

Wildlife Hazards

The recent airline accident in New York City which resulted in a ditching in the Hudson River has been attributed to the aircraft striking geese while in flight which resulted in a loss of power in both engines. The potential for bird strikes is a risk that is far from new; the Wright brothers recorded the first bird strike in 1905. The first bird strike-related fatality occurred in 1912 when aviation pioneer Cal Rodgers collided with a gull which became jammed in his aircraft's controls and caused it to crash. Striking large birds at high speeds may result in catastrophic damage to an engine or an airframe. Even a "small" bird of four pounds struck by an aircraft traveling 250 knots delivers the force of approximately 38,000 pounds at the point of impact.

It is impossible to completely prevent birds from being struck by aircraft, so efforts have focused for many years on reducing the possibility of a strike and the severity of the consequences. Airframe and engine manufacturers have made great strides in designing aircraft structures, including windshields and engines that are able to withstand the force that results from striking and ingesting most birds. Engine design standards were updated in 2004 to require that engines be capable of ingesting up to an 8-pound bird during certification depending on the engine's inlet size. Engines must also demonstrate the ability to withstand some level of damage and continue to operate. Windshields and windows must be tested to withstand a 4-pound bird strike. In 2007, new requirements addressed flocking birds and bird weight variability. ALPA was part of the team developing these standards. Obviously, however, the safety of flight cannot be made impervious to the effects of bird strikes, especially when all engines are impacted.

ALPA has been the voice of airline pilots making sure the industry awareness of bird strike hazards remains high. From time to time, airports have developed plans to improve capacity by implementing departure procedures that call for aircraft to fly at their maximum speeds from immediately after takeoff, instead of the long standing speed limit of 250 knots until 10,000 feet. ALPA has consistently pointed out that high speed at low altitude is a recipe for more severe, more frequent bird strikes, and so far, the speed limit, at least in the United States, has held.

The Federal Aviation Administration (FAA) requires commercial service airports to conduct wildlife hazard assessments and implement a wildlife hazard management plan, if warranted. ALPA was instrumental in developing those requirements. Airport operators scare birds and wildlife away from aircraft operating areas using such measures as air guns, lasers, and wildlife patrols, and they use fencing and extermination to reduce the threat posed by large mammals such as deer. While these measures can be useful for reducing the number of strikes on the airport surface or near the airport, they may do little or nothing to prevent bird strikes encountered by aircraft on an approach to, or climbing out from, an airport.

FAA began conducting research on the use of radar for bird avoidance in 2000. The goal is to determine if low-cost radars can reliably detect birds at airports, or within 3-5 miles of an airport, and develop an airport bird strike advisory system. The information might be transmitted directly to the cockpit to help pilots avoid large flocks of birds, and/or be provided to the airport operations center. The agency is currently evaluating the use of radar for such purposes at several airports around the country and it is planned for several more, including Chicago O'Hare, Dallas-Fort Worth, and John F. Kennedy International airports.