

**BY ORDER OF THE COMMANDER  
KIRTLAND AIR FORCE BASE**

**KIRTLAND AIR FORCE BASE  
INSTRUCTION 91-212**



**21 FEBRUARY 2023**

**Safety**

**KIRTLAND AIR FORCE BASE  
BIRD/WILDLIFE AIRCRAFT  
STRIKE HAZARD (BASH) PLAN**

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This publication implements and expands guidance in Air Force Instruction (AFI) 91-202\_AFGM2022-01, *The US Air Force Mishap Prevention Program*, and DAFI91-212\_DAFGM2022-01, *Bird Wildlife Aircraft Strike Hazard (BASH) Management Program*. This instruction provides a base program designed to minimize aircraft exposure to potentially hazardous bird/wildlife strikes and control bird populations which could jeopardize aircraft at Kirtland Air Force Base (KAFB). This publication applies to all 58th Special Operations Wing (SOW) and subordinate units on KAFB as well as all 377th Air Base Wing (ABW) components supporting the 58 SOW flying mission including Civil Engineering (CE) and Airfield Management. This publication applies to the Air National Guard (ANG). This publication does not apply to Air Force Reserve Command (AFRC) Units. Tasked organizations will develop checklists, etc. as required to fulfill assigned responsibilities. This publication may not be supplemented or further implemented/extended. No waivers are considered applicable or will be granted for any part of the publication. This instruction will be reviewed annually and updated, if needed. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 through appropriate chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, *Records Management Information and Governance Program*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS).

***SUMMARY OF CHANGES***

This document has been updated with minimal changes. Paragraph **2.11.1, 5.2.2, 8.2.1, 9.5** have been updated, and 3.2.3.22., 3.2.3.23., 3.2.3.24., 3.2.3.25., 8.3., 8.3.1., 8.3.2., 8.3.3., 8.45. have been added.

1.	Overview.....	3
2.	Responsibilities.....	3
3.	KAFB BHWG.....	9
4.	KAFB Environment.....	10
5.	Bird/Wildlife Hazards.....	11
6.	Specific Bird Information.....	14
7.	List of BASH References.....	16
Table 1.	Technical Points of Contact.....	16
8.	Bird Hazard Notification System.....	17
9.	Bird Strike Reporting and Forms.....	19
	<b>Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION</b>	<b>21</b>
	<b>Attachment 2—58 SOW LOCAL TRAINING AREA</b>	<b>24</b>

## 1. Overview.

1.1. The purpose of this plan is to provide a program designed to minimize aircraft exposure to potentially hazardous bird and wildlife strikes in the KAFB flying area. The bird and wildlife aircraft strike hazard is relatively low at KAFB. However, due to resident and migratory bird species, there is a possibility a bird/wildlife hazard condition can develop. The 377 ABW is the host unit at KAFB and as such has the primary responsibility for all operational plans, including the BASH plan, but has none of its own flying assets. The 58 SOW is the primary flying unit at KAFB and is tasked with the OPR for developing and implementing a BASH plan in support of the 377 ABW. The 377 ABW BASH plan is well developed and implemented and has served to minimize wildlife strikes at the installation. The military flying units share the runways with civilian aircraft operating from the Albuquerque International Sunport. The International Sunport owns and operates the runways, taxiways, and most of the aircraft movement areas. The Sunport has the responsibility as part of their Federal Aviation Administration (FAA) part 139 requirements to develop and implement a Wildlife Hazard Management Plan (WHMP) to minimize hazards on this joint use facility.

## 2. Responsibilities.

### 2.1. 58th Special Operations Wing Commander (58 SOW/CC) shall:

- 2.1.1. Promote and emphasize a BASH program geared to reducing the possibility of bird and wildlife strikes.
- 2.1.2. Appoints Vice Wing Commander (CV) to chair the Bird Hazard Working Group (BHWG) meetings.
- 2.1.3. Approves recommendations of the BHWG.

### 2.2. 58th Special Operations Wing Flight Safety (58 SOW/SEF) shall:

- 2.2.1. Be the OPR for this plan.
- 2.2.2. Monitors base-wide compliance.
- 2.2.3. Disseminates BASH data to the BHWG and KAFB flying units.
- 2.2.4. Provides the BHWG with the current BASH guidance from higher headquarters, the BASH team, and other agencies.
- 2.2.5. Monitors bird/wildlife activity and bird/wildlife strike statistics and advises the BHWG chairperson when a meeting is deemed necessary. IAW AFI91-202\_AFGM2022-01, the BHWG will meet at least semi-annually.
- 2.2.6. Ensures all bird remains are collected after bird strikes. Individual Squadrons (SQ) have requested and are granted the option of sending any salvaged bird/wildlife strike remains to: Smithsonian Institution, Natural History Building, Division of Birds, ATTN: Dr. Carla Dove, NHBE 610 MCR 116, P.O. Box 37012, Washington, D.C. 20013, phone number (202-633- 0801). SQs can also coordinate bird remain collection and submittal through the 58 SOW/Safety (SE) office. This submission provides data to implement habitat management plans on the airfield and helps build effective avoidance programs to issue warnings to pilots of potential bird strike hazards in the airfield environment and over training routes.

2.2.7. Establishes and maintains a BASH program continuity program with pertinent BASH information to assure continuity of knowledge with personnel turnover.

2.2.8. Establishes a bird hazard awareness program in conjunction with KAFB flying unit safety representatives, to include information on local bird/wildlife hazards and reporting procedures.

2.2.9. Analyzes bird strikes by condition of flight and geographical location to determine the areas of high bird activity.

2.2.10. Ensures aircrews participate in the BASH reduction program by promptly reporting all bird/wildlife strikes and hazardous bird/wildlife conditions.

2.2.11. Provides any additional information on migratory, local, and seasonal bird activities through contact with the Rio Grande Nature Center, US Fish and Wildlife Service, Audubon Society, local ornithologists, and other agencies.

2.2.12. Coordinates with Albuquerque Sunport Operations (505-244-7860 or cell 505-328-8410) for the removal or dispersal of birds/wildlife from Sunport areas of the airfield.

### **2.3. 58th Special Operations Wing Operations Center (WOC).**

2.3.1. Maintains a bird/wildlife strike quick reaction checklist (QRC).

2.3.2. Notifies 58 SOW Flight Safety (SEF) of bird/wildlife strikes if damage is reported to the aircraft.

2.3.3. Notifies the following anytime the airfield bird condition changes:

2.3.3.1. 58 Operations Group (OG)/CC (853-5823) – Only going into or out of SEVERE.

