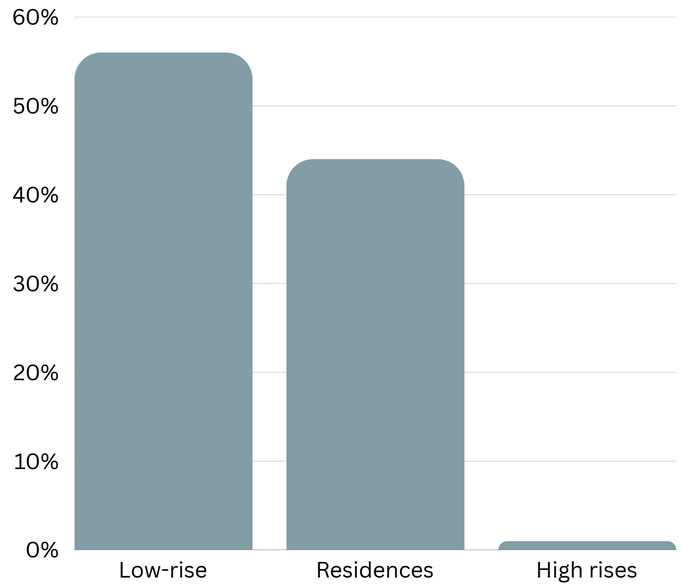
Spot The Glass, Save the Wings; Protecting Coastal Birds in Huntington Beach and Beyond

Estimations put the number of birds that are killed annually in the United States to be between 100 million and 1 billion. **Approximately 365 to 988 million of bird deaths are caused from window collisions** on buildings, placing this danger as the most deadly anthropogenic threat to birds.

Average Annual Percentage of Building Types in the U.S. Responsible For Fatal Bird Collisions



Why do Buildings Pose Such a Dangerous Threat to Birds?

- Birds cannot understand the concept of glass.
  - Clear glass fools birds to think that they can fly through windows, while reflective glass mirrors vegetation that birds think they can fly towards.
- 75% of birds migrate over coastal routes, not accustomed to developed shorelines and thus more susceptible to glass, increasing the risk of bird fatalities in coastal cities like Huntington Beach.
- Most migration routes are during the night, and artificial light pollution at night disorients birds.
  - 70% of North American bird species migrate with 80% of them doing so at night.
  - Misguided, they stray away from natural sources and instead are drawn towards artificial light sources reflected on glass that they crash into.

On average, every 10% increase in area of glass increases bird collisions by 19%.

What steps can YOU take?

- Acknowledge windows in your home and community; which ones reflect trees and vegetation nearby? Which are see through?
- Install high-contrast physical decals on the outside of windows at a maximum of 2 inches by 2 inches apart.
  - Remember that if there are gaps, small birds will try to aim to fly between these, still crashing into windows.
- DIY solutions such as cutting pieces of tape into squares and/or stripes can be done to create own patterns.
  - Very unique patterns to fit aesthetics can be bought.
- Do NOT rely on curtains/blinds, use one or a few stickers (even if they look like predators like hawks), or use noise deterrents because these “solutions” are not effective in keeping birds away.
- **Physical markers on windows can reduce window strikes up to 90%.**



Why is this relevant in Huntington Beach?

- 321/420 of Orange County's bird species have been spotted in the Bolsa Chica Wetlands, popular for nesting.
  - HB is crucial a stopping point of the major north-south migration route, the Pacific Flyway.
- Shipley Nature Center provides 18-acres which attract more than 200 bird species to nest and migrate to.
- Since most coastal birds are keystone species, without them it would cause a cascading effect where insect populations drastically increase, native plants would die out which damages extensive food webs, biodiversity would decrease, etc.

After reading:

Collision-Free Coastline Network

Please fill out the following Google Form, estimated to be done in less than 5 minutes. You can scan the QR code and/or click on the link below digitally. This form will measure how effective bringing awareness to this issue has been. Your submission is immensely appreciated. For any questions, reach out at natasha.v.kelley@gmail.com .

Spot The Glass, Save the Wings - Awareness Form

What do window-collisions look like?

- Faint smudges or silhouettes on windows.
- Feathers may be on or around location of impact.
- Birds are often stunned and/or injured right after hitting windows, meaning they will often be near the base of the wall and unable to fly away immediately.
  - Injuries birds may appear quiet and still, but have deadly internal damage.
- **60% of victims of collisions die from their injuries.**



Always report your findings on a reliable website or app such as the Global Bird Collision Mapper (birdmapper.org) in order for data to be recorded and patterns to be analyzed about commonly dangerous zones in need of intervention due to high bird collisions for future generations of coastal birds to be protected.

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