USAF planes colliding with wildlife resulted in 10 Class A Mishaps[2], 26 airmen deaths, and over $217 million in damages.

Approximately 97 percent of the reported civilian aircraft-wildlife strikes involved common, large-bodied birds or large flocks of small birds. Almost 70 percent of these events involved gulls, waterfowl, and raptors (Table 1).

About 90 percent of aircraft-wildlife strikes occur on or near airports, when aircraft are below altitudes of 2,000 feet. Aircraft-wildlife strikes at these elevations are especially dangerous because aircraft are moving at high speeds and are close to or on the ground. Aircrews are intently focused on complex take-off or landing procedures and monitoring the movements of other aircraft in the airport vicinity. Aircrew attention to these activities while at low altitudes often compromises their ability to successfully recover from unexpected collisions with wildlife and to deal with rapidly changing flight procedures. As a result, crews have minimal time and space to recover from aircraft-wildlife strikes.

Increasing bird and wildlife populations in urban and suburban areas near airports contribute to escalating aircraft-wildlife strike rates. FAA, USAF, and Wildlife Services (WS) experts expect the risks, frequencies, and potential severities of aircraft-wildlife strikes to increase during the next decade as the numbers of civilian and military aircraft operations grow to meet expanding transportation and military demands.

SECTION I.

SCOPE OF COOPERATION AND COORDINATION

Based on the preceding information and to achieve this MOA's purpose, the signatory agencies:

A. Agree to strongly encourage their respective regional and local offices, as appropriate, to develop interagency coordination procedures necessary to effectively and efficiently implement this MOA. Local procedures should clarify time frames and other general coordination guidelines.

B. Agree that the term "airport" applies only to those facilities as defined in the attached glossary.

C. Agree that the three major activities of most concern include, but are not limited to:

1. airport siting and expansion;

[2] See glossary for the definition of a Class A Mishap and similar terms.

2. development of conservation/mitigation habitats or other land uses that could attract hazardous wildlife to airports or nearby areas; and

3. responses to known wildlife hazards or aircraft-wildlife strikes.

D. Agree that "hazardous wildlife" are those animals, identified to species and listed in FAA and USAF databases, that are most often involved in aircraft-wildlife strikes. Many of the species frequently inhabit areas on or near airports, cause structural damage to airport facilities, or attract other wildlife that pose an aircraft-wildlife strike hazard. Table 1 lists many of these species. It is included solely to provide information on identified wildlife species that have been involved in aircraft-wildlife strikes. It is not intended to represent the universe of species concerning the signatory agencies, since more than 50 percent of the aircraft-wildlife strikes reported to FAA or the USAF did not identify the species involved.

E. Agree to focus on habitats attractive to the species noted in Table 1, but the signatory agencies realize that it is imperative to recognize that wildlife hazard determinations discussed in Paragraph L of this section may involve other animals.

F. Agree that not all habitat types attract hazardous wildlife. The signatory agencies, during their consultative or decisionmaking activities, will inform regional and local land use authorities of this MOA's purpose. The signatory agencies will consider regional, local, and site-specific factors (e.g., geographic setting and/or ecological concerns) when conducting these activities and will work cooperatively with the authorities as they develop and implement local land use programs under their respective jurisdictions. The signatory agencies will encourage these stakeholders to develop land uses within the siting criteria noted in Section 1-3 of FAA Advisory Circular (AC) 150.5200-33 (Attachment A) that do not attract hazardous wildlife. Conversely, the agencies will promote the establishment of land uses attractive to hazardous wildlife outside those siting criteria. Exceptions to the above siting criteria, as described in Section 2.4.b of the AC, will be considered because they typically involve habitats that provide unique ecological functions or values (e.g., critical habitat for federally-listed endangered or threatened species, ground water recharge).

G. Agree that wetlands provide many important ecological functions and values, including fish and wildlife habitats; flood protection; shoreline erosion control; water quality improvement; and recreational, educational, and research opportunities. To protect jurisdictional wetlands, Section 404 of the Clean Water Act (CWA) establishes a program to regulate dredge and/or fill activities in these wetlands and navigable waters. In recognizing Section 404 requirements and the Clean Water Action Plan's goal to annually increase the Nation's net wetland acreage by 100,000 acres through 2005, the signatory agencies agree to resolve aircraft-wildlife conflicts. They will do so by

avoiding and minimizing wetland impacts to the maximum extent practicable, and will work to compensate for all associated unavoidable wetland impacts. The agencies agree to work with landowners and communities to encourage and support wetland restoration or enhancement efforts that do not increase aircraft-wildlife strike potentials.

H. Agree that the: U.S. Army Corps of Engineers (ACOE) has expertise in protecting and managing jurisdictional wetlands and their associated wildlife; U.S. Environmental Protection Agency (EPA) has expertise in protecting environmental resources; and the U.S. Fish and Wildlife Service (USFWS) has expertise in protecting and managing wildlife and their habitats, including migratory birds and wetlands. Appropriate signatory agencies will cooperatively review proposals to develop or expand wetland mitigation sites, or wildlife refuges that may attract hazardous wildlife. When planning these sites or refuges, the signatory agencies will diligently consider the siting criteria and land use practice recommendations stated in FAA AC 150/5200-33. The agencies will make every effort to undertake actions that are consistent with those criteria and recommendations, but recognize that exceptions to the siting criteria may be appropriate (see Paragraph F of this section).

