**Window Glass:**
The Deadliest Hazard for Birds

Birds do not see glass.

Scientific research has documented that birds do not recognize that glass is a barrier to be avoided. Nor do they understand reflections. Thus, they fly head-on into them, often at very high speeds. It is the *number one* human-related cause of bird mortality. Birds strike every size of window, in all types of structures, in every season, day and night. Window strikes are equally lethal for large and small species. Fifty percent of birds that hit windows are killed. Experts estimate the number of birds killed each year by window strikes in the US alone is around 1 billion.

Window collisions have been documented as a serious threat to the reintroduction of selected species into urban areas.

**Why do birds collide with windows?**

- Windows reflect nearby trees causing birds to think the trees continue
- Birds see the reflection of the sky, clouds, trees, bushes or grasses and fly into it.
- Windows reflect the birds flying toward it, causing them to think it is a flight pathway
- Bright lights near the window, outside or inside, attract the birds
- Windows are transparent; the birds don't see it
- Windows are transparent and something inside, like a plant, attracts the birds
- Windows on two sides of a room appear to provide a clear passage through
- Birds see their own reflection and believe it is a competitor to be driven away
- Feeders are near windows -- the bird hits the window when trying to escape a predator

**Solutions: What you can do**

Reflective Windows: Put something on the *outside* of the window to alter the appearance of the *entire* window. The coverage must be total and allow for openings no larger than 4 inches (10 cm) across.

Options:

1. Hang strips of 1+ inch wide paper / ribbons / string / mobiles every four inches
2. "Frost" or "etch" the glass using techniques popularized by decorating books and websites
3. Sponge or stamp on a decorative pattern with soap or thinned window paint
4. Cover the windows with "CollidEscape" perforated film to make windows visible to birds while allowing those inside clear view to the outside
5. Cover the window with decorative films
6) Cover the window with a fine-mesh net so that the birds bounce off.
7) Apply any form of non-reflective, contrasting decals that uniformly cover the entire window.
   - Hawk or Owl forms are no more or less effective than other shapes.
8) Install outdoor blinds.
9) Install hanging objects that cover the entire window area when moving.
10) Move bird feeders, baths and other attractions (like nutritious vegetation) against the window or more than 30 feet away.

**Transparent windows - Additional options**
- Close curtains.
- Turn blinds in a ¾ position to create a striping effect.
- Move houseplants away from windows.
- At night, use only low-intensity lighting.
- Use task lighting with lamp shades that direct the light away from the window.
- Dim overnight lights (especially in atriums) to lowest level or extinguish.

**What does not work**
- A few scattered decals; the entire window must be covered.
- Owl forms on the roof of the building.

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**Reference Sources**
1. Animal Protection Institute (www.api4animals.org)
2. Fatal Light Awareness Program, Toronto (www.FLAP.org)
3. Havahart.com
4. Journal of Field Ornithology
5. Professor Daniel Klem, Muhlenberg College - various presentations

**Product Sources**
- Decorative etching techniques: www.hgtv.com -- Search on "frosted glass"
- CollidEscape film - check www.flap.org for details
- Simulated etched glass film: www.spandex.nl -- Search on "etched film" for a variety of choices
- The Warning Web - spider web decal from Lee Valley & Veritas Tools (www.leevalley.com)
- Whispering Windows Anti-Collision Window Decals - www.wpines.com