

WILDLIFE HAZARD MANAGEMENT PLAN



Lake in the Hills Airport

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LIST OF ACRONYMS

3CK	<i>Lake in the Hills Airport</i>
AC	<i>Advisory Circular</i>
ADO	<i>Regional Airports District Office</i>
AOA	<i>Airport Operations Area</i>
AWC	<i>Airport Wildlife Coordinator</i>
CFR	<i>Code of Federal Regulations</i>
FAA	<i>Federal Aviation Administration</i>
FOD	<i>Foreign Object Debris/Damage</i>
IDNR	<i>Illinois Department of Natural Resources</i>
IDOT	<i>Illinois Department of Transportation- Division of Aeronautics</i>
MBTA	<i>Migratory Bird Treaty Act</i>
MOU	<i>Memorandum Of Understanding</i>
NOTAM	<i>Notice To Airmen</i>
USFWS	<i>U. S. Fish and Wildlife Services</i>
WB	<i>Wildlife Biologist</i>
WHA	<i>Wildlife Hazard Assessment</i>
WHMP	<i>Wildlife Hazard Management Plan</i>
WS	<i>Wildlife Services</i>
§139.337	<i>Title 14 Code of Federal Regulations, Part 139.337</i>

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1.0 INTRODUCTION

1.1 Overview

A Wildlife Hazard Management Plan (WHMP) addresses the responsibilities, policies, and procedures necessary to reduce wildlife hazards at airports. The FAA issued Certalert No. 97-09 (see Appendix B: Wildlife Hazard Management Plan Outline) to provide guidance to airports in developing their plans. This Certalert contains a sample outline that was followed in the development of this plan. In addition, Lake in the Hills Airport used guidelines contained within FAR 139.337 to help determine appropriate actions.

1.2 Problem Species

Birds pose the greatest potential threat to aviation safety at Lake in the Hills Airport (3CK). There are many types of birds which frequent the airport and the surrounding area. The most common guilds include waterfowl (ducks and geese) and blackbirds.

Mammals are less frequently observed at 3CK with the primary species observed being coyotes, deer, and opossum.

1.3 Purpose and Scope

An airport's main objective is to ensure that its facilities provide for the safe and expeditious conduct of all aircraft operations. Left uncontrolled, wildlife at an airport can jeopardize the safe operation of any aircraft.

Wildlife can cause extensive damage to aircraft when struck at high speeds. The most obvious threat is the loss of power due to the ingestion of wildlife into an engine. Along with engine power loss, structural damage can be caused by wildlife striking any portion of a moving aircraft posing threats to human health and safety. The Illinois Department of Transportation – Division of Aeronautics (IDOT) and the Village of Lake in the Hills contracted USDA-Animal and Plant Health Inspection Service-Wildlife Services (WS), to conduct a formal Wildlife Hazard Assessment (WHA) at 3CK and to assist with the development and implementation of this plan. Wildlife species of concern and their various management options will be addressed in general terms, allowing 3CK personnel to make informed decisions on courses of action to alleviate specific wildlife threats identified at the airport. WS may provide more detailed recommendations as wildlife problems are identified on the airfield.

2.0 AUTHORITY

Title 14 CFR Part 139.337(f)(1):

The persons who have authority and responsibility for implementing the WHMP.

2.1 Overview

The Airport Manager at 3CK will have ultimate responsibility for the implementation of the WHMP at the airport. Responsibilities for individual sections of the WHMP may be delegated to various departments within the Village. Clear communication among airport personnel is essential for the WHMP to succeed. Personnel shall inform the Airport Manager of progress, recommendations, and resource needs in the wildlife hazard management program.

2.2 Persons Responsible for Implementing the WHMP

2.2.1 Director of Public Works

- a) Review program goals, actions, and plans on an annual basis.

2.2.2 Airport Manager

- a) Serve as Airport Wildlife Coordinator (AWC)
- a) Pre-approve and coordinate landscape changes to ensure wildlife attractants are prevented.
- b) Provide public relations support for wildlife management activities as necessary.
- c) Ensure wildlife attractants are reduced through habitat modifications. Work with other Village departments to alter wildlife habitat as needed.
- d) Review all plans involving changes in land use or new airport structures/facilities to avoid inadvertently attracting wildlife to the area.
- e) Update the WHMP as necessary.
- f) Obtain depredation permits to manage migratory birds and if necessary, mammals, from federal or State wildlife agencies.
- g) Alleviate all attractants deemed an imminent hazard and, if necessary, coordinate a runway closure to remedy wildlife hazards.
- h) Coordinate the issuance of Notices to Airmen (NOTAM).
- i) Supervise, coordinate, and monitor wildlife management activities as outlined in the WHMP.
- j) Ensure only properly trained wildlife management personnel operate on the AOA in accordance with FAA regulations. Such training includes radio communications, driving on the Airport Operations Area (AOA) and safe use of firearms and pyrotechnics.
- k) Monitor facilities and tenant concerns for wildlife problems.
- l) Keep a log of all wildlife strikes and management actions and forward reports to the FAA as necessary.
- m) Log all known wildlife strikes on form FAA 5200-7 (Appendix C).
- n) Make wildlife strike report forms (FAA form 5200-7 (Appendix C) readily available to airport tenants and pilots and encourage submission of the forms to the appropriate governmental agencies and wildlife control personnel.
- o) Conduct frequent physical inspections of areas critical to wildlife hazard management.
- p) Advise 3CK pilots of known wildlife hazards and issue NOTAMs as appropriate.
- q) Ensure wildlife-attracting refuse does not accumulate in fields and ditches on the airport.
- r) Inspect critical areas for wildlife activity, strikes, and maintain a record of the action, even

if no wildlife was present.

- s) Harass wildlife from critical areas when appropriate.
- t) Record all wildlife activity, animals dispersed, and/or euthanized in a log book and record and track this data.
- u) Monitor ditches, storm water basins, and grass areas to ensure that water is draining to avoid pooling and accumulation of refuse on the airport. Ensure rapid corrective action.
- v) Assist with, or contract out habitat modifications addressed in the Wildlife Hazard Assessment (WHA), such as vegetation and water maintenance.
- w) Minimize ponding formed by rain on airport property, grade or drain as necessary.
- x) Inform tenants of rodents and other wildlife found in and around buildings.
- y) Install rodent-proof buildings, dumpsters and other refuse containers when feasible.
- z) Tour the community within 2 miles of the runway to identify possible hazards or attractants which could affect airport operations and maintain a log or map of known attractants.

2.2.3 Federal Aviation Administration (FAA)

- a) Assist 3CK in reviewing any new construction plans for potential wildlife hazards to aircraft.
- b) The Illinois Department of Transportation-Division of Aeronautics may provide this service at the direction of the FAA.

2.2.4 USDA-Wildlife Services (WS)

- a) Provide technical assistance to 3CK to manage wildlife-related risks to aviation.
- b) Assist 3CK with obtaining federal permits to manage migratory birds.
- c) Assist 3CK in reviewing landscaping and development projects on and off the airfield.

3.0 HABITAT MANAGEMENT

Title 14 CFR Part 139.337(f)(2):

A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:

- (i) Wildlife population management*
- (ii) Habitat modifications; and*
- (iii) Land use changes.*

3.1 Overview

Habitat management provides the most effective long-term remedial measure for reducing wildlife hazards on or near airports. Habitat management includes the physical removal, exclusion, or manipulation of areas that are attractive to wildlife. The ultimate goal is to make the environment fairly uniform and unattractive to the species that are considered the greatest hazards to aviation. Habitat modifications will be monitored carefully to ensure that they reduce wildlife hazards and do not create attractants for new wildlife. Table 1 lists a series of habitat and non-habitat based action items and priorities, including target dates for completion, where appropriate.

Table 1. Management priorities for projects to reduce wildlife hazards at 3CK are listed, along with the target dates for completion and date that each project was completed. Note that some of the projects may have already been implemented or completed, but because they require a continued effort they are listed as “ongoing”.