I. Agree to consult with airport proponents during initial airport planning efforts. As appropriate, the FAA or USAF will initiate signatory agency participation in these efforts. When evaluating proposals to build new civilian or military aviation facilities or to expand existing ones, the FAA or the USAF, will work with appropriate signatory agencies to diligently evaluate alternatives that may avoid adverse effects on wetlands, other aquatic resources, and Federal wildlife refuges. If these or other habitats support hazardous wildlife, and there is no practicable alternative location for the proposed aviation project, the appropriate signatory agencies, consistent with applicable laws, regulations, and policies, will develop mutually acceptable measures, to protect aviation safety and mitigate any unavoidable wildlife impacts.

J. Agree that a variety of other land uses (e.g., storm water management facilities, wastewater treatment systems, landfills, golf courses, parks, agricultural or aquacultural facilities, and landscapes) attract hazardous wildlife and are, therefore, normally incompatible with airports. Accordingly, new, federally-funded airport construction or airport expansion projects near habitats or other land uses that may attract hazardous wildlife must conform to the siting criteria established in the FAA Advisory Circular (AC) 150/5200-33, Section 1-3.

K. Agree to encourage and advise owners and/or operators of non-airport facilities that are known hazardous wildlife attractants (See Paragraph J) to follow the siting criteria in Section 1-3 of AC 150/5200-33. As appropriate, each signatory agency will inform proponents of these or other land uses about the land use's potential to attract hazardous species to airport areas.

The signatory agencies will urge facility owners and/or operators about the critical need to consider the land uses' effects on aviation safety.

L. Agree that FAA, USAF, and WS personnel have the expertise necessary to determine the aircraft-wildlife strike potentials of various land uses. When there is disagreement among signatory agencies about a particular land use and its potential to attract hazardous wildlife, the FAA, USAF, or WS will prepare a wildlife hazard assessment. Then, the appropriate signatory agencies will meet at the local level to review the assessment. At a minimum, that assessment will:

1. identify each species causing the aviation hazard, its seasonal and daily populations, and the population's local movements;

2. discuss locations and features on and near the airport or land use attractive to hazardous wildlife; and

3. evaluate the extent of the wildlife hazard to aviation.

M. Agree to cooperate with the airport operator to develop a specific, wildlife hazard management plan for a given location, when a potential wildlife hazard is identified. The plan will meet applicable FAA, USAF, and other relevant requirements. In developing the plan, the appropriate agencies will use their expertise and attempt to integrate their respective programmatic responsibilities, while complying with existing laws, regulations, and policies. The plan should avoid adverse impacts to wildlife populations, wetlands, or other sensitive habitats to the maximum extent practical. Unavoidable impacts resulting from implementing the plan will be fully compensated pursuant to all applicable Federal laws, regulations, and policies.

N. Agree that whenever a significant aircraft-wildlife strike occurs or a potential for one is identified, any signatory agency may initiate actions with other appropriate signatory agencies to evaluate the situation and develop mutually acceptable solutions to reduce the identified strike probability. The agencies will work cooperatively, preferably at the local level, to determine the causes of the strike and what can and should be done at the airport or in its vicinity to reduce potential strikes involving that species.

O. Agree that information and analyses relating to mitigation that could cause or contribute to aircraft-wildlife strikes should, whenever possible, be included in documents prepared to satisfy the National Environmental Policy Act (NEPA). This should be done in coordination with appropriate signatory agencies to inform the public and Federal decision makers about important ecological factors that may affect aviation. This concurrent review of environmental issues will promote the streamlining of the NEPA review process.

P. Agree to cooperatively develop mutually acceptable and consistent guidance, manuals, or procedures addressing the management of habitats attractive to

hazardous wildlife, when those habitats are or will be within the siting criteria noted in Section 1-3 of FAA AC 5200-33. As appropriate, the signatory agencies will also consult each other when they propose revisions to any regulations or guidance relevant to the purpose of this MOA, and agree to modify this MOA accordingly.

SECTION II.
GENERAL RULES AND INFORMATION

A. Development of this MOA fulfills the National Transportation Safety Board's recommendation of November 19, 1999, to form an inter-departmental task force to address aircraft-wildlife strike issues.

B. This MOA does not nullify any obligations of the signatory agencies to enter into separate MOAs with the USFWS addressing the conservation of migratory birds, as outlined in Executive Order 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, dated January 10, 2001 (66 *Federal Register*, No. 11, pg. 3853).

C. This MOA in no way restricts a signatory agency's participation in similar activities or arrangements with other public or private agencies, organizations, or individuals.

