

5.5.2.1 Grass Type

The type of grass used within the perimeter fence and between the runways should produce small or no seeds, but still be able to generate new growth or re-seed itself to provide a thick, monotypic stand and prevent erosion. The selected ground cover should withstand drought, flooding, and other normal climatic conditions, and be somewhat unpalatable to grazers such as geese and wild ducks. The grasses should also harbor relatively few insects and rodents that may attract hawks, owls, starlings, and other hazardous wildlife species.

U.S. Department of Agriculture (USDA) Wildlife Services research has indicated that several varieties of tall fescue (*Festuca arundinacea*), if allowed to grow to a height of 8 to 14 inches, is unattractive to waterfowl because of a fungus (endophyte) harbored by the plant, and the fescue will generally preclude other more attractive grass species from invading the airfield. This grass species should be considered during construction projects if Canada geese are observed using the available grass at ASE. Currently, Canada geese have not been observed on airport property and shorter grass height is recommended to reduce small mammal abundance.

Whenever possible, grass mixtures indigenous to the local area will be used at ASE when replanting as part of a construction or mitigation project, provided it can be demonstrated the seed mixture poses no significant wildlife attraction. Consultation with an FAA-qualified wildlife biologist may be necessary to determine potential attractiveness. Disturbed areas slated for reseeding will refrain from using cover crops such as wheat, oats, or other grain to prevent introduction of wildlife food resources.

5.5.2.2 Grass Height

Grass height throughout the airfield will be maintained at a height of 4 to 8 inches. Grass height will be maintained throughout the year, with the first mowing activities beginning when the infield is firm enough to allow equipment access and the grass is sufficiently long to merit cutting.

5.5.2.3 Mowing

Mowing is quite attractive to several species of birds and mammals because it exposes food sources such as rodents, insects, worms, and seeds. If cutting is being conducted during the day and birds are attracted to the activity, the mowing will stop until the birds have been successfully hazed from the area. If a pattern of increased wildlife presence is observed during daytime mowing, night mowing will be considered to take advantage of reduced air traffic and inactivity of birds. Mowing activities will be coordinated with the Operations Coordinator. It is also critical that maintenance personnel assigned to mowing be trained to identify and respond to wildlife hazards, and to report their responses so that they may be entered into the wildlife log.

5.5.3 Streamside Vegetation

Herbaceous and woody vegetation growing on the edge of a stream or other wetland provides preferred habitat for species considered most hazardous to aircraft. The vegetation that grows alongside ditches and streams on ASE property will be removed or maintained so that it does not

provide habitat for wildlife that could present a direct or indirect hazard to aviation. Rock (e.g., quarry spoils, rip-rap), and in some instances, shrubs or grass, can be used to replace undesirable plants, slow erosion, and conceal a base flow of water from wildlife, but the situation will need to be examined on a case-by-case basis to ensure that the proposed measure does not increase potential wildlife hazards.

ASE will investigate options for converting and maintaining areas adjacent to Owl Creek in an upland condition by removal of woody vegetation and enclosing Owl Creek from the Ranch Access Road to the eastern property boundary.

5.5.4 Ornamental Landscaping

Airport landscaping can affect tourism, business, and the overall impression of the region to visitors. While landscaping at the airport should be aesthetically pleasing, it cannot attract potentially hazardous wildlife to compromise the safety of the traveling public. For example, trees and bushes offer hunting perches, roosting and loafing sites, nesting cover, and food for birds and other wildlife.

The County has prepared and implemented a landscape master plan for ASE that supports the planting of several native plant species on airport property. Some of these plants were observed to attract potentially hazardous wildlife, including trees and shrubs that can provide a food source (seeds and berries) and offer shelter. Species attracted to these areas may be vulnerable to the effect of aircraft operations or pose threats to the traveling public.



Figure 5-8. Nut and fruit producing trees attract wildlife to undesirable locations.

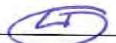
The landscape master plan will be revised to eliminate potentially attractive species while remaining in alignment with the airport's ongoing sustainability efforts. One of the tenets of the County's Sustainability Plan is to operate ASE in a manner that is socially responsible by reducing the risk of potential conflicts between wildlife and aircraft.

Currently all ornamental or maintained landscaping at ASE is located outside the fence. However, not all of this adjacent landscaping is compatible with wildlife management and it has been observed to attract potentially hazardous species. Blue spruce, narrowleaf cottonwoods, and hybrid poplars have been planted between the airport and SH-82.

Although some of these trees are relatively small, they will grow to a sufficient size to provide hunting perches and nest sites for raptors. The airport will consider replacing the larger trees in a phased approach with other species or shrubs that provide a vertical branching structure to minimize perching and nesting opportunities for birds.

In addition, Canada red chokecherry shrubs were planted as part of a wetland mitigation effort east of Owl Creek along SH-82. These berry-producing shrubs, in combination with the naturally

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occurring hawthorns along the creek, serve as a major attractant to migrating and wintering birds and will be removed.

Trees that are not removed will be actively managed. Canopies will be thinned to remove overlapping crown and eliminate roosting opportunities.



Figure 5-9. Fruit producing trees and shrubs attract numerous species of wildlife

All plant species that provide food, perching, or roosting opportunities for wildlife should be removed, and all proposed plantings associated with new projects should be reviewed for their potential to attract hazardous wildlife. Several activities presented in the Landscape Master Plan must be modified to remove features that would potentially attract wildlife. Specific activities or measures include:

- Planting of shrubs and trees in the area between Owl Creek Road and the south perimeter fence.
- Enhancing the Owl Creek Stream Corridor vegetation from the Ranch Access Road to the stream entrance into the culvert.

- Any pooling of Owl Creek including hydro-electric structures.
- Maintaining and enhancing Owl Creek Stream Corridor vegetation from exiting culvert to airport property boundary adjacent to SH-82.
- Introducing livestock or agricultural crops to airport property.

Working with a landscape architect and FAA-qualified biologist, the County will prepare a "Preferred Species List" to identify appropriate landscaping materials and species for use on and adjacent to the airport. Proposed landscaping plans will be reviewed by the Wildlife Coordinator in consultation with an FAA-qualified wildlife hazard biologist.

5.6 Food/Prey-Base Management

Rodents, ground squirrels, gophers, rabbits, insects, earthworms, and other invertebrates are highly attractive to many species of birds and mammals and should be managed where feasible. Handouts, trash, and scattered debris also provide food for wildlife. The modification or management of a wide variety of habitats such as wildlife-attracting vegetation and removal of abandoned structures will reduce populations of potentially hazardous wildlife by limiting cover, the prey-base, and predators.

5.6.1 Rodents

Mice, ground squirrels, and gophers appear to be the primary attractants of hawks and coyotes, but will occasionally attract other predators. Grass throughout the airfield will be maintained at a height of 4-8 inches. Small mammal surveys conducted during the WHA suggest that tall grass and riparian vegetation supports nearly 4.5 times the small mammal population compared to short grass habitat. Ground squirrels will continue to be managed by annual application of pesticide to reduce presence and will continue to be monitored with gopher presence. If populations maintain or increase a stepped population management program with increased pesticide applications will be conducted until ground squirrel and gopher populations are reduced to an acceptable level.

5.6.2 Insects and Other Invertebrates

Insects and other invertebrates (e.g., earthworms, crickets, grasshoppers, spiders, etc.) may attract many species of wildlife at ASE, particularly gulls, European starlings, and crows. Insect populations will be monitored periodically by ASE to determine if they are present in sufficient numbers to attract wildlife. If management is deemed necessary, the Colorado State University Extension can provide assistance in selecting the best control method. Although habitat management can help to reduce populations, the airport will continue to monitor these populations for outbreaks.

5.6.3 Trash, Debris, and Handouts

Trash and debris are often responsible for attracting species such as gulls, crows, and pigeons. ASE facilities and operations staff will continue to conduct trash and FOD (foreign object debris/damage) collection sweeps on the airfield, especially after high winds.

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The County will establish and firm policies regarding wildlife feeding and prevent the public and airport employees from feeding birds or mammals at and near the airport. If people are observed feeding birds, ASE staff will provide appropriate education and post signs to discourage such behavior. Tenants and vendors who feed wildlife shall be issued warnings and receive disciplinary action for persistent violations.



Figure 5-10. Open refuse containers invite wildlife to become dependent on human resources

Pitkin County requires wildlife-resistant refuse containers or dumpsters under Pitkin County Title 6.44 Ordinance 020-2007. Highlights of the Wildlife Ordinance are as follows:

- All refuse must be stored in containers which make it inaccessible to wildlife.
- All containers must be kept closed and secure except when waste is being deposited.
- If the container is damaged or not working properly, the responsible party must repair or replace the container within 48 hours of written notification.
- Non-compliant citizens are subject to the following Penalty Assessments:

Commercial Fines

First Offense	\$350
Second Offense	\$750
Third and Subsequent Offenses	\$1,000

All refuse containers on ASE property will comply with the Pitkin County Ordinance (Title X) and will be monitored by ASE to ensure compliance.

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Section 6 – Laws and Regulations

FAR Part 139.337(e)(3) Requirements for and, where applicable, copies of local, state, and Federal wildlife management permits.

Federal, state and local governments administer laws and regulations that protect wildlife and their habitat. A number of laws affect wildlife control at airports and ASE. Staff with wildlife management responsibility should be educated about these regulations to ensure compliance. In general, harassing and/or taking most types of wildlife is regulated through a permit process overseen by federal or state agencies. Permits are necessary for a successful control program and will be obtained on a regular basis, or as required, by the Wildlife Coordinator. Permits are continually updated, sometimes frequently. All current permits will be made available on request through the ASE Wildlife Coordinator.

6.1 FAA 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 FARs. 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 FARs and ACs, the FAA periodically issues Certalerts for internal distribution and to provide recommendations on specific issues for inspectors and airport personnel. All of the above-mentioned regulations, ACs, and Certalerts are frequently changed or updated, and their current status should be verified on a regular basis. This may be accomplished visiting the FAA website: www.faa.gov.

