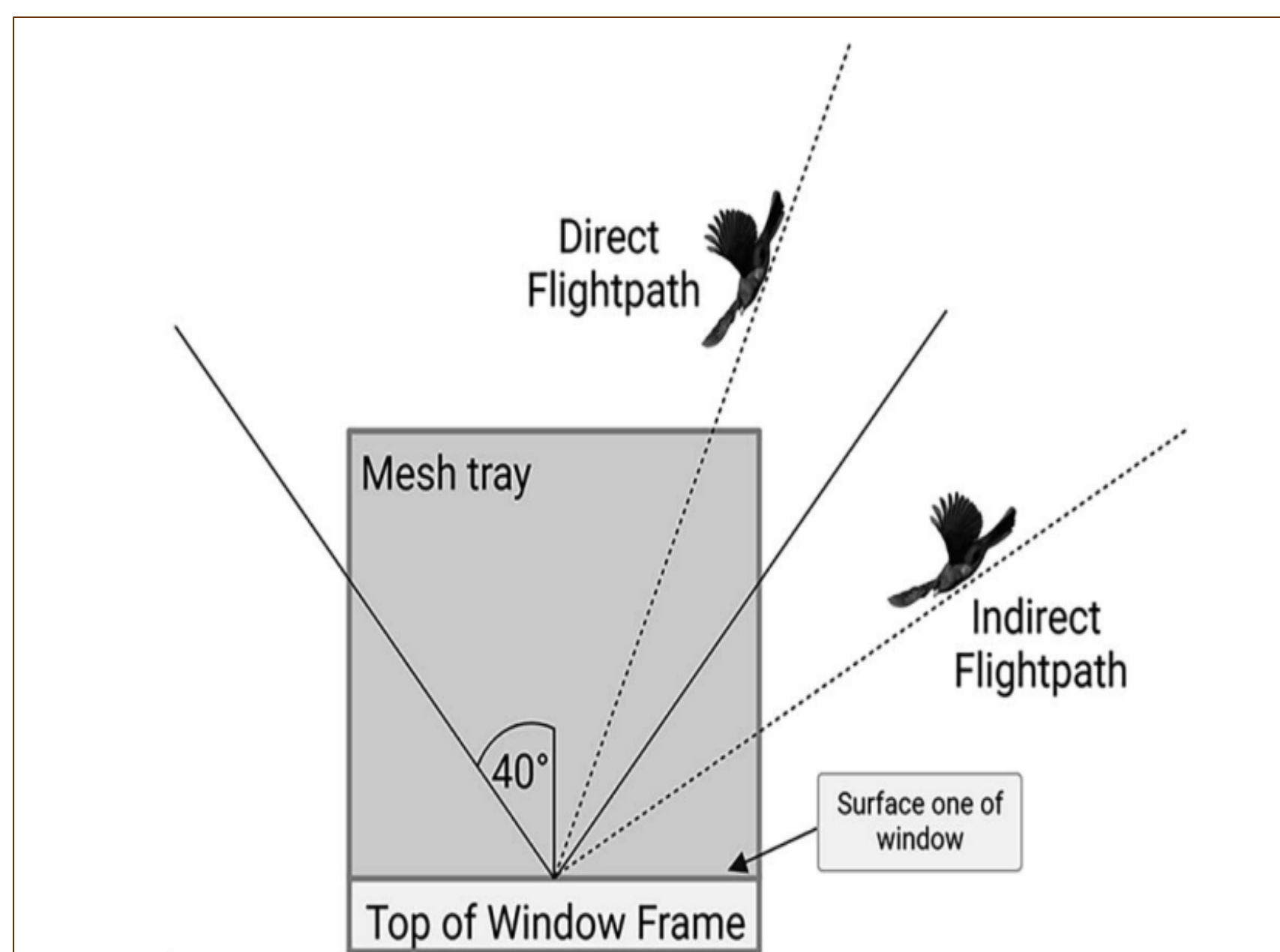


Figure 3. Overhead view of collision flight paths of direct perpendicular to 40° on either side of perpendicular and indirect glancing blow outside 40° from perpendicular (Klem, Saegner, and Brogle 2024).

Applying Data

Over several months, I surveyed three campus buildings—Life Sciences (LSB), Mandell Stairwell, and Krauskopf Library—for bird collisions. The reported species were an American Robin and a Swainson's Thrush, and a previously reported Cooper's Hawk. While American Robins are often year-round residents, the thrush and hawk were the primary focus due to their regular migration through eastern Pennsylvania. The east-facing entrance of LSB, where the sunrise creates reflective surfaces, poses a significant risk for bird collisions. Additionally, the surrounding habitats, including trees and vegetation, further increase the likelihood of strikes.