3CK WILDLIFE MANAGEMENT PROJECTS	TARGET DATE	DATE COMPLETED
Complete and maintain wildlife deterrent fencing around the airfield as part of the Runway capital improvement project	2018	
Maintain existing wildlife deterrent fencing and fill dig-unders		Ongoing
Grade or fill tire ruts on infield	As necessary	
Train employees in the safe and effective application of wildlife dispersal measures	Annually	
Evaluate potential wildlife hazards associated with new construction		Ongoing
Stock and maintain wildlife control supplies		Ongoing
Clear and maintain retention basins to the extent possible throughout the airfield to enhance water flow		Ongoing
Evaluate and maintain a Wildlife Hazard Management Plan	Completed – Review Annually	

3.2 Construction Activities

The Airport Manager should participate in the initial and early phases of all airport building projects to avoid any inadvertent increase in wildlife hazards resulting from architectural or landscape changes. Thus, additional effort will be required to ensure that new projects and construction activities are designed in a manner that minimizes wildlife attractants.

3.2.1 Removal of Wildlife Habitat

Wildlife habitat will be removed or reduced whenever possible. Examples include; reduction of trees and shrubs around the airport, mowing, and removal or reduction of temporary standing water (ponding).

3.2.2 Wildlife Encountered During Construction Activities

Anyone performing work at 3CK who encounters wildlife through the course of that work is instructed to contact the Airport Manager, who will then assess the situation and determines the appropriate course of action, in compliance with any and all applicable permits in place at 3CK.

3.3 Attractants

3.3.1 General Zone and Critical Zone

The *General Zone* for 3CK is defined as the area within a five-mile radius from the runway centerline or nearest part of the AOA. Wildlife attractants in this area could potentially impact air traffic safety operating out of 3CK, particularly those attractants that lie within the approach and departure patterns. Examples of wildlife attractants within the five-mile radius could be landfills, water bodies etc. The objective of this WHMP is to actively reduce attractive wildlife habitat on property under the control of 3CK, while working cooperatively with adjacent property owners to discourage land-use practices that might increase wildlife hazards.

The area within a 10,000-foot radius of the runway centerline is delineated as the *Critical Zone*. Control efforts will be primarily concentrated within this area where arriving and departing aircraft are typically operating at or below 500 feet above ground level (AGL), an altitude that also corresponds with the most bird activity. Most attractants in the *Critical Zone* would be agriculture and bodies of water. Approximately 75% of all civil bird-aircraft strikes occur within the *Critical Zone*.

Several off site attractants were identified and monitored in the WHA including agricultural fields to the east of 3CK, Three Oaks Recreation Area, a garbage transfer

station, the Fox River which runs approximately 3 miles southeast of the airport, golf courses, shopping centers, and public parks and forest preserves.

3.3.2 Edge Removal

Edges are places where different habitats meet and are often most attractive to wildlife because biological needs can typically be met in these relatively small areas. 3CK minimizes this habitat by removing all tall vegetation (including trees) and maintaining a uniform grass height both on and off the airfield.

3.3.3 Non-airport Land-use Projects

WS or a FAA qualified airport wildlife biologist should be included in land-use decisions and landscape changes to avoid inadvertent wildlife hazards to aircraft. The FAA's Airports District Office and Safety and Standards Branch of the FAA Region (refer to directory in Chapter 9) will provide technical guidance to 3CK in addressing land-use compatibility issues. Wildlife Services, as per a Memorandum of Understanding between FAA and Wildlife Services (see Appendix E), will provide technical and/or operational assistance in addressing issues or concerns associated with the proposed project or land-use change. Proposed projects that will likely increase hazardous wildlife (see Appendix F) within flight zones will be discouraged. Mitigation measures will be identified to maintain wildlife populations at safe levels. Incompatible land uses may include reservoirs, parks, wetlands, landfills/trash transfer stations and wildlife refuges/sanctuaries. Land-use changes will be monitored for compatibility by working with the local planning authorities.

3.4 Water Management

3.4.1 Overview

The airport has drainage ditches and detention basins that attract birds and mammals throughout the year, especially during the spring/fall when migratory waterfowl and blackbirds pass through the area. These areas will be monitored closely to ensure that hazardous species do not utilize these sites, and if wildlife is observed it will be immediately mitigated. Water sources outside of airport property, but within the *Critical Zone* of 3CK, will be monitored on a quarterly basis and the airport will work with local agencies and landowners to help minimize the attractiveness of these sites.

3.4.2 Wetlands

Any future wetland mitigation resulting from airport construction projects will be implemented as far away from the airfield as possible, unless it can be demonstrated with

reasonable certainty that the mitigation would not likely increase wildlife hazards and will comply with criteria described in FAA Advisory Circular 150/5200-33B. Wetland mitigation projects will be reviewed by the Wildlife Coordinator.

3.4.3 Temporary Standing Water and Ditches

During wet periods of the year, small depressions (e.g., tire ruts and low areas) on the AOA can temporarily fill up with water, these areas are extremely attractive to hazardous wildlife (i.e., waterfowl, gulls, shorebirds). When ruts are found 3CK staff should fill and/or grade the damaged area. Low areas that hold water on the airfield should be graded so that they quickly drain and dewater in 48 hours or less after a rain event.

3.5 Vegetation Management

3.5.1 Overview

Vegetation manipulation is a key long-term element in deterring wildlife from airfields. The goal of vegetation management at 3CK is to maintain plant communities that are least likely to attract wildlife. In most cases, a monotypic grass environment is unattractive to the greatest number of species. All manipulations will be monitored to verify that vegetation management results in the desired effects.

The airport contains diverse vegetation types, some of which are highly attractive to wildlife. The most effective approach to reducing this attraction in the critical zone is to remove all agriculture, unnecessary trees, shrubs, weeds, and plants and establish non-seeding or small-seeded endophytic stand of fescue; especially within 250 feet of the runway. The airfield generally consists of short and tall grass. The Wildlife Coordinator should review all plantings on 3CK property and continue to exclude those species that produce edible fruits, nuts, berries, if these plants create an attraction to hazardous wildlife.

3.5.2 Grass Management

FAA Certalert No. 98-05 advises that “airport operators should ensure that grass species and other varieties of plants attractive to hazardous wildlife are not used on the airport”. In addition, grasses that produce large seeds and are known to be attractive to wildlife will be avoided when planting new areas.

3.5.2.1 Grass Type

Lake in the Hills Airport uses 100% fine fescue mix grass seed. This seed is low maintenance, drought tolerant, and disease resistant.

3.5.2.2 Grass Height

Vegetation areas alongside the runway and taxiway at Lake in the Hills Airport will be maintained between 5-8 inches. Due to cost restraints, the entire airfield cannot be maintained at this height but the areas such as the detention basins will be mowed twice a year at a minimum. Vegetation management throughout the airfield will be maintained in accordance with Advisory Circular 150/5200-33B (see Appendix F).

3.5.3 Ornamental Landscaping

It is recognized that landscaping at the airport can affect tourism, business, and the overall impression of the 3CK vicinity to visitors; therefore, landscaping needs to be aesthetically pleasing. It must, however, coincide with the airport's greater responsibility of air safety. The planting of trees and bushes that offer hunting perches, roosting and loafing sites, nesting cover, and food for birds and other wildlife will be avoided. Varieties of ornamental trees and bushes used to enhance airport aesthetics will be used only if they are reasonably unattractive to wildlife. Species that produce edible fruits and/or nuts shall not be used on 3CK property. Airport personnel will monitor ornamental trees to prevent communal roosting by birds, removing, thinning, or netting the trees, if necessary. The Airport Manager will review any landscaping plans for potential conflicts.

3.6 Structure Management

3.6.1 Overview

Structures provide cover and hunting perches for wildlife. If wildlife is considered when a building is being designed, costly control measures can be avoided. Buildings should not provide nesting, perching, or roosting sites for birds and should exclude mammals, such as rodents and raccoons.

3.6.2 Airfield Structures

Airfield structures, such as runway lights, ramp/taxiway signs, and light poles, are used as hunting and loafing perches for birds. Structures found to routinely attract wildlife in a hazardous manner may be fitted with wire coils or porcupine wire (e.g., Nixalite).

3.6.3 Abandoned Structures

Structures not pertinent to air operations, and/or no longer in use, should be removed (e.g., abandoned aircraft, sheds, machinery, and light poles). Such structures may harbor rodents, small birds or other wildlife that may attract hawks, owls, and other predators

which are significant aviation hazards.

3.7 Food/Prey-base Management

3.7.1 Overview

Small mammals and invertebrates, such as voles, rabbits, insects, and earthworms, are highly attractive prey species for predators and should be controlled as needed. Handouts, trash, and scattered debris also provide food sources for wildlife. The modification and/or management of attractive habitats such as vegetation and abandoned structures will limit shelter and prey availability for potentially hazardous wildlife.