6.2 Colorado Wildlife Regulations

Several Colorado State government agencies have regulations that affect wildlife management at airports. Pertinent regulations can be found in the Colorado Revised Statutes Title 24 (Article 33) Title 33(Article 1-6) and Title 35(Article 4, 9 & 10). Pitkin County and municipality regulations can also affect ASE's wildlife management efforts. State wildlife laws involving resident birds, mammals, reptiles, and amphibians, as well as State listed threatened and endangered species generally are administered by the Colorado Division of Wildlife (CDOW) and pesticide use by the Colorado Department of Agriculture.

6.3 Federal Regulations

Several Federal regulations, including the Migratory Bird Treaty Act (MBTA), the Lacey Act, the Endangered Species Act, Eagle Protection Act, the Clean Water Act, the National Environmental Policy Act, and the Federal Insecticide, Fungicide, and Rodenticide Act regulate various aspects of ASE's wildlife management activities. Additional regulations that may affect wildlife management activities at ASE are found in the Code of Federal Regulations (CFR), and several Federal agencies may be 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 federally listed threatened and endangered species.

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6.4 Wildlife Categories

Federal (CFR Title 50) and CDOW Wildlife Commission Regulations (Sections 2, 3, 5, and 10) define the categories of wildlife and regulations related to their management. For the purposes of this document, feral and free ranging dogs, cats, and other domestic animals are considered "wildlife" because of the hazards they may pose to aircraft, but they are mostly regulated under other municipal laws. Wildlife categories (Table 6-1) include migratory and resident, game and non-game, and threatened and endangered species. Wildlife management personnel should know the category for the species that they intend to manage, so that they can determine the relevant laws and necessary permits.

Table 6-1. Wildlife Categories in Colorado, and permits necessary for lethal management as required by Federal and state wildlife agencies. The table also shows whether ASE has current Federal or state permits for each category.					
Category	Species	State Permit Required	State Permit Obtained	Federal Permit Required	Federal Permit Obtained
Resident Game Birds ⁽³⁾	Quail, pheasant, grouse, partridge, ptarmigan prairie chicken, wild turkey	Yes	No	No	N/A
Resident Small Game ⁽⁵⁾⁽⁶⁾⁽⁷⁾	Starlings, house sparrows, pigeons, Wyoming ground squirrels, prairie dogs	No	N/A	No	N/A
Migratory Game Birds	Wild ducks and geese, coots, gallinules, snipe and mourning doves	No	N/A	Yes	No
Migratory Nongame Birds	All species except game birds, resident nongame birds, and domestic and exotic birds (including hawks, gulls, vultures, herons, egrets)	No	N/A	Yes	No
Depredation Order Birds ⁽⁴⁾	Crows, magpies, blackbirds, cowbirds	No	N/A	No	N/A
Domestic Birds	Domestic poultry, domestic ducks & geese	No	N/A	No	N/A
Game Mammals ⁽³⁾⁽⁶⁾	Deer, moose, elk, bear, rabbits, hares, tree squirrels, mountain lion	Yes	No	No	N/A

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Table 6-1. Wildlife Categories in Colorado, and permits necessary for lethal management as required by Federal and state wildlife agencies. The table also shows whether ASE has current Federal or state permits for each category.					
Category	Species	State Permit Required	State Permit Obtained	Federal Permit Required	Federal Permit Obtained
Furbearers ⁽²⁾⁽⁶⁾	Beaver, bobcat, coyote, foxes, pine martin, badger, mink, muskrat, opossum, otter, raccoon, skunks, ring-tailed cat, weasels	Yes	No	No	N/A
Nongame Mammals ⁽¹⁾⁽⁵⁾⁽⁶⁾	Marmot, porcupine, pocket gopher	No	N/A	No	N/A
Feral Domestic Mammals	Dogs, cats, livestock	No - Call local animal control, Sheriff's Dept.	N/A	No	N/A
Reptiles And Amphibians ⁽⁶⁾	All reptiles and amphibians except those listed as threatened or endangered in Table 6-2	Yes	No	No	N/A
Fully Protected Wildlife ⁽⁸⁾	Threatened and Endangered species listed in Table 6-2	Yes	No	Yes	No

¹ Any person, members of their family, or their agents may, without securing licenses to do so, take: tree squirrels and cottontail rabbits on property owned or administered by them whenever such wildlife is causing damage on such property and marmots, opossums, and porcupines, which are causing damage to such person's personal property. Methods of take used must be in accordance with federal, state, and local law.

² Badger, muskrat, beaver, red fox, bobcat, skunk, coyote, raccoon, prairie dog, pocket gopher, rock squirrel, and Richardson's and thirteen-lined ground squirrel may be taken year-round as necessary to protect private property. A license shall not be required of any person, member of the person's family, lessee, agent, designee, or any employee of the person when necessary to protect private property.

³ Management actions requiring a state permit should be coordinated through the local CDOW wildlife management personnel.

⁴ 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).

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- ⁵ Except as prohibited by federal, state, and local statutes or regulations, toxicants or handheld devices designed to deliver into burrows and then ignite a mixture of propane and oxygen, or similar combination of explosive gases, may be used by a person, or a person's agent, to take Richardson's (Wyoming) ground squirrel, rock squirrel, thirteen-lined ground squirrel, pocket gopher, marmots, black-tailed, white-tailed, and Gunnison prairie dogs where necessary to control damage on land owned by them.
- ⁶ Any person, any member of such person's family, or any employee of the person may hunt, trap, or take black-billed magpies, common crows, starlings, English or house sparrows, common pigeons, coyotes, bobcats, red foxes, raccoons, jackrabbits, badgers, marmots, prairie dogs, pocket gophers, Richardson's (Wyoming) ground squirrels, rock squirrels, thirteen-lined ground squirrels, porcupines, crayfish, tiger salamanders, muskrats, beavers, exotic wildlife, and common snapping turtles on lands owned or leased by the person without securing licenses to do so, but only when such wildlife is causing damage to crops, real or personal property, or livestock. Any person may kill skunks or rattlesnakes when necessary to protect life or property.
- ⁷ Bats, mice except Preble's meadow jumping mouse (*Zapus hudsonius preblei*), voles, rats, and ground squirrels may be captured or killed when creating a nuisance or causing property damage.
- ⁸ Any person may take threatened or endangered wildlife in defense of his life or the life of others.

6.5 General Regulations for Wildlife Management

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

6.6 Birds

6.6.1 Resident Game Birds

Resident game birds (grouse, wild turkey, quail, etc.) are non-migratory. Although they are not managed by the MBTA (and no Federal permit is required for take) they are protected by state law and a state permit is required prior before take.

6.6.2 Resident Nongame Birds

Starlings, pigeons, and house sparrows are resident non-game birds that are classified as non-migratory and no permit is required to take them.

6.6.3 Domestic Birds

Currently state and Federal laws do not regulate these species (domestic ducks, domestic geese, domestic poultry, etc.) and no permit is required to take them. Domestic waterfowl may become a problem if they are abandoned or live on or nearby airport property. They can attract wild waterfowl into critical areas and across ASE flight paths. The ASE Wildlife Coordinator will initiate discussions with management at the Aspen Consolidated Sanitary District to determine ownership and to formulate plans for removal and relocation of the geese that frequent the ponds. Wildlife personnel trained to distinguish the differences between domestic and wild waterfowl, which can be quite similar in appearance, should only do removal of these species. If other species of feral poultry or exotic birds are observed within the critical area at ASE, the Wildlife Coordinator should be contacted for assistance with management methods.

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Figure 6-1. Domestic geese located at Aspen Consolidated Sanitary District ponds.

6.6.4 Migratory Game Birds

Migratory game birds (Wild ducks and geese, coots, gallinules, snipe, and mourning doves, etc.) are regulated under Federal law by the USFWS through the regulations contained within the MBTA. These regulations allow harassment of migratory birds when the birds are damaging property (e.g. harassing Canada geese and mallard ducks), but a permit is required for lethal take. Migratory bird permits are not valid for eagles, and threatened and endangered species, which require separate permits for harassment and lethal take. Although states can impose more restrictive regulation than Federal law on migratory birds, Colorado currently does not require additional permits for migratory birds that are already regulated under Federal law, although the state will review USFWS permits.

6.6.4.1 Migratory Bird Depredation Permit for ASE (CFR 50, Part 13)

A depredation permit to take federally protected migratory birds can be obtained by completing a Federal Fish and Wildlife License/Permit Application and submitting it to the U.S. Fish and Wildlife Service. The USFWS requires that a Migratory Bird Damage Project Report completed by USDA Wildlife Services (WS) accompany the permit application. CDOW allows the take of these species under the Federal permit without obtaining an additional state permit. The Wildlife Coordinator will be responsible for applying for and the required annual renewal of the depredation permit, and will submit a report to the USFWS within 10 days of the expiration date detailing the species and number of animals taken under the permit. Details for the permit uses are given below.

6.6.4.2 Reporting Management Actions to USFWS

ASE will receive a Federal depredation permit annual report form from the USFWS by January of each year. ASE should complete and submit a report of the animals taken to WS to fulfill the requirements of this section and the Federal permit. WS will complete a Migratory Bird Damage Report and forward it along with ASE's annual report to the USFWS. This report could be generated from a computerized database containing all wildlife management actions on ASE.

DEPREDATION PERMITS (CFR 50 Part 21.41)

MANAGEMENT OF DEPREDATING BIRDS

- (a) **Permit requirement.** Except as provided in 21.42 through 21.46, a depredation permit is required before any person may take, possess, or transport migratory birds for depredation control purposes. No permit is required merely to scare or herd depredating migratory birds other than endangered or threatened species or bald or golden eagles.
- (b) **Application procedures.** Submit application for depredation permits to the appropriate Regional Director (Attention: Migratory bird permit office). You can find addresses for the Regional Directors in 50 CFR 2.2. Each application must contain the general information and certification required in §13.12(a) of this subchapter, and the following additional information:
 - (1) A description of the area depredations are occurring;
 - (2) The nature of the crops or other interests being injured;
 - (3) The extent of such injury; and
 - (4) The particular species of migratory birds committing the injury.
- (c) **Additional permit conditions.** In addition to the general conditions set forth in Part 13 of this Subchapter B, depredation permits shall be subject to the following conditions:
 - (1) Permittees may not kill migratory birds unless specifically authorized on the permit.
 - (2) Unless otherwise specifically authorized, when permittees are authorized to kill migratory birds they may do so only with a shotgun not larger than No. 10 gauge fired from the shoulder, and only on or over the threatened area or area described on the permit.
 - (3) Permittees may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice birds within gun range.
 - (4) All migratory birds killed shall be retrieved by the permittee and turned over to a Bureau representative or his designee for disposition to charitable or worthy institutions for use as food, or otherwise disposed of as provided by law. (Note: permits typically authorize on-site burial of birds.)
 - (5) Only persons named on the permit are authorized to act as agents of the permittee under authority of the permit.
- (d) **Tenure of permits.** The tenure of depredation permits shall be limited to the dates which appear on its face, but in no case shall be longer than one year.

