

NOME AIRPORT

Wildlife Hazard Management Plan

in fulfillment of FAR Part 139.337



Submitted by:

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**NOME AIRPORT
WILDLIFE HAZARD
MANAGEMENT PLAN**

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Appendices

- A. Title 14 Code of Federal Regulations, Part 139.337
- B. FAA Certalert No. 97-09 (WHMP Outline)
- C. FAA Advisory Circulars and Certalerts Pertaining to Wildlife Hazard Management
- D. State and Federal Wildlife Control Permits & Wildlife Salvage Protocol
- E. Threatened and Endangered Species List
- F. Wildlife Hazard Management Strategy Development
- G. Wildlife Hazard Log
- H. Nome Airport Grid Map
- I. Bird/Other Strike Report Form (FAA Form 5200-7) and Instructions for Mailing Unknown Bird Strike Remains to the Smithsonian Institute for Identification
- J. Copies of Completed Bird/Other Strike Report Forms (FAA Form 5200-7)
- K. Copies of Wildlife Related Public Correspondence

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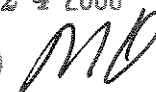
List of Acronyms

AAC	Alaska Administrative Code
AC	Advisory Circular
USACE	U.S. Army Corps of Engineers
ADF&G	Alaska Department of Fish and Game
AOA	Airport Operations Area
AS	Alaska Statute
CFR	Code of Federal Regulations
DGC	Alaska Division of Governmental Coordination
DEC	Alaska Division of Environmental Conservation
FAA	Federal Aviation Administration
FAR	Federal Aviation Regulations
ICAO	International Civil Aviation Organization
IPM	Integrated Pest Management
NOAA	National Oceanic and Atmospheric Administration
NOTAM	Notice to Airmen
OME	Nome Airport
RSA	Runway Safety Area
USFWS	United States Fish and Wildlife Service
WHA	Wildlife Hazard Assessment
WHAG	Wildlife Hazards Advisory Group
WHMP	Wildlife Hazard Management Plan
WS	USDA, Wildlife Services

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1.0 INTRODUCTION

1.1 OVERVIEW

The Nome Airport (OME) has contended with wildlife hazards for many years. A wildlife hazard is defined as: *The potential for a damaging collision between wildlife and aircraft on or near an airport.* The airport's location along the coast of the Bering Sea places it along the migratory route of many bird species. Additionally, the airport is surrounded by terrestrial features, such as the Snake River and tundra ponds, which act as attractants for wildlife. This has presented challenges for an airport management staff charged with maintaining a safe aircraft operating environment in the face of dynamic populations of resident and migratory wildlife. Over the years, aircraft operating at OME have experienced collisions with wildlife; events termed wildlife strikes. Luckily, none of these wildlife strikes have resulted in injury or loss of life. However, many species of wildlife known to cause damage to aircraft occur with enough frequency at OME to be considered a potential threat to aircraft safety, or *wildlife hazard*.

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 October 2002, and serves as the basis for this Wildlife Hazard Management Plan (WHMP). The WHA identified wildlife species (birds and mammals) which pose a regular hazard to aircraft and the habitat components on and surrounding the airport which attract these species.

OME has long maintained a program for the regular dispersal of birds prior to air carrier aircraft movements. While these efforts have probably helped to keep the number of wildlife strikes low, the WHA identified several areas of the program which can be changed to help reduce the potential for wildlife strikes even further. The WHA also provided recommendations for habitat modification which 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.

This WHMP sets forth the policies and procedures regarding wildlife hazard management at OME. 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 OME. 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 7 required components according to 14 CFR 139.337 (f) and are as follows:

- (1) A list of the individuals having authority and responsibility for implementing each aspect of the plan.
- (2) A list prioritizing the following actions identified in the wildlife hazard assessment and target dates for their initiation and completion:
 - (i) Wildlife population management;

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- (ii) Habitat modification; and
 - (iii) Land use changes.
- (3) Requirements for and, where applicable, copies of local, State, and Federal wildlife control permits.
- (4) Identification of resources that the certificate holder will provide to implement the plan.
- (5) Procedures to be followed during air carrier operations that at a minimum includes—
- (i) Designation of personnel responsible for implementing the procedures;
 - (ii) Provisions to conduct physical inspections of the aircraft movement areas and other areas critical to successfully manage known wildlife hazards before air carrier operations begin;
 - (iii) Wildlife hazard control measures; and
 - (iv) Ways to communicate effectively between personnel conducting wildlife control or observing wildlife hazards and the Flight Service Station.
- (6) Procedures to review and evaluate the wildlife hazard management plan every 12 consecutive months or following an event described in FAR 139.337 paragraphs (b)(1), (b)(2), and (b)(3), including:
- (i) The plan's effectiveness in dealing with known wildlife hazards on and in the airport's vicinity and
 - (ii) Aspects of the wildlife hazards described in the wildlife hazard assessment that should be reevaluated.
- (7) A training program conducted by a qualified wildlife damage management biologist to provide airport personnel with the knowledge and skills needed to successfully carry out the wildlife hazard management plan AC 150/5200-36.

In addition to the requirements stated above, 14 CFR Part 139.337(a) states that “each certificate holder must take immediate action to alleviate wildlife hazards whenever they are detected”. Section (a) is extremely important because it allows the airport flexibility in the implementation of its WHMP. The airport, therefore, has discretion in the use of procedures and/or techniques that have not yet been incorporated into the WHMP, but are necessary for the immediate alleviation of wildlife hazards. It is the intent of the airport to incorporate such rapid response procedures and/or techniques into the WHMP during future revisions. To augment compliance with Part 139.337(f), the FAA issued a Certalert (No. 97-09) (Appendix B) to provide guidance to airports in developing their plans. This Certalert contains a sample outline that was used for guidance in the development of this plan.