3.7.2 Rodents

Voles, ground squirrels and deer mice are the primary prey base for raptors and a host of other predators. Small mammal populations will be monitored when increased numbers of raptors and coyotes are observed on the airfield. Population control measures may be taken to reduce the prey base and overall attractiveness of the airfield if needed.

3.7.3 Insects and Other Invertebrates

Insects and other invertebrates (e.g., earthworms, grasshoppers, etc.) may attract wildlife at 3CK, particularly Bank Swallows, European starlings, American kestrels, and gulls. Vegetation management will keep much of this prey population in check, but airport personnel will continue to monitor these populations for problems.

3.7.4 Trash, Debris, and Handouts

Trash and debris are often responsible for attracting numerous bird species, but especially gulls and European starlings. Personnel will continue to conduct trash and FOD (foreign object debris/damage) collection inspections on the airfield, especially after high winds. The public or airport employees will not be allowed to feed birds or mammals around the airport. The quarterly inspection conducted by the Airport Manager will include monitoring of the area around the garbage transfer station to the southeast of the airport to note any attractants or congregating wildlife that can possibly be mitigated.

4.0 LAWS AND REGULATIONS

Title 14 CFR Part 139.337(f)(3):

Requirements for and, where applicable, copies of local, state, and Federal wildlife control permits.

4.1 Overview

Federal, state and local governments administer laws and regulations that protect wildlife and their habitat; affecting wildlife control at airports. Personnel involved with wildlife management should be educated about these regulations to ensure compliance. In general, the taking (i.e., capturing or lethal removal) of wildlife is regulated through a permit process overseen by federal and/or state agencies. Permits are necessary for a successful management program and will be obtained, as required, by the Airport Manager.

4.2 Illinois Wildlife Regulations

Several Illinois State agencies have regulations that affect wildlife management at airports. State wildlife laws administered by the Illinois Department of Natural Resources (IDNR) include jurisdiction over resident and migratory birds, mammals, reptiles, amphibians, and State threatened or endangered species. The IDNR issues Nuisance Wildlife Control Permits for the taking of problematic species under their control. The Illinois Department of Agriculture regulates the product labels of pesticides used to control wildlife. The Illinois Department of Public Health regulates pesticide applicator licenses for individuals permitted to apply restricted-use pesticides.

4.3 Federal Regulations

Several federal regulations, including the Migratory Bird Treaty Act, the Endangered Species Act, Bald and Golden Eagle Protection Act, the National Environmental Policy Act and the Federal Insecticide, Fungicide, and Rodenticide Act regulate various aspects of 3CK's wildlife management activities. Additional regulations that may affect wildlife control activities at 3CK are found in the Code of Federal Regulations (CFR), with several federal agencies potentially responsible for their implementation. Federal wildlife laws are typically administered by the U.S. Fish and Wildlife Service (USFWS) and involve primarily migratory birds and threatened and endangered species.

4.4 Wildlife Categories

For the purposes of this document, feral and free roaming dogs, cats and other domestic animals are considered "wildlife" because of the hazards they may pose to aircraft. They are offered no

specific federal or state protection, but are generally regulated under municipal laws. General wildlife categories potentially found at 3CK are listed in Table 2 and include migratory and resident game and non-game species, along with threatened and endangered species. Wildlife management personnel should know the category for the species that they intend to control so that they can determine the relevant laws and whether permits are necessary.

Table 2. Wildlife Categories at 3CK. Permits necessary for management as required by federal and state wildlife agencies, and whether permits have been obtained. Not all categories of wildlife may be present at 3CK.

Category	Species	State Permit Required	State Permit Obtained	Federal Permit Required	Federal Permit Obtained
Resident Game Birds	None at 3CK	Yes	No	No	N/A
Resident Nongame Birds	Pigeons, starlings, house sparrows	No	N/A	No	N/A
Migratory Game Birds	Ducks and geese	Yes	No	Yes	No
Migratory Nongame Birds	All species except game birds, resident nongame birds, and domestic and exotic birds	Yes	No	Yes	No
Depredation order Birds¹	Crows, red-winged blackbirds, cowbirds, grackles	No	N/A	No	N/A
Game Mammals	White-tailed deer, Rabbits, woodchucks	Yes	No	No	N/A
Furbearers	Fox, raccoon, opossum, coyote, striped skunk	Yes	No	No	N/A
Nongame Mammals	meadow voles and field mice	Yes	No	No	N/A
Feral Domestic Mammals	Dogs, cats, livestock	No - Call McHenry County Conservation District	N/A	No	N/A
Reptiles And Amphibians	Turtles	Yes	No	No	N/A
Fully Protected Wildlife	Threatened and Endangered species listed in Table 3	Yes	No	Yes	No

¹ May be taken without permits “when concentrated in such numbers and manner as to constitute a health hazard or other nuisance” (50 CFR §21.43) See attached Final Rule regarding changes to 50 CFR 21.43.

4.5 General Regulations for Wildlife Control

Several regulations and permits apply to wildlife management activities at airports in Illinois. Many of these regulations relate to safety, methods, and special considerations or restrictions which are usually specified on the depredation permits.

4.5.1 Birds

4.5.1.1 Resident nongame birds

European starlings, pigeons, and house sparrows are non-game birds that are classified as non-migratory, or resident, and no permit is required to take them. All other non-game birds at 3CK are classified as migratory.

4.5.1.2 Resident game birds

Resident game birds (e.g., pheasant and turkey) are non-migratory. Although they are not protected by the MBTA (and no Federal permit is required for take) they are protected by state law and a State Nuisance Wildlife Control Permit is required from the IDNR prior taking these birds.

No resident game birds were noted at 3CK.

4.5.1.3 Migratory birds

Migratory birds are regulated under federal law and state law by USFWS and IDNR. These regulations permit hazing of migratory birds when the birds are damaging property, but a permit is required to *take* birds (i.e., capture or lethal removal). The airport would need to obtain the proper Federal and State Depredation permits which are necessary to remove these animals. Migratory bird permits are not valid for eagles or threatened and endangered species, which require separate permits for take and harassment. Although states may impose more restrictive regulations than federal law on migratory birds, Illinois typically issues permits that mirror the federal permits for non-protected migratory birds issued to the airport by USFWS.

4.5.1.4 Reporting requirements of the USFWS

The USFWS requires that any action taken under the authority of their depredation permit be reported annually. The Airport Manager shall submit a report of the animals taken each calendar year to the USFWS to fulfill the requirements of this section.

4.5.2 Mammals

4.5.2.1 Game mammals

Game mammals are defined primarily as those species that are hunted for sport, recreation, or meat. A Nuisance Animal Removal Permit from the IDNR is required before these animals may be controlled.

Deer populations have increased throughout the United States and are adapting to urban and suburban landscapes. From 1990 to 2013, 950 white-tailed deer-aircraft collisions were reported to the Federal Aviation Administration (FAA). Of these reports, 84% indicated the aircraft was damaged as a result of the collision.

Actions taken against game mammals at Lake in the Hills Airport will be coordinated through McHenry County Conservation District.

4.5.2.2 Non-game mammals

Non-game mammals include those that do not fall into any other category, such as rodents and bats. Thirteen-lined ground squirrels, meadow voles and field mice are non-game mammals and are not protected by state law. Rodenticides are the most common control method for these animals. The applicator must have a current Certified Pesticide Applicator's License issued by the Illinois Department of Agriculture and use a pesticide registered with the Illinois Department of Agriculture. The primary reason to control these mammals on an airfield is to reduce the prey base for predatory animals, including raptors and coyotes.

4.5.2.3 Furbearers

Furbearers are offered state protection and require a Nuisance Animal Removal Permit from the IDNR before control actions can be used to take these animals. Coyotes have been observed at 3CK and can cause significant damage to aircraft.

4.5.3 Federal and State Listed Threatened and Endangered Species

The Federal Endangered Species Act (Sec. 2 [16 U.S.C. 1531]) and Illinois Endangered Species Act protect animal and plant species potentially threatened with extinction. These acts classify species as endangered or threatened. An *Endangered Species* is defined as "any species or subspecies which is in danger of extinction throughout all or a significant portion of its range." A *Threatened Species* is defined as "any species or subspecies which is in danger of becoming an endangered species within the foreseeable future throughout or over a significant portion of its range." Once listed, a threatened or endangered species cannot be taken or harassed without a special permit. Eagles are

afforded additional protection under the Bald and Golden Eagle Protection Act whether or not they are listed. Similarly, they cannot be taken or harassed without the proper permit from the USFWS.

