

OUTLINE OF AUDUBON BIRD/GLASS COLLISION PROJECT

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According to the world's leading expert on bird/glass collisions, Dr. Daniel Klem of Muhlenberg College, at least 100 million birds die in the U.S. each year due to collisions with glass on buildings and other manmade structures. This problem is particularly acute when birds are migrating at night and they pass through cities and other areas with buildings. Nocturnal migrants which navigate by following the patterns of stars are often attracted to lights on manmade structures especially during overcast or stormy conditions. Once attracted birds may collide with parts of a building they can't see in the dark, or fly around in beams of light until they are exhausted, or deliberately fly into glass surfaces that look transparent or others that reflect the surrounding landscape. In Toronto over 41,000 dead and injured birds representing over 135 species were found in a small section of the city between 1993 and 2007, for an average of 2,752 birds /year. This groundbreaking project led to similar monitoring being developed in Chicago and New York City. Unfortunately similar rates of mortality were also documented in those cities.

Migrating birds have been known to collide with buildings in Philadelphia since 1898. Collisions were initially caused in Philadelphia almost exclusively by lights on two of Philadelphia's tallest buildings, which attracted migrants, especially during stormy weather. Hundreds were sometimes killed and injured at one building in a single night. Mass kills from lights have not been reported in Philadelphia since the 1940s however, perhaps because the entire downtown area is now so brightly lit at night. But dead migrants continue to be found in smaller numbers at an increasingly large number of downtown buildings, mainly because of glass.

In September 2008 Audubon Pennsylvania, the Philadelphia Zoo and the Academy of Natural Sciences of Philadelphia began to study this problem. A 2.5 square block area of downtown Philadelphia was monitored for dead and injured migrants from 5:30-8:00 am on 37 mornings between September 1 and October 31. By October 31, 62 dead and 11 injured birds had been found. This number does not represent the total number of birds that were killed or injured within the area however, because some fall into areas that are inaccessible while others are removed by scavengers and cleaning personnel before they can be salvaged. All specimens salvaged are being retained by the Academy of Natural Sciences where they will be added to their research collection.

During the spring of 2009 the study will add a new monitoring area on the main campus of Temple University. The study's overall goals are to 1) determine how many birds and which species of birds are being killed or injured each year 2) identify where collisions are occurring within the city 3) determine when during the day or night collisions are occurring, and 4) determine which aspects of building design and building operation are most associated with bird collisions.

We hope the study's results will ultimately be useful in encouraging building owners to take steps to reduce bird/glass collisions at their buildings to the degree that that is possible. Simple steps like turning off certain building lights at night and/or placing

blinds in certain transparent windows may significantly reduce collisions at buildings with high rates of mortality. The use of glass coatings and fritted glass can also significantly reduce collisions by reducing reflections and glass transparency while reducing a building's energy costs by reducing internal heat buildup caused by sunlight. We hope the study's results will ultimately encourage the city to discourage or prohibit new buildings from being designed in ways that cause collisions. Buildings coated with reflective glass, especially when these are located next to patches of trees are particularly deadly, as are buildings with large panels of transparent glass, especially when these panels are brightly lit from within at night. The problem of bird/glass collisions has become so ubiquitous that it may now be one of the leading causes of declines for many species of common migratory land birds. It is therefore crucial that awareness of the problem be raised and efforts to reduce or prevent it be increased.

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