19. WILDLIFE PROCEDURES 139.337

The required Wildlife Hazard Management Plan (WHMP) has been approved and attached. The following general procedures apply.

A. GENERAL

This airport shall take immediate measures to NOTAM and mitigate wildlife hazards whenever they are detected during duty hours or whenever airport management has been advised that the hazardous conditions are present. Procedures for NOTAMing these conditions are outlined within Section 20. The FAA shall be contacted to arrange for a Wildlife Hazard Assessment whenever the following events occur 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 an size, or in numbers, capable of causing an event described in paragraphs (1), (2), or (3) is observed to have access to any airport flight pattern or aircraft movement area.

   The wildlife hazard assessment required in paragraph (b) of this section shall 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.

B. BIRD & WILDLIFE HAZARD REDUCTION PROCEDURES

If airport management becomes aware of hazardous conditions involving birds as described above the following immediate mitigating action shall begin:

1. Attempt to identify the attractants or circumstances contributing to the bird hazard event.

2. Approximately 15-20 minutes before a scheduled take off or landing of an air carrier aircraft the airport manager accomplishes landing or designee will insure that:

   a. A vehicle is dispatched the full length of the active runway to facilitate observation of any bird concentrations.

   b. Noise making devices will be used in attempts to disperse any birds observed.

   c. The vehicle and occupants will remain in the runway vicinity to insure such birds (if any) do not roost again on or along side the runway and that birds leave the general airport area.

   d. If attempts to disperse birds are unsuccessful, the pilot of the air carrier aircraft will be notified immediately through a NOTAM issued by airport management.

If in the opinion of the airport manager, the bird problem is eliminated, the regular dispatching of the bird patrols may be terminated. The dispatching of the patrol must be resumed if, in the airport manager's opinion, a bird problem reoccurs.

C. WILDLIFE OTHER THAN BIRDS

If airport management becomes aware of hazardous conditions involving wildlife on the movement areas, as defined in paragraph A, attempt to identify the attractants or circumstances contributing to the wildlife hazard event, and:

Patrols utilizing the same frequencies and procedures as described for bird hazards will be established in order to mitigate the hazard until habit alterations can be established or the hazard dissipates due to other causes.

D. Wildlife Training: Initial training will be conducted for all airport personnel involved in wildlife hazard management. Refresher training will be on an as needed basis but at least annually. Training will be documented on the form located in **Exhibit 12**.

E. AC References

150/5200-33 Hazardous Wildlife Attractants On or Near Airports
150/5200-34 Construction or Establishment of Landfills near Public Airport

Table of Contents

1.0 INTRODUCTION

1.1 OVERVIEW

The Homer Airport (HOM), located in the southwest portion of the Kenai Peninsula, northwest of Kachemak Bay and at the south end of Cook Inlet, has contended with wildlife hazards for many years. The airport's management confronts a significant challenge: to minimize wildlife/aircraft strikes in the face of dynamic populations of resident and migratory wildlife. A wildlife hazard is defined as: *Wildlife activity that creates the potential for a damaging collision between wildlife and aircraft on or near an airport.* Over the years, aircraft operating at HOM have experienced collisions with wildlife. Fortunately, none of these wildlife strikes have resulted in injury or loss of life, but substantial damage to aircraft has occurred (e.g., a gull strike in 1976 with a Wien Air Alaska Boeing 737). Therefore, due to the potential for a more catastrophic result from a wildlife strike, the Federal Aviation Administration (FAA) required the airport to conduct a formal Wildlife Hazard Assessment (WHA). The WHA was completed in November of 2001, and serves as the basis for this Wildlife Hazard Management Plan (WHMP). The WHA identified wildlife species (birds and mammals) that pose a regular hazard to aircraft, and the habitat characteristics on and surrounding the airport that attract these species.

HOM has long maintained procedures for the regular dispersal of birds prior to air carrier aircraft movements. While these efforts have probably helped to reduce the number of wildlife strikes, the WHA identified several areas of the program that can be changed to help reduce the potential for wildlife strikes even further. The WHA also provided recommendations for habitat modification that should reduce the attractiveness of the airfield to the most problematic species.

The objective of this WHMP is to set forth a well-defined set of policies, goals, and standards by which wildlife hazards can be effectively reduced at HOM. Using the recently completed WHA as a guideline, it defines habitat management objectives and wildlife control procedures, which will help to reduce the potential for a damaging collision between wildlife and aircraft operating at HOM. This WHMP fulfills the legal requirements of 14 CFR Part 139.337 (e) (a complete copy of Part 139.337 is attached as Appendix A). The WHMP must include seven required components according to 14 CFR 139.337 (f). These criteria are listed as follows:

1. *The persons who have the authority and responsibility for implementing the plan.*

2. *Priorities for needed habitat modification and changes in land use identified in the ecological study, with target dates for completion.*

3. *Requirements for and where applicable, copies of local, state, and federal wildlife control permits.*

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

5. *Procedures to be followed during air carrier operations, including at least -*
   (i) Assignment of personnel responsibilities for implementing the procedures;
   (ii) Conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective;
   (iii) Wildlife control measures; and

(iv) Communication between the wildlife control personnel and any air traffic control tower in operation at the airport.

6. *Periodic evaluation and review of the wildlife hazard management plan for -*
   (i) Effectiveness in dealing with the wildlife hazard; and
   (ii) Indication that the existence of the wildlife hazard, as previously described in the ecological study, should be reevaluated.

7. *A training program to provide airport personnel with the knowledge and skills needed to carry out the wildlife hazard management plan required by (d) of this section.*

To augment compliance with Part 139.337(e), the FAA issued a Certalert (No. 97-09 [see Appendix B]) to provide guidance to airports in developing their plans. This Certalert contains a sample outline that was followed in the development of this plan.

In addition to the requirements stated above, 14 CFR - Part 139.337(f) outlines procedures and personnel responsibilities for notification regarding new or immediate hazards, and describes the rapid response procedures for addressing new or immediate wildlife hazards. Section (f) is extremely important because it allows the WHMP to be promptly modified and updated to address new situations or changing circumstances.

1.2 WILDLIFE STRIKE HISTORY

A record of wildlife strikes provides the basis for understanding wildlife hazards at an airport. While some strikes may have gone unreported over the years, strikes that have been reported provide valuable information, which can be used to help resolve current wildlife hazards. At HOM, only one wildlife strike was reported to the FAA over the past 10 years. During the HOM Wildlife Hazard Assessment (WHA), Wildlife Services identified additional wildlife strikes, and near misses that involved a variety of species from songbirds, a sandhill crane, waterfowl, coyote, pheasants, bald eagles, and gulls.

The following table will be used as an ongoing documentation of the wildlife strikes at HOM reported to the FAA via Form 5200-7 *Bird/Other Wildlife Strike Report*. It will be updated annually based on the submission of these reports to the FAA wildlife strike database. This is a voluntary reporting system and places no requirement on aircraft operators or others to report wildlife strikes. However, HOM will make every effort to ensure the timely and accurate completion of a wildlife strike report for every informed wildlife strike. Further guidance for airport personnel regarding wildlife strike reporting is provided under Section 5.4.2 of this plan. The HOM wildlife strike record will be provided to those who file a written request to airport management.

Table 1. Wildlife Strikes/Near Miss Activity within 5 miles of HOM (Late 1980's -2001).

Date	Type of Aircraft	Number/Species	Damage	Comments
Late 80's	AK Air-nautical (AAI) Twin Otter	1 Coyote	Unknown	Found on runway by airport manager.
1990	Cessna	1 Mallard	Minor	Occurred on approach.

Date	Type of Aircraft	Number/Species	Damage	Comments
1993	Cessna	1 Ring-necked Pheasant	Unknown	Occurred at an altitude less then 100 ft. on approach.
Mid1990's	Unknown	1 Sandhill Crane	Unknown	Found by airport maintenance at the approach end of Runway 21.
4/2/95	Unknown	1 Warbler Species	Unknown	Found by airport maintenance on runway.
11/11/97	PA-31 Navajo	1 Moose	None	Occurred during take-off on Beluga Lake.
*11/21/00	Cessna	5 Glaucous-winged Gulls	None	**Near Miss** occurring during the approach over the approach lights of Runway 3.
*5/14/01	C-130	1 Bald Eagle	None	**Near Miss** resulted in an aborted approach to Runway 21.
*9/17/01	Cessna	2 Ring-necked Pheasants	None	**Near Miss** occurred in front of taxiing aircraft.
10/14/01	Unknown	1 White-winged Crossbill	Unknown	Found by airport maintenance on the approach to Runway 21.

***Near Miss:** an incident in which a wildlife species comes within 50 feet of an operating aircraft, or the aircraft or wildlife species takes evasive action to avoid a collision.
Damage Codes: The following codes follow the Manual on the *ICAO Bird Strike Information System (IBIS) (1989)* and were provided by the FAA.

1.3 PROBLEM SPECIES

The species generally considered to present the greatest threats to aviation at HOM are birds and mammals with flocking tendencies or of relatively large size, such as gulls, shorebirds, waterfowl, ring-necked pheasants, corvids (crows, magpies, and ravens), raptors (especially bald eagles), and mammals such as dogs, coyotes and moose. Moose, coyotes, dogs, swans, geese, herons, pheasants, and eagles represent a considerable hazard due to their large body mass and will be promptly dispersed from the airfield when observed. Juvenile animals and migratory species may also pose higher risks for aviation because of their general unfamiliarity with the airport environment. Wildlife hazard management will focus on the species previously mentioned, but will include other wildlife groups and species as needed. The need to target other hazardous wildlife species will be identified during daily wildlife hazard monitoring efforts and will be included in annual updates of the WHMP.

1.4 PROBLEM AREAS

Habitats on and around HOM are comprised of wetlands interspersed with forested areas, two large freshwater bodies, a 290-acre Critical Habitat Area, and a marine water body (Kachemak Bay). In 1988, The Homer Wetlands Study was conducted to help develop management plans for the vast wetlands within Homer's city limits. As a result of this wetlands study, the majority of wetlands on and surrounding HOM are considered high valued wetlands that attract numerous wildlife species in close proximity to the airport. The freshwater bodies of the Beluga Lake Float Plane Base (less than a half mile northwest of HOM) and Lampert Lake (south of and adjacent to the airport's perimeter fence) attract nesting waterfowl, gulls, and in the past, attracted Aleutian terns along Lampert Lake.

The Homer Airport Critical Habitat Area (HACHA), which is composed of approximately 290 acres, borders HOM to the north. It was established in 1996 to enhance winter browse for the moose herd in the lower Kenai Peninsula, and for future public use. In February 2001, airport personnel encountered a moose within the HOM perimeter fence. Moose have breached the fence on previous occasions, as well. The surrounding willow thickets provide browse for moose, while woodlands interspersed within and around the airport provide cover for moose, and nesting, roosting, and loafing areas for corvids and raptors (especially eagles).

The shrub cover, specifically along the north, south, and east sides of the runway, has provided ring-necked pheasants, sandhill cranes, and passerines with opportunities for nesting, feeding, loafing and predator protection. Open grass habitats along the airport's movement areas are also attractive to a variety of hazardous species. In addition, the ditches along the movement areas occasionally attract waterfowl activity, especially along the south side of the runway where the water levels fluctuate with those of Lampert Lake. During the winter months of the WHA study period, common ravens were frequently observed loafing off the east end of the runway. Other problem areas consist of the marine waters, shorelines, and the mudflats of Kachemak Bay bordering HOM to the south. Kachemak Bay provides nesting, loafing, roosting, feeding and staging areas for thousands of migrating shorebirds, waterfowl, gulls, bald eagles, and corvids. Unnatural food sources, which attract wildlife along the Homer Spit, at a local animal feed store, and around Beluga Lake, will be addressed in Section 4.

2.0 AUTHORITY

The WHMP will be executed through the authority of the HOM Airport Manager who bears the responsibility according to 14 CFR Part 139.337. This regulation asserts that the certificate holder is the party responsible for wildlife hazard management at the airport. The HOM Airport Manager derives his authority directly from the Alaska Department of Transportation and Public Facilities (ADOT&PF) Central Region as the person responsible for the daily maintenance and safe operating conditions of HOM. Safety is thus the primary consideration in wildlife hazard management operations. Safety concerns will override all other competing interests in the event that the immediate safety of passengers and/or aircraft is threatened. The goal of all of the actions and responsibilities outlined in this WHMP is to decrease the probability for managing collision between wildlife and aircraft at HOM.

There will be two groups of people bearing responsibilities pertaining to the WHMP. The first group of people consists of those with direct responsibility for implementing this plan at HOM. The second group of people consists of those belonging to the Wildlife Hazards Advisory Group (WHAG) who are responsible for providing oversight and suggestions for improving the WHMP.

2.1 ROLES AND RESPONSIBLITIES OF PERSONS IMPLEMENTING THE PLAN

1. Airport Manager
2. Wildlife Coordinator (Airport Manager or His/Her Designate)
3. Wildlife Patrol (Field Maintenance Personnel)
4. Airport Projects Manager (designated Planner from Central Region DOT&PF)
5. Alaska DOT Aviation Safety and Security Officer

The titles of Wildlife Coordinator and Wildlife Patrol will be used only in this WHMP to delineate the specified functional roles played by the Airport Manager, Field Maintenance and Operations Supervisor, and Field Maintenance personnel. Actual job titles for these persons will remain the same as those currently held.

AIRPORT MANAGER

- Provide oversight for all aspects of the WHMP including, public relations, wildlife control operations (including assignment of duties), and habitat management.
- Review the WHMP annually and update as necessary (see Section 2.2).
- Review designs of new structures/facilities during the planning stages to incorporate features that are unattractive to wildlife.
- Communicate with the appropriate resource agencies regarding airport wildlife hazard issues.

WILDLIFE COORDINATOR (AIRPORT MANAGER OR HIS/HER DESIGNATE)

- Implement habitat management goals according to the specifics outlined in Section 4.
- Supervise, coordinate, and monitor wildlife control activities as outlined in Section 5.

WILDLIFE PATROL (FIELD MAINTENANCE PERSONNEL)

The members of the Wildlife Patrol are designated by the Airport Manager and consist of any on-duty HOM maintenance personnel who are listed on both state and federal depredation permits. A copy of each of these permits is on file in the Airport Manager's office.