6.6.5 Migratory Nongame Birds

Migratory nongame birds (including hawks, gulls, vultures, heron, egrets, etc.) are all species protected under Federal law by the USFWS through the regulations contained within the MBTA. These regulations allow harassment of migratory birds when the birds are damaging property, but a permit is required for lethal take. Migratory bird permits are not valid for eagles, and threatened and endangered species, which require separate permits for harassment and lethal take. Although states can impose more restrictive regulation than Federal law on migratory birds, Colorado currently does not require additional permits for migratory birds that are already regulated under Federal law, although the state will review USFWS permits.

6.6.6 Depredation Order Birds

Depredation order birds (crows, magpies, grackles, blackbirds and cowbirds) are protected under the MBTA but may be taken when they are concentrated in such numbers and manner as to constitute a health hazard or other nuisance. Under the Depredation Order (50 CFR § 21.43), no federal permit

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is required to control the species listed below if they are committing or about to commit depredations on ornamental or shade trees, agricultural crops, livestock, or wildlife, or when concentrated in such numbers and manner that they are a health hazard or other nuisance. The state of Colorado recognizes the Federal regulations and does not require a state permit under these conditions.

DEPREDATION ORDER (CFR 50 Part 21.43)

DEPREDATION ORDER FOR BLACKBIRDS, COWBIRDS, GRACKLES, CROWS AND MAGPIES

A Federal permit shall not be required to control yellow-headed, red-winged, and Brewer's blackbirds, bronzed, brown-headed and shiny cowbirds, American, fish and northwestern crows, boat-tailed, common, great-tailed and greater Antillean grackles and black-billed and yellow-billed magpies, when concentrated in such numbers and manner as to constitute a health hazard or other nuisance: *Provided*

- (a) You must attempt to control depredation by species listed under this depredation order using non-lethal methods before you may use lethal control.
- (b) In most cases, if you use a firearm to kill migratory birds under the provisions of this section, you must use nontoxic shot or nontoxic bullets to do so. See §20.21(j) of this chapter for a listing of approved nontoxic shot types. However, this prohibition does not apply if you use an air rifle, an air pistol, or a 22 caliber rimfire firearm for control of depredating birds under this order.
- (c) If you exercise any of the privileges granted by this section, you must allow any Federal, State, tribal, or territorial wildlife law enforcement officer unrestricted access at all reasonable times (including during actual operations) over the premises on which you are conducting the control. You must furnish the officer whatever information he or she may require about your control operations.
- (d) You may kill birds under this order only in a way that complies with all State, tribal, or territorial laws or regulations. You must have any State, tribal, or territorial permit required to conduct the activity.
- (e) You may not sell, or offer to sell, any bird, or any part thereof, killed under this section, but you may possess, transport, and otherwise dispose of the bird or its parts.
- (f) Any person or agency acting under this depredation order must provide to the appropriate Regional Migratory Bird Permit Office an annual report for each species taken. You can find the addresses for the Regional Migratory Bird Permit Offices in §2.2 of subchapter A of this chapter. You must submit your report by January 31st of the following year, and you must include the following information:
 - (1) Your name, address, phone number, and e-mail address;
 - (2) The species and number of birds taken;
 - (3) The months in which the birds were taken;
 - (4) The State(s) and county(s) in which the birds were taken; and
 - (5) The general purpose for which the birds were taken (such as for protection of agriculture, human health and safety, property, or natural resources).
- (g) The Office of Management and Budget has approved the information collection requirements associated with this depredation order and assigned OMB Control No. 1018-0146. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number. You may send comments on the information collection requirements to the Service's Information Collection Clearance Officer, U.S. Fish and Wildlife Service, MS 222-ARLSQ, 1849 C Street, NW, Washington, DC 20240.

6.7 Mammals

6.7.1 Game Mammals

Game mammals are defined primarily as those species that are hunted for sport, recreation, or meat. A small population of rabbits resides at ASE. Although the rabbits do not currently pose a direct hazard to aircraft operations, they attract predators (e.g., coyotes, fox, hawks, etc.) and may merit management efforts.

Deer and elk are found in relatively high numbers adjacent to the AOA. Every effort will be made by airport staff and the Wildlife Coordinator to remove deer or elk that gain access within the perimeter fence. The perimeter fence was constructed with gate openings in the corners to facilitate release of animals and will be the first technique used to remove deer and elk. A CDOW permit is required to lethally manage deer and elk.

Bears are often drawn to urban areas when natural food resources are reduced and opportunity exists near humans. Wildlife resistant refuse receptacles and good housekeeping protocols such as no feeding of birds and/or wild/feral animals, proper storage of cooking oils and outdoor grills will be utilized and monitored on airport property by ASE's Wildlife Coordinator to ensure attractions are minimized.

6.7.2 Furbearers

Few furbearers (coyote, raccoon, and red fox) are likely to require management at ASE. These mammals would not require a permit for removal with a firearm if activities are performed by authorized and trained personnel on airport property. In 2010, ASE was authorized for an exemption to use prohibited devices for the taking of wildlife through the Colorado Department of Public Health and Environment. The authorization allowed for the use of specified traps for the capture of red fox and coyotes. To enable an ongoing response to address the ongoing presence and potential hazards posed by these species. ASE's Wildlife Coordinator will renew this authorization annually.

6.7.3 Nongame Mammals

Several species of nongame mammals (pocket gopher) are present at ASE and may need to be managed as described in the previous rodent section (5.6.1). Permits are not required to take these species when they damage or could damage property.

6.8 Reptiles, Amphibians, and Invertebrates

Non-protected reptiles and amphibians can be taken with a permit. At their current abundance, these species do not present a major attractant to more hazardous wildlife.

6.8.1 Invertebrates

Some invertebrates (e.g., crickets, grasshoppers, earthworms) at ASE may not be a direct hazard, but their presence may attract more hazardous wildlife (e.g., gulls, starlings). Wildlife hazard management at ASE is not expected to impact threatened or endangered invertebrates. In Colorado a certified pesticide applicators license is required to apply restricted-use pesticides or non-restricted-

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use pesticides. All persons in the state who use pesticides are regulated by the Colorado Department of Agriculture.

6.9 Protected Wildlife

6.9.1 Federal and State Threatened and Endangered Species

The Federal Endangered Species Act (Sec. 2 [16 U.S.C. 1531]) and CDOW Wildlife Commission Regulations (Sections 10) both 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 that is in danger of extinction throughout all or a significant portion of its range." A "Threatened Species" is defined as "any species or subspecies that 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. **No state or federally listed threatened or endangered species was observed during the WHA 12-month monitoring period and it is unlikely that any of the federally or state listed bird species would be present at ASE.** Eagles are also afforded protection under the U.S. Eagle Protection Act. In Colorado, several additional species are given special protection by being listed as state threatened or endangered species. If a significant hazard exists with a listed species that jeopardizes air safety, either the USFWS or the CDOW, depending on the protective status of the species involved, should be contacted for assistance. In many cases only personnel from these or other agencies may obtain a permit to take individuals of a specially protected species.

Many species of animals in Colorado are listed as Threatened, Endangered, Candidate, or Sensitive by the Federal and/or state government. Table 6-2 presents a list of each of these species and their status as of December 21, 2011. This list is dynamic, with new species being added or removed periodically; therefore, it should be reviewed and updated at least once per year to ensure compliance with Federal and state wildlife regulations.

Table 6-2. Endangered, Threatened, and Protected Species in Colorado		
Common Name	Scientific Name	Status*
<u>AMPHIBIANS</u>		
Boreal Toad	Bufo boreas boreas	SE
Northern Cricket Frog	Acris crepitans	SC
Great Plains Narrowmouth Toad	Gastrophryne olivacea	SC
Northern Leopard Frog	Rana pipiens	SC
Wood Frog	Rana sylvatica	SC
Plains Leopard Frog	Rana blairi	SC
Couch's Spadefoot	Scaphiopus couchii	SC
<u>BIRDS</u>		
Whooping Crane	Grus americana	FE, SE
Least Tern	Sterna antillarum	FE, SE

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Table 6-2. Endangered, Threatened, and Protected Species in Colorado

Common Name	Scientific Name	Status*
Southwestern Willow Flycatcher	<i>Empidonax traillii extimus</i>	FE, SE
Plains Sharp-Tailed Grouse	<i>Tympanuchus phasianellus jamesii</i>	SE
Piping Plover	<i>Charadrius melodus circumcinctus</i>	FT, ST
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SC
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	FT, ST
Burrowing Owl	<i>Athene cunicularia</i>	ST
Lesser Prairie-Chicken	<i>Tympanuchus pallidicinctus</i>	ST
Western Yellow-Billed Cuckoo	<i>Coccyzus americanus</i>	SC
Greater Sandhill Crane	<i>Grus canadensis tabida</i>	SC
Ferruginous Hawk	<i>Buteo regalis</i>	SC
Gunnison Sage-Grouse	<i>Centrocercus minimus</i>	SC
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	SC
Greater Sage Grouse	<i>Centrocercus urophasianus</i>	SC
Western Snowy Plover	<i>Charadrius alexandrinus</i>	SC
Mountain Plover	<i>Charadrius montanus</i>	SC
Long-Billed Curlew	<i>Numenius americanus</i>	SC
Columbian Sharp-Tailed Grouse	<i>Tympanuchus phasianellus columbianus</i>	SC
FISH		
Bonytail	<i>Gila elegans</i>	FE, SE
Razorback Sucker	<i>Xyrauchen texanus</i>	FE, SE
Humpback Chub	<i>Gila cypha</i>	FE, ST
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	FE, ST
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	FT, ST
Rio Grande Sucker	<i>Catostomus plebeius</i>	SE
Lake Chub	<i>Couesius plumbeus</i>	SE
Plains Minnow	<i>Hybognathus placitus</i>	SE
Suckermouth Minnow	<i>Phenacobius mirabilis</i>	SE
Northern Redbelly Dace	<i>Phoxinus eos</i>	SE
Southern Redbelly Dace	<i>Phoxinus erythrogaster</i>	SE
Brassy Minnow	<i>Hybognathus hankinsoni</i>	ST
Common Shiner	<i>Luxilus cornutus</i>	ST
Arkansas Darter	<i>Etheostoma cragini</i>	ST
Mountain Sucker	<i>Catostomus playtrhynchus</i>	SC