Table 3. Federal and state listed threatened and endangered species.

Legend: Threatened Endangered

Birds

Common Name	Scientific Name	State-Listed (Status T/E)	Federal-Listed (Status T/E)
American Bittern	<i>Botarus lentiginosus</i>	E	
Barn Owl	<i>Tyto albo</i>	E	
Bewick's Wren	<i>Thryomanes bewickii</i>	E	
Black Rail	<i>Laterallus jamaicensis</i>	E	
Black Tern	<i>Chlidonias niger</i>	E	
Black-billed Cuckoo	<i>Coccyzus erythrophthalmus</i>	T	
Black-crowned Night-heron	<i>Nycticorax nycticorax</i>	E	
Cerulean Warbler	<i>Dendroica cerulean</i>	T	
Common Moorhen	<i>Gallinula chloropus</i>	E	
Common Tern	<i>Sterna hirundo</i>	E	
Greater Prairie-Chicken	<i>Tympanuchus cupido</i>	E	
Forster's Tern	<i>Sterna forsteri</i>	E	
King Rail	<i>Rallus elgens</i>	E	
Least Tern	<i>Sterna antillarum</i>	E	E
Least Bittern	<i>Ixobrychus exilis</i>	T	
Little Blue Heron	<i>Egretta caerulea</i>	E	
Loggerhead Shrike	<i>Lanius ludovicianus</i>	E	
Mississippi Kite	<i>Ictinia mississippiensis</i>	T	
Northern Harrier	<i>Circus cyaneus</i>	E	
Osprey	<i>Pandion haliaetus</i>	E	
Peregrine Falcon	<i>Falco peregrines</i>	T	
Piping Plover	<i>Charadrius melodus</i>	E	E
Short-Eared Owl	<i>Asio flammeus</i>	E	

Birds, Continued

Common Name	Scientific Name	State-Listed (Status T/E)	Federal-Listed (Status T/E)
Snowy Egret	<i>Egretta thula</i>	E	
Swainson's Hawk	<i>Buteo swainsoni</i>	E	
Swainson's Warbler	<i>Limnothlypis swainsonii</i>	E	
Upland Sandpiper	<i>Bartramia longicauda</i>	E	
Wilson's Phalarope	<i>Phalaropus tricolor</i>	E	
Yellow-crowned Night Heron	<i>Nyctanassa violacea</i>	E	
Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>	E	

Mammals

Common Name	Scientific Name	State-Listed (Status T/E)	Federal-Listed (Status T/E)
Eastern Wood Rat	<i>Neotoma floridana</i>	E	
Franklin's Ground Squirrel	<i>Spermophilus franklinii</i>	T	
Golden Mouse	<i>Ochrotomys nuttalli</i>	T	
Gray Bat	<i>Myotis grisescens</i>	E	E
Gray/Timber Wolf	<i>Canis Lupus</i>	T	
Indiana Bat	<i>Myotis sodalists</i>	E	E
Rafinesque Big-Eared Bat	<i>Corynorhinus rafinesquii</i>	E	
Marsh Rice Rat	<i>Oryzomys palustris</i>	T	
Southeastern Myotis	<i>Myotis austroriparius</i>	E	

4.5.3.1 Habitat Conservation

USFWS and the IDNR are responsible for endangered species conservation and recovery plans. These plans require the identification of critical habitat when it is associated with the decline of a species. Habitat alterations and developments may be prohibited in areas where critical habitat has been designated or where such changes could result in the inadvertent take of an endangered species. Consultation with USFWS or IDNR biologists will help determine on a case-by-case basis whether critical habitat is affected by airport projects and if so, the necessary mitigation.

4.6 Wetland Mitigation

Wetland modifications may require permits from various agencies, including the USFWS and U.S. Army Corps of Engineers (USCOE). Pre-development mitigation may be required for issuance of a permit. The FAA has outlined a series of procedures (refer to the publication on wetland mitigation banking in the FAA's wildlife section homepage <http://www.faa.gov/arp/hazard.htm> for mitigating wetland impacts resulting from project development.) See 40 CFR 1505.3.

4.7 Pesticide Applicator's License

Authorization to use restricted-use pesticides for the removal of hazardous wildlife or prey-base (e.g., blackbirds, starlings, rodents, rabbits, insects, earthworms, and weeds) should be limited to Certified Pesticide Applicators/Operators or persons under their direct supervision. To obtain the necessary license to apply restricted-use pesticides, a person must pass an exam administered by the Illinois department of Agriculture for pesticides used on the airfield, and the Illinois Department of Health for pesticides used in and around structures.

Staff members from the Airport hold pesticide operator's licenses and will be called to spray goose repellent and various kinds of weed killer on the airfield as needed. Public Works Department staff has pesticide applicator's licenses and can be used as a backup should Airport staff be unavailable. Use of all pesticides should strictly adhere to the pesticide label and should follow U.S. EPA and Illinois guidelines.

4.8 FAA Regulations, Advisory Circulars, and Certalerts

The FAA is the federal agency responsible for developing and enforcing air transportation safety regulations. Many of these regulations are codified in the Code of Federal Regulations (CFRs). The FAA also publishes a series of guidelines for airport operators to follow called Advisory Circulars (ACs). ACs in the 150-series deal with airport safety issues, including wildlife hazards. In addition to CFRs and ACs, the FAA periodically issues Certalerts for internal distribution and to provide recommendations on specific issues for inspectors and airport personnel. These documents may be changed or updated, so their status should be verified on a regular basis. The Airport Manager is signed up to receive alerts from the FAA anytime a change to an advisory circular is made or whenever a CertAlert is issued. This information may also be downloaded from the FAA directly (see Chapter 9) by visiting their website at http://www.faa.gov/airports_airtraffic/airports/resources/advisory_circulars/ for the most current version.

5.0 RESOURCES

Title 14 CFR Part 139.337(f)(4):

Identification of resources to be provided by the certificate holder for implementation of the plan.

5.1 Airport Supplies

Habitat management and wildlife control supplies can be purchased from several companies. 3CK will keep an adequate supply of equipment on hand for use by trained personnel. Supplies that will be on hand at the airport include:

- 15 mm pyrotechnic pistol launchers
- Bird bombs/bangers (with blanks)
- Binoculars
- Latex gloves
- Garbage bags
- Gallon-size re-sealable sandwich bags for collection of bird remains

These supplies can be purchased from Stoneco, Inc.

6.0 WILDLIFE CONTROL PROCEDURES

Title 14 CFR Part 139.337(f)(5)(i):

Assignment of personnel responsibilities for implementing the procedures;

Personnel responsibilities are described and delineated in Chapter 2.

Title 14 CFR Part 139.337(f)(5)(ii):

Conduct of Physical inspections of the movement areas and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;

Airport personnel conduct physical inspections of movement areas and other areas critical to wildlife hazard management as part of their daily protocol. Staff will document all observed wildlife and record the data into wildlife activity forms (Appendix E). They will also document actions taken to mitigate any wildlife observed or reported. In cases where no animals are seen, no record will be generated. The wildlife activity reports for each day will be maintained in the airport office and reviewed periodically by the Airport Manager. Any wildlife strikes observed will be recorded within 48 hours to the FAA Strike Database (<http://wildlife.faa.gov>). During periods of exceptionally heavy wildlife activity (e.g., migratory periods, outbreaks of insects etc.), a Notice to Airmen (NOTAM) will be issued.

Title 14 CFR Part 139.337(f)(5)(iii):

Wildlife control measures;

6.1 Overview

Wildlife that is identified as hazardous during and after the completion of the recommended habitat modifications should be controlled using accepted direct control techniques. Wildlife hazards at airports are extremely variable and complex; therefore, it is essential to adopt a flexible, innovative and adaptive approach to managing such hazards. The manual entitled, “Prevention and Control of Wildlife Damage” (available on the internet at: <http://icwdm.org/>) details species-specific damage assessment and includes an in-depth discussion of methods of dispersal for each species. Transport Canada (Canada’s governmental agency responsible for reducing wildlife hazards) has also produced a valuable internet-based reference manual on wildlife control procedures at airports at <http://www.tc.gc.ca/eng/programs/airports-wildlife-control-2948.html>. Airport personnel should be trained to identify hazardous wildlife at 3CK (refer to Chapter 8) and should select dispersal methods that are appropriate to the type of animal causing the hazard.