1.2 WILDLIFE STRIKE HISTORY

A record of wildlife strikes provides an important element 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 prevent wildlife hazards. At OME, only two wildlife strikes had been reported to the FAA since 1990. While the low number

of strikes could be interpreted as representing a low hazard to aircraft, OME has opted to maintain its vigilant efforts to detect and disperse hazardous wildlife throughout the year. At OME, the low number of strikes is not necessarily an indicator of the potential for future wildlife strikes.

The following table will be used as an ongoing documentation of all wildlife strikes at OME. It will be updated at least annually upon the receipt of a wildlife strike report by the Airport Manager, or based on updates to the FAA wildlife strike database. OME will make every effort to ensure the timely and accurate completion of a wildlife strike report for every wildlife strike of which it becomes aware. Further guidance for airport personnel regarding wildlife strike reporting is provided under Section 5.5.2 of this plan. The OME wildlife strike record will be provided to those who file a written request to the Airport Manager.

Table 1. Wildlife Strikes reported to the FAA Wildlife Strike Database for the Nome Airport (OME).

Date of Incident	Time	RWY	Aircraft Type	Phase Of Flight	Altitude (AGL)	# Struck & Species	Damage Code	Damage Costs	Effect on Flight
04/23/1990	Day	27	PA-31	Climb	90	2-10 Snow Buntings	None	N/A	Precautionary Landing
07/19/1994	Day	27	Boeing 737-200	Take-off Run	0	1 Gull	Substantial	\$500,000	Aborted Take-off

Damage codes: These codes are based on the *Manual on the ICAO Bird Strike Information System (IBIS)(1989)*.

Minor - When the aircraft can be rendered airworthy by simple repairs or replacements and an extensive inspection is not necessary.

Minor? - We know that damage occurred, but do not have details.

Substantial - When the aircraft incurs damage or structural failure which adversely affects the structure strength, performance or flight characteristics of the aircraft and which would normally require major repair or replacement of the affected component. Specifically excluded are: bent fairings or cowlings; small dents or puncture holes in the skin; damage to wing tip, antennae, tires or brakes; engine blade damage not requiring blade replacement.

Destroyed - The damage sustained makes it inadvisable to restore the aircraft to an airworthy condition.

1.3 PROBLEM SPECIES

The species generally considered to present the greatest threats to aircraft at OME are birds with flocking tendencies or of relatively large size, such as gulls, ravens, and waterfowl. Waterfowl and gulls represent a significant hazard due to their large body mass and frequent occurrence on and around OME. These species will not be tolerated on the airport for any length of time. Juvenile animals and migratory species may also pose higher risks for aircraft collisions because of their general unfamiliarity with the airport environs. Wildlife hazard management will focus on the species groups previously mentioned, but may 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.

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1.4 PROBLEM AREAS

The environment at the Nome Airport is responsible for attracting some hazardous wildlife from surrounding areas. However, the airport property is largely homogenous with respect to vegetation and ground cover. Most of the airport property can be considered a disturbed site habitat, with pavement, gravel, bare soil, and sparse grassy areas dominating the majority of the surface. Ravens and shorebirds are attracted to disturbed sites by the gravel, which is ingested as an aid in digestion, while ravens will take advantage of the many man-made structures (i.e., buildings and equipment) for perching. Tundra habitat is located along the edges of airport property, and is contiguous with the rolling tundra habitat surrounding the upland portions of the airport. A small pond/tundra complex is located on the northwest corner of the airport and attracts waterfowl and shorebirds on a regular basis from spring to fall. Overall, the airport itself is less attractive to hazardous wildlife than the surrounding habitat. On-site attractants will be addressed in this plan and managed accordingly.

Off-site habitat attractants provide the most significant attractants for hazardous wildlife at OME. The Snake River, upland tundra ponds, and the nearby sewage treatment facility all attract hazardous wildlife to different extents. The Snake River, which runs along the southern border of the airport, has salmon runs and sand bars, which attract numerous gulls for feeding and loafing respectively. Upland tundra ponds, to the north of the airport, provide nesting, feeding, and loafing habitat for gulls, waterfowl, and shorebirds. The sewage treatment facility, which lies to the south of the airport on the other side of the Snake River, has an open-water, aerated pond, which remains unfrozen for a greater length of time than other fresh water sources, thus providing a unique attractant at certain times of year. Local flights of birds between these attractants, and sometimes on-site attractants, constitute the majority of hazardous wildlife activity at OME. Since all of these off-site attractants are not owned or managed by the ADOT&PF, management of these sites to reduce their attractiveness to hazardous wildlife is the responsibility of the specific land owner. ADOT&PF may establish policies and guidelines within this plan to address these areas.

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The WHMP will be executed through the authority of the OME 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 OME Airport Manager derives his authority directly from the Alaska Department of Transportation and Public Facilities (ADOT&PF) as the person responsible for the daily maintenance and safe operating conditions of OME. Safety is thus the primary concern driving wildlife hazard management operations. Safety concerns will override all other competing interests in the event that the immediate safety of passengers and/or aircraft are threatened. The goal of all authority derived from this WHMP is to increase the safety of passengers and aircraft operating at OME.

There will be two groups of people bearing responsibilities pertaining to the WHMP. The first group of people are those with direct responsibility for implementing the plan at OME. The second group of people are those belonging to the Wildlife Hazard Advisory Group (WHAG) whose responsibility it is, to provide oversight and suggestions for improving the WHMP.