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Table 6-2. Endangered, Threatened, and Protected Species in Colorado

Common Name	Scientific Name	Status*
Plains Orangethroat Darter	<i>Etheostoma spectabile</i>	SC
Iowa Darter	<i>Etheostoma exile</i>	SC
Rio Grande Chub	<i>Gila pandora</i>	SC
Colorado Roundtail Chub	<i>Gila robusta</i>	SC
Stonecat	<i>Noturus flavus</i>	SC
Colorado River Cutthroat Trout	<i>Oncorhynchus clarki pleuriticus</i>	SC
Rio Grande Cutthroat Trout	<i>Oncorhynchus clarki virginalis</i>	SC
Flathead Chub	<i>Platygobio gracilus</i>	SC
<u>MAMMALS</u>		
Gray Wolf	<i>Canis lupus</i>	FE, SE
Black-Footed Ferret	<i>Mustela nigripes</i>	FE, SE
Grizzly Bear	<i>Ursus arctos</i>	FT, SE
Preble's Meadow Jumping Mouse	<i>Zapus hudsonius preblei</i>	FT, ST
Lynx	<i>Lynx canadensis</i>	FT, SE
Wolverine	<i>Gulo gulo</i>	SE
River Otter	<i>Lontra canadensis</i>	ST
Kit Fox	<i>Vulpes macrotis</i>	SE
Townsend's Big-Eared Bat	<i>Corynorhinus townsendii pallescens</i>	SC
Black-Tailed Prairie Dog	<i>Cynomys ludovicianus</i>	SC
Botta's Pocket Gopher	<i>Thomomys bottae rubidus</i>	SC
Northern Pocket Gopher	<i>Thomomys talpoides macrotis</i>	SC
Swift fox	<i>Vulpes velox</i>	SC
<u>REPTILES</u>		
Triploid Checkered Whiptail	<i>Cnemidophorus neotesselatus</i>	SC
Midget Faded Rattlesnake	<i>Crotalus viridis concolor</i>	SC
Longnose Leopard Lizard	<i>Gambelia wislizenii</i>	SC
Yellow Mud Turtle	<i>Kinosternon flavescens</i>	SC
Common King Snake	<i>Lampropeltis getula</i>	SC
Texas Blind Snake	<i>Leptotyphlops dulcis</i>	SC
Texas Horned Lizard	<i>Phrynosoma cornutum</i>	SC
Roundtail Horned Lizard	<i>Phrynosoma modestum</i>	SC
Massasauga	<i>Sistrurus catenatus</i>	SC
Common Garter Snake	<i>Thamnophis sirtalis</i>	SC

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Table 6-2. Endangered, Threatened, and Protected Species in Colorado		
Common Name	Scientific Name	Status*
<u>MOLLUSKS</u>		
Rocky Mountain Capshell	Acroloxus coloradensis	SC
Cylindrical Papershell	Anodontoides ferussacianus	SC
*Status Codes: FE = Federally Endangered FT = Federally Threatened SE = State Endangered ST = State Threatened SC = State Special Concern (not a statutory category)		

6.9.2 Eagle Permits

Eagles are protected under the Eagle Protection Act and require their own permit, and are therefore not included under the Migratory Bird Permit. Colorado has designated bald eagles as State Special Concern, and the airport would be required to obtain a Federal permit to harass or remove bald eagles. Eagles were not observed on ASE property during the course of the WHA survey period or known to use ASE property for nesting. Habitat manipulation to create unfavorable conditions for other identified species of wildlife will not affect eagles.

(CFR 50 Part 22.23)

EAGLE PERMITS - Permits to take depredating eagles.

The Director may, upon receipt of an application and in accordance with the issuance criteria of this section, issue a permit authorizing the taking of depredating bald or golden eagles.

- (a) You must submit applications for permits under this section to the appropriate Regional Director—Attention: Migratory Bird Permit Office. You can find addresses for the appropriate Regional Directors in 50 CFR 2.2. Your application must contain the information and certification required by §13.12(a) of this subchapter, and the following additional information:
 - (1) Species and number of eagles proposed to be taken;
 - (2) Location and description of property where taking is proposed;
 - (3) Inclusive dates for which permit is requested;
 - (4) Method of taking proposed;
 - (5) Kind and number of livestock or domestic animals owned by applicant, if applicable;
 - (6) Kind and amount of alleged damage, or description of the risk posed to human health and safety or eagles; and
 - (7) Name, address, age, and business relationship with applicant of any person the applicant proposes to act for him as his agent in the taking of such eagles.
- (b) In addition to the general conditions set forth in part 13 of this subchapter B, permits to take bald or golden eagles under this section are subject to the following conditions:
 - (1) Bald or golden eagles may be taken under permit by firearms, traps, or other suitable means except by poison or from aircraft;

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- (2) The taking of eagles under permit may be done only by the permittee or his agents named in the permit;
 - (3) Any eagle taken under authority of such permit will be promptly turned over to a Service agent or other game law enforcement officer designated in the permit; and
 - (4) In addition to any reporting requirement on a permit, you must submit a report of activities conducted under the permit to the appropriate Regional Director—Attention: Migratory Bird Permit Office within 10 days following completion of the taking operations or the expiration of the permit, whichever occurs first.
- (c) *Issuance criteria.* The Director will not issue a permit to take bald or golden eagles unless the Director has determined that such taking is compatible with the preservation of the bald or golden eagle. In making such determination, the Director will consider the following:
- (1) The direct or indirect effect which issuing such permit would be likely to have upon the wild population of bald or golden eagles;
 - (2) Whether evidence shows that bald or golden eagles have in fact become seriously injurious to wildlife or to agriculture or other interests in the particular locality to be covered by the permit and the injury complained of is substantial, or that bald or golden eagles pose a significant risk to human or eagle health and safety; and
 - (3) Whether the only way to abate or prevent the damage caused by the bald or golden eagle is to take some or all of the offending birds.
- (d) *Tenure of permits.* The tenure of any permit to take bald or golden eagles under this section is that shown on the face of the permit. We will not issue these permits for terms longer than 90 days, except that permits to authorize disturbance associated with hazing eagles from the vicinity may be valid for up to 5 years. We may amend, suspend, or revoke permits issued for a period of longer than 90 days if new information indicates that revised permit conditions are necessary, or that suspension or revocation is necessary, to safeguard local or regional eagle populations.

6.9.3 Habitat Conservation

USFWS and CDOW are responsible for 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. On a case-by-case basis, consultation with USFWS or CDOW biologists will help determine whether critical habitat is affected by airport projects, and if so, perform the necessary mitigation in a manner that does not increase hazards to aircraft operations..

6.9.4 Wetlands Mitigation

Wetland modifications may require permits from various agencies, including the USFWS and USACE. Wetland-related activities at the state level in Colorado are conducted by individual departments or programs within those departments. They can be categorized at either regulatory or non-regulatory.

Major regulatory wetland activities are conducted by the Colorado Department of Transportation (CDOT). Similar activity occurs at the Division of Mined Land Reclamation within the Department of Natural Resources (DNR). The Colorado Department of Public Health and Environment

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(CDPHE) is also involved in wetland-related activities through its responsibilities under the federal Clean Water Act (e.g., Section 401 and 404) and similar water quality duties. The CDOW within DNR houses the state's major non-regulatory wetlands program. 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 at http://wildlife-mitigation.tc.faa.gov/public_html for mitigating wetland impacts resulting from project development. See 40 CFR 1505.3.

6.9.5 Avoiding Impacts to Threatened and Endangered Species

All WHMP measure must be examined to identify and alleviate wildlife hazards that threaten human health and safety or aircraft operations. Birds are generally considered the most hazardous form of wildlife at ASE, particularly waterfowl, ravens, and raptors. Coyotes also gain access to the airfield where they pose a strike hazard to aircraft.

The proposed actions outlined in the WHMP would involve application of the most appropriate, effective, and biologically sound wildlife management methods available. This approach is known as Integrated Wildlife Damage Management, and includes both habitat management and direct control.

Management methods at ASE would not affect federal or state-listed endangered or threatened species, because the capture and removal methods used at ASE are selective and allow for positive identification of animals creating hazardous conditions. No state or federally listed threatened or endangered species was observed during the WHA 12-month monitoring period and it is unlikely that any of the federally or state listed bird species would be present at ASE. Hazing and lethal management methods such as shooting and live-trapping are selectively directed at target individuals would prevent impacts to other species. Habitat alteration such as tree thinning or removal would not affect listed species because none are known to nest within the airfield property.

Collisions between birds and aircraft nearly always result in the death of the bird and can threaten human safety. Consequently, potential nesting habitat on and around the airfield will be eliminated to the extent possible, thus preventing species from being drawn to the area where they may be struck.