D. This MOA does not alter or modify compliance with any Federal law, regulation or guidance (e.g., Clean Water Act; Endangered Species Act; Migratory Bird Treaty Act; National Environmental Policy Act; North American Wetlands Conservation Act; Safe Drinking Water Act; or the "no-net loss" policy for wetland protection). The signatory agencies will employ this MOA in concert with the Federal guidance addressing wetland mitigation banking dated March 6, 1995 (60 *Federal Register*, No. 43, pg. 12286).

E. The statutory provisions and regulations mentioned above contain legally binding requirements. However, this MOA does not substitute for those provisions or regulations, nor is it a regulation itself. This MOA does not impose legally binding requirements on the signatory agencies or any other party, and may not apply to a particular situation in certain circumstances. The signatory agencies retain the discretion to adopt approaches on a case-by-case basis that differ from this MOA when they determine it is appropriate to do so. Such decisions will be based on the facts of a particular case and applicable legal requirements. Therefore, interested parties are free to raise questions and objections about the substance of this MOA and the appropriateness of its application to a particular situation.

F. This MOA is based on evolving information and may be revised periodically without public notice. The signatory agencies welcome public comments on this MOA at any time and will consider those comments in any future revision of this MOA.

G. This MOA is intended to improve the internal management of the Executive Branch to address conflicts between aviation safety and wildlife. This MOA does not create any right, benefit, or trust responsibility, either substantively or procedurally. No party, by law or equity, may enforce this MOA against the United States, its agencies, its officers, or any person.

H. This MOA does not obligate any signatory agency to allocate or spend appropriations or enter into any contract or other obligations.

I. This MOA does not reduce or affect the authority of Federal, State, or local agencies regarding land uses under their respective purviews. When requested, the signatory agencies will provide technical expertise to agencies making decisions regarding land uses within the siting criteria in Section 1-3 of FAA AC 150/5200-33 to minimize or prevent attracting hazardous wildlife to airport areas.

J. Any signatory agency may request changes to this MOA by submitting a written request to any other signatory agency and subsequently obtaining the written concurrence of all signatory agencies.

K. Any signatory agency may terminate its participation in this MOA within 60 days of providing written notice to the other agencies. This MOA will remain in effect until all signatory agencies terminate their participation in it.

SECTION III. PRINCIPAL SIGNATORY AGENCY CONTACTS

The following list identifies contact offices for each signatory agency.

Federal Aviation Administration
Office Airport Safety and Standards
Airport Safety and
Compliance Branch (AAS-310)
800 Independence Ave., S.W.
Washington, D.C. 20591
V: 202-267-1799
F: 202-267-7546

U.S. Air Force
HQ AFSC/SEFW
9700 Ave., G. SE, Bldg. 24499
Kirtland AFB, NM 87117
V: 505-846-5679
F: 505-846-0684

U.S. Army
Directorate of Civil Works
Regulatory Branch (CECW-OR)
441 G St., N.W.
Washington, D.C. 20314
V: 202-761-4750
F: 202-761-4150

U.S. Environmental Protection Agy.
Office of Water
Wetlands Division
Ariel Rios Building, MC 4502F
1200 Pennsylvania Ave., SW
Washington, D.C. 20460
V: 202-260-1799
F: 202-260-7546

U.S. Fish and Wildlife Service
Division of Migratory Bird Management
4401 North Fairfax Drive, Room 634
Arlington, VA 22203
V: 703-358-1714
F: 703-358-2272

U.S. Department of Agriculture
Animal and Plant Inspection Service
Wildlife Services
Operational Support Staff
4700 River Road, Unit 87
Riverdale, MD 20737
V: 301-734-7921
F: 301-734-5157

Signature Page

Associate Administrator for Airports,
Federal Aviation Administration

12/17/02
Date

Kenneth W. Hess

Chief of Safety,
U. S. Air Force

27 May 2003
Date

R. L. Brownlee

Acting Assistant Secretary of the Army
(Civil Works)
Department of the Army

December 9, 2002
Date

J. Thomas Hetman, III

Assistant Administrator, Office of Water,
U.S. Environmental Protection Agency

1/17/03

Paul R. Schmidt

Assistant Director, Migratory Birds
and State Programs,
U.S. Fish and Wildlife Service

7/29/03
Date

Acting Richard D. Cursow

Deputy Administrator, Wildlife Services
U.S. Department of Agriculture

09 January 2003
Date

GLOSSARY

This glossary defines terms used in this MOA.

Airport. All USAF airfields or all public use airports in the FAA's National Plan of Integrated Airport Systems (NPIAS). Note: There are over 18,000 civil-use airports in the U.S., but only 3,344 of them are in the NPIAS and, therefore, under FAA's jurisdiction.

Aircraft-wildlife strike. An aircraft-wildlife strike is deemed to have occurred when:

1. a pilot reports that an aircraft struck 1 or more birds or other wildlife;
2. aircraft maintenance personnel identify aircraft damage as having been caused by an aircraft-wildlife strike;
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; or
5. the 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)

(Source: *Wildlife Control Procedures Manual*, Technical Publication 11500E, 1994).