6.2 Wildlife Patrol

The wildlife patrol crew consists of the Airport Manager and the on-duty Line Service Technician(s). All other Village staff can assist with patrols by providing wildlife observations to the Manager. The patrol will monitor and respond to wildlife hazards on the airfield and coordinate their activities through the Manager. The crew will be trained in wildlife identification, proper control techniques, safe operations as outlined in Chapter 8, and have an airfield radio and adequate wildlife control supplies (Chapter 5). The crew will record and report all observations of wildlife activity into the wildlife database. Runway inspections are conducted twice per day except for recognized holidays when the airport office is closed and the presence of any dead animals found from strikes or suspected strikes will be recorded on Form 5200-7 (Appendix D) or reported online via the FAA strike database. Other wildlife-related activities (e.g., notable hazards, animals killed or dispersed, unusual wildlife behavior, etc.) should be documented on the Daily Wildlife Activity Report. All dead birds or mammals found within 250 feet of the centerline of a runway will be considered the result of a strike unless the death was obviously due to some other cause. Any bird or mammal remains that are found should be reported to the strike database within 48 hours. Wildlife strikes may be submitted electronically at <http://wildlife.faa.gov>. A printout of the strike report will be included with the wildlife activity log.

6.3 General Wildlife Management

Each wildlife hazard that develops will be analyzed by wildlife management personnel to determine a practical solution. The initial response for most species will be to haze them with frightening devices, followed by trapping and removal or possibly lethal reinforcement when necessary. The primary keys to successful wildlife management are persistence and innovation. Techniques should be applied based on safety, effectiveness, practicality and environmental

considerations. Most management techniques retain their effectiveness when applied in conjunction with other methods; though some such as pesticides or leg-hold traps are only effective and legal for certain species and situations. The techniques chosen will depend largely on the situation and the species involved. Personnel involved in direct control operations should be aware of the potential diseases that wildlife can carry and should take appropriate precautions when handling wildlife.

6.4 Bird Management

Birds at 3CK represent the most significant potential for causing damaging strikes, most notably waterfowl. The “Prevention and Control of Wildlife Damage” manual and Wildlife Hazard Assessment prepared for 3CK discusses a number of methods that may be used to haze birds from the airport. As previously stated, an integration of multiple methods should be employed for maximum effectiveness. If properly applied, the techniques discussed in this reference manual should reduce most hazards involving species of concern at 3CK.

6.5 Mammal Management

Large mammal exclusion would be greatly enhanced by completing the perimeter fence and upgrading the remainder as described in FAA Cert alert 04-16 (Appendix G). Additionally, small mammals on the airfield can provide an attraction to larger predators and raptors. Small mammal populations will be monitored and managed through habitat management and rodenticides as needed.

6.6 USDA-Wildlife Services Assistance

Wildlife Services will provide technical assistance to 3CK when requested by airport personnel, and is available to assist in direct control activities if needed. Wildlife Services may be contacted at (217) 241-6700 for assistance with problems involving wildlife at the airport.

6.7 McHenry County Conservation District

McHenry County Conservation District may also be available to help with wildlife issues at the airport. They can be reached at (815) 728-8307.

6.8 Illinois Department of Natural Resources

The Illinois Department of Natural Resources can be contacted for depredation permits at (217) 782-6384.

6.9 Trapper Services

Thomas Hoven is a licensed trapper with the State of Illinois who can assist with trapping and removing many types of mammals on the airport. He can be reached at (815) 338-3309.

7.0 EVALUATION

Title 14 CFR Part 139.337(f)(6):

Periodic evaluation and review of the WHMP for-

- (i) Effectiveness in dealing with the wildlife hazard on and in the airport's vicinity; and*
- (ii) Indications that the existence of the wildlife hazard should be reevaluated.*

7.1 Overview

The WHMP will be reviewed annually. The Airport Manager in conjunction with the Public Works Director will evaluate the effectiveness of the WHMP at reducing wildlife strikes at 3CK and monitor the status of hazard reduction projects, including their completion dates.

7.2 Wildlife Strike Database

The Airport Manager or his/her designee will report all wildlife strike incidents to the FAA National Strike Database within 48 hours. Information from this database will be used to identify trends and to monitor any increases in wildlife hazards on the airfield. Records should be entered whenever strikes occur. The database can be found at <http://wildlife.faa.gov>.

7.3 Airport Improvement Plans

Airport improvement plans will be reviewed by Village staff to ensure that new developments will not inadvertently result in increased wildlife hazards to aircraft operations and will comply with AC # 150/5200-33B, Hazardous Wildlife Attractants on or near Airports (Appendix B).

7.4 FAA Involvement

FAA Regional Certification Inspectors and personnel from the Local/ Regional Airports District Office (ADO) should be invited to make comments on the WHMP.

8.0 TRAINING

Title 14 CFR Part 139.337(f)(7):

A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to carry out the WHMP required by (d) of this section.

8.1 Overview

Training is essential for those personnel involved in the WHMP. The Airport Manager will ensure that all airport personnel that might be working in a wildlife deterrence capacity are trained in the proper selection and application of control methods, including species identification and reporting procedures.

8.2 Standard Training

Wildlife control personnel will receive training in mitigating wildlife hazards at airports, including an overview of laws associated with wildlife control, techniques used for prey-base reductions, effective use of pyrotechnics (including hands-on training) and wildlife identification and dispersal techniques.

8.3 USDA-Wildlife Services Training

Wildlife Services provides a one day training course for wildlife patrol personnel. The purpose of the course is to familiarize personnel involved with airport operations in basic wildlife identification and dispersal techniques. The course also involves hands-on training using pyrotechnics and other deterrent equipment, with an emphasis on safety and effectiveness. This training will be attended by the Airport Manager or his/her designee on an annual basis to the extent possible.

9.0 AGENCY DIRECTORY

REGULATORY AND ENFORCEMENT

Federal Aviation Administration (FAA)

Safety Certification Inspector
Great Lakes Region
2300 E. Devon Avenue
Des Plaines, IL 60018

Federal Aviation Administration (FAA)

Staff Wildlife Biologist
FAA Airport Safety and Compliance
FAA-AA5-317
800 Independence Ave., SW
Washington, DC 20591
Tel. (202) 267-3389

Illinois Dept. of Agriculture

Agricultural Pesticide Applicator Testing
2280 Bethany Rd.
DeKalb, IL 60115
Tel. (815) 787-5476

Illinois Dept. of Natural Resources

Nuisance Wildlife Control Permits
One Natural Resource Way
Springfield, IL 62702
Tel. (217) 782-6384

Illinois Dept. of Transportation- Aeronautics

1 Langhorne Bond Dr.
Springfield, IL 62707
Tel. (217) 785-8500

Illinois Dept. of Public Health

Structural Pesticides Applicator Testing
525 W. Jefferson Street
Springfield, IL 62761

U.S. Fish and Wildlife Service

Migratory Bird Permit Office, Region 3
Bishop Henry Whipple Federal Building
1 Federal Drive
Fort Snelling, MN 55111-4056
Tel. (612) 713-5436
Fax (612) 713-5286

U.S. Fish and Wildlife Service

Endangered Species Office
One Federal Drive
Fort Snelling, MN 55111
Tel. (612) 713-5535

U.S. Fish and Wildlife Service (Law Enforcement)

One Federal Drive
Fort Snelling, MN 55111
Tel. (612) 713-5356
Fax (612) 713-5283

TECHNICAL ASSISTANCE

Smithsonian Institution- Feather ID Lab

Dr. Carla Dove
Division of Birds
NHB E 610, MRC 116
Washington, DC 20560
Tel. (202) 357-2334

USDA- Wildlife Services

Illinois State Office
3430 Constitution Drive, Suite 121
Springfield IL 62711-9411
Tel. (217) 241-6700
Fax (217) 241-6702

University of Illinois-Cooperative

Champaign County
2118 West Park Court
Tel. (217) 353-6600

Illinois Department of Agriculture

Pesticides Management
Bureau of Environmental Programs
P.O. Box 19281
State Fairgrounds
Springfield, IL 62794
Tel. (217) 785-2427

US Fish and Wildlife Service

Chicago Field Office
1250 S. Grove, Suite 103
Barrington, IL 60010
Tel. (847) 381-2253

WEBSITES OF INTEREST

Federal Aviation Administration (FAA)

<http://wildlife.faa.gov>
http://www.faa.gov/airports/resources/advisory_circulars/

Transport Canada - Wildlife Control Techniques

<http://www.tc.gc.ca/eng/programs/airports-wildlife-control-2948.html>

Prevention and Control of Wildlife Damage

<http://icwdm.org/>

U.S. Department of Agriculture-Wildlife Services

<http://www.aphis.usda.gov>

APPENDIX A *TITLE 14 CODE OF FEDERAL REGULATIONS PART 139.337*

Title 14 CFR Part 139.337 prescribes the specific issues that a Wildlife Hazard Management Plan must address in order to obtain FAA approval.