2.3.3.2. All aircraft monitoring COYOTE or ROADRUNNER frequency.

2.3.3.3. 58 SOW/SEF (853-8592/5839).

2.3.3.4. 512 Rescue Squadron (RQS) Duty Officer (846-6592).

2.3.3.5. 71 Special Operations Squadron (SOS) Duty Officer (853-7171).

2.3.3.6. 415 SOS Duty Officer (846-4000).

2.3.3.7. Kirtland Flight Center (846-1072).

2.3.3.8. New Mexico (NM) Civil Air Patrol (846-5080, 268-5678).

2.3.3.9. 377 ABW Airfield Management (846-8335).

2.3.3.10. 377 ABW Command Post (846-3777).

2.3.3.11. US Forest Service Air Tankers (Informational Only 846-7408).

### **2.4. Squadron Operations Supervisor (SQ/Ops Sup) or Aircraft Commander (AC) shall:**

2.4.1. Act as the designated representative of the 58 OG/CC and is the declaring authority for Bird Watch Conditions. The Ops Sup will notify the 58 OG/CC any time the Bird Watch Condition enters or exits SEVERE.

2.4.2. Will coordinate with Albuquerque International Sunport Tower, 377 ABW Airfield Management and aircrews to get real-time bird conditions. If an increased bird hazard is verified by Tower or aircrew, the SQ/Ops Sup will update the Bird Watch Condition accordingly. Will continually verify and update Bird Watch Conditions as required per the flying schedule. Will monitor the Aviation Hazard Advisory System (AHAS) website: <http://www.usahas.com>. As the Next Generation Weather Radar (NEXRAD) condition changes to MODERATE or SEVERE on the AHAS website, SQ/Ops Sup or AC will call Albuquerque Sunport Tower to verify the Bird Watch Condition is representative of the actual local bird hazard and broadcast on command and control frequencies, directing aircrews to report bird sightings, bird strikes, or reports of either over Air Traffic Control (ATC) or the Air Terminal Information Service (ATIS).

2.4.3. Runs the proper QRC when a change to the Bird Watch Condition is made.

2.4.4. Notifies 58 SOW/SEF of conditions requiring bird dispersal. During non-duty hours coordinates directly with Albuquerque Sunport Operations (505-244-7860 or cell 505-328-8410) for the removal or dispersal of birds/wildlife from Sunport areas of the airfield.

2.4.5. Notifies 377 Mission Support Group (MSG)/ Civil Engineer (CE) and 58 SOW/SEF when a bird/wildlife attractant is discovered.

2.4.6. Informs the Airfield Manager and flying SQs of reported or observed increases in local bird activity and resulting local bird watch condition changes. Additionally, relays current local BASH information at aircraft "check in" for instances of local bird watch conditions greater than bird watch condition "low". The Ops Sup or AC will also check the predicted BASH for the aircraft's route of flight or the aircraft's planned area of operations and gives most current bird forecast to aircrew. An example of this relay is: "Aircraft (Call sign) current Local Bird Watch Condition is [\_\_\_\_\_] and AHAS is [\_\_\_\_\_] along your planned route of flight."

## 2.5. 377 ABW Airfield Management shall:

2.5.1. Monitor bird/wildlife populations, grass height, drainage ditches, etc., and report problems to the 377 MSG/CE (DSN 246-8222) for modifying or eliminating the problem during normal airfield surveillance.

2.5.2. Be the declaring authority for Bird Watch Conditions during normal local flying operations. During the periods when the 150 SOW is conducting flight operations, the 150 SOW units will provide an Ops Sup. When normal flight operations are not being conducted, declaration of a bird watch condition by 377 ABW Airfield Management should be based on the following:

2.5.2.1. Information relayed by airborne aircraft.

2.5.2.2. Observations relayed by Albuquerque Tower or ATIS, the 58 SOW/WOC, transient alert personnel, 58 SOW/SEF, or other reliable sources.

2.5.2.3. Observations made by airfield management personnel.

2.5.2.4. Hazard assessment from <http://www.usahas.com>.

2.5.2.5. In the absence of a SQ/Ops Sup, 377 ABW Airfield Management downgrades or cancels bird watch conditions commensurate with updated information.

2.5.2.6. Upon discovery of bird activity in the KAFB flying area and/or when declaring a change in bird watch condition, notifies the following:

2.5.2.6.1. Albuquerque Tower (Only notify if activity is within 5 nautical miles of the airfield. Do not relay bird watch condition, only the reported activity).

2.5.2.6.2. 58 SOW/WOC (846-9482/0160).

2.5.2.6.3. 58 SOW/SEF (853-8592/5839).

2.5.2.6.4. Aircrews filing flight plans.

**2.6. 377 ABW Natural Resources Manager shall:**

2.6.1. After coordination with 58 SOW/SEF, 377 MSG/Civil Engineering-Environmental Management (CEIE) will respond to requests to control or eliminate hazards from wildlife encroachment on the military portion of runways and taxiways. Birds/wildlife residing on Albuquerque Sunport areas of the airfield will be removed/dispersed by Albuquerque Sunport Operations personnel only. 58 SOW/SEF will coordinate with Sunport Operations (505-244-7860 or cell 505-328-8410) for bird/wildlife dispersal and/or depredation.

2.6.2. In coordination with the United States Department of Agriculture (USDA), takes action to decrease bird or other wildlife populations in order to decrease hazards to flight operations on the airfield environment. Such actions may include either depredation or capture of encroaching wildlife, but will not include species protected under national law. A depredation license is required for the killing of all birds except domestic pigeons, European starlings, and house sparrows.

**2.7. 377th MSG/CE shall:**

2.7.1. Respond promptly to requests to reduce environmental conditions that attract birds/wildlife to the airfield in coordination with 377 ABW/Natural Resources Manager.

2.7.2. Take appropriate action to decrease the attractiveness of the airfield environment to birds/wildlife by eliminating, controlling, or reducing environmental factors that support birds/wildlife.

2.7.3. Use land management practices that reduce BASH potential.

2.7.4. Removes dead birds and animals from the military portion of the airfield to avoid attracting vultures and raptors. Forward any remains, which may have been caused by collision with aircraft to 58 SOW/SE for identification and reporting to the United States Fish and Wildlife Services (USFWS).

2.7.5. Control pests on and around the airfield. Invertebrates and rodents provide important food sources for many birds. Control insects, earthworms, rodents, etc., by using Integrated Pest Management methods or base-approved insecticides and rodenticides. Control should begin in the early spring. Efforts must be consistent with the base Pest Control Plan.

2.7.6. Eliminates roosting sites. Control blackbird and starling roosts by vegetation management of roost sites where possible. Prune trees to reduce the number of perches. Refer to the Base Grounds Maintenance Plan.