- Carry out daily wildlife hazard patrols and wildlife control actions according to the strategy outlined in Section 5.3.
- Implement habitat modification goals, outlined in Section 4, under the direction of the Airport Manager.

AIRPORT PROJECTS MANAGER

- Provide necessary oversight for habitat management projects.
- Review WHMP annually and update as necessary (see Section 2.2).

ALASKA DOT AVIATION SAFETY AND SECURITY OFFICER

- Secure state and federal wildlife control permits for wildlife control operations.
- Submit annual reports of wildlife management activities to ADF&G and USFWS
- Review WHMP annually and update as necessary.

2.2 ROLES AND RESPONSIBILITIES OF PERSONS REVIEWING THE WHMP

The persons responsible for reviewing the WHMP are referred to collectively as the Wildlife Hazards Advisory Group (WHAG). The overall purpose of including the following persons as part of the WHAG is to ensure that they are made aware of the airport's plan and commitment to reducing wildlife hazards at HOM.

AIRPORT MANAGER

- Conduct an annual review of the WHMP along with the Airport Projects Manager to determine if changes are needed.

- Coordinate an annual meeting of the WHAG to review the plan. (Not all members of the WHAG may need to be in attendance. Plan review can be conducted individually).
- Provide an up-to-date version of WHMP to all members of the WHAG.
- Provide information on the most recent state and federal wildlife control permits.

WILDLIFE COORDINATOR

- Conduct an annual review of the WHMP along with the Airport Projects Manager to determine if changes are needed.
- Suggest changes to Wildlife Control Procedures and Habitat Management Sections as needed.
- Keep current list of personnel trained in wildlife control procedures.

AIRPORT PROJECTS MANAGER

- Conduct an annual review of the WHMP along with the Airport Manager (and with the Wildlife Coordinator, if a separate person) to determine if changes are needed.
- Help establish and update the timetable for completion of habitat management projects.

FAA CERTIFICATION SAFETY INSPECTOR

- Review changes or edits to the WHMP to ensure compliance with FAR 139.337 (f) and suggest changes to ensure compliance with FAR 139.337 (f).
- Assist HOM in reviewing proposed land use changes, construction plans, and mitigation projects for potential wildlife hazards to aircraft.

WILDLIFE BIOLOGIST (WILDLIFE SERVICES)

- Inform and advise the Wildlife Coordinator of new or improved wildlife hazard management techniques and tools.
- Provide advice to Wildlife Patrol regarding wildlife species identification, proper use of control techniques, and wildlife strike reporting.
- Train wildlife control personnel in bird identification and the safe handling and proper use of wildlife dispersal methods and equipment.
- Assist HOM in reviewing proposed land use changes, construction plans, and mitigation projects for potential wildlife hazards to aircraft.

Federal Aviation Administration
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- Provide any necessary assistance in reviewing and editing the WHMP.

FAA AIRPORTS DIVISION
AAL-600

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APPROVED

3.0 REGULATIONS AND PERMITS

3.1 14 CFR PART 139.337 (WILDLIFE HAZARD MANAGEMENT) and other FAA ADVISORY CIRCULARS & CERTALERTS

The FAA is responsible for enforcing 14 CFR Part 139.337. This regulation sets forth the federal requirements for wildlife hazard management at airports. It details the items that should be included in both a WHA and a WHMP. HOM has satisfied parts 139.337(a), (b), (c), and (d) with the recent completion of the WHA performed by WS. This WHMP satisfies parts 139.337(e) and (f) of the federal requirements for wildlife hazard management at airports, and a copy will be on file with the FAA in Anchorage, Alaska. Compliance with 14 CFR Part 139.337 is required by the FAA for continued certification of HOM's Airport Operating Certificate. A complete copy of these regulations is provided in Appendix A.

The FAA has issued a number of Advisory Circulars (ACs) and Certalerts pertaining to wildlife hazards. A copy of these documents is included in Appendices B and C. Airport managers and the FAA often use these documents to provide specific guidance regarding local land uses. While these documents do not carry the full effect of law, they are used by the FAA and by airports as a policy guide. HOM will comply with these ACs and Certalerts to the fullest extent possible. These documents are frequently changed or updated, and their current status will be verified and added to this plan on a regular basis. This will be accomplished by contacting the FAA directly or by visiting their website at ***www.faa.gov/arp/hazard.htm.***

A variety of techniques are necessary to reduce the wildlife hazards at HOM. Most techniques fall into two categories: direct control of individual animals (this includes the harassment and in some cases the lethal take of animals) and habitat modification. The following sections briefly describe the regulations that govern these two categories of techniques. The number in parentheses following each sub-section heading refers to the regulation that details the permitting aspects of the particular law.

3.2 LAWS REGARDING DIRECT CONTROL OF WILDLIFE

3.2.1 Federal Regulations

The following three federal laws may apply to specific wildlife control methods that involve the harassment, trapping, and/or killing of wildlife. Each one provides protection to certain groups of wildlife and requires a federal depredation permit for certain actions. State laws may impose additional restrictions and requirements for these same groups of species. HOM currently has a federal depredation permit for control actions that ensures compliance with these laws. A copy of all wildlife control permits will be filed in Appendix D of this plan, and originals will be kept on file in the Airport Manager's office. The Aviation Safety and Security Officer is responsible for obtaining all federal and state wildlife control permits and for submitting annual reports to all applicable agencies.

3.2.1a Migratory Bird Treaty Act (CFR 50, Part 21.43)

The Migratory Bird Treaty Act protects most birds, their nests, and their eggs, from being destroyed or possessed without a federal permit. Other than endangered or threatened species or bald or golden eagles, no federal permit is needed to simply harass (disperse) depredating migratory birds. The term "migratory" as it appears in the regulations refers to a specific list of species in the regulations. It does not necessarily mean that the species is migratory. For example, the common raven was documented year-round within the vicinity of HOM, and yet is protected under this act.

Under the authority of the Migratory Bird Treaty Act, the U.S. Fish and Wildlife Service (USFWS), Anchorage, Alaska office, annually issues a federal Depredation Permit, which is required for the destruction of birds at Alaskan airports. Along with an organization's initial request for a federal bird depredation permit, the USFWS requires a Migratory Bird Damage Project Report (ADC Form 37, completed by WS) in order to substantiate the depredation request. Any revision to an existing federal Depredation Permit requires the submission of an additional ADC Form 37. The USFWS may also require this form to be submitted in subsequent years. As part of the permitting requirements, the USFWS requires the submission of an annual report detailing the number of birds (by species) destroyed on airport property. The annual reporting of wildlife control efforts at HOM is discussed in more detail in Section 5.4.3.

The federal depredation permit provides the primary guidance for the lethal control of migratory birds at HOM. A copy of this permit is on file in the Airport Manager's office. This permit lists the species that are authorized to be taken to alleviate hazards to aircraft. All personnel conducting wildlife control operations will be made aware of the conditions of this permit.

3.2.1b Bald and Golden Eagle Protection Act (CFR 50, Part 22.23)

This law prevents bald and golden eagles, their nests, and their eggs, from being harassed and/or destroyed without a permit. An eagle depredation permit, which allows the harassment of eagles, but prohibits the killing, injuring, or capturing of eagles, may be issued by the USFWS for the alleviation of hazards to aircraft safety. HOM has a current eagle depredation permit which allows for the harassment of bald eagles on airport property. This permit requires that an annual report detailing the number of eagles harassed and the methods used be submitted to the USFWS. Section 5.4.3 of this plan describes the annual reporting procedures followed by HOM.

3.2.1c Endangered Species Act (CFR 50, Part 17)

The Endangered Species Act prohibits the harassment, trapping, and killing of wildlife species listed as endangered or threatened. The Endangered Species Act also affords protection to the habitat of listed species. The harassment and killing of endangered species may be allowed under certain circumstances. However, a special permit for such actions must be issued by the USFWS prior to any actions involving a listed species. There are currently no federally-listed threatened or endangered species that normally occur on the airport. Since the direct control efforts and/or habitat modification techniques implemented at HOM should not have a negative impact on Alaska's threatened or endangered species, no special permit regarding such [illegible]

needed. The State of Alaska maintains a list of wildlife species that are listed as either endangered, threatened, or species of concern. The state listing is further discussed under Section 3.2.2. A table showing the federal and state status of listed wildlife species is provided in Appendix E. This table will be monitored and updated on a regular basis by the Wildlife Coordinator.

All personnel involved in direct wildlife control operations will be trained in the proper identification of the wildlife species listed in Appendix E. In the event that any of these species is observed on the airfield, the wildlife coordinator will be notified immediately so that any impacts to those species can be avoided. If a wildlife hazard should arise as the result of a federally or state listed wildlife species, the wildlife coordinator will alert the proper agencies as soon as possible to coordinate the best course of action to alleviate such a hazard while minimizing impacts to the listed species.

3.2.2 State Regulations (AS 16.05.920 and AAC 92.033)

The taking (the definition of which includes both harassment and lethal removal) of game at HOM is regulated by Alaska Statute 16.05.920 PROHIBITED CONDUCT GENERALLY, and by Title 5 Alaska Administrative Code 92.033 PERMIT FOR SCIENTIFIC, EDUCATIONAL, PROPAGATIVE, OR PUBLIC SAFETY PURPOSES. The state list of endangered species is maintained under Title 5 Alaska Administrative Code 93.020. With the exception of feral rock doves and ring-necked pheasants, all wildlife species that occur at HOM are considered "game" species under Alaskan law. A permit for the taking of game species at HOM is necessary for all wildlife control operations. The airport currently has a Public Safety Permit for this purpose. This permit details the species that can be killed, as well as harassed. All personnel conducting wildlife control operations at HOM will be made aware of the conditions (species and methods) of this permit. The table in Appendix E lists the state status of wildlife species that are classified as endangered, threatened, or of special concern.

3.3 LAWS REGARDING HABITAT MODIFICATION

The following laws pertain to wildlife control activities that call for a modification of some aspect of the legally protected environment at HOM. Specifically, water bodies such as lakes, ponds, creeks, and wetlands are habitats that may require permits from a governing agency before modification can take place. Since this WHMP identifies several wetland areas as the target of habitat modification objectives, the airport will adhere to the following laws to ensure legal compliance with local, state, and federal requirements. In situations where a permit is required to conduct work, the Airport Projects Manager will cooperate with the appropriate agency to ensure that the necessary permitting requirements have been met.

3.3.1 Clean Water Act (33 USC Part 1344, Section 404)

Section 404 of the Clean Water Act regulates the placement of dredged or fill materials in the waters of the U.S., including wetlands. The U.S. Army Corps of Engineers (ACOE) is responsible for enforcing this regulation and has established a permitting process. It has been

determined that as long as stumps are left in place, the removal of trees from wetlands on the airport does not constitute "wetlands take". The loss of wetlands due to habitat modification activities may require mitigation measures. Any such mitigation measures will be consistent with the airport's policy regarding wetlands stated in Section 4.5.2 of this plan. General guidance for obtaining necessary permits and consultation on wetlands designation should be obtained through the local office of the ACOE. The Homer Wetlands Study conducted in 1988, is also a valuable source in identifying the designation of wetlands within and around HOM.

3.3.2 Clean Water Act (33 USC Part 1344, Section 401)

Section 401 of the Clean Water Act requires certification that the proposed project will meet state water quality standards before federal permits are approved. This regulation covers projects affecting waters of the U.S., including wetlands. The Alaska Department of Environmental Conservation (DEC) is responsible for enforcing this regulation. DEC will be consulted for any habitat modification activities that could affect water quality standards. This would include actions that require consultation with ACOE for possible wetlands modification.

3.3.3 Coastal Zone Management Act (15 CFR Part 930.30)

The Alaska Division of Governmental Coordination (DGC) enforces this federal regulation through the Alaska Coastal Management Program (ACMP). It establishes a "consistency review process" by which projects in the coastal zone are found compatible with state and local water quality standards, wetlands programs, and other coastal regulations. Coordination with DGC on airport habitat modification activities is only necessary if the activity requires other state or federal permits (such as a wetland permit from ACOE). However, the consistency review process itself can serve to streamline coordination with pertinent regulatory agencies. The consistency review process can also help determine if permits from other agencies are needed in the first place. DGC will be contacted if it is determined that habitat modification actions are likely to require an ACMP consistency review.

3.3.4 Homer Airport Critical Habitat Act [HCS CSSB 198(RES)]

This Alaska state statute, specifically sections AS 16.20.500-16.20.530 ((C)-(ii), and (e)), provides the authority to the Department of Transportation and Public Facilities in cooperation with the Department of Fish and Game, to prohibit the enhancement or creation of bird habitat in the vicinity of HOM or within the Homer Airport Critical Habitat Area (Appendix G).

4.0 HABITAT MANAGEMENT

4.1 OVERVIEW

In general, habitats on airport property can provide three basic necessities (food, water, and cover) for wildlife survival. Habitat management provides the most effective long-term remedial measure for reducing wildlife hazards on or near airports. Habitat management includes the physical removal, exclusion, or manipulation of areas that are attractive to wildlife. The ultimate goal is to make the airport environment unattractive to wildlife. This is accomplished by establishing habitat that is monotypic (uniform) throughout the airport. Habitat modifications will be monitored carefully to ensure that they reduce wildlife hazards and do not create new attractions for different wildlife. It is recognized that certain habitat features (food) exert a stronger influence over hazardous wildlife activity than others. Food sources generally cause wildlife to return repeatedly to a given area in the face of active disturbance. As a result, disturbances such as auditory harassment have less of a long-term effect on animals that are feeding than those that may be roosting or bedding. Therefore, reducing the amount or type of food supply is very important.

The hazard potential of a wildlife attractant is influenced by its distance from the runway, the number of animals it attracts, and how often they visit the attractant. Based on these factors, priorities have been established to outline both the timing of needed habitat modifications and the level of action that the airport will initiate regarding a specific attractant. Those areas that present the greatest wildlife/aircraft hazard will be managed first. Some of the areas identified in this section are comprised of land and water not within the airport's control. Therefore, all off-site (non-airport property) wildlife attractants identified throughout the WHMP will be managed through cooperation with the appropriate resource agencies and/or private entities.