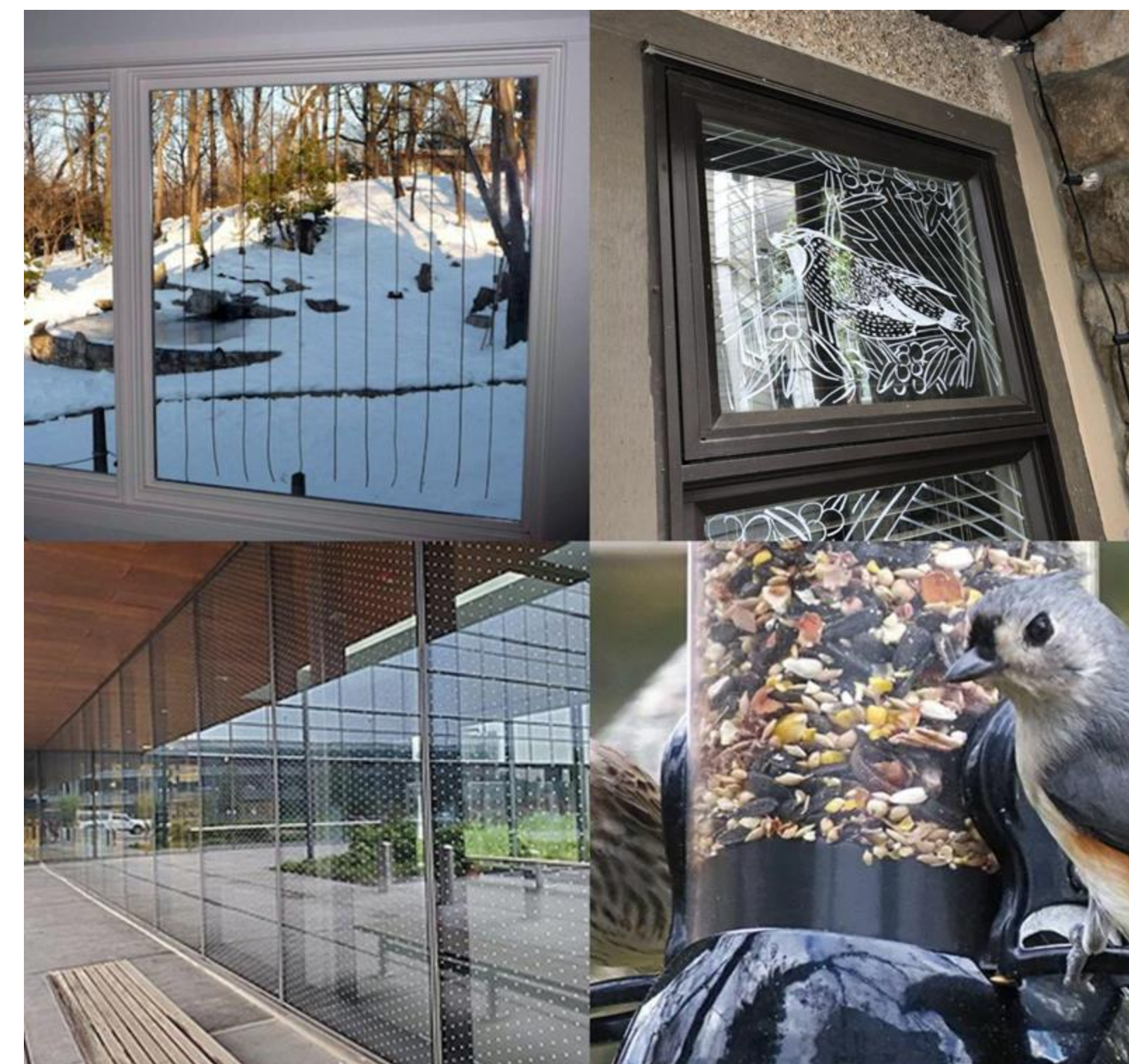


Figure 4. Different approved methods of bird collision prevention. Hanging cords top left, Bird dotting bottom left, window decals top right, and placing bird feeders right on windows bottom right (National Audubon Society).

Research shows that only 2% of bird-window collisions result in immediate death, meaning counting dead birds near buildings underestimates their full impact (Klem, Saenger, and Brogle, 2024). Suburban areas, which mix human structures with natural habitats, are the most dangerous for birds (Haeger et al., 2017). Features like trees, bird feeders, and native plants attract birds but also increase the risk of window strikes. Studies suggest any window near these features will likely cause at least one bird death (Saenger, 2024). This underscores the need for collision-prevention strategies like window treatments, decals, or screens, which can significantly reduce mortality.

Results and Conclusions

Collision-prevention measures have been shown to reduce bird fatalities (Saegner, 2024). With over three million birds dying daily from window strikes, action is crucial. However, 70% of birds that collide with windows are estimated to die later (Saegner, 2024). While 2% of collisions leave dead birds, 50-80% leave no evidence at all (Saegner, 2024), and animals like cats often take the bodies. At Delaware Valley University, where we focus on agriculture and animal sciences, it is essential to join other local universities in installing bird collision prevention on campus.



Figure 5. Acopian Center Ornithological Specialist Peter Saenger, left, and Professor of Biology Daniel Klem, both individuals who have spent over twenty years researching bird-window collisions (Muhlenberg College).

Literature Cited

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Figure 1. Life Sciences Building (LSB) of Delaware Valley University.