Habitat management provides the best long-term approach for reducing wildlife attractants on an airfield. Habitat management measures are discussed in Section 5 of the WHMP, and include enclosing Owl Creek, removal of fruit and berry producing vegetation, maintenance of a 4 to 8 inch grass monoculture throughout turf areas, removing or thinning roost trees, structural exclusion (e.g., deterrents), and incorporating wildlife considerations in the early planning stages of new construction projects. Direct control efforts generally provide a more immediate response to hazardous situations, but the desired effects are often not as long lasting. Wildlife management and dispersal procedures employed at ASE are discussed in Section 7 of the WHMP, and include, pyrotechnic hazing, Mylar flash tape, recorded distress calls, vehicular harassment, nest removal, selective trapping, and shooting.

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6.9.6 Pesticide Applicator License

Authorization to use restricted-use pesticides for the removal of hazardous wildlife (e.g., Wyoming ground squirrels and pocket gophers) or prey-base (e.g., insects, earthworms, and weeds) is limited to Certified Pesticide Applicators. To obtain the necessary license to apply restricted-use pesticides, a person must pass an exam administered by the Colorado Department of Agriculture (see directory in **Section 11**). All ASE personnel that use restricted-use chemicals must first obtain a pesticide applicator's license. Use of all pesticides should strictly adhere to the pesticide label and should follow U.S. Environmental Protection Agency and CDOA guidelines.

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Section 7 – Wildlife Management Procedures

FAR Part 139.337(e)(5) Procedures to be followed during air carrier operations including at least ...

FAR Part 139.337(e)(5)(i) Assignment of personnel responsibilities for implementing the procedures;

Personnel responsibilities are described and delineated in Section 3.

FAR Part 139.337(e)(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;

FAR Part 139.337(e)(5)(iii) Wildlife control measures;

FAR Part 139.337(e)(5)(iv) Communication between wildlife control personnel and any air traffic control tower in operation at the airport;

7.1 Overview

The Operations Officers should conduct frequent inspections of movement areas and other areas critical to wildlife hazard management as part of the daily protocol. They should document all observed wildlife and record the data on the Wildlife Log (**Appendix F**). In cases where no animals are observed, a record indicating that an inspection was conducted and that no animals were observed should be documented on the Airport Daily Log (**Appendix F**). A copy of the Airport Daily Log and the Wildlife Log is kept electronically on the Airport Network.

The Operations Coordinator should also conduct physical inspections of critical areas and report wildlife activity on the Wildlife Log. During periods of exceptionally heavy wildlife activity (e.g., migratory periods, etc.), the Operations Staff should issue a Notice to Airmen (NOTAM).

Wildlife that is identified as hazardous during and after the completion of any recommended habitat modifications should be managed 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.

If it is determined that an actual wildlife hazard exists due to one or more of the risk factors (species, location, behavior, number, and/or airfield conditions) that were identified through training, then the observer should take direct action immediately to resolve the situation. The methods used to reduce the hazard(s) will become increasingly more aggressive and used in combination with one another until the wildlife responds favorably or the hazard is abated. In those cases where the animals are non-respondent or situation is becoming increasing more hazardous, lethal removal will be necessary. Prior to lethal removal staff will make positive identification and ensure the proper permit is retained as listed in **Table 6-1**.

Wildlife identification guides and handbooks are available at the Operations Office for use by personnel with wildlife management responsibilities at ASE. The manual entitled "Prevention and

Control of Wildlife Damage” <http://icwdm.org/handbook/index.asp> details species-specific damage assessment, and includes an in-depth discussion of methods of dispersal for each species. In addition, Transport Canada (Canada’s governmental agency responsible for reducing wildlife hazards) has also produced a valuable reference manual on wildlife management procedures at airports. This manual is available via the Internet at: <http://www.tc.gc.ca/eng/civilaviation/standards/aerodromeairnav-standards-wildlifecontrol-menu-931.htm>. Airport personnel should be trained to identify hazardous wildlife at ASE (refer to **Section 8**), and should select dispersal methods that are appropriate to the type of animal causing the hazard.

Concurrent with the immediate action required to resolve a given situation at a given moment is the long-term management approach required to resolve reoccurring problems that have been observed with frequency. This long-term approach is composed primarily of managing people (e.g., training, public education, reviewing proposed construction plans) as described in in Section 3, and managing habitat/prey (e.g., modify vegetation, exclude/remove attractants) as described in Section 5. If the frequency of these hazardous situations and/or the risks to aviation increase, more aggressive actions must be proposed, planned, reviewed, and implemented.

7.2 Wildlife Inspections

ASE’s wildlife inspection staff will consist of the Operations and Facilities staff. The inspection should monitor and respond to wildlife hazards on the airfield and should coordinate their activities through the Assistant Aviation Director of Operations and Facilities. All staff responsible for performing wildlife inspections should be trained in radio communication, wildlife identification, proper management techniques, and safe operations as outlined in **Section 8**.

Routine Inspections

Staff who perform wildlife inspections should use a radio-equipped vehicle and adequate wildlife management supplies (**Section 4**). Clear communications with other Operations staff and the ATCT must be maintained in accordance with FAA radio protocols. All personnel with wildlife management responsibilities should be equipped with radios to contact the ATCT and Operations.

Responding to Imminent Hazards

If a hazard is observed that might compromise the immediate safety of air traffic at ASE, the Operations personnel (wildlife inspection staff) should coordinate with the ATCT, and if necessary, detain arriving or departing air traffic until the hazard is eliminated. In extreme cases, the runway may need to be closed temporarily at the discretion of the on duty Airport Operations Officer. The Wildlife Hazard Response Chart (Figure 7-1) describes the process staff will use when responding to wildlife risks at ASE. Although the air traffic control tower cannot be expected to monitor all wildlife hazards on the airfield and still direct air traffic, tower personnel should notify Operations immediately if pilots report hazards or any such hazards are observed from the tower.

Wildlife management activities, either hazing or lethal, can potentially create a temporarily increased hazard (e.g. flocks departing after management efforts) from the wildlife until it is moved/removed from the airfield. Therefore, wildlife management activities must take into account arriving/departing aircraft.

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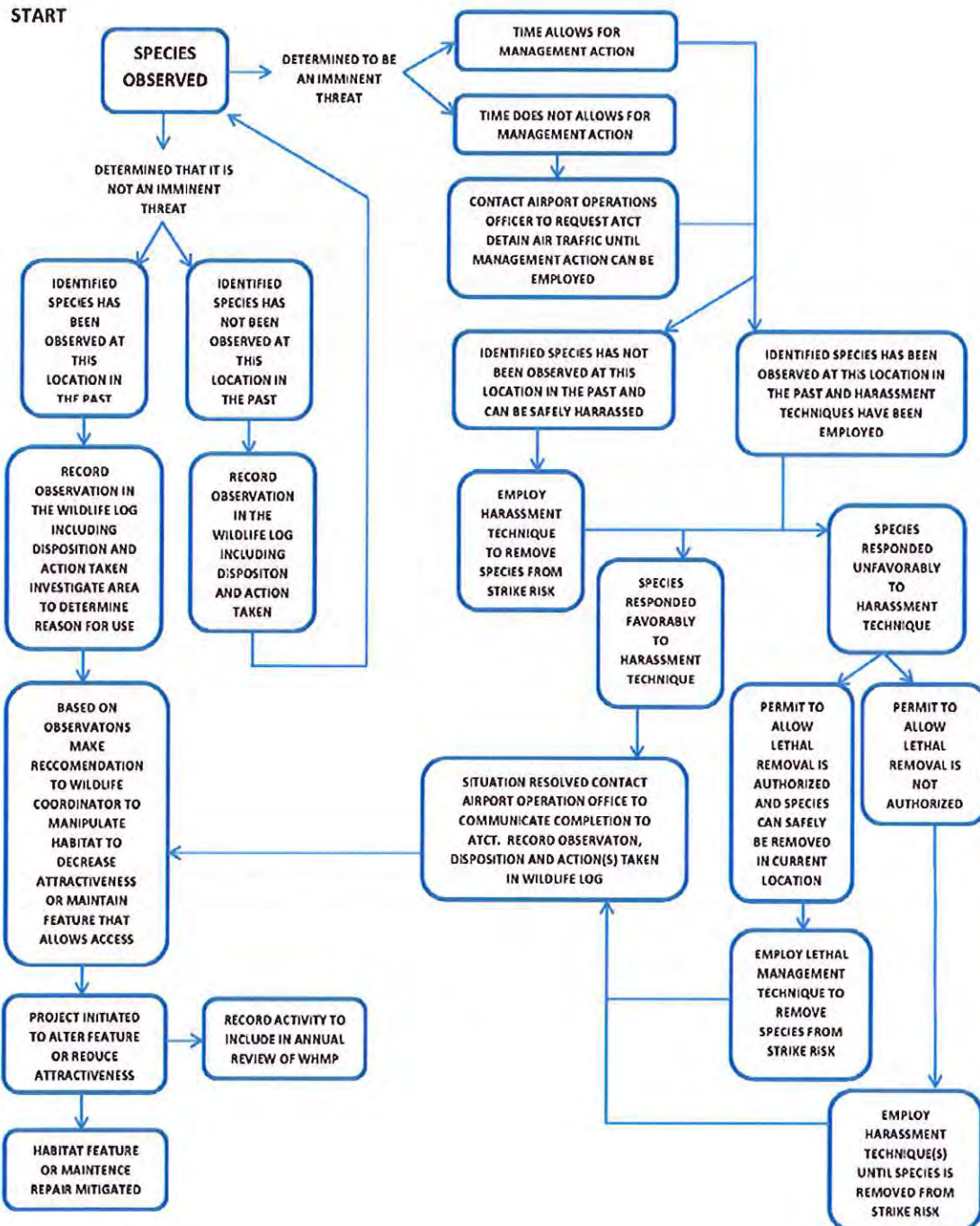


Figure 7-1. Wildlife Hazard Response Chart

Reporting

Staff should report all observations of wildlife activity on the Wildlife Log (Appendix F). Completed forms will be maintained and kept electronically on the Airport Network for frequent review. Routine runway sweeps should be conducted at least once per day and recorded on the Airport Daily Log (Appendix F). The presence of any dead animals found from strikes or suspected strikes should be recorded on Form E5200-7 (Appendix E).