A number of habitat management actions are described in this section. However, wildlife populations, vegetative succession, and airport development are dynamic in nature and thus require routine monitoring and re-evaluation. These changing conditions necessitate the use of a thorough, consistent decision making process to ensure effective wildlife hazard management outcomes. Appendix G provides guidance for such a decision making process in the form of a defined wildlife hazard management strategy. The wildlife hazard management strategy in Appendix G may be consulted by HOM during future evaluations of new habitat management actions.

All habitat management projects will be assigned to one of the four following categories based on the established criteria, with Category A representing the highest priority and Category D the lowest priority.

Category A: Any food source located within the runway safety area (RSA) of Runway 03/21. Food sources within the RSA are responsible for sustaining wildlife activity in the immediate vicinity of the runway, creating the greatest potential for a wildlife strike.

Category B: Any non-food wildlife attractant, such as water or cover, within the RSA of Runway 03/21. These attractants also encourage wildlife activity adjacent to the runway, but to a lesser degree than food attractants.

Category C: All food sources located off of airport property, or on airport property, but outside the RSA. These attractants help sustain wildlife activity on or around the airfield.

Category D: All non-food sources located off of airport property, or on airport property, but outside the RSA. These attractants help sustain wildlife activity on or around the airfield, in some cases providing nesting and roosting cover.

4.2 HABITAT MANAGEMENT PROJECT TIMETABLE

The following habitat projects do not necessarily imply a priority for wildlife control measures, but will assist HOM in organizing habitat management activities.

Table 2: Habitat management projects at HOM listed in order of category based on criteria discussed in Section 4.1 (Although projects are listed in order of category, some projects may be completed sooner than others due to fiscal and logistical constraints). Note that some of the projects may have already been implemented or completed, but because they require a continued effort (e.g., ensuring proper refuse containment), they are listed as "ongoing". Those projects that require permitting at any level, are indicated as such (refer to Section 3.0 for specific permitting requirements).

MANAGEMENT CATEGORY	HOM HABITAT MANAGEMENT PROJECTS (Section references)	TARGET DATE	DATE COMPLETED	PERMIT(S) REQUIRED?
A	(1) Implement a mowing/hydro-axing schedule within 500' of all aircraft movement areas (4.6.2)	2004	On-going	No
B	(2) Fill in low-lying areas (relocate snow removal sites) and ponds which do not serve water drainage functions (4.4.3d)	2006		Yes
B	(3) Remove trees and snags within 600' of runway centerlines 4.6.3)	2006		Yes
B	(4) Convert drainage ditches to an underground drainage conveyance system (4.5.3d)	2006		Yes
C	(5) Install "Do not feed the waterfowl" signs along shoreline of Beluga Lake (4.5.3b)	2005		Permission May be Required
C	(6) Monitor unnatural food sources on the Homer Spit, and coordinate with appropriate agencies (4.3.3)	2005	On-going	No
C	(8) Monitor and Dispose of all animal carcasses (4.3.1)	2005	On-going	No
C	(10) Manage Beluga Lake, Lampert Lake/Adjacent Wetlands, and Mud Bay (4.5.3a,b,c)	2005	On-going	Yes

MANAGEMENT CATEGORY	HOM HABITAT MANAGEMENT PROJECTS (Section references)	TARGET DATE	DATE COMPLETED	PERMIT(S) REQUIRED?
D	(9) Remove moose gate and install sliding gate (4.4.3)	2005		

4.3 FOOD/PREY BASE MANAGEMENT

Food sources provide the strongest attractant for hazardous wildlife. When food is available, many species will persist on the airfield despite repeated control efforts. Therefore, the removal and/or reduction of food sources is a top priority for habitat management.

4.3.1 Small Mammals/Moose Carcasses

Red-backed voles, shrews, red squirrels, and other small mammals have been documented as food sources of northern harriers, short-eared owls, coyotes and other wildlife species throughout HOM property. In addition, moose carcasses have attracted coyotes, ravens, and other scavengers. It is the responsibility of the Wildlife Patrol and Wildlife Coordinator to monitor the feeding activity of wildlife species attracted to these food sources. A special note will be made in the Wildlife Hazard Log indicating raptor, coyote, and other wildlife feeding activity based on the presence of small mammals or carcasses. If a review of wildlife control observations reveals that rodents or carcasses have become a significant attractant to wildlife, thus increasing wildlife/aircraft hazards, more aggressive management of the food source will be considered. In the case of moose carcasses, ADF&G will be contacted for assistance with carcass removal, via food charities or trapper contacts (bait use).

4.3.2 Terrestrial Invertebrates

At times, terrestrial invertebrates (e.g., insects) can be a substantial attractant for shorebirds, songbirds, insect-eaters, corvids, cranes, pheasants, and gulls. The primary areas where this feeding activity occurs are within the grass habitats adjacent to Runway 03/21, and aircraft movement areas. The Wildlife Coordinator is responsible for carrying out airfield maintenance operations in a manner that minimizes terrestrial invertebrate availability, specifically, halting or delaying mowing operations if a significant hazard is created by birds that become attracted to insects that are disturbed by the grass cutting. Mowing operations will be delayed until wildlife personnel abate the hazard. Grass infields will not be cut from the end of July until the following spring. The intent is to allow grass to attain a height of 6-10 inches (if possible), which should make terrestrial invertebrates less accessible to various bird species. However, mowed areas will be monitored to determine the grass heights that are least attractive to birds. If the 6-10 inch high grass begins to harbor nesting birds (e.g., pheasants and cranes), or if small mammal numbers begin to increase (which would attract significant numbers of raptors), the mowing scheme will be re-evaluated. Ultimately, the ideal solution is the replacement of grass areas with non-vegetated ground cover. Section 4.6.1 addresses this issue in more detail. At this time, HOM does not intend to use insecticides or

vermicides to reduce insect or rodent numbers.

4.3.3 Food Handouts/Trash and Debris

Food handouts and artificial food sources have been documented year-round at HOM. The majority of these wildlife attractants, which included garbage dumpsters, improperly discarded seafood/fish remnants, human handouts, and a bald eagle winter-feeding station, were on the Homer Spit south of HOM. These food sources attracted hazardous movements of bald eagles, ravens, crows, gulls and waterfowl over the airport. A local animal feed store northwest of the approach end of Runway 03 is another offsite attractant. The facility raises ducks, chickens, and rabbits. On a few occasions, the grain provided to these domestic species attracted large numbers of crows, mallards, and black-billed magpies, which foraged within the open outside feeding pens. Food handouts to waterfowl were also observed on airport property along the shorelines of Beluga Lake. To further discourage the feeding of wildlife on airport property, the Wildlife Coordinator may place signs discouraging such feeding along the airport's shorelines of Beluga Lake. While this sign policy is not currently enforceable by state or local law, airport personnel should discourage such activities, and attempt to educate the public at every possible opportunity. The Wildlife Patrol will document all such public interactions in the daily Wildlife Hazard Log. In regard to the off-site food attractants, Wildlife Patrol personnel will continue to monitor and document these artificial food sources in an attempt to identify trends that result in increased wildlife hazards to aircraft at HOM. The Wildlife Coordinator or Airport Manager will initiate dialogue with the appropriate resource agencies (e.g. ADF&G, USFWS), and local businesses in an effort to find potential solutions to the wildlife hazards/human safety concerns resulting from these artificial food sources near the airport. HOM personnel will document all such interactions in the daily Wildlife Hazard Log.

4.4 WATER MANAGEMENT

Areas of standing and flowing water on and surrounding the airfield can contribute to the presence of hazardous wildlife species. In many cases, these water sources provide a food supply in the form of fish, aquatic invertebrates, and aquatic vegetation. Therefore, these areas could also be placed under Section 4.3 Food/Prey Base Management. Due to the unique challenges presented by wetlands management, and for ease of reference, these areas have been included in the Water Management section. While the surrounding wetlands, Beluga Lake, Lampert Lake, drainage ditches, snow removal areas, standing water throughout the airfield, Mud Bay/Kachemak Bay and intertidal areas constitute significant attractants for hazardous wildlife, it is the water sources in close proximity to HOM which attract wildlife into the approach and departure airspace. Wetlands in particular are abundant in and around HOM.

4.4.1 Wetlands Management Policy

Wetlands are attractive to a variety of wildlife species that pose a hazard to aircraft. Most notably, waterfowl, wading birds, shorebirds, raptors, and gulls are the species (associated with wetlands) that are often involved in damaging strikes. Wetlands, whether naturally occurring or man-made, provide

a unique combination of food, water, and cover that attract species both seasonally and year-round. Because of these unique qualities, wetlands can provide a stronger attractant for hazardous species than other land forms which provide only one aspect of an individual animal's habitat requirements.

HOM acknowledges that wetlands are nationally recognized as habitats requiring special conservation. However, the FAA has asserted in FAA Advisory Circular (AC) 150/5200-33 (*Hazardous Wildlife Attractants On Or Near Airports*) that wetlands are a land use incompatible with safe aircraft operations and should be sited outside an airport's operating environment. At HOM, a vast quantity of airport property has been identified as wetlands. These areas were also identified in the WHA as hazardous wildlife attractants. It is desirable that, to the extent possible, these areas be eliminated and/or modified to reduce their attractiveness to hazardous wildlife species. In the event that mitigation is necessary to compensate for the loss of wetlands, such mitigation should be sited as far as possible from the airfield. HOM will give preference to those mitigation options that are less likely to attract hazardous wildlife species and are as far from the runway as possible. The guidelines set forth in Section 4.5.2 will be followed when analyzing mitigation options.

HOM's intent is that new construction or land use changes on airport property do not result in the creation of new wetlands or the enhancement of existing wetlands in a manner that could attract hazardous wildlife. If necessary, HOM will consult with a Wildlife Damage Biologist during the design phase of new construction projects.

4.4.2 Wetlands Mitigation

When determining appropriate mitigation sites during the planning process for either airport development projects or off-site development projects by third parties, it is useful to analyze several factors as they relate to potential hazardous wildlife attractants. Much of the analysis of hazardous wildlife attractants in the vicinity of an airport is guided by the following philosophy: Lands in the vicinity of an airport can play an important part in attracting hazardous wildlife and influencing the movement of birds into and across critical airspace. The use and management of such lands is crucial to maintaining safe aircraft operations. Furthermore, airports should oppose the creation of land uses near the airport that are known to attract and sustain populations of hazardous wildlife.

Wildlife attractants exert differing levels of influence over a given species' behavior. This influence is dependent upon the type of habitat being provided and whether the attractant is one of food, water, cover, or a combination of the three. The strength of any given attractant can be described in terms of its ability to sustain wildlife activity in the face of increasing levels of disturbance (e.g., noise, development, competition from other species). In general, food supplies exert a strong influence over most species, resulting in distracted behaviors that can lead to a greater probability of being struck by an aircraft. Nesting cover also exerts a strong attractive influence, leading some species to remain active in areas that have somewhat high levels of disturbance. Only those attractants that provide a combination of food and other habitat requirements have the strongest ability to sustain wildlife activity.

The following considerations will be taken into account when judging whether a wetland in the

vicinity of the airport would increase the probability of a wildlife strike:

1. What is the distance from the runway (the closer the attractant is to the runway, the greater the probability for creating a wildlife hazard)?
2. Does the wetland provide a food source for hazardous wildlife, particularly waterfowl or gulls (food sources provide the strongest attractant to wildlife)?
3. Does the wetland provide open water areas in the form of ponds or tidally inundated sloughs (open water areas tend to concentrate bird activity)?
4. Does the wetland area lie under a known air carrier arrival or departure route?
5. Would a change in the land composition at the site increase the amount of hazardous wildlife activity?
6. Could the wetland divert flight patterns of birds into or across normal aircraft flight paths?
7. Does the wetland lie in an area where wildlife control operations are feasible?

A positive response to questions 2 - 6 would indicate that a particular wetland site may have a high probability of creating a wildlife hazard. It is the responsibility of the Wildlife Coordinator to relay concerns regarding off-site wetlands to the appropriate resource agencies.

4.4.3 On-airport Wetlands

In 1988, the Homer Wetlands Study was conducted to help develop management plans for the vast wetlands within Homer's city limits. This wetlands study identified a vast mosaic of wetlands on and around HOM that provide key habitat features in the form of food, water, and cover that support and attract wildlife. The study classifies the majority of these wetlands as "high valued wetlands". The key wetland areas, which regularly attract hazardous species such as waterfowl, gulls, shorebirds, raptors, and corvids, border HOM to the north and south. While the ecological boundaries of these areas do not end at the airport property line, HOM's ability to manage wetlands on-site differs from off-site wetlands. Various statutes and ownership limit HOM's authority and capacity to manage wetlands, therefore these areas have been separated into on-site and off-site sections so that different issues may be addressed more specifically.

4.4.3a Lampert Lake/Adjacent Wetlands

Lampert Lake and the wetlands east of and adjacent to the lake are of primary concern to aircraft operations at HOM due to their close proximity to Runway 03/21. Many issues complicate HOM's ability to manage this area for hazardous wildlife activity. Lampert Lake is a historic nesting area for Aleutian terns, a species of special interest to the USFWS. The majority of the surrounding wetlands are classified as "high valued wetlands" according to the Homer Wetland Study of 1988, and may require special mitigation, if altered to protect human safety. Also, Lampert Lake is only partially owned by HOM, and the majority of the wetlands east of the lake are off airport property. Lampert Lake and the adjacent wetlands provide excellent food, loafing, water, and nesting cover for numerous bird species. However, due to the sensitivity of wetland mitigation issues, HOM Wildlife Control personnel will continue to monitor and document hazardous wildlife activity on Lampert Lake and the adjacent wetlands. The Wildlife Coordinator can utilize this data for future Lampert Lake and adjacent wetland management decisions. If wildlife deterrence in this area becomes

unmanageable, thereby comprising aircraft safety, HOM will initiate the process for approval to drain Lampert Lake. The private citizen that owns part of Lampert Lake has expressed interest in draining Lampert Lake for future use. The Airport Manager and Airport Projects Manager are responsible for securing the appropriate permits from ACOE, and working with relevant agencies (ADF&G, USFWS) to ensure all goals/objectives are met. However, less drastic measures will first be utilized to address these hazardous wildlife attractants. These alternatives may include the following measures: nest/egg destruction and collection, trapping and relocation efforts, and/or non-lethal harassment on Lampert Lake and the adjacent wetlands. The Wildlife Coordinator will secure the appropriate permits prior to implementing the above methods.

