

Chapter 12 - Wildlife Hazard Management

Introduction

Wild animals are an important part of our environment, and they have served our needs in a number of ways. However, wildlife can adversely affect the public safety and health. Airports can be very attractive to various forms of wildlife. Birds, coyotes, wild boars, etc. are attracted to the wide open spaces an airport provides. When wildlife activity on an airport increases, it increases the likelihood of potentially hazardous conditions. Commercial, private, and military aircraft sometimes collide with birds and mammals during taxiing, takeoff, and landing. The Federal Aviation Administration (FAA) estimates that approximately 1,500 collisions between aircraft and wildlife are reported each year. These collisions not only result in millions of dollars worth of damage, but the lives of aircraft crew members and their passengers are at risk. The potential for human injury and deaths is increased significantly when wildlife is not kept away from airports.

This chapter will discuss the resources available to airport managers and also will give the steps that airports must take when wildlife poses a threat to the safe and effective operation of their airports.

The Wildlife Services Program

Wildlife Services (WS), a unit of the U.S. Department of Agriculture's Animal and Plant Health Inspection Service (APHIS), assists in solving problems that are created when species of wildlife cause damage to agriculture. WS personnel also assist with wildlife problems involving urban or natural resources as well as threats to human health and safety, such as potential bird strikes at airports. WS tries to strike a balance between wildlife and people and commits itself to the well being of wildlife and the environment. WS personnel try to develop a response that takes into consideration both economic and biological issues.

WS is a Federal cooperative program that responds to requests by persons and agencies needing help in controlling wildlife damage. Its field operations are conducted in accordance with all Federal and State guidelines and in cooperation with wildlife management professionals from Federal and/or State agencies. The WS has joined with the FAA and the U.S. Air Force in an effort to reduce bird-aircraft collisions at airports. Through all of its operations, WS programs are conducted to ensure no negative impact on wildlife populations.

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How WS Does Its Job

The costs of most field activities performed by WS personnel are generally shared in part by Federal, State, local agencies, industry groups, or individuals requesting wildlife damage-control assistance. This cost sharing is an integral component of the WS program. When requested, WS provides help through technical assistance and direct control.

Technical Assistance

WS employees will provide advice, recommendations, information, or materials for use in managing wildlife damage problems and helping threatened and endangered species to thrive. They also help by identifying the species responsible for the damage and the extent of the damage. WS can provide various recommendations to reduce the likelihood of wildlife damage or ways to reduce the specific wildlife populations to control the amount of damage they cause. WS personnel may suggest lethal or non-lethal techniques to resolve the wildlife damage problem. The WS sometimes recommend that regulatory agencies issue permits to allow owners to deal with wildlife problems themselves.

Direct Control

When the land owner's efforts and the technical assistance offered has proved to be ineffective, direct control is usually provided. In these instances, WS provides field personnel to help whoever is experiencing the problem. The WS staff considers practical methods for resolving the wildlife damage problems and takes action by implementing appropriate measures.

Wildlife Management Strategy Formulation

When determining the aspects of the wildlife problem or hazard, the airport's personnel should collect as much information as possible in order to assist the WS in developing an effective wildlife management program. This information will provide background conditions at the airport and the problems associated with the wildlife.

When preparing this information the airport personnel should observe the animal's habits, tracks, droppings or any other evidence that might be useful. Airport personnel should keep records of all types of birds and other species observed and thoroughly document all wildlife damage occurrences.

Management Techniques

Deciding upon a particular action depends on a variety of factors, including the species type, the damage type, and the location of the damage. When considering the different types of wildlife management techniques, you should also consider:

- Available expertise in your area;
- Legal constraints of each technique;
- Relative effectiveness of each technique;
- Effects on non-targeted wildlife;
- Cost effectiveness of each technique.

In general there are four (4) types of action that can be considered for resolving wildlife damage occurrences. They are as follows:

- Cultural changes
- Mechanical techniques
- Removing or relocating the problem wildlife
- Extermination

Cultural Changes

This is probably the most difficult technique to implement. This technique involves changing the habits and practices of airport personnel that attract the problem wildlife. For example, most birds are attracted to freshly cut grass because the grass cutting process stirs up insects, snakes and other food that different species of birds feed upon. Because birds often roost very early in the morning and late in the afternoon, an example of a cultural change would be to cut grass during these time periods instead of during the day so as to reduce the likelihood of any contact. Birds also have an instinctual need to see other birds while they are feeding and as a result birds tend to be attracted to areas of low cut grass. Maintaining a turf area that is between 7 inches to 14 inches high, also is effective in discouraging the attraction of large and small flocking birds. A cultural change, in this instance, would be to cut the grass at a higher length.

Mechanical Techniques

This technique involves keeping the wildlife away from the problem areas. Examples of this technique would be installing physical barriers or electrifying existing fences to keep deer, wild boars, coyotes or other wildlife off of airport property. Installing noise making devices to scare away birds would also be an example of this technique.

Removing And Relocating The Problem Wildlife

This technique involves relocating or removing the animals causing the problems. Snaring and removing the animals are some examples of this technique. Where no other alternative is available, cages and leghold traps are sometimes used for specific situations. Leghold traps now can be modified with padded or offset closures to make them more humane for target animals and to facilitate the release of non-target animals back to the wild with little or no injury.