Other wildlife-related activities (e.g., notable hazards, animals killed or dispersed, unusual wildlife behavior, etc.) should be documented on the Wildlife Log. All dead birds or mammals found on runways and taxiways will be considered the result of a strike unless the death was obviously due to some other cause. Any unidentifiable bird remains that are found should be bagged, labeled (e.g., time and date found, location on runway, person who found remains, etc.), and submitted to the Smithsonian Institution, Feather Identification Lab. Wildlife strikes may be submitted electronically to the FAA at http://wildlife-mitigation.tc.faa.gov/public_html/index.html. A printout of the strike report must also be immediately submitted to the Wildlife Coordinator so that the situation can be assessed.

7.3 General Wildlife Management

A properly formulated wildlife management plan should be based upon a comprehensive biological evaluation. A primary key to successful wildlife control is persistence, innovation, and a clear understanding of the risks associated with certain species, that either by their location, size, behavior, and/or number create a hazardous situation for the current state of the airfield. The initial response for most species will be to haze wildlife using with frightening devices, followed by lethal management methods when hazing is unsuccessful. Techniques should be applied based on safety, effectiveness, practicality, and environmental and social considerations. Most management techniques retain their effectiveness when used judiciously and in conjunction with other methods. Some methods such as pesticides or traps are only effective and legal for certain species and situations. Therefore, the methods chosen will depend largely on the situation and the species involved.

As a wildlife population near the airfield increases in abundance, so does likelihood that individual members of the population will enter critical airspace used by arriving and departing aircraft. However, wildlife abundance is not the sole indicator for assessing the strike hazards, rather the entire dynamic of the animals' abundance, body size, and behavioral attributes must be evaluated in combination. Notable attributes of wildlife behavior that should be examined to properly assess the risk to aircraft include direction and altitude of wildlife movements in relation to aircraft, flocking characteristics, frequency of visits to a given site, duration of visit, and activity while on site (e.g., nesting, loafing, feeding, soaring, etc.).

Personnel involved in direct control should be aware of the potential diseases that wildlife can carry and should take appropriate precautions utilizing personal protective equipment when physically handling wildlife.

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7.4 Bird Management

Sixty-nine species of birds were observed during the WHA and some species represent a significant potential for causing damaging strikes.

Although ravens are a primary concern due to their body density and flocking tendencies, Canada geese, mallard ducks, and red-tailed hawks also pose a concern. Juvenile birds may also constitute an unusual wildlife hazard because of their general unfamiliarity with the airport environment. The "Prevention and Control of Wildlife Damage" manual 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. The techniques discussed in this reference manual should reduce most hazards involving species of concern at ASE.

7.5 Mammal Management

Potential hazards from the majority of mammal species at ASE can be reduced through habitat modification, fence maintenance, and the addition of smaller mesh wire over portions of the perimeter fence. With the exception of coyotes, large mammals such as deer and elk have been excluded from the airfield by the perimeter/wildlife-resistant fence. However, smaller mammals are present on the airfield in low to moderate densities, and can attract larger predators and raptors. The ASE Operations and Facilities staff will monitor ground squirrel and pocket gopher presence and organize annual or as needed pesticide applications to minimize predator attractiveness. Refer to 5.6.1 and 6.9.6.

7.6 City and County Animal Control Assistance

The Pitkin County Animal Safety Department provides service and protection to all persons within unincorporated Pitkin County with regards to animal issues. Duties include providing conflict intervention within the community concerning animal safety issues. The Animal Safety Officer handles the detention of animals. The Aspen Police Department and Community Safety Officers and seasonal Wildlife Enforcement Officer are also available to help with any animal issues. If an animal poses an immediate threat to aviation, wildlife management personnel should attempt to catch or disperse.

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Section 8 – Evaluation

FAR Part 139.337(e)(6) Periodic evaluation and review of the wildlife hazard management plan

The Wildlife Hazard Working Group will evaluate the WHMP every 12 consecutive calendar months. The WHWG will determine the effectiveness of the WHMP at reducing wildlife strikes at ASE and monitor the status of hazard reduction projects, including their completion dates provided in Section 5, tables 5-1, 5-2, and 5-3.

8.1 Meetings

The WHWG will meet at least once annually, but the group may convene more regularly if situations warrant. The need for WHWG meetings will be determined by the Assistant Aviation Director of Operations and Facilities. Members of the WHWG should be encouraged to report observations to the Wildlife Coordinator and request a WHWG meeting as necessary.

8.2 Wildlife Strike Database

The ASE Operations Staff will maintain a database of wildlife strikes and populations on the airfield and surrounding areas. Information from this database will be used to identify trends and to monitor changes in wildlife hazards on the airfield. The database can be the accumulation of the Wildlife Log entries. If unacceptable increases in wildlife hazards are observed, the cause should be determined and the WHMP modified to address the problem.

8.3 Airport Expansion/Construction

Airport expansion plans will be reviewed by the Wildlife Coordinator / Assistant Aviation Director of Operations and Facilities with consultation from an FAA-qualified wildlife biologist, when needed, to ensure that new developments will not inadvertently result in increased wildlife hazards to aircraft operations. If appropriate, they will coordinate designs with the FAA.

8.4 FAA Involvement

FAA Regional Certification Inspectors and personnel from the Northwest Mountain Region and DEN-ADO should be invited to make comments on the WHMP and to attend annual meetings on plan modifications.

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Section 9 – Training

139.337(e)(7)

A training program to provide airport personnel with the knowledge and skills needed to carry out the wildlife hazard management plan...

Training is essential for personnel involved in the WHMP. The Wildlife Coordinator should ensure that all personnel that might be involved with wildlife management activities are trained in the proper selection and application of management methods as well as wildlife species identification.

9.1 Wildlife Hazard Training

Operations and Facilities staff should receive wildlife hazard training from an FAA-qualified wildlife biologist and a firearms safety instructor in mitigating wildlife hazards at airports, including an overview of laws associated with wildlife management, identification of wildlife hazards, techniques used for prey-base reductions, effective use of firearms and pyrotechnics (including hands-on training), and wildlife identification and dispersal techniques.

All ASE personnel that use restricted-use chemicals must first obtain a pesticide applicator's license. Use of all pesticides should strictly adhere to the pesticide label and should follow U.S. Environmental Protection Agency and CDOA guidelines.

Airport personnel using firearms will be trained by a qualified individual State Certificated Hunter Safety Instructors, police officers, firearms instructors or other personnel who have been professionally trained in firearms safety.

Airport communications and driving training should also be provided to all employees involved in wildlife management operations that may require them to operate on the AOA. The Airport Training, Safety and Standards Coordinator will maintain records of personnel that have completed training for implementation of the WHMP.

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Section 10 – Monitoring Wildlife Hazards

FAR Part 139.337 (b) In a manner authorized by the Administrator, each certificate holder [must] ensure that a wildlife hazard assessment is conducted when any of the following events occurs on or near the airport:

- (1) An air carrier aircraft experiences multiple wildlife strikes;*
- (2) An air carrier aircraft experiences substantial damage from striking wildlife.*
- (3) An air carrier aircraft experiences an engine ingestion of wildlife; or*
- (4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area.*

Although it is impossible to accurately predict exactly how wildlife population dynamics will change over time or in response to the proposed habitat modifications, changes in wildlife behavior and populations are anticipated. Long-term monitoring will be necessary to ensure that a hazardous situation does not develop.

One objective of the proposed habitat modification measures is to eliminate habitat already known to be attractive to hazardous wildlife. Therefore, acceptable hazard levels should not be based on existing wildlife populations, but rather on population trends of hazardous wildlife on and near ASE.

10.1 Wildlife Hazard Assessment

FAR 139.337 (b) states an assessment should be conducted after any one of four triggering events occurs. Because one or more of these triggering events occurs at irregular intervals at ASE, it is prudent for ASE to conduct an Ongoing Wildlife Hazard Assessment. This assessment is comprised at least 1 set of 5- minute surveys each month, throughout the year. Ideally, these surveys are conducted by the same person however any trained Operations Officer will be utilized. The locations of these 5-minute survey stations are illustrated in **Appendix I**.

10.2 Monitoring Methods

10.2.1 Target Species

The surveys are designed to focus primarily on large, flocking birds because of their mobility and potential to threaten aircraft safety. The surveys will identify trends and will not provide an absolute estimate of population sizes. Waterfowl (geese and dabbling ducks), raptors (hawks, owls, etc.), European starlings, blackbirds, crows/ravens, and shorebirds are the primary types of hazardous wildlife that may be attracted to ASE, and monitoring activities should focus on the presence and behavior of these species.

Original Date: 7/6/2012

Revision Date: _____

FAA Approval: 

ASPEN/PITKIN COUNTY AIRPORT WILDLIFE HAZARD MANAGEMENT PLAN

Mammal activity will also be monitored and recorded through incidental observations, but due to sampling design, mammals will likely be underestimated by the systematic surveys. Ground squirrels and pocket gopher are of particular interest due to the food resource that they provide and the attraction of avian and mammalian predators. This data will be analyzed annually by the Assistant Aviation Director of Operation and Facilities and presented to the WHWG to determine if management strategies have resulted in few observations of hazardous wildlife.