2.7.7. Inhibit bird access to buildings and hangars. Pigeons, sparrows, and starlings frequently dwell in buildings and hangars. Denying access by screening windows, closing doors, and blocking entry holes is most effective. When necessary consider:

2.7.7.1. Pellet Guns. Provide bird shooting services to Aircraft Hangars as required. USFWS permits are not required for European Starlings, Pigeons or House Sparrows. Although this is an effective technique, experience has shown all birds cannot be removed by this method alone. In addition, proper safety equipment and trained, skilled personnel are necessary. Hangars must be empty of all other personnel and aircraft openings covered by maintenance personnel to prevent the creation of Foreign Object Damage (FOD). To coordinate for depredation SQs can request required actions through 58 SOW/SE (853-7777).

2.7.7.2. Avitrol, Starlicide or Other Avicides. Coordinate with Environmental branch and Entomology (CIMS) about using any bird control chemicals.

2.7.7.3. Trapping/Removal. Use large cages with food, water and other birds to trap pest birds. Birds will be released away from the hangar. 377 MSG/CE-Utility Manager (CEO) (846-5842) Entomologists can assist with trapping activities.

2.7.7.4. Design Features. Consider structures with the support features located on the outside of the building to greatly reduce bird numbers. Consider this design when planning new hangars or other structures.

2.7.7.5. Door Coverings. Use screens or plastic strips suspended over the doors to exclude birds. Ensure no tears or holes are present that allow birds access to the hangar.

2.7.7.6. Sharp Projections. Use in limited areas such as ledges, overhangs or small places where birds can not be allowed. Expense prohibits their use over the entire structure.

2.7.7.7. Control other animals as required. Prior to killing any animal, coordinate with 377th Weapons System Security Squadron Restricted Area Security (377 WSSS/ Restricted Area Security (S5)) at 505-853-7551/505-846-8271 and 377 MSG/CEIE at 505-846-0226. The only exception is an emergency situation. The emergency situation will be reported to 377 MSG/CEIE (505-846-0226) by the end of the next duty day. In the event animal control requires a firearm other than a pellet gun, the USDA will be called in to depredate the animal.

**2.8. 58th Operations Group Commander (58 OG/CC) shall:**

2.8.1. Publish specific guidelines for declaring, disseminating and terminating local bird watch conditions.

2.8.2. Be notified any time the Bird Watch Condition enters or exits SEVERE for further decision making.

2.8.3. Issue specific guidance and flying restrictions for 58 OG aircrews and the SQ/Ops Sup on procedures to be followed under each bird watch condition.

2.8.4. Ensures 58 OG aircrews are briefed on and understand bird watch conditions.

2.8.5. Issues guidance for 58 OG aircrews that find signs of increased bird/wildlife activity by observation, encounter, or by listening to ATIS, to contact the 58 SOW/WOC.

2.8.6. Review all proposed new low-level routes and training areas, or changes to existing routes or areas, for BASH potential.

2.8.7. Ensure aircrews are trained on using the Electronic Mishap Notification Process via SharePoint (primary method) or Air Education and Training Command (AETC) Form 645-4 *Trend Data Report* (Secondary method), and publishes procedures to forward the form to 58 SOW/SEF.

2.8.8. Disseminate this plan to SQ/Ops Sup.

2.8.9. Makes operational changes to avoid areas during times of known bird concentrations, mission permitting.

**2.9. 58th Maintenance Group Commander (58 MXG/CC) shall:**

2.9.1. Issue specific guidance to maintenance personnel for the reporting of all discovered bird/wildlife strikes.

2.9.2. Train Maintainers on procedures for using the electronic mishap notification process via SharePoint (Primary method) and completing the AETC Form 645-4 (Secondary method), and publishes procedure to forward the forms to 58 SOW/SEF.

2.9.3. Issue procedures for the preservation of non-fleshy bird/wildlife remains if discovered on aircraft. Even the smallest feather/smear should be forwarded to 58 SOW/SEF for Deoxyribonucleic acid (DNA) identification.

**2.10. KAFB Flying Unit/Operational CCs shall:**

2.10.1. Ensure aircrews are briefed on and understand bird watch conditions.

2.10.2. Ensure aircrews check the forecast Bird Hazard using AHAS ([www.usahas.com](http://www.usahas.com)) for their departure location, intended route (low-level routes, MOAs, restricted areas, refueling tracks, etc.) and destination. Abide by the operational restrictions listed in Air Force Manual (AFMAN) 11-202V3, *Flight Operations*, and AFMAN11-202V3\_AETCSUP\_58OGSUP, *Flight Operations*, and KIRTLANDAFBI 13-204, *Airfield Operations*.

2.10.3. Issue guidance for aircrews to report bird/wildlife activity by observation or encounter to the 58 SOW/WOC immediately.

2.10.4. Review all proposed new low-level routes and training areas, or changes to existing routes or areas, for BASH potential.

2.10.5. Trains aircrews and maintenance personnel on the importance and procedures associated with using the electronic mishap notification process via SharePoint (Primary method) or completing and routing the AETC Form 645-4 (Secondary method).

2.10.6. Issue procedures for the preservation of non-fleshy bird/wildlife remains if discovered on aircraft. Any visible bird remains should be collected and forwarded to the Smithsonian (through BASH bird identification procedures) for tracking and species identification.

2.10.7. Verify unit Flight Safety Officers have procedures in place tracking the electronic mishap notification process or for forwarding the completed AETC Form 645-4 to the 58 SOW/SE (DSN 263-8592/5839/fax DSN 263-5840) within 24 hours of a strike.

### 2.11. KAFB Flying Unit Flight Safety Representatives shall:

- 2.11.1. Make current bird activity data available to aircrews for flight planning. Examples of available data include a link to [www.usahas.com](http://www.usahas.com) on flight planning websites and a displayed AHAS information at the operations desk.
- 2.11.2. Educate schedulers, aircrew, and supervisors on how to use the AHAS website ([www.usahas.com](http://www.usahas.com)).
- 2.11.3. Develop a procedure for reporting bird/wildlife strikes and train aircrews and maintenance personnel to properly report bird/wildlife strikes and preserve bird/wildlife remains.
- 2.11.4. Ensure aircrews immediately report all bird/wildlife strikes and/or hazardous bird/wildlife activity to the 58 SOW/WOC in a timely and accurate manner.
- 2.11.5. Maintain a supply of AETC Forms 645-4 for aircrews and maintenance in the event of network or computer outage (etc.).
- 2.11.6. Confirm all aircrews fill out applicable portions within the electronic mishap notification process via SharePoint (Primary method) or the AF Form 645-4 (Secondary method) after a bird/wildlife strike.
- 2.11.7. Coordinate with maintenance to ensure progress on the electronic mishap notification process via SharePoint or the AF Form 645-4 when evidence of a bird/wildlife strike is discovered.
- 2.11.8. Verify the electronic mishap notification process is being utilized after every bird/wildlife strike or a completed AETC Form 645-4 is processed.
- 2.11.9. In conjunction with 58 SOW/SEF, monitors bird/wildlife activity and bird/wildlife strike statistics and advises aircrews of potential bird hazards.