Note: Certalerts, Advisory Circulars, and regulations are frequently changed or updated; always verify that the version attached herein is the most current. Contact FAA or Wildlife Services (see directory in Chapter 9) or consult the FAA website for the latest version: <http://www.ecfr.gov/>

APPENDIX B *FAA CERTALERTS AND ADVISORY CIRCULARS*

Certalerts:

- **Certalert 97-09 – Wildlife Hazard Management Plan Outline**

To augment compliance with Title 14 CFR Part 139.337, the FAA issued Certalert No. 97-09 to provide guidance to airports in developing their Wildlife Hazard Management Plans.

- **Certalert 04-09 –Relationship Between FAA and WS**

This Certalert clarifies the roles of, and relationship between the Federal Aviation Administration (FAA) and the United States Department of Agriculture /Animal and Plant Health Inspection Service/Wildlife Services (WS) with regards to wildlife hazards on or near airports.

- **Certalert 04-16, Deer Hazard to Aircraft and Deer Fencing**

This Certalert provides guidance on the installation and maintenance of fencing that will help exclude wildlife from entering the AOA, along with greatly increasing airport security and safety.

Advisory Circulars:

- **Advisory Circular No. 150/5200-36A. Qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards on Airports**

This Advisory Circular describes the qualification for wildlife biologists who conduct Wildlife Hazard Assessments for airports under Title 14 CFR Part 139. It also addresses the minimum wildlife hazard management curriculum for the initial and recurrent training of airport personnel involved in implementing a FAA approved Wildlife Hazard Management Plan.

- **Advisory Circular No. 150/5200-33B. Hazardous Wildlife Attractants on or near Airports**

This Advisory Circular provides guidance on certain land uses that have the potential to attract hazardous wildlife on or near public-use airports. It also discusses airport development projects affecting aircraft movement near hazardous wildlife attractants.

- **FAA Advisory Circular 150/5300-13, Airport Design Appendix 17**

Appendix 17 of this document provides guidance to airports on acceptable distances between runways and agriculture crops.

Note: Certalerts, Advisory Circulars, and regulations are frequently changed or updated; always verify that the version attached herein is the most current. Contact FAA or Wildlife Services or consult the FAA website for the latest versions of Certalerts or Advisory Circulars.

http://www.faa.gov/airports/airport_safety/certalerts/

http://www.faa.gov/airports/resources/advisory_circulars/

APPENDIX C FAA BIRD STRIKE FORM- Form 5200-7

Form Approved OMB NO. 2120-0018

U.S. Department of Transportation Federal Aviation Administration		BIRD/OTHER WILDLIFE STRIKE REPORT																																																	
1. Name of Operator		2. Aircraft Make/Model																																																	
3. Engine Make/Model		4. Aircraft Registration																																																	
5. Date of Incident _____ / _____ / _____ Month Day Year		6. Local Time of Incident <input type="checkbox"/> Dawn <input type="checkbox"/> Dusk — HR — MIN <input type="checkbox"/> Day <input type="checkbox"/> Night <input type="checkbox"/> AM <input type="checkbox"/> PM																																																	
7. Airport Name		8. Runway Used																																																	
9. Location if En Route (Nearest Town/Reference & State)		10. Height (AGL)																																																	
11. Speed (IAS)		12. Phase of Flight																																																	
<input type="checkbox"/> A. Parked <input type="checkbox"/> B. Taxi <input type="checkbox"/> C. Take-off Run <input type="checkbox"/> D. Climb <input type="checkbox"/> E. En Route <input type="checkbox"/> F. Descent <input type="checkbox"/> G. Approach <input type="checkbox"/> H. Landing Roll		13. Part(s) of Aircraft Struck or Damaged <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th>Struck</th> <th>Damaged</th> <th></th> <th>Struck</th> <th>Damaged</th> </tr> </thead> <tbody> <tr> <td>A. Radome</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>H. Propeller</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>B. Windshield</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>I. Wing/Rotor</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>C. Nose</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>J. Fuselage</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>D. Engine No. 1</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>K. Landing Gear</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>E. Engine No. 2</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>L. Tail</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>F. Engine No. 3</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>M. Lights</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td>G. Engine No. 4</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td>N. Other:</td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </tbody> </table> (Specify, if "N. Other" is checked)			Struck	Damaged		Struck	Damaged	A. Radome	<input type="checkbox"/>	<input type="checkbox"/>	H. Propeller	<input type="checkbox"/>	<input type="checkbox"/>	B. Windshield	<input type="checkbox"/>	<input type="checkbox"/>	I. Wing/Rotor	<input type="checkbox"/>	<input type="checkbox"/>	C. Nose	<input type="checkbox"/>	<input type="checkbox"/>	J. Fuselage	<input type="checkbox"/>	<input type="checkbox"/>	D. Engine No. 1	<input type="checkbox"/>	<input type="checkbox"/>	K. Landing Gear	<input type="checkbox"/>	<input type="checkbox"/>	E. Engine No. 2	<input type="checkbox"/>	<input type="checkbox"/>	L. Tail	<input type="checkbox"/>	<input type="checkbox"/>	F. Engine No. 3	<input type="checkbox"/>	<input type="checkbox"/>	M. Lights	<input type="checkbox"/>	<input type="checkbox"/>	G. Engine No. 4	<input type="checkbox"/>	<input type="checkbox"/>	N. Other:	<input type="checkbox"/>	<input type="checkbox"/>
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22. Aircraft time out of service: _____ hours	23. Estimated cost of repairs or replacement (U.S. \$): \$ _____	24. Estimated other cost (U.S. \$) (e.g. loss of revenue, fuel, hotels): \$ _____																																																	
Reported by (Optional)	Title	Date																																																	
<p>Paperwork Reduction Act Statement: The information collected on this form is necessary to allow the Federal Aviation Administration to assess the magnitude and severity of the wildlife-aircraft strike problem in the U.S. The information is used in determining the best management practices for reducing the hazard to aviation safety caused by wildlife-aircraft strikes. We estimate that it will take approximately 5 minutes to complete the form. If you wish to make any comments concerning the accuracy of this burden estimate and any suggestions for reducing this burden, send those comments to the Federal Aviation Administration, Management Staff, ARP-10, 800 Independence Avenue, SW, Washington, DC 20591. The information collected is voluntary. Please note that an agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB control number. The OMB control number associated with this collection is 2120-0045.</p>																																																			

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APPENDIX D *COMMON WILDLIFE AND MITIGATION TECHNIQUES AND 3CK*

1. **White-Tailed Deer**

Risks

Deer do the most damage to aircraft when struck than any other animal. They are extremely hazardous to aircraft due to their size and their tendency to dart in front of a moving aircraft. This leaves pilots with little time to react.

Characteristics

Deer tend to be active at twilight or before sunrise. They utilize forest edges where brush and saplings are present to provide cover. They consume leaves, stems, and buds of woody plants and prefer to travel where there is cover.



Control Measures

In 2014 a significant effort was made to remove trees growing immediately outside airport property. Although the airport is surrounded by woodland and open fields, this moved the potential cover for deer further back from the perimeter fence. The most effective control technique is exclusion which the airport is working toward. 10 foot chain link fence with 3-strand barbed wire completely enclosing the airport is the ultimate goal. Completion of this work will depend on the timing of other capital improvement projects so no specific deadline has been established. Deer should be treated with a “zero tolerance” policy meaning any sighting or report of deer on the airfield should immediately trigger a wildlife patrol. Deer respond well to hazing with the airport vehicles or pyrotechnics and should be deterred from crossing the runway to the extent possible. The most effective strategy has been to open several airfield gates and push the deer toward them. It is easiest to herd the deer toward the east.

Deer are regulated by the Illinois Department of Natural Resources but may be killed out of season under an IDNR Deer Removal Permit.

2. **Waterfowl - Canada Goose & Duck**

Risks

Due to their large size, weight, and relative abundance, waterfowl can be particularly hazardous to aircraft. Canada geese and mallards rank 5th and 20th, respectively, out of most hazardous bird species struck by civil aircraft between 1990 and 2010.

