

Ecological costs of buildings

Wind turbines kill birds, but buildings are more deadly. Conservative estimates suggest 100 million birds die in the U.S. every year as a result of hitting glass. Interior landscaping by windows can increase risk as a large leafy plant inside a building can be seen as a refuge: a panicked bird will smack into a window as it attempts to hide. Glass on both sides of a room or building can create the illusion of an unobstructed corridor. Tilting glass down to reflect the ground helps, as do exterior shades, shutters, and markers on the glass.

Buildings and development also cause more complex ecological traps. Many organisms rely on light polarization to identify important habitat for migration, nesting, breeding, or feeding. Pavement, dark cars, glass, and shiny building materials can polarize light and confuse behavior. Birds that can only take flight while on water have been known to land on asphalt at night because of a polarized light signal similar to that of water. Insects that lay eggs near ponds may lay eggs near parking lots for the same reason.

Lights also disrupt organisms. Ten million birds a year may be killed by towers, from attraction to lights and by unseen guy wires. Lights may also encourage migration in the wrong direction (leading baby sea turtles away from the water), stop fish migration, and cause problems for a remarkably wide range of organisms. Environmental costs of electricity include bird kills, estimated at 174 million annually from transmission lines, with more deaths from power plant stacks, mine water pollution, and habitat damage. Design and planning decisions also influence auto/truck collision bird kills, estimated at 100 million per year.

These problems all play a role in the population decline of once common birds. The Audubon's Society's Christmas Bird Count and Breeding Bird Survey has revealed the alarming decline, up to 80% population loss, for many of our most common and beloved birds.

For design guidance see Glass: a deadly trap for birds, Swiss Ornithological Society <<http://www.windowcollisions.info/public/vogelkiller2en.pdf>>; Bird-Safe Building Guidelines, Brown, H., et al. 2007; and Bird safe design guide <<http://www.birdsandbuildings.org/docs/ChicagoBirdSafeDesignGuide.pdf>>.

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