Aircraft-wildlife strike hazard. A potential for a damaging aircraft collision with wildlife on or near an airport (14 CFR 139.3).

Bird Sizes. Title 40, Code of Federal Regulations, Part 33.76 classifies birds according to weight:

small birds weigh less than 3 ounces (oz).
medium birds weigh more than 3 oz and less than 2.5 lbs.
large birds weigh greater than 2.5 lbs.

Civil aircraft damage classifications. The following damage descriptions are based on the *Manual on the International Civil Aviation Organization Bird Strike Information System*:

Minor: The aircraft is deemed airworthy upon completing simple repairs or replacing minor parts and an extensive inspection is not necessary.

Substantial: Damage or structural failure adversely affects an aircraft's structural integrity, performance, or flight characteristics. The damage normally requires major repairs or the replacement of the entire affected component. Bent fairings or cowlings; small dents; skin punctures; damage to wing tips, antenna, tires or brakes, or engine blade damage not requiring blade replacement are specifically excluded.

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

Significant Aircraft-Wildlife Strikes. A significant aircraft-wildlife strike is deemed to have occurred when any of the following applies:

1. a civilian, U.S. air carrier aircraft experiences a multiple aircraft-bird strike or engine ingestion;
2. a civilian, U.S. air carrier aircraft experiences a damaging collision with wildlife other than birds; or
3. a USAF aircraft experiences a Class A, B, or C mishap as described below:

    A. **Class A Mishap:** Occurs when at least one of the following applies:
        1. total mishap cost is $1,000,000 or more;
        2. a fatality or permanent total disability occurs; and/or
        3. an Air Force aircraft is destroyed.
    B. **Class B Mishap:** Occurs when at least one of the following applies:
        1. total mishap cost is $200,000 or more and less than $1,000,000; and/or
        2. a permanent partial disability occurs and/or 3 or more people are hospitalized;
    C. **Class C Mishap:** Occurs when at least one of the following applies:
        1. cost of reported damage is between $20,000 and $200,000;
        2. an injury causes a lost workday (i.e., duration of absence is at least 8 hours beyond the day or shift during which mishap occurred); and/or
        3. an occupational illness causing absence from work at any time.

Wetlands. An ecosystem requiring constant or recurrent, shallow inundation or saturation at or near the surface of the substrate. The minimum essential characteristics of a wetland are recurrent, sustained inundation or saturation at or

near the surface and the presence of physical, chemical, and biological features indicating recurrent, sustained inundation, or saturation. Common diagnostic wetland features are hydric soils and hydrophytic vegetation. These features will be present, except where specific physiochemical, biotic, or anthropogenic factors have removed them or prevented their development.

(Source the 1987 Delineation Manual; 40 CFR 230.3(t)).

Wildlife. Any wild animal, including without limitation any wild mammal, bird, reptile, fish, amphibian, mollusk, crustacean, arthropod, coelenterate, or other invertebrate, including any part, product, egg, or offspring there of (50 CFR 10.12, *Taking, Possession, Transportation, Sale, Purchase, Barter, Exportation, and Importation of Wildlife and Plants*). As used in this MOA, "wildlife" includes feral animals and domestic animals while out of their owner's control (14 CFR 139.3, *Certification and Operations: Land Airports Serving CAB-Certificated Scheduled Air Carriers Operating Large Aircraft (Other Than Helicopters)*)

Table 1. Identified wildlife species, or groups, that were involved in two or more aircraft-wildlife strikes, that caused damage to one or more aircraft components, or that had an adverse effect on an aircraft's flight. Data are for 1990-1999 and involve only civilian, U.S. aircraft.

