Figure 9. A Wildlife Hazards Assessment often acts as the first step to improving wildlife management.

Through airport-funded service agreements, WS can:

- conduct wildlife hazard assessments,
- develop wildlife hazard management plans that meet FAA Part 139 criteria,
- carry out wildlife hazard management programs, and
- train airport personnel to recognize hazardous wildlife conditions and implement appropriate actions.

Habitat management, a foundation of reducing wildlife strike risks, can involve a variety of methods, from planting grasses that deter wildlife and managing water sources appropriately to installing proper fencing and controlling garbage in the area. WS specialists or airport staff can also conduct active dispersal of wildlife, another critical component in reducing the risk of wildlife strikes.

The Pitch

WS provides assistance to people experiencing problems caused by wildlife. The mission of WS is to protect agriculture, property, natural resources, and human health and safety from wildlife damage. The WS Airport Wildlife Hazards Program works closely with the FAA, U.S. military, and the civil aviation industry to research wildlife hazards at airports and reduce the economic impacts and hazards to aviation caused by wildlife.

WS' experienced wildlife biologists are skilled and certified in managing wildlife hazards at airports. These biologists have a unique understanding of the interactions between wildlife and human activities in airport environments.

The methods WS uses to reduce the risk of wildlife strikes to aircraft are based on environmentally sound research, much of which is conducted at WS' National Wildlife Research Center (NWRC). The NWRC is the world's only research center devoted entirely to the development of methods and technology for wildlife damage management.

A WS airport consultation includes:

- A site visit and initial overview of wildlife attractants and hazards on and around the airport
- Identification of wildlife species observed and their legal status
- Strike data analysis
- A verbal debriefing and written summary containing appropriate wildlife hazard-management recommendations

Figure 10. Bird strikes can damage military and civilian aircraft: this CRJ-700 struck a black vulture on final approach.

The FAA, U.S. Department of Defense, and National Association of State Aviation Officials have entered into Memorandums of Understanding with WS recognizing its expertise in aviation wildlife strike risk reduction.

Strike One—You're Out!

Unlike the sport of baseball, it takes only a single strike with wildlife to render airport or air operations out of service. Reporting wildlife strikes to the FAA and working with WS to manage local wildlife populations are two important steps the aviation industry can take to address the problem of wildlife hazards at airports.

Airport representatives can contact their nearest WS Regional Office, WS Airport Wildlife Hazard Program Office, the WS Operational Support Staff, or their FAA Airport Certification Inspector for assistance and information. These offices will direct airport managers and operators to the appropriate WS State Director, who is prepared to work with industry managers to determine their wildlife hazard management needs. A listing of WS State and Regional Offices is available on the Internet at http://www.aphis.usda.gov/wildlife_damage.

WS' Office Phone Numbers

- Toll-free (866) 4USDA–WS or (866) 487–3297
- Airport Wildlife Hazards Program Office: (202) 720–2054

Photo credits: Cover: F-15E from Mary-Dale Amison, United States Air Force (USAF). Figure 8 from Brittany Barker, USAF. Figure 10 from Bruce Hollander. All remaining images are by APHIS photographer R. Anson Eaglin or from the APHIS photo collection.

Cover photo: Takeoff and landing are not a time for the unexpected. APHIS' Wildlife Services professionals contribute to the safety of military members and civil air passengers. When possible, strike hazards are dispersed or relocated.

WS Wildlife Services

Protecting People | Protecting Agriculture | Protecting Wildlife

Strike One—You're Out!

Wildlife Services Helps Reduce Wildlife Conflicts at Airports

USDA

United States Department of Agriculture
Animal and Plant Health Inspection Service

USDA is an equal opportunity provider and employer.

Revised May 2009 • Program Aid No. 1644

Wildlife Services

Protecting People
Protecting Agriculture
Protecting Wildlife

Wildlife Services—a program within the U.S. Department of Agriculture's Animal and Plant Health Inspection Service—works to reduce wildlife hazards at airports nationwide as part of its mission to minimize wildlife damage to agriculture, property, and natural resources. An important part of Wildlife Services' mission includes cooperating in efforts to protect public health and safety.

Professional biologists within Wildlife Services' Airport Wildlife Hazards Program work closely with the military, the civil aviation industry, and the U.S. Department of Transportation's Federal Aviation Administration to reduce the economic impacts and safety risks to aviation caused by birds, mammals, and other wildlife.