4.4.3b Beluga Lake

Beluga Lake (less than a mile northwest of HOM) is partially owned by the airport and provides float plane base operations. It also provides excellent loafing, feeding, roosting, and nesting habitat for waterfowl, shorebird, and gull species. During the WHA, waterfowl and gulls were frequently observed flying over HOM (specifically off the approach lights and approach end of Runway 03) to and from the lake. Moose also frequently access Beluga Lake. Such wildlife movement patterns are a serious hazard to human/aircraft safety, and will be addressed by HOM. Although wildlife control is not required of HOM personnel on Beluga Lake, the Wildlife Control personnel will continue to monitor and document wildlife activity on the lake, and if possible HOM will implement a wildlife control program on Beluga Lake in coordination with other land owners/managers. The Wildlife Coordinator will utilize the Wildlife Hazard Log data to assess critical periods of wildlife activity (e.g., migrations). The Wildlife Coordinator and Wildlife Control personnel will address hazards on Beluga Lake utilizing non-lethal control methods (e.g., pyrotechnics), issuing NOTAMs, and displaying "Do not feed the waterfowl" signs along the shorelines. In order to minimize hazards to aircraft, Wildlife Patrol personnel should be award of aircraft activity and bird movement patterns when applying control methods.

4.4.3c Mud Bay/Kachemak Bay/Intertidal Areas

The marine waters of Kachemak Bay (bordering HOM to the south) were established as a critical habitat area in 1974 and as a Natural Estuarine Research Reserve in 1998. Hence, the abundant mudflats along the shorelines of Kachemak Bay provide critical roosting, loafing, feeding, nesting, and staging areas for gulls, corvids, eagles, and thousands of migrating shorebirds and waterfowl. Mud Bay, located at the base of the Homer Spit (part of which is HOM property, and lies partially within the approach zone of Runway 03), is one of the major staging areas in the bay for migrating shorebirds. Kachemak Bay/Mud Bay and its intertidal areas are very attractive to numerous wildlife species, and periods of heightened bird activity were documented during the WHA. Specifically, large flocks, or continuous flights of gulls, waterfowl, crows, and shorebirds were documented flying across and/or west of the approach lights of Runway 03 at various times of the year. Due to the designation of Kachemak Bay as a critical habitat area and natural estuarine research reserve, HOM personnel are limited in wildlife hazard management options. However, Wildlife Control personnel will continue to monitor these habitats and document the wildlife activity. Wildlife Control personnel will also increase hazing efforts during periods of heightened bird activity (e.g., migrations) utilizing a variety of methods (e.g., pyrotechnics, propane cannons, and coyote effigies).

to frighten passing birds, and cause their flight paths to move further away from the airport. This is especially true of the Runway 03 approach. This effort should be closely monitored to ensure that the birds affected do not also increase their altitude as they pass by at a greater distance from the runway. Such a condition could still place the birds in the same stratum of airspace as arriving and departing aircraft. NOTAMs will be issued during these periods of heightened bird activity.

4.4.3d Permanent/Temporary Water Sources

Open water sources (e.g. puddles, ponds, ditches, etc.) are an attractant to hazardous wildlife at HOM. To the extent possible, they will be eliminated from the airport. During the HOM Wildlife Hazard Assessment, the annual precipitation at the airport was considerably lower than in previous years. Hence, the numbers of wildlife observed utilizing water sources within the airport were minimal, but will be further monitored and documented by HOM personnel. Waterfowl, passerines, black-billed magpies, northern harriers, and short-eared owls were the species observed utilizing both permanent and temporary water sources within the perimeter fence. The drainage ditch along the south side of Runway 03/21, and the water runoff from the culvert on the north side of the runway near the windsock, hosted the majority of bird (particularly waterfowl) activity. Black-billed magpies and ravens also loafed on snow piles in the snow removal areas adjacent to the runway. HOM will reduce the amount of water sources attracting or potentially attracting wildlife species to the airport. The Wildlife Coordinator will consult with ACOE and secure the appropriate permits to reduce the following water sources at HOM by means of the methods listed.

1) The main ditch paralleling the south side of the runway, the ditch running from the Lampert Lake weir, and the water runoff from the culvert on the north side of the runway near the wind sock, should be converted to underground drainage/conveyance systems. These water sources have harbored hazardous bird activity and/or provided open water for extended periods of time to attract wildlife. If it is not possible to convert these open water sources to underground drainage, wire grids, pyrotechnics, propane cannons, mylar tape, and/or nest searches will be implemented to minimize wildlife use. The culverts and ditches will be kept clear of debris to allow free flow of water runoff, and to prevent ponds from developing. The main ditch along the south side of the runway has a tendency to form a small pond at the very east end of the ditch. Mallard activity has been observed in this area.

2) If feasible HOM will relocate snow removal areas, specifically "snow piles" adjacent to Runway 03/21. Ravens and black-billed magpies were documented loafing on the "snow pile" at the corner of Taxiway C and Runway 03/21. Such bird activity is deemed hazardous to departing and arriving aircraft.

3) Though they were not deemed major attractants during the WHA, the Wildlife Coordinator will obtain the appropriate permits from ACOE to fill in three water pockets along the north side of the runway. Removal of these water pockets will prevent future bird use. The water pockets (see the WHA Point Count Survey map in Appendix H), are located off the approach end of Runway 21, and near Survey Plot 4

4) The Wildlife Coordinator will document low lying areas where snow melt and rainfall has a tendency to collect and attract wildlife within the airport, and fill these areas if feasible with coarse gravel to facilitate proper drainage of water, thus preventing temporary standing water.

It is the responsibility of the Wildlife Coordinator to document any other permanent/temporary water sources used by wildlife, and work to eliminate them.

4.4.4 Off-Airport Wetlands

Beluga Slough, less than a mile northwest of the airport and just west of Beluga Lake, is partially included in the 1998 designation of Kachemak Bay as a National Estuarine Research Reserve. The slough is documented as providing migrating shorebirds and waterfowl with crucial breeding, loafing, feeding, and staging habitat. Beluga Slough, along with the wetlands east of Lampert Lake, and the intertidal areas of Kachemak Bay, affects bird flight patterns over the airport. Although little can be done about these off-airport attractants, Wildlife Control personnel will continue routine wildlife surveys in these areas in order to provide a better understanding of various wildlife trends, which may be hazardous to aircraft operations at HOM.

4.5 VEGETATION MANAGEMENT

Vegetation management is designed to reduce the amount of natural cover available to hazardous wildlife species at HOM. Cover refers to any object(s), which provide(s) wildlife with shelter for nesting, loafing, and/or roosting, or protection from predators and/or extreme temperatures. In some cases, vegetative cover for one species may provide a food source for another. Therefore, there is some ideological overlap in the classification of some areas under vegetation management and food/prey base management (e.g., infield grass management).

4.5.1 Grass Management

At HOM, grass areas dominate the infield along Runway 03/21 and the aircraft movement areas (ramps and taxiways). The grass cover provides ideal nesting (especially for pheasants and cranes), roosting, loafing, and feeding opportunities, as well as predator protection for pheasants, cranes, shorebirds, songbirds, corvids, gulls, and insect-eating birds at HOM. To the extent possible, grass areas immediately adjacent to runways and taxiways will be eliminated and replaced with gravel or asphalt as the opportunity and means become available.

However, if grass must be maintained in runway safety areas, experimenting with various grass heights may be necessary to find the best range for reducing bird problems. FAA Certalert No. 98-05 advises against seeding areas with millet or large seed producing grasses. The Alaska Department of Natural Resources, Plant Material Center in Palmer, Alaska can provide additional assistance on plant selection. They can be reached at (907) 745-4469. Generally, grass should be maintained at 6-10 inches to exclude gulls, shorebirds, small insect eating birds, crows, and ravens. Grass maintained at this height impedes accessibility to insects, ground nesting by many small birds, visual

detection of predators, and intra-specific communication among species. Grass longer than 10 inches can provide habitat for small mammalian prey species that attract predators, and provides suitable nesting habitat for other birds (specifically pheasants and cranes at HOM). As conditions allow, the first mowing will be conducted in early spring to reduce nesting cover and rodent populations prior to the nesting season, and the last mowing should occur early enough (generally no later than mid-summer) to maintain long grass in the winter to reduce the airports attraction to crows, ravens, and magpies. Again, HOM personnel will monitor these grass habitats to determine the best grass heights for deterring birds. Grass habitats that are unreachable for mowing, such as the majority of habitat on the north, south, and east sides of the runway, will be monitored for ring-necked pheasant and sandhill crane activity, especially given their potential to nest on the airport. Wildlife Control personnel will be rigorously implement wildlife deterrent techniques (e.g. pyrotechnics, trap/relocation, nest searches) to inhibit the nesting of cranes and pheasants.

4.5.2 Shrub Management

Shrub cover (willow, dwarf birch, alder, berry shrubs) is abundant within the airport's perimeter fence, especially on the north, south, and east sides of Runway 03/21. Shrubs at HOM provide nesting, feeding, loafing, and predator protection for passerines, cranes, and ring-necked pheasants. Shrubs along the banks of the taxiway and runway ditches will be cleared within 500 feet of all aircraft movement areas. If feasible, HOM will alter the hydro-axing schedule (presently occurring every 3 years) to maintain shrubs near ground level, or at a maximum height of two feet to inhibit bud and leaf growth, thus discouraging wildlife. HOM will also consider private contractors (that harvest willow) to provide additional assistance in removing shrub cover from areas unreachable by mower or hydro-axe. Brush piles, which provide an attractant to rodents and small mammals, will be removed from the field. Wildlife Control personnel will continue to monitor areas where habitat modifications have been implemented to gauge their effectiveness, and alter habitat modifications as needed to minimize wildlife hazards. When considering any replanting or landscape projects, a low growing, shrubby perennial that does not produce any seed heads or fruit will be planted by HOM. The Alaska Department of Natural Resources, Plant Materials Center in Palmer, Alaska, ((907)-745-4469) can provide additional assistance on plant selection.

4.5.3 Woodland Management

The spruce woodlands within and around HOM provide wildlife with shelter for nesting, loafing, and/or roosting, or protection from predators and/or extreme temperatures. WS documented various bird species utilizing nearly every stand or individual spruce tree within the airport's perimeter fence. In most airport scenarios, trees should be removed from the airport, or at a minimum cleared within 600 feet of the runway centerlines. If feasible, HOM will completely remove all trees within the airport's perimeter fence.

Again, as budget constraints allow, the following woodlands outside the perimeter fence, but within HOM property, documented as attracting hazardous wildlife to the airport should be removed. The stand of trees between the Elephant Ear and Lampert Lake should be removed due to their close proximity to Runway 03/21, and the hazardous bird species (especially bald eagles) they attract. However, the Wildlife Coordinator will consult with USFWS, and thoroughly evaluate this stand of

trees prior to any tree removal. This woodland has been recognized as an area where eagles have unsuccessfully attempted to build a nest in previous years. During the WHA, at least six, and possibly seven pairs of nesting bald eagles were identified within a 5-mile radius of the airport. The woodlands along the north perimeter fence and the spruce trees south of Kachemak Bay Drive along the bluffs will also be considered for removal. These woodlands attract numerous bird species that have been frequently documented flying over Runway 03/21 and its approach and departure paths. Prior to any tree removal in these woodlands, the Wildlife Coordinator will coordinate with the appropriate agencies (e.g. USFWS, ADF&G), and will refer to the 1996 HACHA Act (Appendix F) to address bald eagle nests, nest sites, and laws and regulations. At a minimum, the tall stand of spruce trees at the gate along the north perimeter fence, and any other tall individual spruce trees should be removed.

Woodlands off airport property also support hazardous bird activity. During the WHA, the woodlands west of HOM and the Homer Spit Road (see grid B11 in Appendix H), and the spruce stand between Maritime Helicopters and the Wagon Wheel Feeding Post (areas A10, B9-10, and C9 in Appendix H) were found to attract hazardous flight patterns of birds directly over, or to the west of, the approach lights of Runway 03. To better understand future habitat management needs, Wildlife Control personnel should continue to monitor these woodlands for increases in hazardous wildlife activity, particularly the spruce stand near the animal feed supply store, where the store's open pens attract crows, waterfowl, and magpies to the available food source.

4.6 STRUCTURE MANAGEMENT

Structure management deals largely with the exclusion of wildlife from man-made buildings and structures by various means. Man-made structures provide a form of cover, one of the habitat components that attract hazardous wildlife to HOM.

4.6.1 Airfield Equipment/Buildings

Ravens and eagles use pieces of airfield equipment as perches throughout the year. Common ravens, and on a few occasions bald eagles, have been observed loafing on the "localizer" (part of the Instrument Landing System) and approach lights of Runway 03/21. Black-billed magpies have been observed loafing on hangars and buildings throughout the airport. These particular perches bring ravens, magpies, and eagles into close proximity with aircraft operations. All efforts to design and implement new exclusion devices will be coordinated with the appropriate office of either the FAA or NOAA responsible for airfield equipment maintenance.

Because eagles are one of the most hazardous species to aircraft due to their body mass and due to their propensity to roost on this equipment, they will be considered the "design" species for which all exclusion devices will be targeted. An exclusion device that prohibits eagles from using a particular perch should also be able to exclude smaller birds. It has been determined (from use at southeast Alaska airports) that plastic spikes and thin wire spikes do not work well for eagles. Both of these types of strip spikes are commonly sold for deterring pigeons and starlings. An exclusion device

using thin wires suspended above a perch is currently being tested at the Juneau International Airport (JNU). As information regarding the efficacy of this measure at JNU becomes available, HOM may use this measure, or something similar, on frequently used eagle perches.