2.1 PERSONS RESPONSIBLE FOR IMPLEMENTING THE PLAN

1. OME Airport Manager
2. Wildlife Patrol (OME DOT Personnel)
3. Airport Projects Manager (Designated Airport Designer from Northern Region)
4. Regional Aviation Manager

All persons listed above must communicate to the Airport Manager *immediately* upon observation of any of the following conditions:

- A change in airfield conditions resulting in a sudden increase in wildlife numbers on the airport (this could include weather conditions, salmon runs, etc.).
- The report of a damaging wildlife strike.
- The observation of new hazardous wildlife species not currently listed on state and federal wildlife control permits.

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 every 12 consecutive months and update as necessary (see Section 2.2).
- Coordinate with the Airport Projects Manager and a Wildlife Damage Biologist when considering new or altered structural or land use designs to ensure compliance with wildlife hazard management goals.
- Communicate with the appropriate resource agencies regarding airport wildlife hazard issues.

- Supervise, coordinate, and monitor wildlife control activities as outlined in the WHMP (Chapter 5).
- Serve as a member of the Wildlife Patrol as needed.
- Ensure that Wildlife Patrol members maintain written records of all wildlife control activities using the Wildlife Hazard Log form.
- Report all wildlife strikes to the FAA using Form 5200-7 or online via the wildlife strike reporting website.
- Maintain an adequate supply of pyrotechnics, ammunition, firearms, propane tanks, and other equipment necessary to conduct daily wildlife control operations.
- Maintain cooperative relationship with local representative of ADF&G and airport tenants.
- Implement habitat management goals according to the timetable in Chapter 4.2.
- Ensure that all wildlife control personnel receive the necessary initial and recurrent training in wildlife hazard management at airports in accordance with Section 7 of this WHMP.

WILDLIFE PATROL

- Carry out daily wildlife hazard patrols and wildlife control actions according to the schedule outlined in Chapter 5.3.
- Report all wildlife strikes to the Airport Manager.
- Remove carcasses or food debris that may attract scavenging wildlife.
- Record all wildlife control actions on an airport wildlife hazard log.
- Immediately report sudden increases in wildlife numbers to the Airport Manager.

AIRPORT PROJECTS MANAGER

- Provide necessary oversight for habitat management projects.
- Review the WHMP every 12 consecutive months and update as necessary (see Section 2.2).

REGIONAL AVIATION MANAGER

- Secure state and federal wildlife control permits for wildlife control operations and renew as appropriate.

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- Review the WHMP every 12 consecutive months and update as necessary.
- Submit annual reports of wildlife management activities to ADF&G and USFWS.

2.2 PERSONS RESPONSIBLE FOR REVIEWING THE WHMP

Members of this group are referred to collectively as the Wildlife Hazard Advisory Group (WHAG). The 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 OME. Members of the public wishing to give input on wildlife hazard management operations at OME may do so in writing to the Airport Manager.

1. Airport Manager
2. Regional Aviation Manager
3. Airport Projects Manager
4. Wildlife Damage Biologist
5. FAA Certification and Safety Inspector

The Airport Manager shall review the WHMP annually to determine if changes are needed. The Airport Manager will request that each member of the WHAG also review the WHMP and return suggested changes. The preferred method for changes to be submitted for inclusion in the WHMP is to photocopy the page or pages with changes and physically strike out or write in the requested changes. These pages should then be faxed or emailed to the regional aviation manager who will make the actual edits and forward new pages to FAA for approval and inclusion in the WHMP.

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

The FAA issued a number of Advisory Circulars (ACs) and Certalerts pertaining to wildlife hazards. Copies of these documents are 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. OME 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 <http://wildlife-mitigation.tc.faa.gov>.

A variety of techniques are necessary to reduce the wildlife hazards at OME. Most techniques fall into either of two categories: direct control of individual animals (this includes harassment and in some cases lethal take of animals) or habitat modification. The following sub-sections briefly describe regulations that govern these two categories. In many cases, the United States Fish and Wildlife Services (USFWS) and Alaska Department of Fish and Game (ADF&G) co-manage hazardous species and permits from both agencies are often required before initiating wildlife control. 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

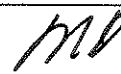
3.2.1 Federal Regulations

The following three federal laws 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 (issued by USFWS) for certain actions. State laws may impose additional restrictions on wildlife deterrence (Section 3.2.2). OME will maintain a copy of all permits (as necessary) to comply with laws governing wildlife control actions. A copy of all wildlife control permits are in Appendix D and originals will be kept on file in the Airport Manager's office. The Regional Aviation Manager is responsible for obtaining all federal and state wildlife control permits and for submitting annual reports to all applicable agencies as required for timely renewal of permits.

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3.2.1a Migratory Bird Treaty Act (50 CFR, Part 21.41)

The Migratory Bird Treaty Act protects most birds, nests, and 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) 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 migrates. For example, the common raven was documented year-round within the vicinity of OME, and yet it is protected under this act.

Under 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 depredation permit, the USFWS requires a Migratory Bird Damage Project Report (ADC Form 37, completed by Wildlife Services) 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 OME is discussed in more detail in Section 5.4.4.

The federal depredation permit provides the primary guidance for the lethal control of migratory birds at OME. 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 (50 CFR, 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. Such a permit requires that an annual report detailing the number of eagles harassed and the methods used be submitted to the USFWS. Bald and golden eagles are not known to occur at OME, and as such, OME does not have an eagle depredation permit.

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

The Endangered Species Act prohibits the harassment, trapping, or 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. Because direct control efforts and/or habitat modification techniques implemented at OME will not affect threatened or endangered species in Alaska, no special permit regarding such species is 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 Airport Manager.