Extermination

Extermination of the native wildlife species is contrary to WS's policy and is often unwise and impractical. In some areas, exterminating some species is often illegal. Prior to any extermination effort, the airport sponsor should contact the Louisiana regional office of Animal Damage Control as well as the local Department of Wildlife and Fisheries.

Sometimes the most effective wildlife management technique is a combination of several methods or approaches, either all at once or one after the other. This is known as Integrated Pest Management (IPM). IPM is recommended to reduce damage by wildlife while minimizing any harmful effects of the control measures on humans, non-target wildlife, domestic livestock, and the environment.

Bird Hazards And Landfills

Because aircraft have reduced airspeeds and altitudes during takeoffs and landings, they are more at risk to bird strike damage. Over 93% of all bird strikes reported occur below 2,000 feet above the ground level. Therefore, bird control at airports continues to be a very important aspect of an airport's overall safety program.

Each airport should have some type of management program established to identify the risk of bird strikes and attempt to reduce that risk as much as possible. As stated previously, cultural changes, mechanical techniques, and removing or relocating the problem wildlife are recommended options in reducing the risks of wildlife at airports. Ponds, clogged ditches, and low areas attract birds and need to be eliminated as much as possible. Because, birds have an instinctual need to see other birds while they are feeding, birds tend to be attracted to areas of low cut grass. Since some weeds produce seeds that attract insects, which in turn attract birds, it is important to keep all turf areas free of weeds. Therefore, maintaining a turf area that is between 7 inches to 14 inches high, is an effective method in discouraging the attraction of large and small flocking birds.

The most significant bird attraction however, is a landfill. Landfills near airports increase greatly the risk of possible bird strikes. According to the FAA, landfill sites that are within 5,000 feet of an airport used only by piston-engine aircraft and 10,000 feet of an airport used by turbine-engine aircraft are **not** considered compatible. Although the FAA cannot prevent landfill use, their objections can influence state licensing agencies. If there is a landfill near your airport, work with the landfill operator to help in reducing the attraction to birds and their population. If there are no landfills presently near your airport, work to keep it that way.

Employee Training

As with any new program implemented on airports, all personnel involved should be properly trained. The goals of the training should be to teach personnel, at all levels of responsibility, all components of their specific wildlife management program, as well as keeping everyone informed and aware of the potential safety hazards that problems with wildlife can pose.

Part 139 Certified Airports

Wildlife Ecological Studies

A wildlife hazard is defined as a potential for an aircraft to have a collision with wildlife on or near an airport. Wildlife hazards can also include domestic animals that are out of the control of their owners. When the realization that a wildlife hazard may exist, a wildlife ecological study should be prepared to assess the wildlife condition. An airport wildlife ecological study is a formal report describing an airport's wildlife problem and the conditions leading up to this problem. A wildlife ecological study must be submitted to the Federal Aviation Administration (FAA) when any of the following occurs on or near an airport:

- An air carrier aircraft (an aircraft with a seating capacity of more than 30 passengers which is being operated by an air carrier) experiences a multiple bird strike or engine ingestion.
- An air carrier aircraft experiences a damaging collision with wildlife other than birds.
- Wildlife of a size or in numbers capable of causing an event as described above is observed to have access to any airport flight pattern or runway and taxiway areas.

The wildlife ecological study shall contain at least the following:

- Analysis of the events leading up the study.
- Identification of the species, numbers, locations, local movements, and daily and seasonal incidents of the wildlife observed.
- Identification and location of the features on or near an airport that attract wildlife.
- Description of the hazards the wildlife creates for air carrier operations.

Upon completion of this study it should be submitted to the FAA for determination of whether there is a need for a wildlife management plan. The FAA will make its determination based on the following:

- The wildlife ecological study submitted;
- The aeronautical activity at the airport;
- Any factors which might have a bearing on the current situation;
- The views of the airport users; and
- The views of the airport operator.

Wildlife Hazard Management Plan

When the determination has been made that a wildlife hazard management plan is needed, the airport operator shall formulate and implement a plan using the ecological study as a basis. The wildlife hazard management plan's goals should be to lessen or eliminate wildlife hazards to aircraft operations. The wildlife hazard management plan shall include, at a minimum, the following information:

- The name of the person(s) responsible for the implementation of the plan.
- Priorities and completion dates for habitat modifications and changes in land usage as identified in the wildlife ecological study.
- Any required local, state, and Federal wildlife control permits.
- Identification of the resources the airport operator will provide in order to implement the plan.
- Procedures to be followed during air carrier operations, which should include:
 - (a) Assignment of personnel responsible for implementing the procedures;
 - (b) Physical inspections of the runways and taxiways and other areas of wildlife management before any air carrier operations so as to allow time for wildlife controls to be effective;
 - (c) Wildlife control methods; and
 - (d) Communication between the wildlife control personnel and any air traffic control tower in operation at the airport.
- Periodic review and evaluation of the wildlife hazard management plan to see if the plan is effective in dealing with the wildlife hazard, and to see if the existing wildlife hazard, as described in the ecological study, needs to be reevaluated.
- Training programs providing airport personnel with the knowledge and skills needed to implement the wildlife hazard management plan.

Once the wildlife hazard management plan has been prepared, it should be sent to the FAA to await approval prior to its implementation.

References

Federal Aviation Regulations, Part 139, "Certification and Operations: Land Airports Serving Certain Air Carriers".

United States Department of Agriculture, Animal and Plant Health Inspection Services, Program Aid Number 1753, "Managing Wildlife Damage: The Mission of APHIS' Wildlife Services Program".