Due to the unique characteristics of each "perch", different devices may eventually be used for each piece of airfield equipment. The Wildlife Coordinator will try to determine the efficacy of each technique by documenting wildlife activity before and after implementation. Any exclusion device will be designed and used in a manner that minimizes the risk of injury to the targeted species, if at all possible. Additionally, no exclusion device will be used in such a way that it causes interference with the normal and safe operation of the targeted equipment. The use of any additional pieces of airfield equipment or facilities as regular perches by hazardous species will be documented during daily wildlife control efforts. The Airport Manager will review the designs of new structures/facilities during the planning stages to incorporate features that are unattractive to wildlife.

FAA AIRPORTS DIVISION
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5.0 WILDLIFE CONTROL PROCEDURES

5.1 OVERVIEW

As part of the integrated wildlife hazard management approach, active wildlife control procedures will be conducted at HOM. Wildlife hazards that remain after identified habitat modifications have been completed, or wildlife that exist in areas where habitat manipulation is not feasible, will be reduced or eliminated by employing control measures that are legal, effective, and practical. The method or procedure used at any given time will be based on the target species, the number of animals present, current air traffic, and other factors including the relative safety of the method given the location. A specific control action may be a combination of two or more types of control techniques. For instance, pyrotechnics, vehicle harassment, and lethal control may all be used on a persistent, large flock of geese. *The goal of all wildlife control techniques is to reduce the potential for a damaging collision between wildlife and aircraft on the airport by causing targeted wildlife to leave the airport environment.* It is recognized that wildlife control procedures, in general, provide only a short-term remedy for wildlife hazards. As long as the habitat is available on an airfield, wildlife may continue to persist in spite of the best efforts to control them. Wildlife control procedures will not be used as a substitute for carefully planned habitat modification.

This section summarizes the procedures and techniques most commonly used to control wildlife, as well as the roles of the various people involved. Current state and federal permits authorize the use of all of these control techniques, and each may be applied to hazardous wildlife at HOM when deemed necessary. Methods that violate the intent and letter of these permits will not be used unless written permission is given by both state and federal agencies. If certain techniques are proven to be ineffective, they will be discontinued. HOM will endeavor to use new techniques as they become available and will adopt those that are proven to be effective. The WHMP will be updated annually to reflect changes in the techniques and procedures being used. It is the intent of HOM to strive to use the most humane and non-lethal methods available without compromising aircraft safety.

A number of wildlife control methods are described in this Section. Only the methods most commonly used at HOM have been described in detail.

5.2 ROLES/RESPONSIBILITIES

All on-duty maintenance personnel are responsible for ensuring the safety of aircraft by keeping an active watch over wildlife on the airfield and reporting hazards to either a wildlife patrol team member or the Wildlife Coordinator.

5.2.1 Wildlife Coordinator

The Wildlife Coordinator has the following responsibilities:

1. Supervise wildlife patrol team members and assign relevant duties as necessary. This includes ensuring that all patrol team members follow the procedures outlined in this section in a safe and efficient manner.

2. Conduct wildlife control activities as needed.

3. Maintain written records of all wildlife control activities and ensure that they are entered into a computer database on a regular basis. This task may be assigned to other personnel at the Wildlife Coordinator's discretion.

4. Report all wildlife strikes to the FAA using Form 5200-7 or online via the wildlife strike reporting website (see Section 5.4.3).

5. Maintain an adequate supply of pyrotechnics, ammunition, firearms, propane cannons, and/or any other equipment necessary to conduct daily wildlife control operations. Ensure that all equipment is maintained in working order.

These duties are in addition to those outlined in Section 2.1 of this plan.

5.2.2 Wildlife Patrol

The Wildlife Patrol members are designated by the Wildlife Coordinator and consist of any on-duty HOM maintenance personnel who are listed on both state and federal depredation permits. The Wildlife Patrol's primary role at HOM is to detect and disperse hazardous wildlife prior to aircraft movements. The Wildlife Patrol also has the following responsibilities:

1. Identify, document, and whenever possible, mitigate any airfield conditions and/or habitat features that attract hazardous wildlife.

2. Immediately report the following to the Wildlife Coordinator:

   - Any significant changes in airfield conditions (this could include weather conditions, large influxes of migrating shorebirds, etc.), which result in a sudden increase in wildlife numbers on or near the airfield.
   - The observation of new hazardous wildlife species not currently listed on state and federal wildlife control permits.

3. If unable to disperse detected wildlife in a timely manner, report the hazard to another patrol member or the Wildlife Coordinator.

4. Conduct regular runway sweeps. These sweeps will consist of a vehicular survey of Runway 03/21 and the adjacent aircraft movement areas (see Section 5.3.1 for more detail).

5. Remove carcasses or food debris that may attract scavenging wildlife.

6. Document all wildlife observed (including any dead wildlife), all dispersal activity, and any wildlife strikes found during runway sweeps (if no wildlife are observed, a ZERO will be marked in the log).

5.2.3 HOM Flight Service Station (FSS) (FAA)

The HOM Flight Service Station (FSS), operated by the FAA, has traditionally informed airport personnel about wildlife activity. FSS personnel may, at any time, inform the Wildlife Coordinator or Wildlife Patrol about observed wildlife hazards on the airfield. In some cases, FSS personnel may simply relay the observations and/or concerns of pilots regarding a wildlife hazard. As FSS personnel do not generally have extensive training regarding the detection of wildlife hazards, they will not be relied upon to detect wildlife hazards on a regular basis. Additionally, FSS personnel cannot observe all portions of the airfield that may sustain wildlife activity. The Wildlife Coordinator and/or the Wildlife Patrol will respond as rapidly as possible to wildlife hazards reported or observed.

5.2.4 Pilots using HOM

Pilots are an important component in the airport's wildlife hazard control program. Pilots may, from time to time, relay observations of wildlife activity to the HOM FSS. Homer FSS personnel may then relay such observations directly to the Wildlife Coordinator or Wildlife Patrol. The Wildlife Coordinator and/or Wildlife Patrol will respond as rapidly as possible to those wildlife hazards reported by pilots.

5.3 CONTROL METHODS

USDA's Wildlife Services program offers a training course in species identification and wildlife deterrent techniques (e.g., equipment use, firearm safety, and selecting the proper wildlife hazard management technique), with an emphasis on safety. This training is required for all airport personnel listed on federal Depredation Permits, as well as those listed on state Public Safety Permits. This instruction helps ensure that all HOM Wildlife Patrol personnel understand the hazards wildlife pose to aircraft, and their particular role in preventing such hazards. Wildlife Patrol personnel will be able to identify hazardous species, hazardous situations, and wildlife attractants, and respond with the most appropriate method without creating a more hazardous situation. They will also be able to ensure that only permitted species are controlled, and identify species that need to be added to the depredation permits. The wildlife coordinator is responsible for scheduling the training of new employees, and for scheduling refresher courses as necessary.

Safety is the primary concern when conducting wildlife hazard management operations. No HOM personnel will initiate a wildlife control operation if he or she feels that an unsafe condition exists. Immediate steps will be taken to make the situation safe before initiating the action. Eye and ear protection will be worn when operating firearms and pyrotechnic devices. Firearms and pyrotechnics will not be fired in the direction of vehicles, aircraft, or pedestrians.

and extreme caution will be used when firing pyrotechnics over dry grass and/or other flammable materials and areas. Smoldering shells will not be left on the ground.

During wildlife control operations, it may be necessary to communicate with HOM FSS. The Wildlife Patrol will advise HOM FSS on 123.6 MHz or 122.2 MHz before initiating a wildlife control action under any of the following conditions are observed:

1. A group comprised of 5 or more individual birds or mammals within the AOA or in the approach and/or departure airspace.

2. An individual bird or mammal on or directly over the active runway.

3. Any wildlife condition on or near the airfield that presents an imminent hazard to aircraft.

In addition, FSS may be notified of any large flock movements observed by HOM personnel off airport property, which occur within the aircraft traffic patterns. *All notifications to FSS will include the species or species group, approximate number of animals, location, and a brief description of the hazard.* All communications with HOM FSS will be noted along with the wildlife control action in the daily Wildlife Hazard Log.

Not all possible methods for controlling hazardous wildlife are covered in this section. Only the methods most commonly used at HOM have been described in detail. Appendix G should be consulted when considering new methods not commonly practiced at HOM. Additionally, Appendix G provides a comprehensive list of methods for preventing and controlling wildlife damage, which could be applied at airports. Both state and federal permits, and if necessary the permitting agencies, will be consulted to ensure compliance with current regulations.

The objective of wildlife control techniques is to either disperse hazardous wildlife in advance of aircraft movements or to prevent hazardous wildlife from persisting in the airfield environment on a regular basis. In order to comply with FAR Part 139.337 (e)(5)(ii), which calls for *"conduct of physical inspections of the movement area and other areas critical to wildlife hazard management sufficiently in advance of air carrier operations to allow time for wildlife controls to be effective"*, the following procedures have been established.

5.3.1 Runway Sweeps

A minimum of one airfield sweep per day or per shift should be conducted. This airfield sweep should be conducted near the beginning of the shift for Wildlife Control personnel. Additional airfield sweeps will be performed as needed based on the hazardous wildlife activity observed. When air carrier aircraft movements are within a short time span of one another, one airfield sweep may be sufficient to clear the airfield of hazardous wildlife for multiple aircraft movements. A runway sweep will consist of a vehicular survey of Runway 03/21 and the adjacent aircraft movement areas. All runway sweeps should include observations of the adjacent ramps, taxiways, runway approaches, infield areas, and perimeter fence. To the extent it is safe to do so, an attempt will be made to disperse all hazardous wildlife from the immediate

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vicinity of the runway.

If the wildlife observed is not deemed to be a threat to aircraft, a notation detailing the animal's location and behavior will be made in the Wildlife Hazard Log (clipboard in truck). Subsequent runway sweeps will ensure that non-dispersed wildlife has not become a threat and is not attracting other hazardous wildlife to the area. A record of each runway sweep detailing dispersal efforts and all wildlife observations will be kept in the airport's Wildlife Hazard Log. Runway sweeps that do not detect any wildlife activity will also be recorded.

HOM recognizes that it is not possible to keep all hazardous wildlife from using the airfield at all times. However, the schedule described above should help keep the runway and immediate vicinity clear of most hazardous wildlife. Some species require an almost constant and persistent harassment effort before they will leave the airfield. At times, it may be safer to refrain from harassing some species, than to harass them with less than a constant effort.

5.3.2 Bird Control Techniques

The goal of all bird control efforts at HOM is the alleviation of hazards to aircraft. The dispersal or removal of birds from the airfield will generally reduce the probability of a bird/aircraft collision. Non-lethal control techniques will always be considered prior to the use of lethal control.

Bird hazards will be identified through routine runway sweeps and during the course of field work conducted by HOM personnel. Any bird (residing on the airfield for any length of time) whose body mass is capable of causing damage to an aircraft in the event of a collision, or whose presence attracts hazardous wildlife species, will be considered a hazard. This includes most bird species. In most cases, birds will be detected visually with the naked eye. After initial observation, birds will be accurately identified with the aid of binoculars, spotting scopes, and/or field guides.

There are certain habitat types around the airport that attract more birds than do others. The following list contains bird groups, their behavior observed at HOM, and their respective habitat associations:

- *Corvids* (crows, ravens, jays, and magpies) can be found feeding, nesting, and loafing in wetlands, tidal areas, woodlands, and short grass, as well as around lakes, gravel, airport structures (e.g., localizer), the runway, and taxiways. They routinely fly over all areas of the airport. The majority of raven and crow activity seems to occur off both ends of the runway and over the approach lights. Magpies are observed utilizing all habitat types.

- *Fish-eaters* can be found flying over the runway between Kachemak Bay, Lampert Lake, and Beluga Lake (especially Beluga Lake, where grebes have been observed loafing, nesting, and feeding).

- *Gulls and Terns* can be found loafing, nesting (mew gulls), roosting, and feeding on Lampert Lake and the wetlands east of Lampert Lake. Gulls are found throughout the

year as they fly across the airport between Kachemak Bay, Beluga Lake, Lampert Lake, and Beluga Slough (habitats where gulls are frequently observed loafing and feeding). Mew gulls occasionally loaf on Delta Taxiway and feed in short grass along the edge of the runway.

- *Insect-eaters* are usually observed flying, loafing, and feeding within the shrub cover, grasslands, wetlands, woodlands, and lakes, as well as on runways and taxiways.

- *Pheasants* can be observed feeding and loafing within the shrub cover, long grass, and woodlands, as well as on runways and taxiways. Juvenile pheasants have also been encountered within the AOA, which indicates that nesting probably occurs within or in close proximity to the airport. The majority of the pheasant activity occurs along the south and west sides of the airport.

- *Raptors* can be observed displaying a variety of behaviors throughout all habitat types. Raptors (especially eagles) are frequently observed loafing in woodlands within or adjacent to the airport. Bald eagles and northern harriers commonly fly across the runway.

- *Shorebirds* are usually observed feeding, loafing, and flying within wetlands, woodlands, grasslands, lakes, runway, taxiways, and shrub cover habitat types. Common snipe and greater yellowlegs are frequently observed utilizing these habitat types throughout the airport. Pacific golden-plovers occasionally feed and loaf within the short grass areas off the approach end of Runway 3. Mud Bay at the base of the Homer Spit, and the remaining intertidal areas along Kachemak Bay attract large numbers of shorebirds throughout the year.

- *Songbirds* can be observed feeding, flying, nesting, and loafing within the shrub cover, grasslands, wetlands, and woodland habitats. Songbirds frequently cross the runway between these habitat types.

- *Waterfowl* are usually observed feeding, flying, nesting, and loafing within water ditches, wetlands, tidal areas, and lakes. Large flocks of waterfowl are frequently observed flying across the approach lights of Runway 03. Kachemak Bay, Beluga Lake/Slough, Lampert Lake, and the wetlands east of Lampert Lake are the primary habitats that attract waterfowl over and within the airport. A juvenile crane observed within the airport fence suggests that crane nesting probably occurs within or in close proximity to the airport.

The following sections list the bird control techniques and procedures that will be used at HOM.