All personnel involved in direct wildlife control operations will be trained in the proper identification of wildlife species listed in Appendix E. In the event that any of these species is observed on the airfield, the Airport Manager will be notified immediately so that impacts to those species can be avoided. If a wildlife hazard should arise as the result of a federal or state-listed wildlife species, the Airport Manager 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, AAC 92.033, and AAC 93.020)

The taking (the definition of which includes both harassment and lethal removal) of game at OME is regulated by Alaska Statute 16.05.920 PROHIBITED CONDUCT GENERALLY, and 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 all wildlife species at OME are considered "game" species under Alaska law. A permit for the taking of game species at OME 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 or harassed. All personnel conducting wildlife control operations at OME will be made aware of the conditions (species and methods) of this permit. The table in Appendix E lists the Alaskan status of wildlife species classified as endangered, threatened, or of special concern in Alaska.

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 OME. Creeks, lakes, ponds, and wetlands are habitats that may require permits from a governing agency before modification can take place. Since this WHMP identifies at least one wetland area 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 (USACE) is responsible for enforcing this regulation and has established a permitting process. The removal of trees from wetlands on the airport does not constitute "wetlands take", as long as the stumps

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are left in place. The loss of wetlands due to habitat modification may require mitigation measures. Any such mitigation measures will be consistent with the airport's policy regarding wetlands stated in Section 4.4 of this plan. General guidance for obtaining necessary permits and consultation on wetlands designation should be obtained through the local office of the USACE.

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 USACE for possible wetlands modification.

3.3.3 Coastal Zone Management Act (CZMA) (15 CFR Part 930.30)

The Alaska Division of Governmental Coordination (DGC) enforces this federal regulation through the Alaska Coastal Management Program (ACMP). The CZMA 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 USACE). 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 Fish Habitat Permit [AS 16.05.840 (Fishway Act) & AS 16.05.870 (Anadromous Fish Act)]

These two Alaska statutes require that prior authorization be obtained from the Alaska Department of Natural Resources (ADNR) for activities that could affect freshwater streams. The Anadromous Fish Act covers catalogued anadromous fish habitat and the Fishway Act covers areas with resident fish passage. None of the current habitat management work at OME will affect either the Snake River or other stream systems. Any future work that may affect the Snake River will be analyzed for potential impacts to fish habitat and the necessary permit authorization will be sought.

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4.0 HABITAT MANAGEMENT

4.1 OVERVIEW

Habitat management provides the most effective long term remedial measure for reducing wildlife hazards on, or near, airports. Habitat management includes the physical removal, exclusion, or manipulation of areas that are attractive to wildlife. The ultimate goal is to make the environment fairly uniform and unattractive to the species that are considered the greatest hazard to aviation. 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 exert a stronger influence over hazardous wildlife activity than others. Food sources generally cause wildlife to repeatedly return to a given area in the face of active disturbance. As a result, disturbances such as auditory harassment have less long-term effect on animals that are feeding, than those which may be roosting or bedding. Therefore, reducing the amount or type of the food attractant becomes very important. While wildlife are usually attracted to OME for a variety and/or combination of habitat requirements (i.e., food, water, and cover), habitat management objectives involving food source reduction will be given very high priority.

Habitat attractants also influence the wildlife hazard potential based on their distance from the runway. The closer an attractant is to the runway, the greater it's potential for creating a wildlife hazard. Prioritizing habitat management actions will include the distance from the runway. Habitat management categories have been established to delineate both the timing of needed habitat modification and the level of action that the airport will initiate regarding a specific habitat attractant. Some of the areas identified in the habitat management guidelines are comprised of land and water not under the control of OME. Therefore, any management of off-site (non-airport property) wildlife attractants will occur through cooperation with the appropriate resource agencies and/or private entities.

A number of habitat management actions or guidelines are described in this chapter. 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 F provides guidance for such a decision making process in the form of a defined wildlife hazard management strategy. The wildlife hazard management strategy development detailed in Appendix F may be consulted by OME during future evaluations of new habitat management actions.

At the current time, there are no discrete areas on the Nome Airport requiring habitat modification. All sections in this chapter focus on general guidelines for actions that may occur in the future, or actions that do not have a defined area or timeline for completion. These actions are not included in Table 2. All habitat management projects having a defined area and timeline for completion 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 attractant located within 500 feet of the centerline of Runway 11/29 or

Runway 2/20. Food attractants within this area are responsible for encouraging wildlife activity in the immediate vicinity of the runway, therefore creating the greatest potential for a wildlife strike. The 500 foot distance is based on the area which is projected to be cleared of trees and shrubs within several years. This area will then become homogenous with respect to habitat and it will be prudent to manage attractants in this area similarly.

Category B: Any non-food attractant such as water or cover within 500 feet of the centerline for Runway 11/29 or Runway 2/20. These attractants also encourage wildlife activity adjacent to the runway, but to a lesser degree than food attractants.

Category C: All other food attractants located on airport property. These attractants help sustain wildlife activity on the airfield, most noticeably in the vicinity of the main ramp.

Category D: All other non-food attractants located on airport property. These attractants help sustain wildlife activity on the airfield, in some cases, providing nesting and roosting cover.

The above categories primarily cover those habitat attractants located on airport property. FAA Advisory Circular 150/5200-33A (Appendix C) discusses other hazardous wildlife attractants within the vicinity of airports, which will need to be monitored. At OME, this includes the sewage treatment facility to the south.

