



AirTAP Briefings

A publication of the AirTAP program of the Center for Transportation Studies at the University of Minnesota

Wildlife control at airports a growing concern

"Bird strikes cost the aviation industry in the United States up to \$300 million in losses every year." —Jane Garvey, FAA Administrator

Having an airport in the state of Minnesota comes with many advantages. The beautiful trees, lakes, and animals attract countless visitors from around the country. Although these characteristics can benefit airports, they can also cause problems and lead to potentially dangerous situations. More jet travel and air traffic, and the proximity of many modern airports to natural wildlife habitats, have made wildlife management one of the leading safety concerns for airports today.

Bird-strikes—collisions between birds and aircraft—present the most common wildlife-related safety issue, but collisions with mammals, while occurring much less frequently, can be just as serious. Bird-strikes can damage an aircraft's parts and can interfere with its safe operation. Perhaps even more notable, however, are the costs in terms of downtime, such as delayed schedules that result in lost revenue.

Birds and mammals are attracted to airports when an airport offers a food source, a water source, or shelter. Therefore, recognizing and controlling the habitats near an airport is the first step in hazardous wildlife management. The Federal Aviation Administration (FAA) recommends separation distances between known wildlife attractants, such as landfills, and aircraft movement areas, loading ramps, or parking areas. For airports serving piston-powered aircraft, the recommended minimum distance is 5,000 feet. For airports serving turbine-powered aircraft, that distance is 10,000 feet, and for approach or departure airspace, the recommended distance is five statute miles if there is a chance that the wildlife would move across the approach or departure airspace.



A wildlife management plan

According to the FAA's *Wildlife Hazard Management at Airports* manual, "A wildlife management plan may be implemented by a single airport employee undertaking wildlife control activities on an occasional 'as needed' basis or by a full-time wildlife biologist with a staff of operations personnel providing continuous bird patrols. It just depends on the size of the airport and the level of wildlife hazard at the airport" (ch. 8).

To begin wildlife management, airport personnel must first understand what specifically is affecting the airport. The FAA recommends keeping a daily log to determine the type and numbers of wildlife and when it is observed at the airport. After a year's time, the daily log will begin to pre-

dict wildlife movement; therefore, seasonal problems can be addressed before the season begins. From the records, airport personnel can set up a wildlife management plan that can be referred to throughout the year.

Wildlife control strategies

The FAA suggests four basic control strategies to solve wildlife problems at airports: flight schedule modification, habitat modification and exclusion, repellent and harassment techniques, and wildlife removal.

Flight schedule modification may be hard to implement at large airports, but some airports may benefit from this strategy, which involves advising pilots not to fly during certain times of the day when flocks of birds seem to be most abundant around the airport. At larger airports, air traffic controllers may need to close a runway for a brief period of time if a large group of birds or mammals arrives on the runway.

The second control strategy is **habitat modification and exclusion**. Habitat modification means changing the environment so wildlife finds it less attractive or inaccessible. This method tends to be the least expensive once it has been implemented because there is generally no need to go

continued

Note to readers:

The Spring 2002 issue of *Briefings* included an article on AirTAP's snow and ice control workshops held earlier this year ("Snow and ice control aid safe airport operations"). The author has provided the following information to clarify several issues discussed in the article.

- The opinions expressed are based on the experience of Jim Moriarty, Fleet Manager for the Metropolitan Airports Commission.
- Regarding the use of potassium acetate, its conductivity, and its effect on airfield lighting: all potential users of

the product should do annual meg-ohm testing (which measures the conductor insulation resistance of electrical cable) of their airport's systems and assure before usage that systems are well insulated and sealed. In addition, failure to thoroughly clean snow removal equipment after using potassium acetate may, and likely will, lead to problems with pin connectors.

- Chemicals are not approved by the Federal Aviation Administration. FAA Circular 150-5200 states that only solids (sand gradation) must meet an approved sieve rating. ✈

back and implement it again.

Airport operators need to start by first recognizing any available food sources for birds or mammals at and near the airport. Promoting litter control and prohibiting bird feeding will help to limit food sources. Airport property leased for farming should also be closely monitored; an airport operator will have to work directly with landowners and local government to control the types of crops planted around the airport.