5.3.2a Pyrotechnics

While there are many useful pyrotechnics on the market today, HOM uses three different types of pyrotechnics on a regular basis. These are 12-gauge cracker shells, 15mm screamer/whistlers, and 15mm bangers, all of which have different ranges. The 12-gauge cracker shell has a range of approximately 75 to 100 yards. The 15mm screamer/whistler has a very erratic flight so

ranges vary a great deal. On average a 15mm screamer/whistler flies a distance of 60 to 75 yards. The 15mm banger has the shortest range of all, only traveling about 25 to 30 yards. Pyrotechnics will be chosen based on the distance from the Wildlife Patrol personnel to the hazardous wildlife, and the effectiveness of each pyrotechnic type on the specific species. The use of multiple rounds and a mixture of different types of pyrotechnics usually provide the best deterrent effect. HOM may use other pyrotechnic devices at its discretion, depending on availability and cost at the time of purchase.

Wildlife Patrol personnel will position themselves between the runway and the targeted wildlife before firing pyrotechnics. Pyrotechnics will be fired so that they explode (or in the case of screamers/whistlers, travel) between the hazard and the runway. Caution will be used when dispersing wildlife prior to an aircraft departing or arriving. Wildlife, in many cases, need time to recover from their initial fright before they will disperse. Hazing a flock of birds immediately before an aircraft takes off or lands can contribute to a wildlife strike because the birds may be distracted by the pyrotechnics and unable to detect the aircraft. Additionally, extreme care will be exercised so that pyrotechnics do not inadvertently strike aircraft and are not fired near combustible materials.

5.3.2b Vehicle Harassment

Vehicle harassment consists of using a vehicle to chase, herd, or scare wildlife by means of the vehicle or its lights, horn, siren, etc. This is an effective technique, which can save time and reduce operating costs, such as those associated with pyrotechnic use. It works especially well for birds roosting or loafing on paved areas. However, this technique may not be as effective in dispersing certain species of wildlife and may be more short-term than other methods. For example, techniques (such as pyrotechnics), which impart a stronger negative conditioning response in the harassed animal, will generally keep the animal away from the site for a longer period of time. When conducting vehicle harassment, lights and sirens will be used in combination with the moving vehicle to disperse birds. Care will be exercised when chasing wildlife "off-road" with a vehicle, due to the potential danger of hidden obstacles in tall grass.

5.3.2c Propane Cannons

As with firearms and pyrotechnics, eye and ear protection will always be worn while using propane gas exploders (cannons). The use of propane cannons can be an effective complement to the regular hazing of wildlife. Propane cannons will be placed in areas where bird concentrations are the greatest (e.g., the grass areas off the approach ends of Runway 03/21). Cannons will be used to target returning flocks of birds, such as gulls, during times of unusually intense bird activity. For safety reasons, cannons will be operated during daylight hours only.

The use of cannons is considered a supplement to the active hazing of wildlife and will be used sparingly. Wind direction and speed need to be accounted for when using propane cannons. As with any deterrent device, wildlife can become desensitized (habituated) to propane cannons by repeated exposure. To prevent habituation, the cannons (when used) will be moved frequently. The frequency of change will be left up to the wildlife coordinator. However, even with frequent changes birds may still become accustomed to the sound. This is particularly true of gulls, some

of which may need to be destroyed from time to time in order to reinforce the negative conditioning associated with the cannon blasts.

5.3.2d Effigies

Effigies refer to the likeness of an animal, usually representing a predator (e.g., coyote) of the birds that frequent a given location. Effigies are a static deterrent measure designed to frighten wildlife from a specific area. Coyote effigies may be beneficial at HOM in open areas such as the grass fields off the approach ends of Runway 03/21, especially during periods of intense bird activity. Effigies, like propane cannons, will be moved on a regular basis to prevent habituation by targeted species. If effigies are observed attracting wildlife (e.g., ravens), they will not be used while these species are present.

5.3.2e Wire Grids

An overhead wire grid is both an exclusion and a deterrent device. Depending on the spacing between wires, some larger species such as geese may be physically excluded from an area, while the visual barrier represented by the wire grid may simply deter smaller waterfowl, such as mallards. If the airport is unable to convert open ditches to underground drainage conveyance systems, HOM will consider the feasibility of the placement of wire grids over ditches within the airport that attract waterfowl. An example is the main ditch parallel to the south side of Runway 03/21.

In order to test the efficacy of a wire grid in deterring hazardous bird species, one portion of a ditch may be gridded (test area), while the rest of a ditch remains ungridded (control area). During the testing phase, all wildlife activity in both portions of the ditch would be recorded during daily runway sweeps. Wildlife activity will be noted by location, time of day, species, behavior, and number of animals. When necessary, all wildlife observed in both test and control areas will be harassed to alleviate hazards to aircraft. After an appropriate period of time, the wildlife usage in both the test and control areas of the ditch will be compared to determine relative efficacy of the wire grid system. During the testing phase, it may be desirable to change the spacing of wires from time to time in order to test which design works best. If the grid system proves effective in deterring hazardous wildlife, a more specific design for the wire grid will be developed, and a map and schematics of the grid system will be included in this plan.

If HOM chooses to implement a wire grid system along the main ditch south of Runway 03/21, WS can provide assistance in designing this wire grid system. If the grid system proves effective in deterring wildlife, a similar wire grid system will be considered in other areas (e.g., other ditches) that attract wildlife.

5.3.2f Lethal Control of Birds

The use of lethal control in wildlife hazard mitigation can be used as a means for population reduction and/or to reinforce the efficacy of non-lethal measures. At HOM, lethal control of birds will be used only to reinforce the negative conditioning effect of non-lethal wildlife control measures. In all cases, lethal control will be carried out in the most humane fashion possible and

with recognition of public awareness. Only steel shot may be used to shoot birds. Refer to Section 5.3.4 for firearm safety guidelines.

The following guidelines will be followed when using lethal control:

- Lethal control will be used only as reinforcement for non-lethal deterrent methods such as pyrotechnics and vehicle hazing, or as a last effort to remove persistent individuals from a flock. The removal of one or two individuals from a flock of birds generally has the same negative conditioning effect on remaining birds as the removal of 10-15 birds from the same flock.

- Lethal shooting of flocking birds will be accompanied by a non-lethal control method (e.g., pyrotechnics, vehicle hazing) when practical.

- Wildlife accompanied by young will not be destroyed; specifically, young that cannot survive on their own, such as juvenile bird fledglings or un-weaned mammals.

A list of the species that HOM is allowed to destroy is shown on both federal and state wildlife control permits in Appendix D. A copy of this list will be kept in the Wildlife Coordinator's office. The following pertains to the disposition of wildlife taken during lethal control.

In order to ensure compliance with both state and federal permits regarding lethal control, wildlife control personnel will follow the conditions specified on these permits in Appendix D. Any questions regarding these permits and the included conditions should be directed to the following offices:

State Public Safety Permit (ADF&G, Permitting Office) - (907) 465-6197
Federal Depredation Permits (USFWS, Division of Migratory Bird Management) - (907) 786-3459

All correspondence with the state and federal permitting agencies regarding the disposition of wildlife taken during lethal control actions will be noted in the Wildlife Hazard Log. Such notations will include the date, time, person contacted, and a brief summary of the correspondence. Section 5.4.1 (Wildlife Hazard Log) should be consulted for additional record-keeping instructions.

At HOM, the following birds (when destroyed) will be double-bagged in plastic trash bags and placed in a dumpster with a tight fitting lid.

- Gulls
- Crows, ravens, and magpies
- Pigeons

The state public safety permit issued by ADF&G for the taking of wildlife at HOM stipulates that the edible meat of waterfowl shall be salvaged for human consumption. Pheasants will also be salvaged for human consumption. In order to comply with this stipulation, the Wildlife

Coordinator will immediately contact the local wildlife biologist with ADF&G or Fish and Wildlife Protection Officer when any waterfowl (ducks and geese) and/or pheasants are killed during wildlife control operations. If shorebirds are added to federal and state permits, the Wildlife Coordinator will immediately freeze any of these birds that are destroyed, and contact Bob Gill with the USGS Alaska Biological Science Center in Anchorage at (907) 786-3515 for salvage instructions.

5.3.2g Nest Searches

Ring-necked pheasants and sandhill cranes have each caused an aircraft strike at HOM. Both species have been observed utilizing various habitats throughout the airport. In addition, these birds have nested on airport property in the past. Wildlife Patrol personnel will make every effort to discourage ring-necked pheasant and sandhill crane nesting at the airport by initiating nest searches and applying nest destruction/removal methods.

5.3.3 Mammal Control Techniques

Although the hazards posed by mammals at HOM occur much less frequently than those posed by birds, the large body mass of most hazardous mammal species almost makes damage to the aircraft a certainty in the event of a collision. Therefore, it is prudent to have an effective set of procedures for dealing with mammals should they occur at HOM. Non-lethal control methods will be exhausted prior to the use of lethal control.

Mammal hazards will be identified through routine runway sweeps and during the course of field work conducted by HOM personnel. Any mammal residing on the airfield for any length of time, whose body mass is capable of causing damage to an aircraft in the event of a collision, is considered a "mammal hazard". This includes primarily moose, coyote, and in some cases loose dogs. The HACHA provides vital habitat to moose in close proximity to the airport throughout the year, and moose are a serious hazard to aircraft operations within HOM and on Beluga Lake. NOTAMs will be issued when moose are present on the airfield or in Beluga Lake. Coyotes are more likely to be seen crossing the runway when moving between areas, while loose dogs are usually the result of aircraft owners leaving their dog unleashed and/or unattended around aircraft movement areas.

The following sections list the mammal control techniques and procedures that will be used at HOM.

5.3.3a Structure Maintenance

Section 4.4.3 provides a more detailed description of the following mammal exclusion measures. The Wildlife Coordinator will schedule perimeter fence checks. Malfunctioning gates will be closed and locked until functioning properly. If feasible, HOM will replace the moose gate along the north perimeter fence.

5.3.3b Loose Dog Policy

HOM will develop and enforce a policy for unleashed dogs within the airport property.

5.3.3c Pyrotechnics

The use of pyrotechnics for mammals follows the same guidelines presented in Section 5.3.2a for birds. In most cases, pyrotechnics will only be used if a mammal has gained access to a portion of the airfield within the perimeter fence. When mammals are hazed with pyrotechnics, they often become frightened, thereby altering their course of action unpredictably. For those animals already inside the fence, pyrotechnics could cause them to cross the runway and taxiways when they may not have otherwise. Therefore, pyrotechnics will only be used to haze mammals if the following occurs:

- A mammal is traveling along the outside perimeter of the fence and appears to be seeking an opportunity to access the airfield.
- The animal is inside the fence and moving in the direction of the runway, and a crossing appears likely.
- A mammal is inside the fence and is bedded down in thick cover and pyrotechnics are the most efficient method to initiate and direct their movement.

Only those mammals listed on the state Public Safety Permit (see Appendix D) issued by ADF&G may be harassed. For any other mammal species that are presenting a hazard to aircraft, the Wildlife Coordinator must contact the local Area Wildlife Biologist with ADF&G for assistance.

5.3.3d Vehicle Harassment

The use of vehicles to disperse mammals from an airfield can be effective. Vehicles may be used to help herd mammals away from the runway. Wildlife will be approached at slow speeds to prevent unnecessarily alarming the animal, which could cause it to run in an unwanted direction. When necessary, lights and sirens will be used to help urge the animal along. Only those personnel listed on the state Public Safety Permit as subpermittees will use vehicles to harass mammals.

5.3.3e Rubber Bullets and Beanbag Rounds

The use of 12-gauge rubber bullets and beanbag rounds will be employed to disperse especially persistent moose. Rubber bullets and beanbag rounds will be used only on moose. Both types of rounds will be fired from a distance of not less than 10 yards and no more than 30 yards. The front shoulder or hind-quarter of the animal will be targeted, as hitting an animal in the flank or side could cause internal bleeding. As with other firearm related methods, all safety rules regarding firearm use will be strictly adhered to.

5.3.3f Lethal Control of Mammals

At this time, only moose, black bear, coyote, porcupine, wolf, river otter, mink, ermine, weasel and muskrat may be destroyed to alleviate hazards to aircraft. The state permit allows lethal control of the above listed mammals only as a last resort after all non-lethal control methods have been exhausted. The ADF&G area biologist will be notified immediately by the Wildlife Coordinator prior to the destruction of any animal as well as within 48 hours after each animal is killed. In addition, animals will be salvaged in accordance with the "Wildlife Salvage Protocol for ADF&G Collecting Permits" (Appendix D). Therefore, lethal control on mammals will take place only after the Wildlife Coordinator has given approval. Only 12-gauge rifled slugs or a center-fire rifle of appropriate caliber will be used to dispatch mammals. If possible, moose will be dispatched at a range of no more than 50 yards in order to ensure more accurate placement of the slug or bullet. Refer to Section 5.3.4 for firearm safety guidelines.

5.3.4 Firearm Safety

Firearms and pyrotechnic launchers will be operated in a safe manner at all times. In addition to the procedures set forth in Sections 5.2.3f and 5.3.3f, the following guidelines will be observed:

- When in the vehicles, firearms may have cartridges in the magazine, but not the chamber. All firearms will be completely unloaded before entering buildings. *Exception*: Air rifles may be loaded and fired from the vehicle as long as:
  a. The rifle barrel extends outside of the vehicle whenever the gun is loaded.
  b. The remainder of the firearm guidelines are met.

- Extreme caution should be used when shooting across roads, runways, and taxiways.

- Caution and discretion will be used at all times. Wildlife Patrol personnel will maintain an awareness that steel shot can ricochet off water. There will be no shooting at birds on the water when a person, boat, float plane, etc. is in the background.

5.4 RECORD KEEPING

The collection of reliable data is a critical first step in identifying factors contributing to wildlife activity that threatens human safety. In addition, accurate data recording allows airport personnel to analyze wildlife trends and provide essential data to appropriate agencies (e.g., USFWS, for depredation permit reporting).

The following outlines the record keeping procedures for wildlife hazard management at HOM.