4.2 HABITAT MANAGEMENT PROJECT TIMETABLE

Table 2: Habitat management projects at OME listed in order of category based on criteria discussed in Chapter 4.1 (Although projects are listed in order of category, some projects may be completed sooner than others due to fiscal and logistical constraints. Those projects which require permitting at any level, are indicated as such (refer to Chapter 3.0 for specific permitting requirements). There are currently no specifically identified habitat management projects at OME. This table is for future use.

MANAGEMENT CATEGORY	OME HABITAT MANAGEMENT PROJECTS (Chapter references)	TARGET DATE	DATE COMPLETED	PERMIT(S) REQUIRED?

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 are a top priority for habitat management.

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4.3.1 Trash and Debris

Flights across the runways between surrounding areas and the terminal present a hazard to aircraft. Although ravens are generally recognized as having some ability to detect and avoid aircraft, and in-flight collisions with these birds are rare, when distracted during feeding, bathing, or agonistic behaviors (e.g., ravens chasing each other), their ability to detect and avoid aircraft becomes less certain. Birds which learn to associate food with humans also become more difficult to disperse using non-lethal harassment techniques.

It is the responsibility of all personnel who work at OME to pick up trash and debris which are observed attracting birds. In some cases, this may simply be a blowing candy wrapper or bag. When the source of the attractant is the result of a failure to properly secure garbage or food in an enclosed facility or container, the Airport Manager will contact the responsible party in an effort to remedy the situation. If removal or securing of the attractant does not cause the birds to leave the area, a member of the Wildlife Patrol will be contacted to disperse the birds.

4.4 WATER MANAGEMENT

Areas of standing and flowing water on and surrounding the airfield contribute to the presence of numerous species of hazardous wildlife. In some cases, these water sources provide a food attractant in the form of fish and aquatic invertebrates. Therefore, these areas could also be placed under Chapter 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 constitute an attractant for hazardous wildlife, it is those water sources in close proximity to the runways which attract wildlife into conflicted airspace.

4.4.1 Wetlands Management Policy

Wetlands are attractive to a variety of wildlife species that pose a hazard to aircraft. Most notably, waterfowl, 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 their 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.

OME acknowledges that wetlands are nationally recognized as habitats requiring special conservation. However, the FAA has asserted in FAA Advisory Circular (AC) 150/5200-33B (*Hazardous Wildlife Attractants On Or Near Airports*) that wetlands are a land use incompatible with safe aircraft operations and should be sighted outside an airport's operating environment. At OME, the dredge pond complex on the northwest portion of airport property is a wetland. This area was also identified in the WHA as a hazardous wildlife attractant. It is desirable that, to the extent possible, this area be eliminated and/or modified to reduce its 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. OME will give preference to those mitigation options which are less likely to attract hazardous wildlife species and are as far from the

runway as possible. The guidelines set forth in Chapter 4.4.1a will be followed when analyzing mitigation options.

OME'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, OME will consult with a Wildlife Damage Biologist during the design phase of new construction projects.

4.4.1a 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 different 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 attractants 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. Attractants which 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 to the runway, the greater the probability for creating a wildlife hazard)?
2. Does the wetland provide a food source for hazardous wildlife, specifically 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 track?
5. Would a change in the land composition at the site increase the amount of hazardous wildlife activity from its present state?
6. Could the wetland attractant divert flight patterns of birds into or across normal aircraft operating airspace?
7. Does the wetland lie in an area where wildlife control operations are feasible?

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A positive response to questions 2 - 6 would indicate that a particular wetland site may have a higher probability of creating a wildlife hazard.

4.4.2 Ponds

The complex of ponds located to the immediate northwest of the main runway intersection, was created during gold dredge mining operations. The ponds are located just off airport property and are owned by Novagold. The resulting ponds are an attractant for waterfowl and shorebirds during the spring to early fall months. These birds create a hazard for aircraft as the birds pass over the runway when flying to and from coastal sites and these ponds. To the extent practicable OME will attempt to work cooperatively with Novagold to help minimize the attractiveness of this pond complex to hazardous birds. OME will encourage that these ponds be filled if they are not being actively mined. Should mining operations resume in these ponds, Novagold will be referred to a Wildlife Damage Biologist for consultation to help employ a wildlife deterrent strategy.

4.4.3 Surface Water Conveyances (Drainage Ditches)

To the extent practicable OME will keep all surface water conveyances on the airport free from blockages that would create permanent or temporary standing water. Such standing water can attract waterfowl that are hazardous to aircraft. Every effort will be taken to expedite surface water drainage by clearing blocked pipes, culverts, and ditches in a timely manner. The design and construction of new surface water conveyance systems will take into account this need.

4.5 VEGETATION MANAGEMENT

Vegetation management is designed to reduce the amount of natural cover available to hazardous wildlife species at OME. Cover refers to any object(s) which provide shelter for nesting, loafing, roosting, hiding, or thermal protection. 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

The infield areas at OME can best be described as disturbed site habitat with a sparse mixture of grass and herbaceous species dominated by bare ground (a mixture of gravel and dirt). Its current value as cover for some species of hazardous birds is limited. This substrate appears to be the least attractive to the largest number of hazardous species which typically use grass infields at western Alaskan airports. It is currently the preferred non-paved substrate at this time. In areas where the ground becomes disturbed due to maintenance, construction, or other work, vegetation will be allowed to colonize these disturbed sites from surrounding areas at a natural rate. Reseeding will only take place in areas where soil stabilization can not be achieved by other means.

Grass height is another important factor which will be considered during infield maintenance. At

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OME, there are currently not enough areas of dense grass cover to appreciably affect bird behavior or serve as an attractant. Therefore, grass height will be monitored for its effect on bird behavior, but will not be actively managed at this time. Any significant increase in hazardous wildlife activity resulting from grass areas will be documented. At such a time, the management of grass height may be reevaluated.

