



Collisions

With the continued increase in human development, our landscape is increasingly covered with barriers and obstructions in areas where birds fly. Collision hazards for birds come in many forms and can affect many types of birds (nocturnal and diurnal migrants, residents; small or large birds).

Whether a bird is at risk of collision with particular type of structure depends on a number of factors related to the bird, infrastructure, and location. Understanding why birds collide with structures can lead to effective solutions for reducing collision risk. To learn more about specific infrastructure that pose collision risks to birds, visit the following pages: [Aircrafts \(collisions/aircrafts.php\)](#), [Buildings and Glass \(collisions/buildings-and-glass.php\)](#), [Communication Towers \(collisions/communication-towers.php\)](#), [Electric Utility Lines \(collisions/electric-utility-lines.php\)](#), [Road Vehicles \(collisions/road-vehicles.php\)](#), and [Wind Turbines \(collisions/wind-turbines.php\)](#). We offer some solutions that you can implement around your home or business to help prevent bird collisions.

The following factors can affect bird collision risk.

Infrastructure height

Birds are particularly susceptible to collisions with tall structures. The taller the structure, the higher the collision risk as these structures reach heights commonly used by birds during migration movements. Research indicates that collision mortality increases with structure height for most structures (e.g., communication towers and wind turbines).

Lighting

Night migrants can be attracted to or disoriented by the lights of any structure, such as communication towers, wind turbines, and buildings, resulting in increased collision risk. In addition, birds disoriented by lights can circle structures for extended periods of time, leading to exhaustion or accelerated use of energy stores critical for migration. This reduced health condition can lessen migration survival and decrease breeding season productivity. Research has found that birds are particularly attracted to steady-burning red and white lights. Removing non-flashing/steady-burning lights can significantly reduce bird collisions with structures.

Inclement weather

Birds can collide with tall structures on clear nights. The risk of collision increases when weather patterns reduce visibility, enhance light appearance, and lower cloud ceilings, forcing birds to fly at lower altitudes where they may collide with structures or wires that are difficult to see. Large-scale collision mortality events involving up to more than 12,000 birds have been recorded when night skies are overcast, foggy, or rainy.

Bird body type, vision and health

Although birds of all sizes and types can fall victim to collisions, a bird's body size, vision, health, and flight characteristics may cause it to be more susceptible to collisions with certain structures.

Bird behavior

Roosting, feeding, breeding and nesting behaviors have been found to put some birds at increased risk of collisions. For example, ground dwelling, nesting, and feeding birds are more prone to vehicle collisions because they spend more time moving at and around vehicle level. Another example is the increased vulnerability to wind turbine collisions of certain species, such as Red-tailed Hawks and Golden Eagles, that look for prey near turbines.

Locations of bird and infrastructure occurrences

Frequently flying through areas with obstructions raises the risk of collision greatly, especially for birds with high risk factors. It is particularly risky to locate structures birds may collide with in common movement areas. Features like shorelines, ridgelines, and rivers are thought to be used as corridors for many birds during migration. Also, many raptors use thermals (upward currents of warm air) near cliffs and ridgelines to soar and search for prey. Additionally, if a bird uses different locations for breeding, feeding, and roosting, the paths between those areas may pose higher risk.

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