Mowing areas surrounding the airfield is another method for wildlife control. The records that are kept of observed wildlife can prove helpful with mowing operations. Grasses cut too low attract flocks of birds or geese, and grasses that grow too high will attract rodents, which in turn attract raptors. An airport operator can easily control what is done on airport property, but controlling areas surrounding the airport requires cooperation with landowners and local governments. The goal is to keep seed production, and therefore rodent numbers, to a minimum.

Water also often serves to attract birds to an airport. Any standing water at an airport should be removed, and any area on the airfield where standing water accumulates should be filled or modified so water won't have a chance to collect there during the next rainfall.

Shelter is another habitat feature that can be modified to eliminate wildlife on an airfield. The trees and brush that surround many of Minnesota's airports provide excellent cover for deer, coyotes, geese, raptors, blackbirds, rodents, and other wildlife. If these areas cannot be cleared by an airport operator, they should at least be sufficiently thinned to allow for easy visual and physical access by wildlife control personnel. (Note: airport operators should check with the appropriate authorities on the need for any environmental impact analysis before modifying areas where water accumulates or clearing trees and brush.)

Unnecessary posts, fences, and other structures that could be used as perches by

raptors and other birds should be removed from airside areas. Construction debris, discarded equipment, and other unmanaged areas provide cover for rodents, so these areas should be cleaned up as well.

If habitat modification isn't possible at an airport, exclusion is another reliable option. Exclusion involves using physical barriers to deny wildlife access to a particu-



lar area. For example, screening rafters may prevent birds from roosting in hangars, warehouses, and under bridges. Like habitat modification, exclusion is relatively inexpensive once the initial costs have been implemented.

The third control strategy for wildlife is the use of *repellent and harassment techniques*. Repellents are used to create a fearful, uncomfortable, and unattractive environment for wildlife. This method is not as cost-effective as habitat modification or exclusion, since "no matter how many times wildlife are driven from an area that attracts them, they or other individuals of their species will return as long as the attractant is accessible. But habitat modifications and exclusion will never completely rid the environment of all wildlife, so repellent techniques are a key part of the wildlife management plan" (FAA *Wildlife*, ch. 9).

The major drawback to repellent techniques is that wildlife may become habituated to the repellent used. Three key ways to help reduce habituation are to use each technique sparingly and appropriately when the target wildlife is present; to use a vari-

ety of repellent techniques in an integrated fashion; and to reinforce repellents with occasional lethal control (with necessary permits in place) directed at problem species such as gulls or geese (FAA *Wildlife*, ch. 9). Any chemical repellents must be registered with the U.S. Environmental Protection Agency or Food and Drug Administration before they can be used to manage wildlife at airports. Products must also be registered in each state.

Pyrotechnics—noise-producing devices such as firearms or gas cannons—can be one of the most effective methods for dispersing birds. The direction of the birds' dispersal can be controlled by the placement of shots.

Sometimes habitat modification, exclusion, and repellent techniques are not enough to solve every wildlife problem. One last option an airport can consider is *wildlife removal*. This can include capturing and relocating wildlife or killing the target animals. A federal Migratory Bird Depredation Permit, and

in many cases a state permit, is required, however, before undertaking this action.

These are just four FAA-recommended techniques for mitigating wildlife problems at any size airport. To learn more about this problem, see the following sources of information for this article.

Cleary, Edward C., and Dolbeer, Richard A., *Wildlife Hazard Management at Airports*, Washington, DC: Federal Aviation Administration and U.S. Department of Agriculture, 1999 (wildlifemigation.tc.faa.gov/public_html/Overview.htm).

Transport Canada, *Wildlife Control Procedures Manual* (www.tc.gc.ca/avition/aerodrome/birdstke/manual/index.htm). ✈

Additional resources

- Federal Aviation Administration (www.faa.gov)
- FAA AC 150/5200-33, *Hazardous Wildlife Attractants on or Near Airports* (www.faa.gov/arp/150acs.htm)
- Title 14 Code of Federal Regulations, Part 139 (www.access.gpo.gov/nara/cfr/cfrhtml_00/Title_14/14cfr139_00.html)
- United States Department of Agriculture/Wildlife Services (www.aphis.usda.gov/ws/)
- United States Environmental Protection Agency (www.epa.gov/)
- Food and Drug Administration (www.fda.gov/)
- United States Fish and Wildlife Services (www.fws.gov/)

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