5.4.1 Wildlife Hazard Log

All wildlife control actions and observations will be recorded on a Wildlife Hazard Log, a copy of which is provided in Appendix I. The Wildlife Hazard Log is used to record the date, time,

species of wildlife, number of wildlife, action taken, cover type, and if appropriate the behavioral response of the targeted species. An adequate supply of data sheets will be maintained in each vehicle. It is the responsibility of each Wildlife Patrol team member to accurately record every control action and/or observation involving hazardous wildlife. All airfield and runway sweeps will be recorded on this form, including sweeps in which no wildlife is observed. All completed Wildlife Hazard Logs will be kept in a 3-ring binder in chronological order in the Wildlife Coordinator's office. This information will be entered into the computer database (see Section 5.4.2) on a regular basis. The following instructions apply to recording data on the Wildlife Hazard Log:

Weather Condition: Choose Clear, Cloudy, Partly Cloudy, Rain, Fog, or Snow/Sleet.

Name of Observer: The name or initials of the person conducting the action.

Date: Enter the date in mm/dd/yy format.

Time: Enter the time in military format.

Grid Location: Enter the grid coordinate from the grid map located in Appendix H (A copy of this map will be provided in every wildlife patrol vehicle). Do not enter multiple grid coordinates. If the flock of birds was spread out over more than one coordinate, indicate the coordinate with highest concentration of birds. If the animal is chased through different coordinates during the course of harassment, indicate the coordinate in which the animal was originally observed.

Count: Enter the total number of animals for that species.

Species: Enter the common name of the animal (e.g., bald eagle, mew gull). Try to avoid the use of group names such as gulls, or owls.

Action: Enter the letter code for the action taken. If multiple methods were used to disperse the wildlife, choose the method that was initially used. Any method used to disperse wildlife that does not appear in the following list should be recorded. All new methods will be reviewed by the Wildlife Coordinator prior to implementation to ensure consistency with permits and to check for possible effects on non-target species.

C - cannon = Placement or movement of propane cannon. Indicate in the comments whether the cannon was turned on or off.

E - effigy = Placement or movement of an effigy.

HA - harassment shooting dispersed = Any animal that was dispersed as a result of an attempted lethal control action. *For instance, in a flock of 50 mew gulls, 3 were shot while the rest were dispersed as a result of the shooting. The Action should be recorded as two separate entries; the first entry is 47 mew gulls HA, and the second entry is 3 mew gulls SH.*

SH - shooting = Any bird or mammal that is destroyed by shooting. Guidelines for the use of lethal control of wildlife are provided in Section 5.3 of this plan.

PY - pyrotechnics = Any device such as 12-gauge cracker shells, whistlers, or any other fired projectile which produces a sound intended to frighten wildlife.

VH - vehicle haze = The use of any vehicle, including the horn and lights, to disperse or chase wildlife from the airfield.

ST - wildlife strike = Choose this action to document a wildlife strike. The definition and guidelines provided in Section 5.4.3 of this document will be followed when reporting all wildlife strikes.

PR - public relations = Choose this action when conversing with the public, agency, etc. in regard to the wildlife control program at HOM.

RE - recommendations = Choose this action when recommending a course of action for future wildlife hazard management at HOM.

O - observed = Select observed as an action if no other action was taken to disperse wildlife. This may occur if the wildlife could not be dispersed due to conflicts with aircraft activity or if the animal was not in range of dispersal techniques. Indicate in the comments section why the animal was not dispersed.

K: Number of animals killed.

Cover Type: Enter one of the following: None, runway, taxiway, ramp, asphalt/concrete, unpaved road, structure, ditch, short grass (<15cm), long grass (=>15cm), shrubs, woodland, marsh/wetland, creek/stream, temporary standing water, large water body (> 100 ft. across), small water body (< 100 ft. across).

Ammunition: Crackershell, 15mm banger, 15mm screamer/whistler, air rifle pellet, rim fire cartridge, center fire cartridge, shot shell, rubber bullet, or beanbag round.

Number of Rounds: Record number of rounds of ammunition used in each action.

Comments: Enter any comments regarding the animal's behavior, response to the action taken, group coordination efforts, recommendation and public relation details, or habitat conditions in this column. Any information that is noteworthy concerning the wildlife hazard is warranted here.

5.4.2 Computer Database

All Wildlife Hazard Logs will be entered into the WHMIS (Wildlife Hazard Management Information System) database on a regular basis. It is the responsibility of the Wildlife

Coordinator, or someone assigned to this task by the Wildlife Coordinator, to maintain this database. WHMIS can be used to analyze trends in wildlife activity on the airfield and therefore assist the airport in gauging the efficacy of wildlife control techniques. WHMIS will also be used to provide species specific reports and information to the appropriate agencies upon request, and to provide agencies with the required annual reports summarizing wildlife control at HOM.

USDA's Wildlife Services Program (WS) has provided the database for use at HOM. Free technical support for the management and use of WHMIS is provided by WS, which can be contacted at (907)745-0871 or via e-mail at Corey.L.Rossi@aphis.usda.gov A User's Manual for the WHMIS application is located in Appendix J of this plan.

5.4.3 Wildlife Strike Reporting

The accurate and timely reporting of wildlife strikes is of utmost importance to managing wildlife hazards effectively. It is the responsibility of wildlife patrol team members to document all wildlife strikes of which they become aware. A wildlife strike is deemed to have occurred when:

1. A pilot reports a strike,
2. Aircraft maintenance personnel identify damage as having been caused by a bird or mammal strike,
3. Personnel on the ground report seeing an aircraft strike one or more birds or mammals,
4. Bird or mammals, in whole or in part, are found on any airside pavement area or within 60 m (200 feet) of a runway, unless another reason for the bird or mammal's death is identified.

If a wildlife patrol team member is notified of a wildlife strike by an aircraft owner/operator immediately following an aircraft movement (either a take-off or landing), that member will perform a complete runway sweep to look for the carcass of the animal. Identifying the species of wildlife involved in strikes is crucial to resolving wildlife hazards. Also, if a wildlife patrol team member discovers an animal carcass thought to have been involved in a wildlife strike, that member will attempt to determine the aircraft involved, so that an inspection for damage can be performed if necessary. If the wildlife strike is thought to have involved an air carrier aircraft, the Operations Manager for that airline will be notified immediately. The occurrence of all damaging strikes will be relayed to the Airport Safety/Compliance Officer within 24 hours of documentation.

All wildlife strikes will be reported to the FAA via Form 5200-7 (Bird/Other Wildlife Strike Report), or online at http://wildlife-mitigation.tc.faa.gov. Filing of this report online facilitates the accurate and timely addition of the strike report to the FAA's Wildlife Strike Database. A unique report number will be assigned to the strike report at the time of filing which allows for the report to be edited online if further information becomes available (i.e., damage costs, identification of wildlife species). A hard copy of the blank report form, including instructions, is also included in Appendix K. Although it is the initial responsibility of the wildlife patrol team member who first documents a wildlife strike to collect all necessary information for the

strike report, it is the Wildlife Coordinator's responsibility to ensure the accuracy of all information on the report before filing it with the FAA. In cases where a wildlife strike causes damage, it is important to obtain the best estimate for the Damage/Cost Information portion of the report. This may mean waiting to file the report until the aircraft operator/owner has had time to relay this information to the airport. A hard copy of each wildlife strike report will be maintained in Appendix L. In addition, a note will be made on the daily Wildlife Hazard Log sheet indicating the grid location for the wildlife strike, if this can be determined. In order to ensure the accuracy of the information on wildlife strike reports, some additional guidelines will be followed.

Any wildlife carcass found, in whole or in part, on any airside pavement area or within 60 m (200 feet) of a runway will be assumed to have been the result of a wildlife strike unless another cause of death is determined. If the person finding the carcass is unsure as to the cause of death, the carcass should be examined by a Wildlife Biologist to help make a proper determination. A reasonable attempt will be made to identify the species of wildlife involved in the strike. Once again, a local Wildlife Biologist may assist in this process. If the strike involves a bird, and it cannot be identified to species (due to the condition of the carcass or remains), it is possible to have the feathers and other body parts examined by experts at the Smithsonian Institute's feather identification lab. The necessary information for submitting bird remains to the Smithsonian is provided in Appendix K. If a strike is determined only by the identification of remains or damage on the aircraft and no carcass is found on the airfield, the 'Airport Name' field should be left blank on the wildlife strike report. A note should be made in the Remarks field documenting the point of origin of the aircraft.
To summarize, the following documentation should be made for every confirmed wildlife strike:

1. One wildlife strike report filed online and one copy printed and retained in Appendix L.
2. One Wildlife Hazard Log record indicating the grid location if known.

5.4.4 Annual Permit Reporting

HOM will provide an annual report of wildlife control efforts to the Aviation Safety & Security Officer at the end of the calendar year. The Aviation Safety & Security Officer will forward a compilation of the reports to both the USFWS and ADF&G at the end of each calendar year. This report gives a total count of the number of animals hazed and killed by species. A form for reporting eagle hazing efforts and a form for reporting the take (e.g., killing) of migratory birds will be provided by the USFWS each November, to satisfy the federal permit reporting requirements. The Airport Safety/Compliance Officer will send a copy of each of these reports to both agencies in January. This reporting fulfills the condition set by ADF&G for an annual report under the Public Safety Permit.

The Airport Safety/Compliance Officer will send a request to both the USFWS and ADF&G for a renewal of HOM's wildlife control permits by December 1 of each calendar year. This will allow the permit issued the previous year to remain in effect while the USFWS has time to renew the permit. In addition, the Airport Safety/Compliance Officer will provide both agencies with the names of individuals who have completed the WS "Managing Wildlife Hazards at Airports

training course, so that they can be added as subpermittees. The Airport Safety/Compliance Officer will provide any additional information regarding the airport's wildlife hazard management program to the appropriate agencies upon request. A copy of all reports filed to the agencies will be kept in Appendix M.

5.5 COMMUNICATIONS

Proper communication is essential to the success of day-to-day operations. All communications shall be professional, courteous, and concise.

5.5.1 General Procedures

All wildlife patrol team members will be equipped with 2-way radios for communication with both Homer Flight Service Station and other HOM personnel. In most cases, one patrol team member will conduct runway sweeps and carry out wildlife control actions. If necessary, wildlife patrol team members will enlist the help of additional patrol team members to aid in the dispersal of large flocks of birds from the airfield. During these times, one patrol team member will be designated the lead for the duration of the control action. Additionally, patrol team members will use the designated radio frequency for communication. If a patrol team member must leave the vehicle during a wildlife control action for a significant period of time, they will take a portable 2-way radio to maintain contact with flight services and other patrol team members. The wildlife patrol team member will notify Homer Flight Service Station advising of the location of any parked (and temporarily unattended) vehicles within the Runway Safety Area (RSA). It is the responsibility of the Wildlife Coordinator to ensure that all radios are fully charged and in good working order.

5.5.2 Public Relations

Wildlife control actions on an airport often entail very visible and audible indications of their use. Pyrotechnics and propane cannons may cause an unwary public some distress, partly due to the noise involved and partly because the noise is often mistaken for firearm use. In some cases, the use of lethal control is at odds with the personal views of some members of the public. When lethal control is conducted in view of the public, it will sometimes draw criticism of the Wildlife Patrol and even the wildlife hazard management program as a whole. Therefore, those conducting wildlife hazard control operations will take every opportunity to become aware of the various views people have regarding wildlife control work. Keeping this in mind, all wildlife control operations will be handled with discretion in a way that does not compromise the efficacy of the control measure or the safety of aircraft operating at HOM.

If approached by a member of the public concerning wildlife hazard control work, the wildlife patrol team member will conduct themselves in a professional and courteous manner at all times. Patrol team members will refrain from engaging in debate and will speak about the work only in general terms (e.g., "We are here to reduce the safety hazard to aircraft by dispersing wildlife.

from the airfield"). Any detailed questions or concerns should be relayed to the Wildlife Coordinator. The general public will be told that only a written request for information will receive a response. Anyone requesting more information will be given the name and address of the Wildlife Coordinator so that a formal written request can be submitted. The Wildlife Coordinator will then respond to all written requests for information in a timely manner. A record of all such correspondence will be kept in Appendix N. Any requests by the media for interviews or information regarding the wildlife control program will be directed to the Airport Safety/Compliance Officer.

FAA AIRPORTS DIVISION
AAL-600

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APPROVED MD

6.0 RESOURCES

The following resources will be maintained by HOM for the management of wildlife hazards. It is the responsibility of the Wildlife Coordinator to ensure that all the equipment is maintained in good working order and that supplies are adequately stocked. HOM will have at least one person available for wildlife control prior to scheduled flights and during duty hours when the FSS informs the Airport Manager of potential problems. The Wildlife Coordinator or the coordinator's representative will provide for an immediate response to wildlife hazards during hours when there are no air carrier operations, or when wildlife control personnel are normally off-duty.

The following equipment and supplies will be available for wildlife management activities and may include, but are not limited to:

Equipment

Two-way radios for communication with Homer Flight Service Station
Vehicle (pick-up truck)
Propane cannons
Pellet rifle
12-gauge shotguns
Binoculars
Field guide for local bird identification
Computer

Supplies

12-gauge cracker shells
15mm pyrotechnic bangers
15mm pyrotechnic whistlers/screamers
12-gauge steel shot #2
Cleaning kits for all firearms
5.5 mm pellets
Field data sheets
Field grid map
Coyote effigy

Each vehicle used during wildlife control efforts by the Wildlife Patrol will carry the following items:

- Adequate supply of Wildlife Hazard Logs
- Airport grid map
- List of wildlife species which may be lethally controlled
- Bird identification book
- Binoculars
- Firearms

- Adequate supply of ammunition/pyrotechnics

A list of suppliers of wildlife management equipment is attached in Appendix O of this plan.

USDA-WILDLIFE SERVICES ASSISTANCE

Some supplies, such as pigeon traps and coyote effigies, may be available through WS for use in conducting specific control operations. In addition, WS personnel may be available for assistance in direct control operations, at the request of the airport's Wildlife Coordinator. At this time, no specific schedule of wildlife control activities has been requested by the airport. If WS assistance is needed, WS personnel working on the airport are allowed discretion in initiating wildlife deterrent actions independent of airport requests. WS personnel will follow the procedures for conducting and reporting wildlife control activities prescribed in Sections 5.2 - 5.5 of this plan.

WS will provide the necessary assistance, training, and materials for the use of the WHMIS database application for recording wildlife control activity.