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 components of habitat which attracts hazardous wildlife at OME.

4.6.1 Buildings

Buildings often serve as common roosting, loafing, and/or nesting sites for various species of hazardous birds including ravens and swallows. Both of these groups of birds are common at OME; ravens throughout the year and swallows during the summer months. Typically, birds will use small confined spaces under eaves and between walls for nesting, while using exposed ceiling rafters and I-beams for perching or roosting. Although individual swallows do not constitute a significant risk to aircraft, flocks of foraging swallows pose a hazard to aircraft due to the number of birds. Although no such activity was noted during the WHA, designs for new buildings will take into account the need to reduce accessibility by these birds and the need to reduce the amount of overhanging eaves and flat ceiling supports.

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5.3 CONTROL METHODS

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All personnel engaged in active wildlife control at OME shall be properly trained in accordance with Section 7 of this WHMP and shall be listed on the appropriate permits as required by the issuing agency.

Safety is the primary concern when conducting all wildlife control operations. No personnel will initiate any 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. Ear and eye 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 unattended on the ground.

Not all possible methods for controlling hazardous wildlife are covered in this section. Only the methods most commonly used at OME have been described in detail. Appendix F should be consulted when considering new methods not commonly practiced at OME. Additionally, Appendix F provides a comprehensive list of methods for preventing and controlling wildlife damage, which could be applied at airports. 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. The following procedures have been established to comply with FAR Part 139.337 (e)(5)(ii) which requires "*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*".

5.3.1 Airfield Sweeps

At a minimum, one airfield sweep will be conducted approximately 20-30 minutes before a daylight take-off or landing is accomplished by an air carrier aircraft. Additional airfield sweeps may 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. An airfield sweep will consist of a vehicular survey of all runways and the adjacent ramps, taxiways, runway approaches, and infield areas. To the extent it is safe to do so; an attempt will be made to disperse all hazardous wildlife from the immediate vicinity of the runway. The Wildlife Patrol team member will remain in the runway vicinity for a short period of time after the dispersal effort to ensure that such wildlife does not return.

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. Subsequent airfield 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 airfield sweep detailing dispersal efforts and all wildlife

observations will be kept in the airport's Wildlife Hazard Log. Sweeps that do not detect any wildlife activity will also be recorded.

OME 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.

5.3.2 Bird Control Techniques

The goal of all bird control efforts at OME is the alleviation of hazards to aircraft. By dispersing or removing birds from the airfield, the chances of a collision with an aircraft are lessened. 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 OME DOT 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 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 always some habitat types around the airport that attract more birds than others and should be monitored closely.

- *Waterfowl* can be found in all wetland areas, ponds, rivers, and flooded ditches. At OME, this includes the Snake River and surrounding tundra ponds.
- *Shorebirds* are also found near wetlands, as well as short grass and gravel areas, which often surround runways and taxiways. At OME during migration, shorebirds are often seen along the margins of tundra ponds.
- *Raptors* can be found soaring, perched on the top of prominent structures, feeding on fish carcasses in the Snake River, or flying at low altitudes in search of rodents.
- *Gulls* are usually found near the shoreline or wherever there is some artificial food source, (i.e., open dumpster). At OME, gulls are most commonly seen flying along and over the Snake River and in nearby marine waters. However, small numbers have been known to nest on the airfield.
- *Corvids* (ravens) are scavengers and can be found feeding on fish carcasses and out of open dumpsters. Ravens will tear open any garbage bags to which they have access.

5.3.2a Pyrotechnics

While there are many useful pyrotechnics on the market today, OME uses three different types of pyrotechnics on a regular basis. These are 12 gauge cracker shells, 15mm screamer/whistlers, and 15mm bangers. All of these pyrotechnics have a different range. The 12 gauge cracker shell

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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 patroller to the hazardous wildlife. The use of multiple rounds and a mixture of different types of pyrotechnics for dispersal is usually very effective. OME may use other pyrotechnic devices at its discretion, due to the availability and cost at the time of purchase.

When possible, Wildlife Patrol personnel will position themselves between the runway and the targeted wildlife before firing any pyrotechnics. If this is not possible, 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 not able to detect the aircraft. Additionally, extreme care will be exercised so that pyrotechnics do not inadvertently strike aircraft and are not fired near an ignition source.

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

At this time, OME does not employ the use of propane cannons. However, as this tool may be needed in the future, the following guidelines are provided. As when using 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. Cannons will be used to target returning flocks of birds, such as waterfowl, during times of unusually intense bird activity.

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 Airport Manager will determine how often this needs to be done. 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 Lethal Control

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 OME, lethal control of birds will be used only to reinforce the negative conditioning effect of other non-lethal wildlife control measures, or remove unusually persistent hazardous individuals. 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.

The following guidelines will be followed when using lethal control:

- Lethal control will be used only as reinforcement for other 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.
- Caution and discretion will be used at all times. Wildlife patrol personnel will maintain an awareness that steel shot can ricochet off of water. No shooting at birds on the water when a person, boat, float plane, etc. is in the background.
- Only birds which can be easily retrieved will be targeted.
- Nest removal of waterfowl, swallows, or other nesting birds will be performed as needed. Only those nests with unhatched eggs will be removed. The destruction of nests and/or eggs constitutes lethal take, and those species must be listed on state and federal permits prior to nest/egg destruction.