### 3. KAFB BHWG.

- 3.1. **Mission.** To reduce the possibility of bird/wildlife strikes in the KAFB area, thus reducing aircraft damage and possible injury to personnel.
- 3.2. **Execution.** The BHWG will be responsible for coordinating the activities of all agencies involved in the BASH program. Characteristics of the BHWG include:
  - 3.2.1. **Function.** Collects, compiles and reviews data on bird strikes; identifies and recommends actions to reduce hazards; recommends changes in operational procedures; prepares informational programs for aircrews; and serves as a point of contact for off- base BASH issues.
  - 3.2.2. **Authority.** The BHWG submits all recommendations to the KAFB flying unit operational CCs for approval. Implementation of recommendations is through the normal chain of command.
  - 3.2.3. **Composition.** The chairperson will be the 58 SOW/CV or designated representative, and co-chaired by 377 ABW/CV or designated representative. The group will consist of:
    - 3.2.3.1. 58 OG/CC.

- 3.2.3.2. 58 MXG/CC.
- 3.2.3.3. 58 Operational Support Squadron (OSS)/CC.
- 3.2.3.4. 58 OSS/Airspace Manager.
- 3.2.3.5. 58 SOW Chief of Flight Safety.
- 3.2.3.6. 58 SOW SQ Ops Sup Program Manager.
- 3.2.3.7. 512 RQS Chief of Safety.
- 3.2.3.8. 71 SOS Chief of Safety.
- 3.2.3.9. 415 SOS Chief of Safety.
- 3.2.3.10. 150 SOW Chief of Safety.
- 3.2.3.11. 377 MXS Airfield Manager.
- 3.2.3.12. 377 ABW Safety Representative.
- 3.2.3.13. 377 ABW Natural Resources Manager.
- 3.2.3.14. 377 MSG Civil Engineer Representative.
- 3.2.3.15. Air Force Safety Center (AFSEC) Representative.
- 3.2.3.16. USDA Representative.
- 3.2.3.17. Kirtland Flight Center Club Safety Representative.
- 3.2.3.18. NM Civil Air Patrol Air Force Liaison (CAPLO).
- 3.2.3.19. Albuquerque Sunport Environmental Manager (office 505-244-7860 / mobile 505-350-0090).
- 3.2.3.20. Albuquerque Sunport Wildlife Hazard Specialist (office 505-244-7860 / mobile 505-328-8410).
- 3.2.3.21. Valle de Oro National Wildlife Refuge Representative (office 505-248-6667).
- 3.2.3.22. 377 ABW Judge Advocate.
- 3.2.3.23. 377 ABW Public Affairs.
- 3.2.3.24. 377 ABW Security Forces.
- 3.2.3.25. 58 SOG Standardizations/Evaluations.

3.3. **Meeting Schedule.** Semiannually; other times as dictated by bird activity.

#### 4. **KAFB Environment.**

4.1. **Flight Operations.** KAFB, the Helicopter Auxiliary Field, the low-level routes, and the associated local flying areas are located near two major migratory routes. The first migratory flyway begins at the Great Salt Lake where birds fly southeast to the Rio Grande and then follow the Rio Grande southeast to Mexico. The second migratory flyway follows the eastern side of the Rocky Mountains through northeast and eastern NM. The annual migration of various species and the concentration of non-migratory birds, particularly raptorial species on

and around the airfields provide reason for continuous vigilance for bird strikes and bird strike procedures. Although bird strikes are rare in the immediate vicinity of the airfield, the potential for bird strikes exists during all phases of flight. Historically, the greatest potential for bird strikes exists during low-level operations.

**4.2. Ground Operations.** A moderate hazard for wildlife strikes exists from the presence of wildlife on KAFB. In particular, the base hangars present a suitable nesting area for pigeons. This may constitute a health hazard to personnel as well as hazard to equipment and aircraft stored in the hangars. The base environment also attracts numerous colonies of prairie dogs. Two threats posed by prairie dogs include attracting raptors and burrowing under the aircraft movement areas. Military-controlled portions of the flight line environment have been declared a “no tolerance” area to include the grass area northeast of the 150 SOW ramp. Since all taxiways and runways are under the jurisdiction of the Sunport, city officials have primary responsibility in removing identified hazards IAW city policy.

## **5. Bird/Wildlife Hazards.**

**5.1. Overview.** This section provides information on specific bird/wildlife strike hazards and recommendations for countering each hazard. Due to certain constraints associated with operating as a tenant at a civilian controlled airport with a mixture of civilian and military regulated contracts, many of the recommended countermeasures may not always be feasible, but are still included for informational purposes.

5.1.1. An important part of evaluating bird hazards is learning about local bird activities, species that cause hazards, locations of local bird refuges, daily bird movements, seasonal bird populations, potential airfield food sources for birds, etc. After defining the hazards, there are several active and passive techniques that can be successful in reducing bird populations. The following is a summary of specific bird strike hazards and recommendations for reducing each hazard to flight operations in and around KAFB, NM.

5.1.2. Most of the strikes associated with United States Air Force (USAF) aircraft happen outside of the local KAFB Visual Flight Rules (VFR) and Instrument Flight Rules (IFR) traffic pattern. Strikes to USAF assets happen primarily in the low-level, remote, and other/unknown training locations. These strikes involve species such as Red-Tailed Hawks, American Kestrels, Turkey Vultures, Black Vultures, Golden Eagles, and Merlins. Water fowl struck include Mallards, Green-winged Teal, Blue Winged Teal, Northern Pintails, and Ring-necked Ducks. Doves included Rock and Mourning Doves, shorebirds included Killdeer, Ring-Billed Gulls, and Solitary Sandpipers, Owls included Flammulated and Short-Eared Owls, goatsuckers including common nighthawks, grebes including Western Grebes, as well as a wide variety of Passerines including Horned Larks, Barn Swallows, Cliff Swallows, European Starlings, American Robins, Yellow-headed Blackbirds, and numerous other small species. Additionally there have been incidents of strikes of both Brazilian Free-tailed and Hoary Bats. Strikes associated with civilian airliners were not provided at the time of this re-write. This historic record is important to give an indication of the types of conditions to be addressed in the BASH plan and the specific control measures to be utilized. The numerous strikes occurring outside of the Albuquerque

Sunport/KAFB area cause those hazards to be mitigated through operational planning and scheduling. Our local situation changes throughout the year with migrant birds such as raptors, shorebirds, doves, swallows, starlings and blackbirds posing the most potential problems during both migration periods and resident species causing hazards throughout the year.