7.0 TRAINING

Training is essential for all Wildlife Patrol personnel. The Wildlife Coordinator will ensure that all personnel who will be working in a wildlife deterrence capacity receive appropriate training in managing and mitigating wildlife hazards at airports. Wildlife Services has instructors that teach a one-day course for wildlife control personnel. This training includes an overview of laws associated with wildlife control, techniques used for wildlife dispersal, firearm and pyrotechnic safety (including hands-on training), and wildlife identification techniques. The Wildlife Coordinator will work with Wildlife Services personnel to make this training available, both for new personnel and as a 24-month refresher course for existing employees. This training can be customized to fit the needs of individual recipients or situations.

The Airport Manager will provide USFWS and ADF&G with the names of individuals who have completed the WS training course, so that they can be added to the state and federal permits for initiating wildlife control at HOM (a current list of these personnel is provided in Appendix P). All employees involved in wildlife control operations, which require them to operate on the AOA, will receive training in airport communication and ramp driving.

8.0 EVALUATION

The WHMP will be evaluated annually and updated as necessary. The Airport Manager and Wildlife Coordinator may evaluate and make changes to the plan more frequently if conditions warrant. During the evaluation, changes to wildlife control procedures and habitat management objectives may be made if necessary. The habitat management timetable will be updated with the following: completed projects will be identified, necessary changes to forecasted completion dates will be made, and new habitat management goals will be added. Any new habitat management projects will receive the appropriate description within Section 4. Any new wildlife control procedures that have been instituted will be added, and the appropriate methodology for implementing the procedure will be described. All new wildlife strikes will be added to Table 1 in Section 1.

To evaluate the effectiveness of the plan in reducing wildlife hazards, the following procedures will be used:

1. *Review the wildlife strike history for the past year.* Any new species appearing in the strike record will be evaluated for possible control procedures and appropriate habitat modifications. Wildlife strikes with previously identified species will also be reviewed.

2. *Compare the wildlife strike history with summaries of control efforts.* By comparing the amount of control efforts for each species with those species in the strike record, the relative effectiveness of these efforts can be determined. More specifically, it should be determined whether control efforts are targeting those species causing strikes.

3. *Compare wildlife use on the airfield before and after habitat modifications.* On certain areas of the airfield where habitat attractants have been modified, an effort should be made to determine if the modification resulted in a decrease, increase, or no change in wildlife use. In some cases, habitat modification may result in the location becoming attractive to another species of hazardous wildlife. In these cases, appropriate alterations of the habitat will be considered.

The experiences and judgement of the Wildlife Patrol, as well as comments from the Wildlife Hazards Advisory Group (WHAG), will be taken into consideration when reviewing existing procedures and wildlife hazard levels. As many factors affecting wildlife activity at HOM are beyond human control, it is necessary to consider the complex and dynamic nature of the factors affecting wildlife activity when evaluating the WHMP.

The Airport Manager shall ensure that all necessary parties within the WHAG receive a copy of the revised plan. The FAA Regional Certification Inspector will be invited to make comments on the WHMP and to attend annual meetings on plan modifications.

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USC 668a

REGULATIONS
50 CFR Part 13
50 CFR 22.23

1. PERMITTEE

ALASKA DEPT. OF TRANSP. & PUBLIC FAC.
CENTRAL REGION - HOMER AIRPORT
ATTN: JOSHUA BRIGGS
P.O. BOX 196900
ANCHORAGE, AK 99519-6900
U.S.A.

3. NUMBER
MB690090-0

4. RENEWABLE	5. MAY COPY
☒ YES ☐ NO	☒ YES ☐ NO

6. EFFECTIVE	7. EXPIRES
04/01/2012	03/31/2012

8. NAME AND TITLE OF PRINCIPAL OFFICER *(If #1 is a business)*
JOSHUA A. BRIGGS
AVIATION SAFETY & SECURITY OFFICER

9. TYPE OF PERMIT
EAGLE DEPREDATION

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

STATE OPERATED AIRPORT IN HOMER

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE REPORTING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. You must have written authority from the Alaska Department of Fish and Game, Juneau, Alaska before exercising any of the authorities granted by this permit.

E. You are authorized to use non-lethal scare devices, scare tactics or frightening devices to move or disperse bald eagles endangering human safety due to a high risk of a serious bird strike to landing and departing aircraft. You are authorized to use airhorns, pyrotechnics, and drive vehicles with horns as necessary to scare eagles. Pyrotechnics must not be shot directly at the eagles.

F. You must make a continuous effort to eliminate attractants and other physical properties that may draw eagles to airport property.

G. This permit does not authorize the killing, injury or capture of any eagle or the destruction of any young or nests.

H. This permit does not authorize the disturbance of eagles at active nest sites that contain eggs or young or nests.

I. You must notify the permit issuing office at USFWS-MBMPO (907-786-3693) within 48 hours of any injury or death of any eagle during project activities.

J. The following subpermittees are authorized: Designated employees of Alaska Department of Transportation and Public Facilities under the direct supervision of Aviation Safety and Security Officer Joshua Briggs and designated employees of USDA Wildlife Services.

In addition, any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

K. You must submit a report of activities conducted under this permit to the USFWS, Migratory Bird Permit Office, 1011 East Tudor Road (MS-201), Anchorage, Alaska 99503, by the due date specified on the face of the permit. The report form, 3-202-11, is available at: http://www.fws.gov/forms/3-202-

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

FAA AIRPORTS APPROVAL
DATE 3-19-12

12. REPORTING REQUIREMENTS

You must submit an annual to your Regional Migratory Bird Permit Office report each year, even if you had no activity.

ISSUED BY	TITLE	DATE
Beth Pratt	PERMIT SPECIALIST, MIGRATORY BIRD PERMIT OFFICE - REGION 7	03 07 2012

DEPARTMENT OF THE INTERIOR
U.S. FISH AND WILDLIFE SERVICE

FEDERAL FISH AND WILDLIFE PERMIT

2. AUTHORITY-STATUTES
16 USD 703-712

REGULATIONS
50 CFR Part 13
50 CFR 21.41

1. PERMITTEE

ALASKA DEPT. OF TRANSP. & PUBLIC FAC.
CENTRAL REGION - HOMER AIRPORT
ATTN: JOSHUA BRIGGS
P.O. BOX 196900
ANCHORAGE, AK 99519-6900
U.S.A.

3. NUMBER
MB179803-0

4. RENEWABLE	5. MAY COPY
☒ YES ☐ NO	☒ YES ☐ NO

6. EFFECTIVE	7. EXPIRES
04/01/2012	03/31/2013

8. NAME AND TITLE OF PRINCIPAL OFFICER *(If #1 is a business)*
JOSHUA A. BRIGGS
AVIATION SAFETY & SECURITY OFFICER

9. TYPE OF PERMIT
DEPREDATION AT AIRPORTS

10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED

STATE OPERATED AIRPORT IN HOMER

11. CONDITIONS AND AUTHORIZATIONS:

A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE REPORTING OF ALL REQUIRED INFORMATION AND REPORTS.

B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW.

C. VALID FOR USE BY PERMITTEE NAMED ABOVE.

D. You must have written authority from the Alaska department of Fish and Game, Juneau, Alaska before exercising any of the authorities granted by this permit.

E. You are authorized to take, temporarily possess, and transport the migratory birds specified below to relieve or prevent injurious situations impacting public safety. All take must be done as part of an integrated wildlife damage management program that emphasizes nonlethal management techniques. You may not use this authority for situations in which migratory birds are merely causing a nuisance.

(1) The following may be lethally taken: Minimum number and species.

(2) The following may be live-trapped and relocated: Minimum number and species.

(3) The following active nests (including eggs) may be destroyed: Minimum number and species.

F. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests and eggs, including species that are not listed in Condition E (except bald eagles, golden eagles, or endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. All take must be done as part of an integrated wildlife damage management program that emphasizes minimum number of birds required to eliminate the threat to aircraft, non-lethal management techniques and habitat alteration. A direct threat to human safety is one which involves a threat of serious bodily injury or a risk to human life. **Permittee must contact the USFWS Permit Office (907-786-3693) within 48 hours when the total lethal take of any raptor species exceeds three birds.**

You must report any emergency take activity to your migratory bird permit issuing office at 907-786-3693 within 72 hours after the emergency take action. Your report must include the species and number of birds taken, method, and a complete description of the circumstances warranting the emergency action.

☒ ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY

FAA AIRPORTS APPROVAL
DGW AAL 005 DATE 3-19-12

12. REPORTING REQUIREMENTS

You must submit an annual to your Regional Migratory Bird Permit Office report each year, even if you had no activity.

ISSUED BY	TITLE	DATE
[signature]	CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 7	03/07/2012

STATE OF ALASKA
DEPARTMENT OF FISH AND GAME

P.O. Box 115526
JUNEAU, ALASKA 99811-5526

Permit No. 12-083

Expires 1/31/2013

PUBLIC SAFETY PERMIT

This permit authorizes Joshua Briggs, Alaska Dept. of Transportation & Public Facilities, Central Region
(person, agency or organization)

of P.O. Box 196900, Anchorage, AK 99519-6900 to conduct the following
(address)

activities from February 17, 2012 to January 31, 2013 in accordance with AS 16.05.930.

Authority is granted the permittee and subpermittees to haze all birds to alleviate hazards to arriving and departing aircraft on state-operated airport property in Adak, Bethel, Cold Bay, Dillingham, Homer, Iliamna, King Salmon, Kodiak, McGrath, Pedro Bay, Port Heiden, Talkeetna, St. George Island, Sand Point, King Cove, Nelson Lagoon, and Unalaska. Authority is also granted to take (i.e. kill) migratory birds as specified in federal permit MB690089, up to five (5) cackling Canada geese at Adak and up to two (2) cackling geese at the Unalaska Airport with federal authorization, and all birds classified as "deleterious exotic wildlife" (i.e. pigeons, starlings, and house sparrows). This permit does not authorize the killing, injuring or capturing of eagles. All other conditions the same as federal permit MB690089.

Authority is granted the permittee and subpermittees to haze all mammals from state-operated airport property to alleviate hazards to arriving and departing aircraft. This permit does not authorize the killing of mammals unless prior authorization is obtained from the local area biologist. All carcasses must be surrendered to ADF&G or disposed of as directed by the specified Area Biologist. Lethal take of arctic ground squirrels and species classified as "deleterious exotic wildlife," (i.e. raccoons, rats, mice, gerbils, other murid rodents, and Belgian hares) is exempt from prior authorization and salvage requirements except that lethal take of arctic ground squirrels in Kodiak must be coordinated with Area Biologist Larry Van Daele and all squirrel carcasses must be turned over to the Kodiak area office.

Continued on page 2

REPORT DUE January 20, 2013. **The report shall include the information specified above.**

GENERAL CONDITIONS, EXCEPTIONS AND RESTRICTIONS

1. **This permit must be carried by person(s) specified during approved activities who shall show it on request to persons authorized to enforce Alaska's fish and game laws. This permit is nontransferable and will be revoked or renewal denied by the Commissioner of Fish and Game if the permittee violates any of its conditions, exceptions or restrictions. No redelegation of authority may be allowed under this permit unless specifically noted.**
2. **No specimens taken under authority hereof may be sold or bartered. All specimens must be deposited in a public museum or a public scientific or educational institution unless otherwise stated herein. Subpermittees shall not retain possession of live animals or other specimens.**
3. **The permittee shall keep records of all activities conducted under authority of this permit, available for inspection at all reasonable hours upon request of any authorized state enforcement officer.**
4. **Permits will not be renewed until detailed reports, as specified above, have been received by the department.**
5. **UNLESS SPECIFICALLY STATED HEREIN, THIS PERMIT DOES NOT AUTHORIZE the exportation of specimens or the taking of specimens in areas otherwise closed to hunting and fishing; without appropriate licenses required by state regulations; during closed seasons; or in any manner, by any means, at any time not permitted by those regulations.**

Division of Wildlife Conservation

February 17, 2012
Date

FAA AIRPORTS APPROVAL
AAL 605 DATE 3-19-12

STATE OF ALASKA
DEPARTMENT OF FISH AND GAME
P.O. BOX 25526
JUNEAU, ALASKA 99802-5526

PUBLIC SAFETY PERMIT

Permit No. 12-083

Permittee: Joshua Briggs, Safety Officer
Alaska Department of Transportation and Public Facilities
Central Region
P.O. Box 196900
Anchorage, AK 99519-6900

The primary permittee may designate subpermittees to conduct activities authorized by this permit. The primary permittee is responsible for the actions of all subpermittees and for ensuring their compliance with the conditions of this permit. Prior to conducting activities authorized by this permit, all subpermittees shall complete an annual 8-hour airport wildlife hazard management training or refreshor course provided by USDA Wildlife Services or by an ADOT&PF trainer annually trained by USDA Wildlife Services. Persons conducting activities authorized by this permit are exempt from fish and game licensing requirements under AS 16.05.330.

An annual report must be submitted electronically on a form provided by the department by the date specified below. Forms are available on the ADF&G website or by contacting the Permits Section (dfg.dwc.permits@alaska.gov or 465 4148). The report must include the following: (1) for birds, a monthly summary (by species) of numbers of birds hazed or killed and the disposition of all carcasses; (2) for mammals, a daily summary of the species and number of mammals hazed or killed, the method of hazing or take, and the disposition of all carcasses; and (3) a complete list of subpermittees.

THIS PERMIT AND VALID FEDERAL MIGRATORY BIRD AND EAGLE DEPREDATION PERMITS MUST BE IN POSSESSION WHILE CONDUCTING AUTHORIZED ACTIVITIES.

ADF&G Area Management Biologists

Aniak and McGrath: Area Biologist – Roger Seavoy, 524-3323
Homer: Assistant Area Biologist – Thomas McDonough, 235-8191
Talkeetna: Area Biologist – Tim Peltier, 746-6300
Kodiak: Area Biologist – Larry Van Daele, 486-1876
Adak, Cold Bay, Illamna, King Salmon, Port Heiden, Sand Point, King Cove, Nelson Lagoon, Unalaska, and St. George Is.: Area Biologist – Meghan Riley, 246-3340
Bethel – Phil Perry, 543-2979
Dillingham – Jim Woolington, 842-2334

FAA AIRPORTS APPROVAL
DGW AAL 605 DATE 3-19-12