

Management of Rodent Populations at Airports

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Introduction

Birds and other wildlife are a serious problem at U.S. airports. Certain species are deemed to be more hazardous to aviation safety than others, most often due to the size and behavior of the species. Raptors are hazardous to aircraft safety due to their size, hunting behavior, and hovering/soaring habits. The combination of abundant food sources, open space, and availability of perching structures on airport grounds and near runway/taxiway areas provides ideal hunting opportunities for many raptors (Blokpoel 1976).

Raptors, including hawks, vultures, and eagles, were the fourth most common bird group reported in bird strikes to the FAA from 1990 - 1998 (Cleary, Wright, and Dolbeer 1999), and hawks, more specifically, were the fifth most common bird group reported in bird strikes in Canada from 1991 - 1997 (Transport Canada 1998). Red-tailed hawks were the sixth most common bird species reported in U.S. Air Force bird strikes from 1985 - 2001, resulting in over \$13 million in damage costs (USAF 2001).

Raptors are often attracted to airports by the presence of birds, rodents, or other small mammals that are accommodated by the stands of poorly-maintained grass and border, or edge, habitats present. Baker and Brooks (1981) found raptors to be highly dependent on voles for food at Toronto International Airport. Rodents can also create hazards when they burrow under aircraft movement areas and chew on electrical wiring which control aircraft navigation equipment.

Management Options for Raptors

Since raptors are protected under the Migratory Bird Treaty Act, the ability to directly manage raptor populations is limited. Management of their habitat (e.g. attractants) is often more easily accomplished. The Transport Canada Control Procedures Manual (1994) recommends the following for control of red-tailed hawks: reduction of small mammal populations through rodenticides, elimination of perches, and live trap and relocation of raptors. Hazardous species removed, however, will most often be replaced with others drawn to the attractant; therefore, the attractant (small mammals) needs to be removed. Baker and Brooks (1981) found that managing prey abundance resulted in less raptors.

Management Options for Small Mammals

Reduction of small mammal populations at an airport may decrease raptor populations in the area and therefore, reduce the risk that raptors pose to aircraft. Rodent management can be conducted either through population management or through habitat management. Reduction of small rodent populations can be achieved through a variety of methods, including the use of rodenticides. Zinc phosphide, a rodenticide, was tested for efficacy at an international airport in Missouri over a 3 year period. Preliminary results found zinc phosphide to be very effective (Witmer 1999), but may just be a short term solution. We discuss the use of zinc phosphide baits in field settings. Considerations include important steps and precautions in use. We also discuss environmental considerations and primary and secondary hazards.

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