5.1.3. KAFB's effective BASH program relies on free information sharing and assistance between the Department of Defense (DoD) organizations and the Albuquerque International Sunport operational staff and air traffic control. Airfield habitats, bird control, removal of wildlife, bird disposal activities, and communications with the tower have all occurred and serve to reduce hazards at the airfield. Most of the bird removal and control efforts are conducted by the airport staff but are supplemented by USAF and contractor methods. Implementation and integration of the KAFB BASH plan will be done upon its release/where applicable to meet both USAF and FAA standards.

**5.2. Regional Bird/Wildlife Hazards.** The KAFB/Albuquerque International Sunport local area map depicts the immediate vicinity of the airfield. It may be utilized to show specific areas that may attract birds considered hazardous to aircraft operating from the base. Several areas of concern are evident in the local airfield surroundings. Much of the airfield is covered in grasses and desert shrubs as recommended, but disruption of vegetative cover by prairie dogs is still a major concern. The result is bare areas attractive to bird and other wildlife species. It must be noted that the "airfield proper" is not a direct responsibility of the USAF or ANG. However, recommendations are channeled to the International Sunport staff. Additionally, the airfield is only partially fenced and as such it offers opportunities for wildlife such as coyotes and deer to enter the airfield.

5.2.1. Other features in the local vicinity possess potentially dangerous hazards throughout the length of the Rio Grande River. As this is the most significant source of water in the area it collects large numbers of birds as they traverse the area each spring and fall. This potential is also true of KAFB's auxiliary fields surrounding Albuquerque. The University of NM's golf courses, Industrial areas, and natural and regenerated landscaping all attract varieties of bird species potentially hazardous to operations. Air Traffic Control reports and Pilot bird reports are some of the effective "real time" warnings. It is recommended that these methods grow to better warn aviators of the risks.

5.2.2. The Valle de Oro National Wildlife Refuge (N3458.72 W10640.48) is 3.5 miles from the end of Runway 03/21 and 6.3 miles to the Auxiliary field. It encompasses one square nautical mile of area. It is home to and attracts many waterfowl, roosting birds, predatory birds and other predators. This poses a flight hazard for operations into and out of Runway 03/21. The 377 ABW, 58 SOW and 150 SOW are presently working with the Albuquerque International Sunport, FAA and the USFWS to actively mitigate bird hazards to aircraft operating from Albuquerque International Sunport and KAFB. The USFWS has a representative that attends meetings and conducts coordination with KAFB and Sunport officials. Formal year-round surveys at Valle de Oro Wildlife Refuge will be conducted to determine peak wildlife usage.

**5.3. Airfield Hazard Assessment and Recommendations.** The Albuquerque International Sunport staff is responsible for ensuring that airfield vegetation and drainage is managed to minimize bird and wildlife attractants. An excellent cooperative relationship exists between the airport and Air Force operational units. The airport staff conducts wildlife management techniques to address FAA part 139 standards. KAFB conducts management on its property, but has no authority on that of the airport's property. The USAF BASH representatives can however, offer suggestions and information to provide guidance and assistance if needed.

**5.4. Airfield Vegetation.** The airfield is a mixture of desert grasses and other broad leafed vegetation. Much of the airfield contains bare soils as a result of past drought conditions, soil type, and burrowing animals. The Air Force generally requires a dense uniform turf be maintained and recommends the height of 7-14 inches (FAA 6-12), except in the parts of the country where this is not possible (such as Albuquerque, NM). The Sunport currently cuts the vegetation to a height of 5-10 inches to comply with both USAF and FAA standards. More information on airfield turf management may be obtained from the USAF Civil Engineering Support Agency (AFCESA/CESM) at DSN 523-6465, Commercial 850-283-6465, or the local county Extension Agent. The USAF is not responsible for the mowing plan in association with the airfield/it is not incorporated in the BASH plan.

**5.5. Drainage.** The airfield is very well drained and precipitation is minimal during most of the year. Percolation through loose soils and natural runoff rapidly remove water from the airfield. Wetland vegetation is not present on the airfield itself, but is a part of a promoted recovery project to the East of Air Force property. Standing water should not be encouraged anywhere near the airfield or its airspace. Permanent "ponded" water should be removed through draining or filling of these areas.

**5.6. Security Fencing.** The airfield is only partially enclosed. As a long range plan the Sunport realizes the requirements in accordance with FAA regulations, and it is on the airfield's long term plans list, however, the cost associated with the project and its approval is an ongoing process that will not be solved in the near term. The USAF has no authority to fence the International Sunport. This is still an open item for action/coordination.

**5.7. Trees, Landscaping and Perch and Nest Sites.** Continue to monitor to ensure that no bird roosts develop. If roosts are noted, active dispersal methods can be employed to disperse such sites. Alternatively, individual trees and shrubs can be targeted for "thinning or removal" to reduce their attractiveness to birds. For isolated perching areas such as poles, etc., anti-perching devices (such as spike strips) should be incorporated where applicable/able. Additionally, rubber snakes, owls, and effigies should be utilized sparingly or not at all as they quickly lose their effectiveness to habituating species.

**5.8. Waste Management.** Organic Wastes such as household garbage and food wastes from the airport, base, and surrounding area must be eliminated or contained. Ensure no open trash containers are present on airport or Air Force property. The KAFB Landfill to the East of the base is a Construction and Demolition Debris landfill and is exceptionally well managed and maintained. It incorporates steep siding, a small working face, and an incorporation of cover. Landfills accepting municipal solid wastes are considered incompatible with safe flying operations anywhere within the standard 10,000' separation criteria identified in the FAA Advisory Circular 150/5200-33A.

## 6. Specific Bird Information.

6.1. **Waterfowl (Ducks, Geese, Swans).** Migrating Waterfowl are particularly dangerous to flight safety due to the large numbers and generally higher altitude of the birds. Large flocks of water fowl travel along traditional flyways to their breeding and wintering grounds during spring and fall. Huge flocks may stop along the route awaiting favorable weather conditions to continue. Migrating birds are most active from sunset through midnight, with numbers decreasing in the early morning hours. Wintering concentration areas should be avoided.