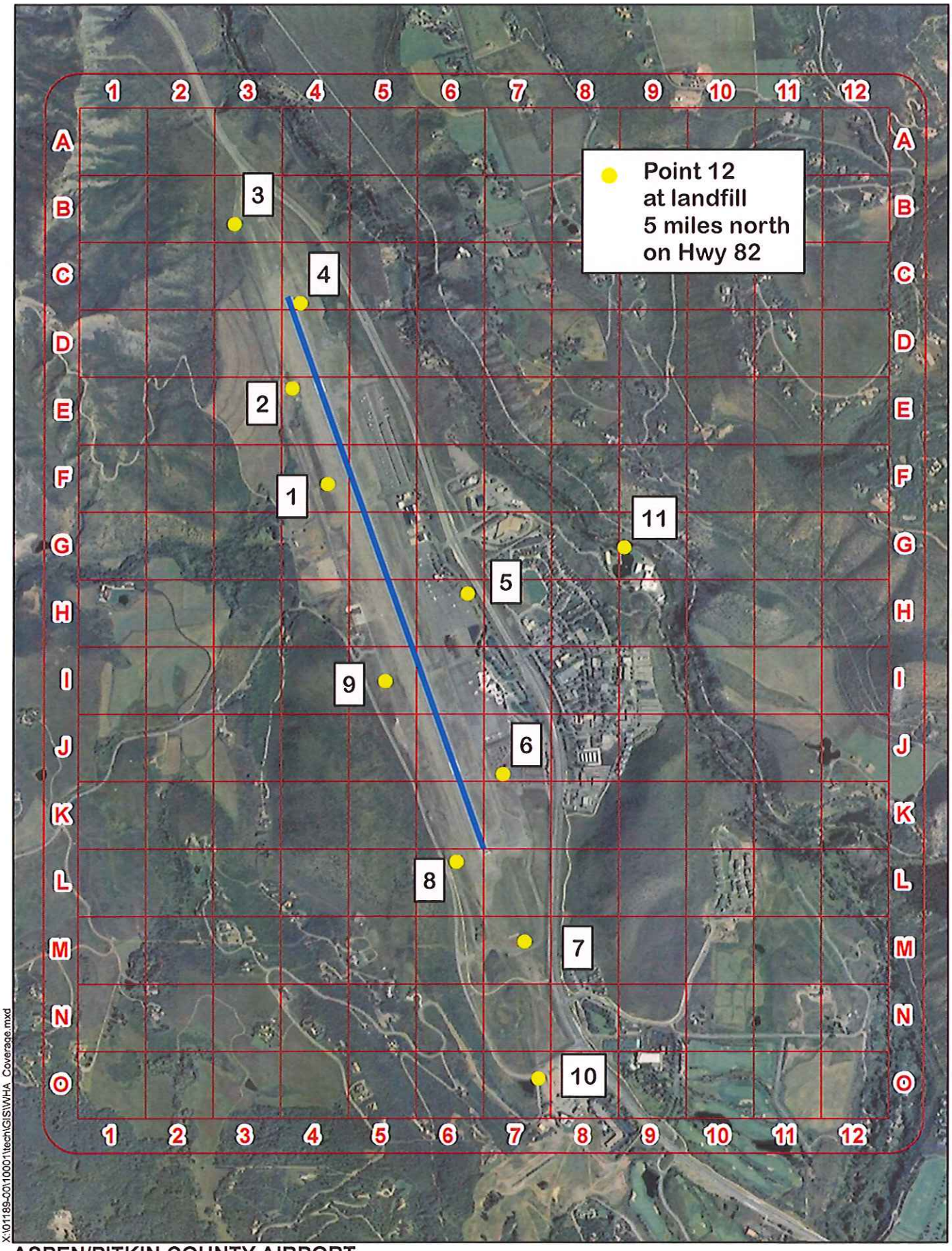
Birds	No. reported strikes
Gulls (all spp.)	874
Geese (primarily, Canada geese)	458
Hawks (primarily, Red-tailed hawks)	182
Ducks (primarily Mallards.)	166
Vultures (primarily, Turkey vulture)	142
Rock doves	122
Doves (primarily, mourning doves)	109
Blackbirds	81
European starlings	55
Sparrows	52
Egrets	41
Shore birds (primarily, Killdeer & Sandpipers)	40
Crows	31
Owls	24
Sandhill cranes	22
American kestrels	15
Great blue herons	15
Pelicans	14
Swallows	14
Eagles (Bald and Golden)	14
Ospreys	13
Ring-necked pheasants	11
Herons	11
Barn-owls	9
American robins	8
Meadowlarks	8
Buntings (snow)	7
Cormorants	6
Snow buntings	6
Brants	5
Terns (all spp.)	5
Great horned owls	5
Horned larks	4
Turkeys	4
Swans	3
Mockingbirds	3
Quails	3
Homing pigeons	3
Snowy owls	3
Anhingas	2

Birds	No. reported strikes
Ravens	2
Kites	2
Falcons	2
Peregrine falcons	2
Merlins	2
Grouse	2
Hungarian partridges	2
Spotted doves	2
Thrushes	2
Mynas	2
Finches	2
Total known birds	2,612

Mammals	No. reported strikes
Deer (primarily, White-tailed deer)	285
Coyotes	16
Dogs	10
Elk	6
Cattle	5
Bats	4
Horses	3
Pronghorn antelopes	3
Foxes	2
Raccoons	2
Rabbits	2
Moose	2
Total known mammals	340

Ring-billed gulls were the most commonly struck gulls. The U.S. ring-billed gull population increased steadily at about 6% annually from 1966-1988. Canada geese were involved in about 90% of the aircraft-goose strikes involving civilian, U.S. aircraft from 1990-1998. Resident (non-migratory) Canada goose populations increased annually at 13% from 1966-1998. Red-tailed hawks accounted for 90% of the identified aircraft-hawk strikes for the 10-year period. Red-tailed hawk populations increased annually at 3% from 1966 to 1998. Turkey vultures were involved in 93% of he identified aircraft-vulture strikes. The U.S. Turkey vulture populations increased at annually at 1% between 1966 and 1998. Deer, primarily white-tailed deer, have also adapted to urban and airport areas and their populations have increased dramatically. In the early 1900's, there were about 100,000 white-tailed deer in the U.S. Current estimates are that the U.S. population is about 24 million.

