

**American Institute of Architects CES class:
ABCbirds31: Mastering Bird-friendly Design
One hour, one LU/HSW credit
American Bird Conservancy CES provider number: 50111108**

This class builds on the introductory course, ABCbirds300. It provides a brief overview of the problem of collisions with glass but focuses on materials used in bird-friendly design and the legislative landscape architects now encounter. An in depth look at types of bird-friendly materials, how bird-friendly materials are rated, and underlying principles for design of unique bird-friendly materials are provided. We also survey legislation across the U.S. and Canada, exploring differences, commonalities and strategies for compliance.

There is no fee for the class but we encourage a donation to American Bird Conservancy's Glass Collisions Program to defray the costs for face to face presentations. To schedule a class, email collisions.abcbirds.org

Abstract: Birds provide billions to our economy in ecoservices, playing fundamental roles including habitat regeneration and acting as natural controls for insects. Yet, we allow hundreds of millions to die yearly in the US alone, from collisions with glass. This is avoidable. Humans understand 'glass' as a concept, and learn cues that indicate its presence but birds are unable to learn about glass as a category of material. Taking what they see literally, they strike glass as they fly towards reflections of sky or vegetation, or as they try to reach habitat seen through glass.

We now have materials that can make buildings safe for birds without sacrificing light, appearance or view clarity. American Bird Conservancy has developed a standard rating protocol for assigning Threat Factor (TF) scores to materials used in building envelopes. TF is a relative measure of how well materials reduce collisions, based on tunnel testing, field studies and in some cases, prescriptive rules based on research and field data. A TF score below 30 indicates a material expected to reduce collisions by at least 50%. TF ratings do not correlate directly with coverage of glass by pattern materials. In fact, some of the most effective materials incorporate patterns covering less than 7% of the glass surface.

In 2011, San Francisco was the first U.S. city to require bird-friendly design for some new construction. The LEED Pilot Library added credit #55, reducing bird collisions, the same year. Since then, jurisdictions at levels from state to town have created code mandating bird-friendly construction, with more are pending. Notably New York City, in 2019, adopted code requiring bird-friendly design for all new construction, starting January 2021. There are significant differences among requirements and we discuss these and provide guidance for designing buildings that would meet any existing legislation.

Goals: Participants will learn to

1. Understand why birds collide with glass, and identify hazards to birds in the built environment
2. Understand Threat Factor ratings and how they are used
3. Locate and evaluate materials for use in bird-friendly buildings
4. Understand existing and potential legislation mandating bird-friendly design, how requirements are derived, how jurisdictions differ or agree and principles that apply to all.

ABCbirds31 class outline

1. Introduction: Bird/Glass Collisions

The magnitude of the problem: how do we know?

Causes of Bird Collisions

Glass reflectivity

Glass transparency (fly-through effect)

2. Assigning Threat Factor ratings to materials: the ABC/Bird-safe Buildings Alliance rating system

Tunnel testing

Research

Field trials

Prescriptive rating

3. Review of bird-friendly glass design

4. What about UV glass?

5. Bird-friendly glass and Low-e coatings

6. Mandates and guidelines promoting bird-friendly design – what you need to know

Legislation: San Francisco, New York, Minnesota, Toronto, Ontario and more

LEED Pilot credit #55: Reducing Bird Collisions

7. Conclusion

There is an increasing mandate for bird-friendly design

Bird-friendly construction is compatible with other goals of green design

New and traditional materials and strategies make bird-friendly design a readily achievable goal

Resources are readily available