6.2. **Raptors (Hawks, Falcons, Kites, Eagles, Vultures).** These birds can be particularly hazardous to aircraft because of their size and widespread distribution over bases and low-level areas. Raptors (particularly vultures) use thermals to their advantage to search for prey. These birds become active during mid-morning and remain aloft until late afternoon. Avoid areas with thermal-generating terrain such as ridge lines, rolling hills, and near water. Landfills are particularly attractive to soaring vultures. In the fall, raptors migrate by day to areas of heavy winter concentrations in the southern states and through Central America. The removal of dead animals on the airfield, proper management of landfills, rodent control on airfields, and removal of dead trees and other perching sites on the airfield can control these birds. Use pyrotechnics to frighten raptors from the airfield.

6.3. **Cranes.** These large birds are most hazardous during migrating periods, particularly in the fall when many thousands of birds may be concentrated in a small area. Avoid flying at dawn and dusk in areas of known concentrations. Use pyrotechnics on the airfield to disperse these birds.

6.4. **Pigeons and Doves.** These birds are seed eaters and are attracted to seed-producing weeds, grasses, and shrubs. Open areas or bare spots are attractive as resting or feeding sites. Pyrotechnics can be effective in frightening these birds. Proper grass-height management, irrigation, and mowing before grass goes to seed will limit the number of pigeons and doves on the field. Pigeons frequently nest in structures such as hangars. Netting, shooting, trapping, and poison baiting can drastically reduce their numbers in these structures.

6.5. **Owls.** Most owls are nocturnal and attracted to rodents as a food source. Rodent control may be necessary on the airfield; proper management of airfield grass will limit their numbers. Remove perch sites, such as unnecessary fence posts and dead trees, to limit the number of owls. Avoid over-flight of landfills at night to reduce hazard from owls.

6.6. **Horned Larks.** These birds are very difficult to control. They are attracted by bare spots, such as long runway sides where they eat weed seeds and insects. The best defense against these birds is a thick uniform grass with no bare spots. In the southwest, this may not be possible as grass cannot be maintained. Consider coating bare spots, particularly along runways, with oil-base or asphalt cover. Use pyrotechnics, but these birds will tend to fly only short distances and settle down. Persistence is the key to success.

6.7. **Swallows and Pratincoles.** These birds eat insects in flight and are commonly found above airfields. Fortunately, swallows are adept at avoiding aircraft, but if they do present a problem, measures can be taken for their dispersal. Insect control will reduce swallow numbers and discouragement of nesting will further decrease numbers. Wash mud nests from eaves, culverts, etc., with a hose as the birds begin nesting. Nesting in banks can be discouraged by harassing the birds as they work on building. If swallows are noted resting on runways or taxiways, use pyrotechnics to disperse them.

6.8. **Crows and Ravens.** These omnivorous birds are common in open areas and around landfills. These birds may occur in large flocks, particularly at sunset as they return to roost sites. Proper grass-height management will reduce population numbers. Remove any known roost sites or thin individual trees. Operate landfills in a manner to discourage these birds. Use bioacoustics and pyrotechnics to frighten these birds if they occur on the airfield.

6.9. **Blackbirds, Grackles, Cowbirds, and Starlings.** These birds can be particularly hazardous because they frequently occur in huge flocks, sometimes in the thousands. Blackbirds and starlings are attracted to flat, open areas to feed, rest, or stage/pre-roost. Maintain grass height between 7 and 14 inches to best reduce airfield blackbird and starling numbers. Do not allow seed-producing plants to grow on the airfield nor outlease grain crops in areas where these birds are known to occur. Eliminate roost sites near the flightline. Selectively prune or remove roost trees, brush, or cattails if blackbirds and starlings are roosting on base. Blackbirds and starlings respond well to an intense frightening program using bioacoustics and pyrotechnics. Use other methods to supplement this program as necessary. Starlings are not federally protected and may be killed without permits. Permits are required for other species. Occasional shooting of birds will reinforce other frightening techniques. Consider poisoning or trapping with USFWS assistance. Avoid flying near known blackbird and starling roosts, especially at sunrise and sunset and during spring and fall migration. Huge roosting colonies may also be present during winter months in southern states.

6.10. **Meadowlarks.** These birds occur on nearly every airfield and are attracted to grasslands and low weeds. Eliminate broad-leafed weeds and maintain grass height at 7 to 14 inches. Elimination of suitable perching sites, such as fence posts and brush, will also aid in reduction. Use pyrotechnics but remember meadowlarks usually only fly a short distance before settling down again. Persistence is the key to success.

6.11. **House Sparrows.** These birds are not frequently struck by aircraft, but are common pests around structures. House sparrows often nest in hangars and dense shrubs and trees. These birds are not protected by law and may be killed without permits. Frightening techniques are usually ineffective against these birds.

6.12. **Warblers.** The wide range of species of warblers thrives in a variety of habitats. Most prefer shrubs, trees, or riparian habitats where they feed, breed, or rest. Do not allow habitat types on the airfield and warbler strikes will be rare as a result. Migrating warblers may be struck at night, especially as they fly south in the fall. Fortunately, these birds are very small and rarely cause damage.

6.13. **Fringillidae (Sparrows, Finches, Grosbeaks, and Buntings).** Most Fringillidae are not hazardous to aircraft operations, but occasional large flocks can be encountered, particularly during migration. These birds are seed eaters as a rule, and most prefer weedy, brushy, or forested areas. Proper grass height management is the best means of control. Grass exceeding 14 inches will attract many of these birds and should not be allowed. Mow before grass goes to seed. Use pyrotechnics to frighten many of these birds; success may be limited with others.

## 7. List of BASH References.

7.1. **Technical Points of Contact.** The following agencies and individuals are available to discuss specific bird and wildlife issues:

**Table 1. Technical Points of Contact.**

<b>USAF BASH Team</b>	HQ AFSEC/SE 9700 Ave. G., SE. Building 24999 KAFB, NM 871175671 DSN 246 5674 (505) 846-5674 <a href="mailto:Daniel.Sullivan.26@us.af.mil">Daniel.Sullivan.26@us.af.mil</a>
<b>National Guard Bureau, Environmental Planning Branch</b>	NGB/A7CVP (BASH) 3500 Fletcher Ave. Andrews AFB, MD 20762-5157 DSN 278-8859 (301) 836-8859
<b>Air National Guard Safety Office</b>	NGB/SEF 411 Jefferson Hwy, Suite 9400 Arlington, Va. 22202 DSN 612-8549
<b>FAA</b>	FAA-Airports Airport Compliance 800 Independence Ave., SW., Rm 615 Washington, DC. 20591 (202) 267-3389 <a href="https://www.faa.gov/airports/airport_safety/wildlife/">https://www.faa.gov/airports/airport_safety/wildlife/</a> <a href="https://wildlife.faa.gov">https://wildlife.faa.gov</a>

<b>UDDA/APHIS/WS</b>	U.S. Department of Agriculture, Wildlife Services: New Mexico Wildlife Services State Director 8441 Washington NE Albuquerque, NM 87113 (505) 346-2640 (phone)/(505) 346-2627 (Fax) <a href="https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs">https://www.aphis.usda.gov/aphis/ourfocus/wildlifedamage/programs</a>
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7.2. **Literature.** The Following (non-exclusive) references provide excellent text references for bird/wildlife hazards.