Characteristics

Ducks typically loaf or roost near sources of water. They will feed in crop fields during the winter months. There are many types of ducks. The overall body plan of ducks is elongated and broad, and the ducks are also relatively long-necked, however not as long-



necked as geese. The body shape of diving ducks varies somewhat from this in being more rounded. The bill is usually broad and contains serrated lamellae which are particularly well defined in the filter-feeding species. Ducks have webbed feet and feed on a variety of grasses, fish, insects, and worms.

Canada geese will occupy open fields or lawns where they can watch for predators while feeding. Geese typically feed twice a day: once in the morning and later in the afternoon. They then return to their roost site in the evening which is usually on open water such as lakes, ponds, and even flooded areas in fields. Both species leave their roosts around sunrise to feed and return before sunset.



Control measures

All waterfowl are protected by the Migratory Bird Treaty Act. This act strictly prohibits the capture, killing, or possession of these birds without a special permit. No permits are required to scare migrating birds that are causing damage except for endangered or threatened species (50 CFR 21.41).

Lake in the Hills Airport staff will pursue removal and exclusion of attractive habitat to deter geese and ducks from loafing on airport property. Detention basins will be closely monitored for proper drainage. The basins are designed to empty within 48 hours after a rain event. Active hazing is another strategy staff will employ to mitigate these waterfowl. Staff who observe ducks and geese on property will haze them using either the airport operations truck or pyrotechnics. Another method to deter these birds is the application of goose repellent on grassy areas throughout the airport. Due to cost restraints and the fact that such applications only last for several weeks depending on weather, this method is a last resort.

3. **Raptors**

Risks

Raptors present a hazard to aircraft due to their large size. Their hunting behavior makes them especially prone to collisions with aircraft as they tend to hover over prey.

Characteristics



Raptors are predatory and scavenger birds. The most prevalent species at 3CK is the Red Tailed Hawk which exhibits a soaring characteristic while hunting. Red-tailed Hawks are large, full-bodied, broad-winged raptors. It is common to the northern Illinois region all year with higher numbers in the summer months. They are seen perched on lamps, fences, trees and mainly over open areas. They can be easily identified on perch or in flight by red tail and dark leading edge of wings and wingtips.

Raptors are attracted to habitats with an abundant supply of prey such as small rodents or reptiles. They prefer short grass (<6 inches) and perches (runway lights, signs). All raptors are protected by the Migratory Bird Treaty Act and may only be taken, trapped, or relocated with a USFWS depredation permit and an IDNR permit.

Control Measures

3CK staff will utilize pyrotechnics to haze raptors observed on the airport. Grass will be mowed to a uniform height around the taxiways and runways to help limit the prey-base. Other potential control measures include installation of porcupine wire and metal cones over the top of utility poles and trapping which requires a permit.

4. **Blackbirds**

&

Starlings

Risks

Known for the large size of the flocks, these birds present a threat to aircraft at 3CK due to the sheer numbers. The birds are small in size but rank high among the most reported strikes.

Characteristics

Starlings, seen below, are robin-sized birds with short tails, and triangular shaped wings when in flight. Their feathers are brown with spots which are most visible in the spring. Starlings fly swift and direct patterns. Bills of all starlings are yellow during the



reproductive cycle (January to June) and dark at other times. Starlings prefer large open disturbed habitats including cities, towns, farms, ranches, open woodlands, fields, and lawns. Ideal nesting habitat includes areas with trees or other structures that have cavities suitable for nesting and short grass areas. Starlings consume fruits, seeds, and insects and remain in the area year round.

Blackbirds, on the right, are roughly 8 inches in length and prefer pastures, lawns, and agricultural fields for feeding. They migrate south for the winter and often nest with other blackbird species.



Starlings are not protected by federal or state laws and can be killed at any time without a permit. Blackbirds are protected by the Migratory Bird Treaty Act but due to a depredation order they can be killed without a federal permit anytime they are concentrated in a manner that constitutes a threat to human safety (50 CFR 21.43).

Control Measures

Habitat management is the most effective form of mitigation technique. Do not allow crops on or near the airport. Regular mowing has been shown to provide only mixed results as some species prefer short vegetation while others do not differentiate. In addition to habitat management, airport staff will haze flocks of birds off the field with pyrotechnics. It is important to note that the birds may simply move to another location on the airfield so persistence with the pyrotechnics is paramount. Removal of or thinning of trees where the birds are seen roosting can be effective.

5. Coyotes

Risks

Coyotes are second to deer as the mammal most commonly struck by aircraft in the U.S. Although smaller, they still pose a significant hazard to aircraft.

Characteristics

Coyotes are a dog-like animal, brown in color, and generally keep its tail down. Coyotes eat carrion (dead animal carcass), small mammals, and fruits. Coyotes are most active at night and during early morning hours (especially where human activity occurs and during hot summer weather). Where there is minimal human interference and during cool weather, they may be active throughout the day. Coyotes might access the AOA by digging under fences, or through gaps in gates. They are usually seen individually but may travel in small groups, especially adults with their young in early spring.



Control Measures

Exclusion, habitat modification, and removal of coyotes are the most effective methods to reduce the risk to aircraft. The Airport perimeter fence does not encircle the property and thus there is an opportunity for coyotes to come in unabated. Harassment is not effective at reducing coyote numbers on airports over the long term. If coyotes are observed at the Lake in Hills Airport, contact Irving Schirmer to come out and set leg-hold traps. Irving has a class A permit from the State of Illinois to trap coyotes and can trap on behalf of the airport.

6. Turtles

Risks

Due to their hard shell and low center of gravity, turtles pose a similar threat to that of FOD on the airport. Aircraft encountering a turtle are at risk of losing directional control and veering off the paved surface as a result.







Characteristics

June is prime egg laying season for turtles. Typically they begin to appear on the airfield surfaces in spring. They are most commonly found crossing the runway between the water source on the north side of the field and the dry area to the south. The chart below outlines characteristics unique to the most common turtle species found at 3CK.

Control Measures


The Blanding’s Turtle is considered an endangered species in Illinois; therefore, staff that encounters a turtle on the airfield should make every effort to identify the type of species prior to attempting to harass or move it.

Turtle Identification

	Blanding's Turtle Illinois Endangered Species	
	Common Snapping Turtle	
	Painted Turtle	

If you find a turtle crossing the road, gently pick it up and move it across the road in the same direction it was heading. Let it remain in its home territory.

How to safely pick up a snapping turtle.
Grasp base of tail firmly, slide other hand under turtle and lift.



Should a Blanding’s Turtle be found, it must be left alone unless it poses imminent danger to life or property. Staff should advise aircraft leave the turtle alone until it is safely off the airfield unless the reptile poses imminent danger to life or property.

To safely move a turtle, follow the steps outlined in the identification chart to the left to move the turtle by hand or use a large shovel to either gently scoop it up and relocate it off the airfield or encourage the turtle to relocate on its own.

APPENDIX E WILDLIFE ACTIVITY LOG



Lake in the Hills Airport (3CK)
Wildlife Activity Log

Wildlife Hazard Assessment Plan Appendix E

Date	Time	Location	Weather	Species	Wildlife Behavior	Number Observed	Action Taken	Result	Aircraft Notified?	Initials	Comments
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		
/ /									Y/N		

LEGEND

Weather		Wildlife Behavior		Action Taken		Result	
SU	Sunny	FD	Feeding	PH	Physical Harassment	TS	Traveled Short Distance
PC	Partly Cloudy	LF	Loafing	P	Pyrotechnics	D	Dispersed
CL	Cloudy	RS	Roosting	PV	Vehicle Harassment		
RN	Rain	NS	Nesting	T	Trapped		
SN	Snow	FL	Flying				
FG	Fog	P	Perched				
		TW	Towering/Hovering				

WILDLIFE ACTIVITY LOG INSTRUCTIONS

DATE: The date the observation was made.

TIME: Military time (0000 – 2359)

LOCATION: Indicate the location on the airfield using the grid map in Appendix F. If off airport property, give an approximate address.

WEATHER: Use abbreviations in the legend to indicate the weather conditions at the time of the wildlife observation.

SPECIES: List each type of animal observed separately. Multiple species of the same type should be entered on separate lines.

WILDLIFE BEHAVIOR: Indicate the type of behavior exhibited by the animals observed prior to taking action to mitigate them using the abbreviations in the legend. If a type of behavior is observed that is not covered by the abbreviations, describe it in the comments section.