APPENDIX I – Map of WHA Observation Points with Grid



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ASPEN/PITKIN COUNTY AIRPORT

N

0 400 800 1,600 2,400

Feet

Base Map: services.arcgisonline.com_arcgis_services_world_imagery_mapserver\World_Imagery

APPENDIX J – FAA Certalert No. 98-05 – Grasses Attractive to Hazardous Wildlife

CERTALERT

ADVISORY CAUTIONARY NON-DIRECTIVE

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

DATE: **September 21, 1998** **No. 98-05**

TO: **Airport Operators,**
FAA Airport Certification Safety Inspectors

TOPIC: **Grasses Attractive To Hazardous Wildlife**

Recently, several reports have been received of airport owners or airport contractors planting disturbed areas (construction sites, re-grading projects, etc) with seed mixtures containing brown-top millet. All millets are a major attractant to doves and other seed eating birds.

Doves can be a major threat to aircraft safety. In the United States, between 1991 and 1997, doves were involved in 11% of all reported bird/aircraft strikes, 8% of the reported strikes that resulted in aircraft down time, and 8% of the reported strikes causing aircraft damage or other associated monetary losses.

Airport operators should ensure that grass species and other varieties of plants attractive to hazardous wildlife are not used on the airport. Disturbed areas or areas in need of re-vegetating should not be planted with seed mixtures containing millet or any other large-seed producing grass.

For airport property already planted with seed mixtures containing millet or other large-seed producing grasses, it is recommended that disking, plowing, or other suitable agricultural practice be employed to prevent plant maturation and seed head production.

For specific recommendations on grass management and seed selection, contact the State University Cooperative Extension Service, or the local office of the USDA, Wildlife Services.

Benedict D. Castellano, Manager
Airport Safety and Compliance Branch

September 21, 1998

APPENDIX K – FAA Certalert No. 09-10 – Wildlife Hazard Assessments in Accordance with Part 139 Requirements

CERTALERT

AIRPORT SAFETY AND OPERATIONS DIVISION, AAS-300

FOR INFORMATION, CONTACT John Weller, AAS-300, (202) 267-3778

DATE:	June 11, 2009	No. 09-10
TO:	Airport Operators, FAA Airport Certification Safety Inspectors	
TOPIC:	Wildlife Hazard Assessments in Accordance with Part 139 Requirements	

Purpose: To remind airport operators of their obligations under Part 139 to conduct Wildlife Hazard Assessments if certain criteria are met.

Background: The risk of wildlife strikes to aircraft has been increasing. Many populations of wildlife species commonly involved in strikes have increased markedly in the last three decades and adapted to living in urban environments, including near airports. Thirteen of the 14 bird species in North America with mean body masses greater than 8 lbs have shown significant population increases during this time. For example, from 1980 to 2006, the resident (non-migratory) Canada goose population in the USA and Canada increased at a mean rate of 7.3 percent per year. In addition, commercial air traffic has increased from about 18 million aircraft movements in 1980 to over 28 million in 2007.

Part 139 requires certificated airports to conduct a Wildlife Hazard Assessment if they experience a triggering event.

According to section 139.337(b):

> *"In a manner authorized by the Administrator, each certificate holder must ensure that a Wildlife Hazard Assessment is conducted when any of the following events occurs on or near the airport:*
>
> *(1) An air carrier aircraft experiences multiple wildlife strikes;*
>
> *(2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component;*
>
> *(3) An air carrier aircraft experiences an engine ingestion of wildlife; or*
>
> *(4) Wildlife of a size, or in numbers, capable of causing an event described in paragraphs (b)(1), (b)(2), or (b)(3) of this section is observed to have access to any airport flight pattern or aircraft movement area."*

The Wildlife Hazard Assessment must be conducted by a qualified wildlife biologist who meets the requirements in Advisory Circular 150/5200-36, *Qualifications for Wildlife Biologists Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in Controlling Wildlife Hazards at Airports.* The Wildlife Hazard Assessment must be conducted in accordance with Advisory Circular 150/5200-33B, *Hazardous Wildlife Attractants On or Near Airports* and the Wildlife Hazard Management Manual. The Wildlife Hazard Management Manual can be viewed and downloaded free of charge from the FAA's wildlife hazard mitigation web site: http://wildlife-mitigation.tc.FAA.gov/. A Wildlife Hazard Assessment should include:

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

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

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

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

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

The Office of Safety and Standards (AAS) has conducted a search of the National Wildlife Strike Database. We found a number of airports (see attachment) that appear to have experienced triggering events but we have no record that they have initiated the Wildlife Hazard Assessment (WHA) required by Part 139.