- 7.2.1. Blokpoel, H. 1976. Bird Hazards to Aircraft. Clarke, Irwin and Co. Ltd, Toronto.
- 7.2.2. Brough, T. 1968. Recent Developments in Bird Scaring on Airfields. PP. 29-38 In Murton, R.K. and E.N. Wright (eds). The Problem of Birds as Pests. Institute of Biology Symposium No. 17, Academic Press, New York.
- 7.2.3. Brough, T. and C.J. Bridgman. 1980. An evaluation of long grass as a bird deterrent on British airfields. J. Appl. Biol. 17:243-253.
- 7.2.4. Bruun, B.B., C.S. Robbins and H. Zim. 1983. Birds of North America. Golden Press, New York.
- 7.2.5. Cleary, E.C. and R.A. Dolbeer. 2005. Wildlife Hazard Management in Airports: A Manual for Airport Operators, United States Department of Transportation, FAA, Office of Safety and Standards, Washington, DC.
- 7.2.6. Jarman, P. 1993. A Manual of Airfield Bird Control. British Crown Copyright 1992/DRA. United Kingdom.
- 7.2.7. MacKinnon, B.R. Sowden and S. Dudley. 2001. Sharing the Skies an Aviation Industry Guide to the Management of Wildlife Hazards. Transport Canada.

7.3. **Distress and Alarm Calls.** The following lists vendors/sources for distress and alarm call tapes. List is for informational purposes, is not inclusive and does not imply endorsement of a specific vendor.

- 7.3.1. Signal Education Aids, Denver, Co. (303) 295-0479
- 7.3.2. Laboratory of Ornithology @ Cornell University, Ithaca, NY. (607) 255-5056
- 7.3.3. Borror Laboratory of Bioacoustics @ Ohio State University, Columbus, OH, (614) 292-2176.

## 8. Bird Hazard Notification System.

8.1. **General.** The following are procedures to use for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of bird/wildlife which pose a potential hazard to safe flying operations.

**8.2. Bird Watch Conditions.** The following terminology is IAW DAFI91-212\_DAFGM2022-01, and will be used for rapid communications to disseminate bird activity information and implement unit operational procedures. Bird location will be given with the condition code. Both condition and location will be posted at the operations desk or designated location in each of the KAFB flying units. Conduct operations in accordance with AFMAN 11-202V3.

**8.2.1. Bird Watch Condition SEVERE.** Bird Watch Condition SEVERE. Wildlife activity on or immediately above the active runway or other specific location(s) representing a high potential for strikes. One animal in relationship to the Aircraft Movement Area may justify a severe condition (such as a vulture in the approach/departure corridor, or a large mammal or reptile on or near the runway).

**8.2.2. Bird Watch Condition MODERATE.** Increased bird population in locations which represent an increased potential for strike. This condition requires increased vigilance by all agencies and supervisors and caution by aircrews.

**8.2.3. Bird Watch Condition LOW.** Bird/wildlife activity on and around the airfield representing low potential for strikes.

**8.3. BASH Phases.** BASH Phases for Albuquerque International Sunport are defined in DoD Flight Information Publication Area Planning AP/1 with BASH phase II in effect March-May and August-October. BASH Phase 1 includes all other months. Operations during the BASH II months are IAW AFMAN11-202V3\_AETCSUP\_58OGSUP and include the following:

**8.3.1.** Fixed-wing aircraft will minimize flight operations below 10,000 feet in the period of 30 minutes prior and 30 minutes after official sunrise and sunset when practical.

**8.3.2.** Aircraft should maintain 1,000 feet AGL when transiting any portion of the Rio Grande during daylight hours.

**8.3.3.** Aircraft should avoid large bodies of water or areas which may attract large numbers of birds (landfills and construction sites) by 1,000 feet AGL or 0.5NM during daylight periods if practical.

**8.4. Authority.** During normal flight operations, the authority to declare Bird Watch Conditions is delegated from the 58 OG/CC to the SQ/Ops Sup. Conditions can be declared based on ground observations, pilot reports, radar observation, flight safety recommendations, etc.

**8.5. Communication.** Bird watch conditions will be disseminated by the following means:

**8.5.1.** During all flight operations, the declaring authority (see [paragraph 3](#) above) is responsible for changes in the local Bird Watch Condition. During normal flight operations, the SQ/Ops Sup will run the QRC and pass the local Bird Watch Condition to the flying SQs via telephone.

**8.5.2.** Anytime the local Bird Watch Condition is elevated to MODERATE, the Ops Sup will brief the raised Bird Watch Condition and additional appropriate information to all aircrews filing flight plans. If crews have already stepped, the information will be relayed to them through the Ops Sup at engine start. SQ Ops Sup's reserve the right to contact their aircrews as they deem appropriate with updates.

8.5.3. Anytime the Bird Watch Condition is elevated to SEVERE, the Ops Sup will brief the bird watch condition, the basis for that condition, and the restrictions associated with that condition (see [paragraph 5.1](#)) to all aircrews filing flight plans. If crews have already stepped, they will be contacted by the SQ/Ops Sup to relay updates and any restrictions through “COYOTE” or the appropriate controlling agencies frequency. It is also recommended that the information be relayed to the Albuquerque Sunport Tower and Airfield Manager for dissemination to all airborne aircraft.

8.5.4. Once a bird watch condition has been declared, it is the declaring authority’s responsibility to either cancel or downgrade the condition commensurate with updated information and make sure the applicable organizations and personnel are informed.