Original Date: 7/6/2012

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FAA Approval: 

Section 10 page 2 of 2

Section 11 – Agency Directory

REGULATORY AND ENFORCEMENT

**U.S. Fish and Wildlife Service
(Migratory Bird Permit Office)**
P.O. Box 25486
DFC (60154)
Denver, CO 80225-0486
Phone: (303) 236-8171
Email: permitsR6MB@fws.gov

**U.S. Fish and Wildlife Service
Colorado Field Office (T&E Species)**
Western Colorado Field Office
764 Horizon Drive (Building B)
Grand Junction, CO 81506-3946
Phone: (970) 243-2778

**U.S. Fish and Wildlife Service
(Law Enforcement)**
764 Horizon Drive (Building C)
Grand Junction, CO 81506-3946
Phone: (970) 257-0795

**Colorado Parks and Wildlife
(Wildlife Management, Law Enforcement)**
District Wildlife Manager, Kevin Wright
50633 Highways 6 & 24
Glenwood Springs, CO 81601
Phone: (970) 947-2920

Federal Aviation Administration (FAA)
Northwest Mountain Region
Denver Airports District Office
26805 E. 68th Avenue, Suite 224
Denver, CO 80249-6361
Phone: (303) 342-1261

Federal Aviation Administration (FAA)
FAA Aspen ATCT/TRACON
Manager, Ginger Golden
Pitkin County Airport
0150 W. Airport Rd.
Aspen, CO 81611
Phone: (970) 925-3703

Federal Aviation Administration (FAA)
Staff Wildlife Biologist, John Weller
Airport Safety and Operations Division (AAS-300)
800 Independence Ave., SW
Washington, DC 20591
Phone: (202) 267-8731

MUNICIPAL AGENCIES

Aspen Police Department
506 East Main Street, Suite 102
Aspen, CO 81611
Phone: (970) 920-5310

Pitkin County Sheriff's Department
506 E. Main Street
Suite 101
Aspen, CO 81611
Phone: (970) 920-5300

Aspen-Pitkin County Airport Administration
0233 E. Airport Rd. Suite A
Aspen, CO 81611
Phone: (970) 920-5384

TECHNICAL ASSISTANCE

U.S. Department of Agriculture, Wildlife Services
12345 West Alameda Parkway
Suite 204, Lakewood, CO 80228
Phone: (303) 236-5810

Colorado State University- Extension
Colorado State University Extension
Campus Delivery 4040
Fort Collins, CO 80523-4040
Phone: (970) 491-6281
Web: www.ext.colostate.edu

**Colorado Dept. of Agriculture
(Pesticide Management)**
700 Kipling Street, Suite 4000
Lakewood, CO 80215-8000
Phone: (303) 239-4100

**Colorado Department of Transportation
Division of Aeronautics**
5126 Front Range Parkway
Watkins, CO 80137
Phone: 303.261.4418

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Original Date: 7/6/2012

Revision Date: _____

FAA Approval:  _____

***APPENDIX A* – Code of Federal Regulations (CFR) Title 14
FAR part 139.337**

§ 139.331

(1) Two-way radio communications between each pedestrian or vehicle and the tower;

(2) An escort with two-way radio communications with the tower accompanying any pedestrian or vehicle without a radio; or

(3) Measures authorized by the Administrator for controlling pedestrians and vehicles, such as signs, signals, or guards, when it is not operationally practical to have two-way radio communications between the tower and the pedestrian, vehicle, or escort;

(d) When an air traffic control tower is not in operation, or there is no air traffic control tower, provide adequate procedures to control pedestrians and ground vehicles in movement areas or safety areas through two-way radio communications or prearranged signs or signals;

(e) Ensure that each employee, tenant, or contractor is trained on procedures required under paragraph (b) of this section, including consequences of noncompliance, prior to moving on foot, or operating a ground vehicle, in movement areas or safety areas; and

(f) Maintain the following records:

(1) A description and date of training completed after June 9, 2004 by each individual in compliance with this section. A record for each individual must be maintained for 24 consecutive months after the termination of an individual's access to movement areas and safety areas.

(2) A description and date of any accidents or incidents in the movement areas and safety areas involving air carrier aircraft, a ground vehicle or a pedestrian. Records of each accident or incident occurring after the June 9, 2004 must be maintained for 12 consecutive calendar months from the date of the accident or incident.

§ 139.331 Obstructions.

In a manner authorized by the Administrator, each certificate holder must ensure that each object in each area within its authority that has been determined by the FAA to be an obstruction is removed, marked, or lighted, unless determined to be unnecessary by an FAA aeronautical study. FAA Advisory Circulars contain methods and procedures for the lighting of

14 CFR Ch. I (1-1-08 Edition)

obstructions that are acceptable to the Administrator.

§ 139.333 Protection of NAVAIDS.

In a manner authorized by the Administrator, each certificate holder must—

(a) Prevent the construction of facilities on its airport that, as determined by the Administrator, would derogate the operation of an electronic or visual NAVAID and air traffic control facilities on the airport;

(b) Protect—or if the owner is other than the certificate holder, assist in protecting—all NAVAIDS on its airport against vandalism and theft; and

(c) Prevent, insofar as it is within the airport's authority, interruption of visual and electronic signals of NAVAIDS.

§ 139.335 Public protection.

(a) In a manner authorized by the Administrator, each certificate holder must provide—

(1) Safeguards to prevent inadvertent entry to the movement area by unauthorized persons or vehicles; and

(2) Reasonable protection of persons and property from aircraft blast.

(b) Fencing that meets the requirements of applicable FAA and Transportation Security Administration security regulations in areas subject to these regulations is acceptable for meeting the requirements of paragraph (a)(1) of this section.

§ 139.337 Wildlife hazard management.

(a) In accordance with its Airport Certification Manual and the requirements of this section, each certificate holder must take immediate action to alleviate wildlife hazards whenever they are detected.

(b) In a manner authorized by the Administrator, each certificate holder must ensure that a wildlife hazard assessment is conducted when any of the following events occurs on or near the airport:

(1) An air carrier aircraft experiences multiple wildlife strikes;

(2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or

structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;

(3) An air carrier aircraft experiences an engine ingestion of wildlife; or

(4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area.

(c) The wildlife hazard assessment required in paragraph (b) of this section must be conducted by a wildlife damage management biologist who has professional training and/or experience in wildlife hazard management at airports or an individual working under direct supervision of such an individual. The wildlife hazard assessment must contain at least the following:

(1) An analysis of the events or circumstances that prompted the assessment.

(2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.

(3) Identification and location of features on and near the airport that attract wildlife.

(4) A description of wildlife hazards to air carrier operations.

(5) Recommended actions for reducing identified wildlife hazards to air carrier operations.

(d) The wildlife hazard assessment required under paragraph (b) of this section must be submitted to the Administrator for approval and determination of the need for a wildlife hazard management plan. In reaching this determination, the Administrator will consider—

(1) The wildlife hazard assessment;

(2) Actions recommended in the wildlife hazard assessment to reduce wildlife hazards;

(3) The aeronautical activity at the airport, including the frequency and size of air carrier aircraft;

(4) The views of the certificate holder;

(5) The views of the airport users; and

(6) Any other known factors relating to the wildlife hazard of which the Administrator is aware.

(e) When the Administrator determines that a wildlife hazard management plan is needed, the certificate holder must formulate and implement a plan using the wildlife hazard assessment as a basis. The plan must—

(1) Provide measures to alleviate or eliminate wildlife hazards to air carrier operations;

(2) Be submitted to, and approved by, the Administrator prior to implementation; and

(3) As authorized by the Administrator, become a part of the Airport Certification Manual.

(f) The plan must include at least the following:

(1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.

(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 modification; and

(iii) Land use changes.

(3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.

(4) Identification of resources that the certificate holder will provide to implement the plan.

(5) Procedures to be followed during air carrier operations that at a minimum includes—

(i) Designation of personnel responsible for implementing the procedures;

(ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;

(iii) Wildlife hazard control measures; and

(iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the air traffic control tower.

(6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in paragraphs (b)(1), (b)(2), and (b)(3) of this section, including:

§ 139.339

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(i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and

(ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.

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

(g) FAA Advisory Circulars contain methods and procedures for wildlife hazard management at airports that are acceptable to the Administrator.

§ 139.339 Airport condition reporting.

In a manner authorized by the Administrator, each certificate holder must—

(a) Provide for the collection and dissemination of airport condition information to air carriers.

(b) In complying with paragraph (a) of this section, use the NOTAM system, as appropriate, and other systems and procedures authorized by the Administrator.

(c) In complying with paragraph (a) of this section, provide information on the following airport conditions that may affect the safe operations of air carriers:

(1) Construction or maintenance activity on movement areas, safety areas, or loading ramps and parking areas.

(2) Surface irregularities on movement areas, safety areas, or loading ramps and parking areas.

(3) Snow, ice, slush, or water on the movement area or loading ramps and parking areas.

(4) Snow piled or drifted on or near movement areas contrary to § 139.313.

(5) Objects on the movement area or safety areas contrary to § 139.309.

(6) Malfunction of any lighting system, holding position signs, or ILS critical area signs required by § 139.311.

(7) Unresolved wildlife hazards as identified in accordance with § 139.337.

(8) Nonavailability of any rescue and firefighting capability required in §§ 139.317 or 139.319.

(9) Any other condition as specified in the Airport Certification Manual or

that may otherwise adversely affect the safe operations of air carriers.

(d) Each certificate holder must prepare and keep, for at least 12 consecutive calendar months, a record of each dissemination of airport condition information to air carriers prescribed by this section.

(e) FAA Advisory Circulars contain methods and procedures for using the NOTAM system and the dissemination of airport information that are acceptable to the Administrator.

§ 139.341 Identifying, marking, and lighting construction and other unserviceable areas.

(a) In a manner authorized by the Administrator, each certificate holder must—

(1) Mark and, if appropriate, light in a manner authorized by the Administrator—

(i) Each construction area and unserviceable area that is on or adjacent to any movement area or any other area of the airport on which air carrier aircraft may be operated;

(ii) Each item of construction equipment and each construction roadway, which may affect the safe movement of aircraft on the airport; and

(iii) Any area adjacent to a NAVAID that, if traversed, could cause derogation of the signal or the failure of the NAVAID; and

(2) Provide procedures, such as a review of all appropriate utility plans prior to construction, for avoiding damage to existing utilities, cables, wires, conduits, pipelines, or other underground facilities.

(b) FAA Advisory Circulars contain methods and procedures for identifying and marking construction areas that are acceptable to the Administrator.

§ 139.343 Noncomplying conditions.

Unless otherwise authorized by the Administrator, whenever the requirements of subpart D of this part cannot be met to the extent that uncorrected unsafe conditions exist on the airport, the certificate holder must limit air carrier operations to those portions of the airport not rendered unsafe by those conditions.