Actions: Airports that have experienced a triggering event, but have yet to undertake a wildlife hazard assessment, should be immediately contacted by their FAA Airport Certification Safety Inspector. Airport operators should be directed to review the FAA Wildlife Strike Database at http://wildlife_mitigation.tc.faa.gov/public_html/index.html#access. No password is required. Airport operators must immediately initiate action to start a Wildlife Hazard Assessment if they confirm their airport has experienced a triggering event

Airport Improvement Funds (AIP) for FY 2009 have been identified to assist airports doing WHAs. The money is available on a first come first served basis. For more information about funding options, airport operators should contact their nearest FAA Airports District Office.

As we move to Safety Management Systems, it is incumbent upon airports to be proactive and understand the risk of wildlife strikes before they experience a triggering event. In this regard, the FAA has initiated a rulemaking project that will require certificated airports to conduct WHAs and to periodically update them. However, as the rulemaking process will take a number of years, operators of 139 airports that have not experienced a triggering event, and who have not done a WHA are encouraged to do one. The FAA also asks airports that have WHAs that are more than five years old to voluntarily update them.

Attachment:

Michael W. Brown
Manager, Airport Safety
And Operations Division

June 11, 2009
DATE

DISTRIBUTION CERTALERT

DISTRIBUTION LIST

REGION	STATE	AIRPORT NAME	ASSOCIATED CITY	AIRPORT CODE	TRIGGERING EVENT
CENTRAL	Kansas	Liberal Muni	Liberal	LBL	1
CENTRAL	Missouri	Columbia Reg	Columbia	COU	12
CENTRAL	Nebraska	Central Nebraska Reg	Grand Island	GRI	1
CENTRAL	Nebraska	McCook Muni	McCook	MCK	4
EASTERN	Maryland	Salisbury-Ocean City Wicomico Reg	Salisbury	SBY	3
EASTERN	New York	Elmira/Corning Reg	Elmira	ELM	123
EASTERN	New York	Ithaca Tompkins Reg	Ithaca	ITH	1
EASTERN	New York	Massena Int'l - Richards Fld	Massena	MSS	1
EASTERN	Pennsylvania	John Murtha Johnstown-Cambria Co	Johnstown	JST	4
EASTERN	Pennsylvania	Lancaster	Lancaster	LNS	1
EASTERN	Pennsylvania	University Park	State College	UNV	123
EASTERN	Virginia	Lynchburg Reg/ Preston Glenn Fld	Lynchburg	LYH	4
NEW ENGLAND	Maine	Bangor Int'l	Bangor	BGR	1
NEW ENGLAND	Massachusetts	Barnstable Muni	Hyannis	HYA	1
NEW ENGLAND	Massachusetts	Worcester Reg	Worcester	ORH	1
NEW ENGLAND	New Hampshire	Lebanon Muni	Lebanon	LEB	1
NEW ENGLAND	New Hampshire	Manchester	Manchester	MHT	13
NEW ENGLAND	New Hampshire	Pease Int'l Tradeport	Portsmouth	PSM	14
NORTHWEST MOUNTAIN	Colorado	Aspen-Pitkin Co Sardy	Aspen	ASE	14
NORTHWEST MOUNTAIN	Colorado	Montrose Reg	Montrose	MTJ	1
NORTHWEST MOUNTAIN	Colorado	Pueblo Muni	Pueblo	PUB	134
NORTHWEST MOUNTAIN	Colorado	Rocky Mountain Metropolitan Airport	Denver	BJC	2
NORTHWEST MOUNTAIN	Colorado	Yampa Valley	Hayden	HDN	14
NORTHWEST MOUNTAIN	Idaho	Lewiston-Nez Perce Co	Lewiston	LWS	1
NORTHWEST MOUNTAIN	Idaho	Magic Valley Reg	Twin Falls	TWF	1
NORTHWEST MOUNTAIN	Montana	Bert Mooney	Butte	BTM	4
NORTHWEST MOUNTAIN	Montana	Great Falls Int'l	Great Falls	GTF	1