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

In order to ensure compliance with 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) 465-4148

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Federal Depredation Permits (USFWS, Division of Migratory Bird Management) - (907) 786-3459

Some permits may require special reporting beyond standard annual reports. All correspondence with the state and federal permitting agencies to comply with any such requirements will be documented on 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.

Permit requirements for disposition of birds taken using lethal controls shall be complied with. This may include salvaging edible meat and transferring it to charitable organizations. Refer to the permit requirements for details. If no requirements are identified then all birds not given to charity (when destroyed) will be double-bagged in plastic trash bags and placed in a dumpster with a tight fitting lid.

5.3.3 Mammal Control Techniques

Mammals are not routinely observed at OME. The only hazardous mammals that occur on the airfield, are red fox and the arctic ground squirrel. Neither species has been observed with enough abundance or frequency to be considered a significant hazard. Caribou are also present in the surrounding areas and may occur on the airfield in the future. Other large mammals such as bear and wolf occur in the area but have not been observed on the airfield. However, it is prudent to have an effective set of procedures for dealing with mammal hazards should they occur at OME.

Mammal hazards will be identified through routine runway sweeps and during the course of field work conducted by OME 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 or whose presence attracts hazardous species, is considered a "mammal hazard". However, as with birds, there may be situations where the immediate dispersal of mammals is not warranted.

Authorization to haze mammals is strictly limited to those authorized species identified on the State Public Safety Permit. The following sections list the mammal control techniques and procedures that will be used at OME. Should a more extensive mammal removal or control program be warranted in the future, the following sections will be updated to reflect the intended actions.

5.3.3a Pyrotechnics

The general use of pyrotechnics for mammals follows the same guidelines presented in Section 5.3.2a for birds. When mammals are hazed with pyrotechnics, they can become frightened, thereby altering their course of action unpredictably. For those animals already moving through the airfield, pyrotechnics could cause them to cross the runway and taxiways when they may not have otherwise. In some situations, it may be prudent to simply allow an individual or herd of

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mammals to continue along their natural course, so long as this natural course does not take them across aircraft movement areas and the mammal(s) appear to be only transiting through the airfield. In most cases however, the mammal(s) should be immediately dispersed using the most effective pyrotechnic(s) available.

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 Airport Manager must contact the local Area Wildlife Biologist and ADF&G for assistance.

5.3.3b 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. As vehicle harassment is typically only useful for dispersing large mammals from the airfield, the following procedures are set forth in the event that caribou are seen on the airfield. All animals will be approached at slow speeds, so that they do not become spooked and run in an unwanted direction. When prudent, lights and sirens will be used to help urge the animal along. If possible, caribou will be directed off airport movement surfaces. Additionally, care will be taken by the operator when operating vehicles in tall grass areas.

5.3.3c Lethal Control

At this time, the use of lethal control of mammals is not deemed to be necessary on a regular basis. Current state permits do not authorize the use of lethal control of mammals. All mammals will be controlled using non-lethal measures as authorized on current permits. In the event that lethal control is deemed necessary for mammals, the Area Wildlife Biologist for ADF&G will be contacted immediately. It is recognized that ADF&G has the sole authority for the authorization to removal mammals.

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 OME.

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 G. The Wildlife Hazard Log is used to record the date, time, species of wildlife, number of wildlife, action taken, and any additional information relevant to the action. An adequate supply of Wildlife Hazard Logs will be maintained in each vehicle. It is

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the responsibility of each Wildlife Patrol team member to accurately record every control action and/or observation involving hazardous wildlife. All airfield sweeps and wildlife control actions 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 Airport Manager's office.

Wildlife Patrol members shall follow these guidelines when completing Wildlife Hazard Logs:

- Complete a separate entry for every wildlife sweep
- Record the Month, Day, and Time in the appropriate boxes
- Column names of O, H, and T stand for Observed, Hazed, and Taken
- Document all observed wildlife, hazing activities, and lethal removal
- Document all sweeps even if no wildlife was sighted – use the notes section to indicate “no wildlife sighted”
- Use the notes section to record additional required information such as grid location, methods used, end result, disposition of carcasses, etc.
- If species are not listed on the log form use the “other” spaces and write in the species name
- Only those species list on the permits that are authorized for lethal control have a blank space in the “Take” column. All other species featured a closed off box in the take column to indicate that lethal control is not allowed.
- Any species taken should be positively identified considering the ability to ask a local biologist for assistance and the option to send samples to the Smithsonian. Therefore the take box for “gulls” is blocked off and only specific species of gulls (i.e., Glaucus-Winged Gulls) allow lethal takes to be recorded
- Be careful to avoid double counting wildlife. For example if a flock of 15 Mew Gulls is observed and then hazed in one event, no entry would be made in the observed column and 15 would be recorded in the hazed column. If the gulls do not respond to hazing and fail to leave until one gull is killed then the hazard log would show 15 hazed and 1 taken.
- The Wildlife Patrol member completing the sweep and the hazard log shall initial the inspector box signifying that the information contained is correct and accurate

5.4.2 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 has occurred when:

1. A pilot reports striking 1 or more birds or other wildlife;
2. Aircraft maintenance personnel identify aircraft damage as having been caused by a wildlife strike;

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3. Personnel on the ground report seeing an aircraft strike 1 or more birds or other wildlife;
4. Bird or other wildlife remains, whether in whole or in part, are found within 200 feet of a runway centerline, unless another reason for the animal's death is identified; and
5. An animal's presence on the airport had a significant negative effect on a flight (i.e., aborted takeoff, aborted landing, high-speed emergency stop, aircraft left pavement area to avoid collision with animal) (Transport Canada, Airports Group, *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

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 struck 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 Station Manager for that airline will be notified immediately. The occurrence of all damaging strikes will be relayed to the Regional Aviation Manager within 24 hours of documentation.