NUMBER OBSERVED: Number of species observed or dispersed. Enter '0' on the 2nd line if multiple methods are used on the same species during dispersal.

ACTION TAKEN: List the actions used to mitigate the wildlife.

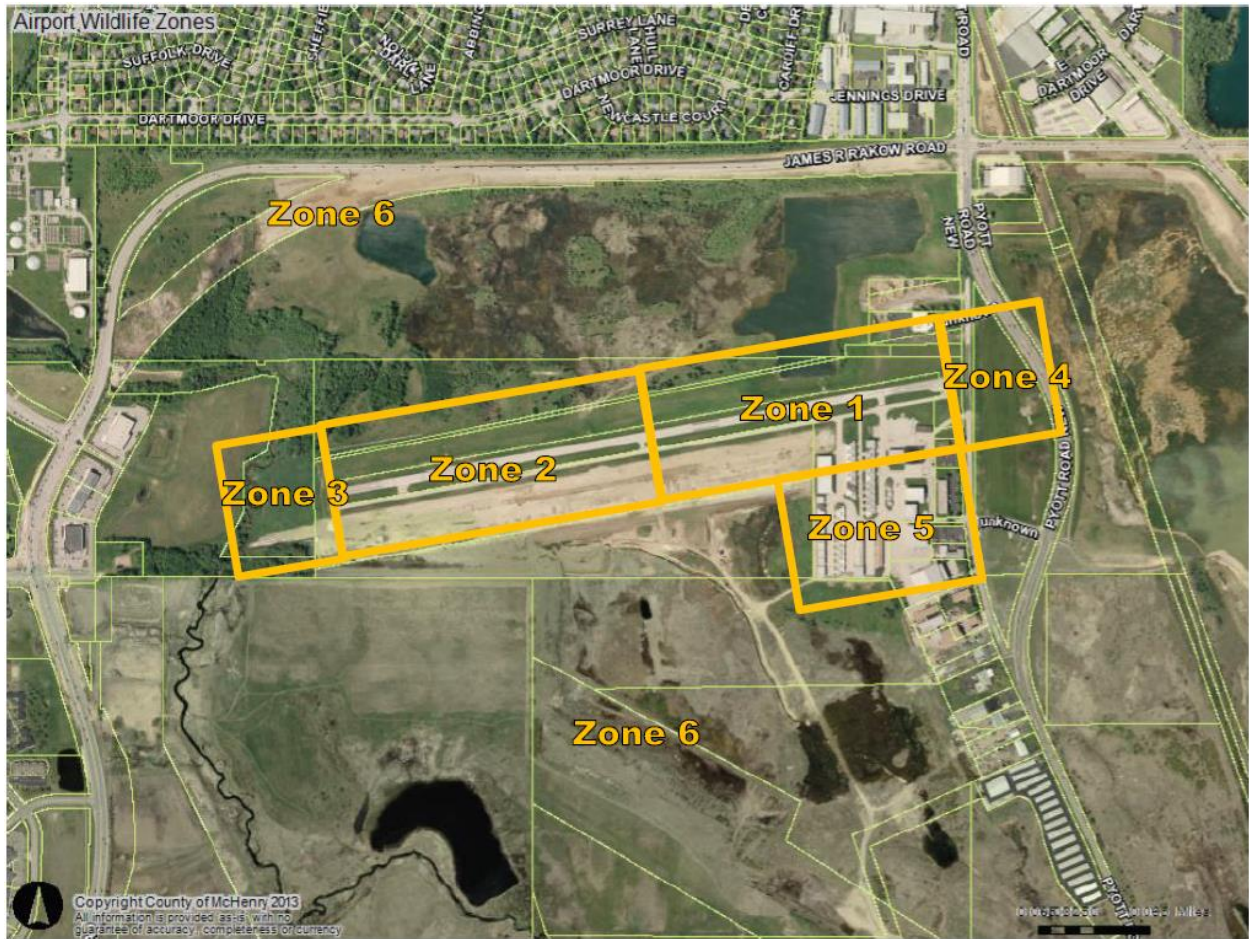
RESULT: Describe what effect any hazing had on the wildlife.

AIRCRAFT NOTIFIED: Indicate whether aircraft were advised of the presence of wildlife via common traffic advisory frequency or NOTAM.

INITIALS: Record your initials.

COMMENTS: Use this box to provide any additional information on the observations or actions you took. Indicate here if the wildlife was immune to your actions.

APPENDIX F 3CK WILDLIFE ZONE MAP



APPENDIX G *QUICK REFERENCE INCIDENT GUIDE*

This guide should be used as a resource to the first responder for any wildlife incident or strike at the Lake in the Hills Airport.

A Wildlife Strike has occurred when:

- A pilot reports striking 1 or more birds or other wildlife;
- Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;
- Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;
- Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is identified; and
- An animal's presence on the airport had a significant negative effect on a flight such as an aborted takeoff or landing, emergency stop, or a deviation from pavement surfaces to avoid collision with an animal.

Step 1: Upon notification of a wildlife strike, an airport staff member will conduct a runway or taxiway inspection to ensure it is clear of F.O.D.

Step 2: If animal remains are discovered, carefully collect them using nitrile gloves. If the remains cannot be cleared from the runway or taxiway in a timely manner, close the surface and issue a NOTAM. Follow established internal guidelines for proper runway closure procedures.

Step 3: If damage was sustained by an aircraft, contact the pilot and conduct a quick assessment of the damage, taking pictures where applicable. Encourage the pilot to fill out a wildlife strike form (FAA Form 5200-7) via the FAA website.

Step 4: In addition to any pilot report, the airport staff member must fill out an FAA Form 5200-7 via the website <http://wildlife.faa.gov>. When complete, print a copy of the report and provide it to the Airport Manager for review and filing. This form will take the place of an entry in the wildlife activity log contained in Appendix E. Report all strikes even if no damage has occurred.

The form will prompt the user to identify the remains. If the remains belong to a bird but cannot be identified, they must be sent to the Smithsonian Institution for analysis. The procedure for submitting remains to the Smithsonian is outlined on the following page. Bring the packaged remains to the Public Works Department and the Administrative staff will mail them.

Step 5: If the remains can be identified, they may be disposed of by placing them in a large garbage bag as long as the animal does not appear on the endangered or threatened species list on table 3. Double bag the remains and discard them in the dumpster. If the animal is too large to

dispose of via this method, contact Thomas Hoven (815) 338-3309 for mammals or the McHenry County Conservation District (815) 728-8307 for birds.

For endangered or threatened species disposal after a strike, or for a Bald Eagle strike, place the remains in a bag and immediately contact the U.S. Fish and Wildlife Service Chicago Field Office at (847) 381-2253. A representative will arrange a time to come out and collect the remains.

COLLECTING REMAINS

Feathers:

Whole Bird - Pluck a variety of feathers (breast, back, wing, tail)

Partial Bird - Collect a variety of feathers with color or pattern

Feathers only - Send all material available

Do not cut feathers from the bird (we need the downy part at the base of the feathers)

Do not use any sticky substance (no tape or glue)

Tissue/blood ("Snarge"):

Dry material - Scrape or wipe off into a clean re-closeable bag or wipe area with pre-packaged alcohol wipe or spray with alcohol to loosen material then wipe with clean cloth/gauze. (*please do not use water, bleach, or other cleansers – they destroy DNA)

Fresh material - Wipe area with alcohol wipe and/or clean cloth/gauze or apply fresh tissue/blood to an FTA® DNA collecting card

- Always include any feather material available
- Include copy of report (AFSAS, WESS, or FAA 5200-7)
- Always secure all remains in re-sealable plastic bag

SHIPPING

Routine / Non-Damaging Cases *US Postal Service*



Feather Identification Lab
Smithsonian Institution
NHB, E600, MRC 116
P.O. Box 37012
Washington, DC 20013-7012

Priority / Damaging Cases *Overnight Shipping*



Feather Identification Lab
Smithsonian Institution
NHB, E600, MRC 116
10th & Constitution Ave., NW
Washington, DC 20560-0116

WEBSITES

Birdstrike Committee: www.birdstrike.org

Air Force: <http://www.afsc.af.mil/organizations/bash/index.asp>

Civil Aviation: <http://wildlife-mitigation.tc.faa.gov>

Navy: www.safetycenter.navy.mil/aviation/operations/bash

Feather Lab Contact Information

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