NORTHWEST MOUNTAIN	Montana	Helena Reg	Helena	HLN	2
NORTHWEST MOUNTAIN	Montana	LM Clayton	Wolf Point	OLF	234
NORTHWEST MOUNTAIN	Oregon	Klamath Falls Int'l	Klamath Falls	LMT	13
NORTHWEST MOUNTAIN	Utah	Cedar City Muni	Cedar City	CDC	24
NORTHWEST MOUNTAIN	Wyoming	Natrona Co Int'l	Casper	CPR	14
SOUTHERN	Alabama	Mobile Reg	Mobile	MOB	13
SOUTHERN	Florida	Eglin Air Force Base	Valparaiso	VPS	1
SOUTHERN	Florida	Gainesville Reg	Gainesville	GNV	13
SOUTHERN	Florida	Pensacola Reg	Pensacola	PNS	123
SOUTHERN	Georgia	Middle Georgia Reg	Macon	MCN	23
SOUTHERN	Georgia	Valdosta Reg	Valdosta	VLD	1
SOUTHERN	Kentucky	Owensboro-Davies Co	Owensboro	OWB	123
SOUTHERN	Mississippi	Jackson Int'l	Jackson	JAN	13
SOUTHERN	North Carolina	Albert J Ellis	Jacksonville	OAJ	13
SOUTHERN	North Carolina	Smith Reynolds	Winston-Salem	INT	14
SOUTHERN	Puerto Rico	Luis Munoz Marin Int'l	San Juan	SJU	3
SOUTHERN	Puerto Rico	Mercedita	Ponce	PSE	1
SOUTHERN	South Carolina	Charleston International	Charleston	CHS	1
SOUTHERN	South Carolina	Columbia Metro	Columbia	CAE	134
SOUTHERN	South Carolina	Greenville-Spartanburg	Greer	GSP	1
SOUTHERN	South Carolina	Myrtle Beach Jetport	Myrtle Beach	MYR	1
SOUTHERN	Tennessee	Lovell Fld	Chattanooga	CHA	134
SOUTHERN	Tennessee	McGhee Tyson	Knoxville	TYS	13
SOUTHERN	Tennessee	Tri-City Municipal	Bristol/ Johnson/ Kingsport	TRI	14
SOUTHERN	Virgin Islands	Cyril E King	Charlotte Amalie	STT	4
SOUTHWEST	Arkansas	Adams Fld	Little Rock	LIT	13
SOUTHWEST	Arkansas	Fort Smith Reg	Fort Smith	FSM	13
SOUTHWEST	Arkansas	Memorial Fld	Hot Springs	HOT	1
SOUTHWEST	Arkansas	Northwest Arkansas	Fayetteville	XNA	1234
SOUTHWEST	Arkansas	Texarkana Reg-Webb Fld	Texarkana	TXK	4
SOUTHWEST	Louisiana	Baton Rouge Metro-Ryan	Baton Rouge	BTR	1
SOUTHWEST	Louisiana	Lafayette Reg	Lafayette	LFT	14
SOUTHWEST	Louisiana	Lake Charles Reg	Lake Charles	LCH	1
SOUTHWEST	Louisiana	New Orleans Int'l	New Orleans	MSY	1234
SOUTHWEST	New Mexico	Grant Co	Silver City	SVC	4
SOUTHWEST	Texas	Austin Bergstrom Intl	Austin	AUS	1234

SOUTHWEST	Texas	Brownsville/ South Padre Island	Brownsville	BRO	1
SOUTHWEST	Texas	Bush Intercontinental	Houston	IAH	1234
SOUTHWEST	Texas	Corpus Christi Int'l	Corpus Christi	CRP	134
SOUTHWEST	Texas	Dallas Love Fld	Dallas	DAL	1234
SOUTHWEST	Texas	Easterwood Fld	College Station	CLL	1
SOUTHWEST	Texas	El Paso Int'l	El Paso	ELP	1234
SOUTHWEST	Texas	Gregg Co	Longview	GGG	1
SOUTHWEST	Texas	Jefferson Co	Beaumont/ Port Arthur	BPT	1
SOUTHWEST	Texas	Laredo Int'l	Laredo	LRD	12
SOUTHWEST	Texas	Lubbock Int'l	Lubbock	LBB	13
SOUTHWEST	Texas	Mathis Fld	San Angelo	SJT	3
SOUTHWEST	Texas	Midland Int'l	Midland	MAF	134
SOUTHWEST	Texas	San Antonio Int'l	San Antonio	SAT	123
SOUTHWEST	Texas	Shepard AFB/Wichita Falls	Wichita Falls	SPS	1
SOUTHWEST	Texas	Tyler Pounds Fld	Tyler	TYR	1
SOUTHWEST	Texas	Valley Int'l	Harlingen	HRL	123
SOUTHWEST	Texas	Waco Reg	Waco	ACT	123
SOUTHWEST	Texas	William Hobby	Houston	HOU	1234
WESTERN PACIFIC	Arizona	Ernest Love Fld	Prescott	PRC	1
WESTERN PACIFIC	Arizona	Show Low Muni	Show Low	SOW	24
WESTERN PACIFIC	Arizona	Tucson Int'l	Tucson	TUS	134
WESTERN PACIFIC	California	Arcata	Arcata/Eureka	ACV	1
WESTERN PACIFIC	California	Chico Muni	Chico	CIC	1
WESTERN PACIFIC	California	Fresno Yosemite Int'l	Fresno	FAT	1
WESTERN PACIFIC	California	Jack McNamara Fld	Cresent City	CEC	1
WESTERN PACIFIC	California	Long Beach/ Daugherty Fld	Long Beach	LGB	1234
WESTERN PACIFIC	California	Meadows Fld	Bakersfield	BFL	1
WESTERN PACIFIC	California	Monterey Peninsula	Monterey	MRY	134
WESTERN PACIFIC	California	Ontario Int'l	Ontario	ONT	1234
WESTERN PACIFIC	California	Oxnard	Oxnard	OXR	1
WESTERN PACIFIC	California	Redding Muni	Redding	RDD	1
WESTERN PACIFIC	Nevada	Elko Muni	Elko	EKO	1
WESTERN PACIFIC	Nevada	McCarran Int'l	Las Vegas	LAS	134

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