

## Proximity To Particular Habitats As Indicator Of High Collisions Risk

People frequently ask whether some windows and building sections are less risky than others for new construction:

*If birds migrate using flyways, might there be places where collisions by migrants would not be an issue?*

*Are buildings near parks more dangerous than those in industrial districts?*

Unfortunately, most window collision monitoring efforts have not been designed to answer this type of question. Understandably, monitors tend to focus on routes easily followed by volunteers and are more interested in salvaging birds that have survived collisions than documenting areas where few collisions occur.



In 2013, Hager et al. studied the distribution of collisions at a landscape scale. Their results suggest that differences in distribution of resources important to birds, primarily vegetation, as well as differences in the amount of glass, influence the distribution of collisions. Hager et al. (2017) led an expanded exploration of how collisions are associated with landscape features, studying 40 sites across North America. They evaluated collision mortality, building characteristics, local land cover, and regional urbanization. The relationship between collisions and building size varied

depending on how urbanized the area was, with greater mortality at large buildings in rural areas than at large buildings in urbanized areas. This does not mean that urban buildings don't need to be bird-friendly, but it is another reason to promote new construction in existing urban areas rather than in undeveloped habitat. Two useful examples are New York City's Highline Park and Hudson Yards. Built in highly urban areas, both transformed the surrounding areas and added significant green space where before there was none. Landscapes change over time. Designing bird-friendly buildings means that new green space can be bird-friendly and human-friendly habitat.

At a smaller scale, some legislation has prioritized buildings or parts of buildings, focusing on zones in close proximity to areas presumed to attract birds. San Francisco's 2011 Bird-safe Building Standards point only to facades within 300 feet of an 'urban bird refuge'; other jurisdictions in California used this legislation as a model. Unfortunately, this does not reflect the activity patterns of birds and especially the threat to migrants landing anywhere in an urban area and then trying to reach an 'urban bird refuge' elsewhere in the city. There is no literature supporting the notion that collisions decrease at 300 feet or at any distance from an attractive habitat and in fact, recent work (McLaren, et al., 2017, Horton et al., 2019) indicates that migrating birds are disproportionately found throughout urbanized areas because of attraction by lights at night.

Birds often fly considerable distances during the day, so that buildings and building facades not directly adjacent to vegetation also cause collisions, as do other structures including glass railings, gazebos, bus shelters etc. An Audubon Minnesota case study from the University of Minnesota's St. Paul campus found that high rates of collisions on a plaza railing occurred because the plaza was on the route birds followed between two areas of vegetation not directly adjacent to the glass.

## References

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