All wildlife strikes will be reported to the FAA via FAA Form 5200-7 (Bird/Other Wildlife Strike Report) 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, should further information becomes available (i.e., damage costs, wildlife species is identified). A hard copy of the blank report form, including instructions, is also included in Appendix I. 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 Airport Manager'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 J. 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. 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, within 60 m (200 feet) of a runway centerline 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

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feathers and other body parts examined by experts at the Smithsonian Institution's feather identification lab. The necessary information for submitting bird remains to the Smithsonian is provided in Appendix I. 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 J.
2. One Wildlife Hazard Log record indicating the grid location if known.

5.4.3 Annual Permit Reporting

OME will complete monthly summaries of Wildlife Hazard Logs and submit copies to the Regional Aviation Manager. At the end of the year OME will submit an annual summary to the Regional Aviation Manager. These summaries will be used to submit annual reports as required to renew permits. OME will submit copies of daily Wildlife Hazard Logs if requested by the Regional Aviation Manager.

The Regional Aviation Manager will submit a request for the renewal of wildlife control permits to the USFWS and ADF&G as required by each agency. To the extent possible permits should be renewed prior to the expiration of existing permits, so there is not a gap in authorization. In addition, the Regional Aviation Manager will provide both agencies with the names of individuals to be listed as subpermittees all of whom shall have completed the training described in Chapter 7 of this WHMP. The Regional Aviation Manager will provide any additional information regarding the airport's wildlife hazard management program to the appropriate agencies upon request.

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 Nome Flight Services and other OME personnel. Wildlife patrol team members will use VHF radios for communications with other OME 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 aide in the dispersal of large flocks of birds or to disperse large mammals 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

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period of time, they will take a portable 2-way radio to maintain contact with the flight service station and other patrol team members. The wildlife patrol team member will issue a NOTAM to Nome 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 Airport Manager to ensure that all radios are fully charged and in good working order.

5.5.2 Public Communications

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 other times because the noise is mistaken for gun blasts. 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 team members and even the wildlife hazard management program as a whole. It is therefore necessary that those conducting wildlife hazard control operations be aware of the different views people have regarding wildlife control work. Keeping this in mind, all wildlife control operations will be handled with discretion and a concern for the views of the general public. However, personnel should exercise this discretion in a way that does not compromise the efficacy of the control measure or the safety of aircraft operating at OME.

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 (i.e., "The purpose of our program is to reduce the safety hazard to aircraft by dispersing wildlife from the airfield"). Any detailed questions or concerns should be relayed to the Airport Manager. Anyone requesting more information will be given the name and address of the Airport Manager and shall be notified that only a written request for information will receive a response. Any written requests by the public or the media for interviews or information regarding the wildlife control program will be directed to the Regional Aviation Manager. Responses to written requests for information shall be given in a timely manner. A record of all such correspondence will be kept in Appendix K.

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5.0 WILDLIFE CONTROL PROCEDURES

5.1 OVERVIEW

Wildlife hazards remaining after completion of identified habitat modifications or those hazards existing in areas where habitat manipulation is not feasible, will be reduced or eliminated by employing legal, effective, and practical control measures. 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 gulls. *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.* Whether the targeted animal leaves the airport environment for a short or long period of time, a particular technique will be considered successful if a wildlife strike between the targeted species and the succeeding aircraft is avoided. 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 in place of carefully planned habitat modification.

This section summarizes the procedures and techniques most commonly used to control wildlife at OME, all of which may be applied to hazardous wildlife at OME when deemed necessary. Current state and federal permits apply to all control techniques. Methods that violate the intent and letter of these permits will not be used unless written permission is given by state and federal agencies. As certain techniques are proven to be ineffective, they will be discontinued. OME 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 periodically to reflect the changes in the techniques and procedures being used. It is the intent of OME to strive to use the most humane and non-lethal methods available without compromising aircraft safety.

5.2 ROLES/RESPONSIBILITIES

All on-duty OME DOT Staff are responsible for ensuring the safety of aircraft by keeping an active watch for wildlife on the airfield and reporting hazards to either a wildlife patrol team member or the Airport Manager.

5.2.1 Pilots using OME

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 Nome Flight Service Station (FSS). Nome FSS personnel may then relay such observations directly to the Airport Manager or Wildlife Patrol. The Airport Manager and/or Wildlife Patrol will respond as rapidly as possible to those wildlife hazards reported by pilots.

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6.0 RESOURCES

The following resources shall be maintained by OME for wildlife hazard management. It is the responsibility of the Airport Manager to ensure that all the equipment is maintained in good working order and that supplies are adequately stocked. OME will have at least one person available for wildlife control during all air carrier operations.

Equipment and supplies available for wildlife management activities may include, but are not limited to:

Equipment

Two-way radios for communication with Nome Flight Service Station
Vehicle (pick-up truck)
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
Wildlife Hazard Logs
Airport grid map

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
- One copy each of federal and state wildlife control permits
- List of wildlife species which may be lethally controlled
- Bird identification book
- Binoculars
- Firearms
- Adequate supply of ammunition/pyrotechnics

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Some supplies, such as 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 Manager. 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 while on-site. WS personnel will follow the procedures for conducting and reporting wildlife control activities prescribed in Sections 5.2 - 5.5 of this plan.

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8.0 EVALUATION

The WHMP will be evaluated every 12 consecutive months and updated as necessary. The Airport Manager 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 OME 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 FAA Airport Certification Inspector will be invited to make comments on the WHMP and to attend annual meetings on plan modifications.

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