Figure 6. Food and shelter attractants for wildlife must be controlled in varied airport locations.

Figures 7 8. Active dispersal of wildlife remains critical to managing wildlife at airports.

Figures 1 4. Populations of some species commonly involved in aircraft strikes have increased significantly in recent decades (pelican and cormorant, gull, deer, geese).

The Strike

Collisions between aircraft and wildlife at airports, referred to as "wildlife strikes," disrupt air travel and compromise air safety, risking lives in the air and on the ground. These strikes create a larger problem than most people realize. With the number of commercial airline departures and arrivals in the United States approaching 30 million each year, reported wildlife strikes are happening more often. Other contributing factors include expanding urban development (which moves higher concentrations of wildlife toward less developed airport lands), quieter aircraft that are more difficult for wildlife to hear and avoid, and large population increases in many wildlife species that are hazardous to aircraft.

In January 2009, the country watched the national news, amazed at the skill and professionalism of Flight 1549's crew as it safely landed a jetliner on a river in New York City and evacuated all aboard. Shortly after take-off, the plane's pilot had reported a bird strike and engine failure.

At the request of the National Transportation Safety Board, Wildlife Services participated in the crash investigation by recovering materials from the engines and examining the aircraft itself for signs of possible bird strike damage. The materials were identified as the remains of Canada geese. This "Miracle on the Hudson" serves as a striking example of the serious threat wildlife can pose to aviation safety and the importance of wildlife strike prevention and research.

Figure 5. Regular inspection and repair of fencing is critical to exclude deer and other wildlife.

The Stats

Wildlife strikes cause more than 600,000 hours of aircraft downtime and cost the U.S. civil aviation industry in excess of $625 million every year. Birds account for roughly 98 percent of all aircraft collisions with wildlife; the remainder is attributed to large mammals (e.g., deer and coyotes) and reptiles (e.g., alligators). More than 750 deer collisions with civil aircraft were reported in the United States from 1990 through 2007. These losses do not include the costs from wildlife strikes to U.S. military aircraft, which are estimated at well over $100 million per year.

These estimates are believed to be conservative, as many collisions between aircraft and wildlife are not reported. Experts believe that only 20 percent of all wildlife strikes are ever documented. Reporting detailed information concerning a wildlife strike is vital to determining wildlife problem areas. Aviation and airport personnel should report every wildlife strike to the U.S. Department of Transportation's Federal Aviation Administration (FAA) on form 5200–7 (available at http://wildlife-mitigation.tc.faa.gov). This information will assist airports and the aviation industry in preventing potentially fatal collisions caused by wildlife.

The Rules of the Game

FAA regulations (Title 14, *Code of Federal Regulations*, Part 139) prescribe rules governing the certification and operation of certain commercial airports. These regulations require certificated airports to conduct a wildlife hazard assessment when an aircraft experiences a multiple-wildlife strike, an engine ingestion of wildlife, or substantial damage from striking wildlife. Airports must also complete this assessment when personnel observe that wildlife capable of causing such events have access to any airport flight pattern or ground movement area. Depending on the results of the wildlife hazard assessment, FAA regulations may also require a wildlife hazard management plan.

Wildlife management and habitat modification at airports can help greatly reduce or eliminate collisions between aircraft and birds or other wildlife. The Federal Government employs professional wildlife experts to assist the aviation community in addressing these life-threatening problems.

The Squeeze Play

The Wildlife Services (WS) program, within the U.S. Department of Agriculture's Animal and Plant Health Inspection Service, offers consultation and management assistance to assess wildlife conflicts at airports and improve safety by reducing hazards associated with wildlife. WS has a nationwide network of biologists trained and certified in wildlife hazard management at airports. These professional wildlife biologists are ready to provide airport site visits and wildlife consultations, develop wildlife hazard assessments and wildlife hazard management plans, and conduct operational wildlife hazard management programs.

Additionally, WS offers assistance in complying with Federal and State environmental laws (especially those pertaining to endangered species and wildlife permit requirements) and addressing conservation and ecological issues. As resources permit, WS personnel provide airport site visits and wildlife consultations without charge. These site visits and consultations are designed to help airport managers maintain a safe environment and meet FAA regulatory requirements. WS also has a major research and development program that provides a solid scientific foundation for its services. To ensure that services are science-based, WS also employs research wildlife biologists who specialize in resolving wildlife/aircraft collision issues through the program's National Wildlife Research Center.