APPENDIX B – FAA Certalert No. 97-09 - Wildlife Hazard
Management Plan Outline

CERTALERT

ADVISORY * CAUTIONARY * NON-DIRECTIVE

FOR INFORMATION, CONTACT AIRPORT WILDLIFE SPECIALIST, AAS-317 (202) 267.3389

DATE: 17 November, 1997

No. 97-09

TO: AIRPORT CERTIFICATION SAFETY INSPECTORS

TOPIC: WILDLIFE HAZARD MANAGEMENT PLAN OUTLINE

An increasing number of questions are being received concerning the preparation and content of a FAA approved airport wildlife hazard management plan. Title 14 Code of Federal Regulations, part 139.337, *Wildlife Hazard Management*, prescribes the specific issues that a wildlife hazard management plan must address for FAA approval and inclusion in the ACM.

A wildlife hazard assessment, defined as an ecological study in part 139.337 (a), conducted by a wildlife damage management biologist, provides the scientific basis for the development, implementation, and refinement of a wildlife hazard management plan. Though parts of the wildlife hazard assessment may be incorporated directly in the wildlife hazard management plan, they are two separate documents. Part of the wildlife hazard management plan can be prepared by the biologist(s) who conducts the wildlife hazard assessment. However, some parts can be prepared only by the airport. For example, airport management assigns airport personnel responsibilities, commits airport funds, and purchases equipment and supplies. Airport management may request the wildlife biologist to review the finished plan.

The wildlife damage management biologist's primary responsibilities are:

- to provide information on the wildlife attractants that have been identified on or near the airport,
- to identify wildlife management techniques,
- to prioritize appropriate mitigation measures,
- to recommend necessary equipment and supplies, and
- to identify training requirements for the airport personnel who will implement the wildlife hazard management plan.

It is often helpful for the airport manager to appoint a Wildlife Hazard Management Group that has responsibility for the airport's wildlife management program. The biologist should assist the Wildlife Hazard Management Group with periodic evaluations of the plan and make recommendations for further refinements or modifications.

The following details the requirements of part 139.337 (e) and (f) and how those requirements should be addressed in a FAA approved wildlife hazard management plan.

FAR 139.337 REQUIREMENTS

WILDLIFE HAZARD MANAGEMENT PLAN CONTENTS

139.337(e). The (wildlife hazard management) plan shall include at least the following :	The wildlife hazard management plan must include, and/or identify the responsibility of, and/or actions to be taken, –
139.337(e)(1). The persons who have authority and responsibility for implementing the plan.	Specific responsibilities for various sections of the wildlife hazard management plan must be assigned or delegated to various airport departments such as: - Airport Director - Operations Dept. - Maintenance Dept. - Security Dept. - Planning Dept. - Finance Dept. - Wildlife Coordinator - Wildlife Hazard Group Local law enforcement authorities that provide wildlife law enforcement and other support also have a role to play: - State Fish and Game U. S. Fish and Wildlife Service - City police - County Sheriff
139.337(e)(2). Priorities for needed habitat modification and changes in land use identified in the ecological study with target dates for completion.	Attractants (food, cover, and water) identified in wildlife hazard assessment, with priorities for mitigation and completion dates. Attractants can be grouped by areas and ownership. (A list of completed habitat modification or other projects designed to reduce the wildlife/aircraft strike potential can be included, and provides a history of work already accomplished.) - Airport property: - Aircraft Operations Area (AOA). - Within 2 miles of aircraft movement areas. - Within 5 miles of aircraft movement areas. - Airport structures - Non-airport property - Within 2 miles of aircraft movement areas. - Within 5 miles of aircraft movement areas. - Structures

FAR 139.337 REQUIREMENTS

WILDLIFE HAZARD MANAGEMENT PLAN CONTENTS

Habitat/population management recommendations	Management plans for specific areas, attractants, species, or situations, as identified in ecological study (wildlife hazard assessment). This section may include any or all of the following: Food/Prey-base Management - Rodents - Earthworms - Insects - Other prey - Trash and debris - handling, storage. - Handouts Species specific population management - i.e. deer, gulls, geese, coyotes - Repelling - Exclusion - Removal Habitat Management - Vegetation Management - AOA vegetation - Drainage ditch(s) vegetation - Landscaping - Agriculture - Water Management - Permanent Water - Wetlands - Canals/drainage ditches - Detention/retention ponds - Sewage (glycol) treatment ponds - Other water areas - Ephemeral water - Runways, taxiways, & aprons. - Other wet areas - Airport Buildings - Airfield structures - Abandoned structures - Terminal - Airport construction Resource Protection - Exclusion - Repelling - Chemical - Auditory - Visual
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FAR 139.337 REQUIREMENTS

WILDLIFE HAZARD MANAGEMENT PLAN CONTENTS

139.337(e)(3). Requirements for and, where applicable, copies of local, state and Federal wildlife control permits.	Wildlife can be protected at all levels of government – city, county, state, federal, or may not be protected at all, depending on location and species. Therefore the section should address the specific species involved and their legal status. Wildlife management permitting requirements and procedures (spelled out) Federal - 50 CFR parts 1 to 199. State - Fish and Game Code (or equivalent) City, county - ordinances If pesticides are to be used, then the following are also needed. Pesticide use regulations Federal- [Federal Insecticide, Fungicide, and Rodenticide Act, as amended (FIFRA)] State (varies by state) City/county (if applicable) Pesticide use licensing requirements State regulations
139.337(e)(4). Identification of resources to be provided by the certificate holder for implementation of the plan.	Lists identifying what the airport will supply in terms of: Personnel Time Equipment, (i.e. radios, vehicle(s), guns, traps). Supplies (i.e. shellcrackers, mylar tape) Wildlife Patrol Personnel Vehicle(s) Equipment Supplies Pesticides Restricted/non-restricted Application equipment Sources of Supply
139.337(e)(5). Procedures to be followed during air carries operations, including at least...	
139.337(e)(5)(i). Assignment of personnel responsibilities for implementing the procedures;	Who, when, what circumstances Wildlife Patrol Wildlife Coordinator Operations Dept. Maintenance Dept. Security Dept. Air Traffic Control
139.337(e)(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;	Who, when, how, what circumstances -- Runway(s), taxiway(s), and ramp(s) sweeps, AOA monitoring Un-mitigated attractants

FAR 139.337 REQUIREMENTS

WILDLIFE HAZARD MANAGEMENT PLAN CONTENTS

139.337(e)(5)(iii). Wildlife control measures;	Who, what circumstances, when, how is the Wildlife Patrol contacted. Wildlife Patrol Bird Control repel capture kill Mammal control repel capture kill
139.337(e)(5)(iv). Communication between wildlife control personnel and any air traffic control tower in operation at the airport.	Communication procedures Training in communication procedures Equipment needed Radios, mobile phones, etc. Lights
139.337(e)(6). Periodic evaluation and review of the wildlife hazard management plan for:	At a minimum the airport operator should hold annual meetings, or after an event described in 139.337(a)(1 to 3), with representatives from all airport departments involved in the airport's wildlife hazard management efforts and the wildlife damage management biologist who did the original ecological study (wildlife hazard assessment).
139.337(e)(6)(i). Effectiveness in dealing with the wildlife hazard;	Input from all airport departments, ATC, wildlife biologist, as to effectiveness of plan. Good records are a must for evaluating the effectiveness of a program. Therefore need to know what records are kept, by whom, how, where, and when.
139.337(e)(6)(ii). Indications that the existence of the wildlife hazard, as previously described in the ecological study, should be reevaluated.	Wildlife seen on AOA Request for wildlife dispersal from Tower, pilots, or others Wildlife strike database and other records. Good records are a must.
139.337(e)(7). A training program to provide airport personnel with the knowledge and skills needed to carry out the wildlife hazard management plan required by paragraph (d) of this section.	Wildlife Patrol personnel training All airport personnel - wildlife hazard awareness training Pesticide use training and certification

FAR 139.337 REQUIREMENTS

WILDLIFE HAZARD MANAGEMENT PLAN CONTENTS

139.337(f). Notwithstanding the other requirements of this section, each certificate holder shall take immediate measures to alleviate wildlife hazards whenever they are detected.	Although not required as part of wildlife hazard management plan, this information should be included to fulfill part 139 requirements. Procedures and personnel responsibilities for notification regarding new or immediate hazards by and to: - Wildlife Patrol - Operations - NOTAM issuance/cancellation criteria and procedures - Maintenance - Security - Air Traffic Control - Others Rapid response procedures for new or immediate hazards by: - Wildlife Patrol - Operations - Maintenance - Security - Air Traffic Control - Others
139.337(g). FAA Advisory Circulars in the 150 series contain standards and procedures for wildlife hazard management at airports which are acceptable to the Administrator.	AC 150/5200--33 Hazardous Wildlife Attractants on or Near Airports.

OSB

Benedict D. Castellano, Manager
Airport Safety and Compliance Branch

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



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

**Subject: HAZARDOUS WILDLIFE
ATTRACTANTS ON OR NEAR
AIRPORTS**

Date: 8/28/2007

AC No: 150/5200-33B

Initiated by: AAS-300 Change:

1. **PURPOSE.** This Advisory Circular (AC) 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 (including airport construction, expansion, and renovation) affecting aircraft movement near hazardous wildlife attractants. Appendix 1 provides definitions of terms used in this AC.
2. **APPLICABILITY.** The Federal Aviation Administration (FAA) recommends that public-use airport operators implement the standards and practices contained in this AC. The holders of Airport Operating Certificates issued under Title 14, Code of Federal Regulations (CFR), Part 139, Certification of Airports, Subpart D (Part 139), may use the standards, practices, and recommendations contained in this AC to comply with the wildlife hazard management requirements of Part 139. Airports that have received Federal grant-in-aid assistance must use these standards. The FAA also recommends the guidance in this AC for land-use planners, operators of non-certificated airports, and developers of projects, facilities, and activities on or near airports.
3. **CANCELLATION.** This AC cancels AC 150/5200-33A, *Hazardous Wildlife Attractants on or near Airports*, dated July 27, 2004.
4. **PRINCIPAL CHANGES.** This AC contains the following major changes, which are marked with vertical bars in the margin:
 - a. Technical changes to paragraph references.
 - b. Wording on storm water detention ponds.
 - c. Deleted paragraph 4-3.b, *Additional Coordination*.
5. **BACKGROUND.** Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife are a serious economic and public safety problem. While many species of wildlife can pose a threat to aircraft safety, they are not equally hazardous. Table 1