8.5.5. If an aircrew observes or encounters any bird activity while in flight that could constitute a hazard, the aircrew should contact the Ops Sup for dissemination to KAFB flying units (if reasonably possible). The following information is necessary:

8.5.5.1. Call Sign.

8.5.5.2. Location.

8.5.5.3. Altitude.

8.5.5.4. Time of observation.

8.5.5.5. Type of birds (if known).

8.5.5.6. Approximate number of birds.

8.5.5.7. Behavior of observed birds (soaring, flying to a location, etc.).

8.5.5.8. Recommended Local Bird Watch Condition (as warranted).

**8.6. Operating Instructions (OI).** Operational restrictions to the local flying operations will be tailored to observed bird/wildlife activity. The SQ/Ops Sup and/or KAFB flying unit operational CCs will determine what actions are necessary to decrease aircrew exposure to known areas of bird activity and publish these restrictions in their unit OIs. In many situations, aircrew awareness that increased bird activity exists will be sufficient action. However, some situations require positive action to reduce the potential for bird strikes. Refer to AFMAN 11-202V3 for guidance on operational restrictions during increased bird watch conditions. Crews will also refer to appropriate unit level guidance for restrictions under varying bird conditions. Local aircrews will refer to KIRTLANDAFBI 13-204, and AFMAN11-202V3\_AETCSUP\_58OGSUP, General Flight Rules, for aircraft operations under varying bird watch conditions.

## **9. Bird Strike Reporting and Forms.**

**9.1. Purpose.** To outline the procedures and forms required to report bird/wildlife strikes IAW DAFI 91-204, *Safety Investigations and Reports*, and AFMAN11-202V3\_AETCSUP\_58OGSUP, and to enhance the BASH program at KAFB.

**9.2. Bird Sighting Procedures.** All aircrew are responsible for reporting bird/wildlife activity or roosts to the 377 MXS Airfield Manager, 58 SOW/SEF, and the 58 SOW/WOC.

9.3. **Bird Strike Reporting Procedures.** 58 SOW aircrews will follow the guidance in the AFMAN11-202V3\_AETCSUP\_58OGSUP for bird strike reporting procedures. If a transient crew experiences a bird strike, upon request the 58 SOW/SE or host unit will assist them in filling out and processing the AF Form 853, *Air Force Wildlife Strike Report*, remains, and AFSAS information.

9.4. **Bird Identification Procedures.** The 58 SOW/SE office is the OPR for the identification and processing of Non-fleshy bird remains. The individual flying units have been delegated the authority to collect and process remains taken from their aircraft or areas following all bird strikes. However, should the units require 58 SOW/SE assistance, they will contact 58 SOW/SE and forward their collected remains to the 58 SOW/SE office within 24 hours of the strike. Any amount of collected remains is valuable identification tools and should not be discarded as they can be utilized for positive DNA identification. If no remains are apparent, spray blood smear with water, 70% ethanol solution, or 10% bleach, and blot with a clean paper towel. Fold the paper towel and place into labeled zip-loc bag and process as normal. Collected remains should be legibly annotated on a zip-loc bag to include Date discovered, Tail Number, and location of strike/damage on the aircraft where bird remains were recovered. 58 SOW/SE or delegated unit representative will forward the remains to the Smithsonian Institution Division of Birds for identification. See AFSAS for additional information.

9.5. **Damaging Bird Strike Report.** Bird strikes causing reportable aircraft damage are reported to appropriate agencies by message IAW DAFI 91-204. As well, bird strikes resulting in damage of more than \$10,000 are reportable under AETC CC's Critical Information Requirements (CCIR).

9.6. **Technical Assistance.** The U.S. Air Force Mishap Prevention Program outlines responsibilities for reducing bird/wildlife strike hazards. Obtain additional information on BASH management from DAFI91-212\_DAFGM2022-01. Technical assistance is available through the USAF BASH Team, HQ AFSEC/SEFW, 9700 Ave G SE, Building 24499, KAFB, NM 87117-5671. DSN 246-5674/5673 or Commercial 505-846-5674/5673, fax 505-853-0565, Email [SEFW@us.af.mil](mailto:SEFW@us.af.mil).

JASON F. VATTIONI, Colonel, USAF  
Commander

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 33-322, *Records Management Information and Governance Program*, 23 March 2020

AFI91-202\_AFGM2022-01, *The US Air Force Mishap Prevention Program*, 12 April 2022

DAFI 91-204, *Safety Investigations and Reports*, 10 March 2021

DAFI91-212\_DAFGM2022-01, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*, 08 June 2022

AFMAN 11-202V3, *Flight Operations*, 10 June 2020

AFMAN11-202V3\_AETCSUP\_58OGSUP, *Flight Operations*, December 2020

KIRTLANDAFBI13-204, *Airfield Operations*, 24 March 2021

ABQ International Sunport Wildlife Hazards Management Plan (139.337) (revision 11 dated February 14, 2014) (Attachment 4)

Valle De Oro Memorandum of Understanding, 21 August 2019

***Prescribed Forms***

None

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

AF Form 853, *Air Force Wildlife Strike Report*

AETC 645-4, *Trend Data Report*

***Abbreviations and Acronyms***

**AETC**—Air Education and Training Command

**AFCESA**—USAF Civil Engineering Support Agency

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFRC**—Air Force Reserve Command

**AFRIMS**—Air Force Records Information Management System

**AFSEC**—Air Force Safety Center

**AHAS**—Aviation Hazard Advisory System

**ANG**—Air National Guard

**ATIS**—Air Terminal Information Service

**BHWG**—Bird Hazard Working Group

**CAPLO**—Civil Air Patrol Air Force Liaison  
**CC**—Commander  
**CE**—Civil Engineering  
**CEIE**—Civil Engineering-Environmental Management  
**CEO**—Civil Engineering-Utility Manager  
**CIMS**—Entomology  
**CV**—Vice Commander  
**DNA**—Deoxyribonucleic acid  
**DoD**—Department of Defense  
**FAA**—Federal Aviation Administration  
**FOD**—Foreign Object Damage  
**KAFB**—Kirtland Air Force Base  
**IFR**—Instrument Flight Rules  
**MSG**—Mission Support Group  
**MXG**—Maintenance Group  
**NEXRAD**—Next Generation Weather Radar  
**NM**—New Mexico  
**OPR**—Office of Primary Responsibility  
**Ops Sup**—Operations Supervisor  
**OSS**—Operational Support Squadron  
**QRC**—Quick Reaction Checklist  
**RDS**—Records Disposition Schedule  
**RQS**—Rescue Squadron  
**S5**—Restricted Area Security  
**SE**—Safety  
**SEF**—Flight Safety  
**SOS**—Special Operations Squadron  
**SQ**—Squadron  
**USAF**—United States Air Force  
**USDA**—United States Department of Agriculture  
**USFWS**—United States Fish and Wildlife Services  
**VFR**—Visual Flight Rules

**WHMP**—Wildlife Hazard Management Plan

**WOC**—Wing Operations Center

**WSSS**—Weapons System Security Squadron

Attachment 2

58 SOW LOCAL TRAINING AREA

Figure A2.1. Departure/Arrival Corridors.

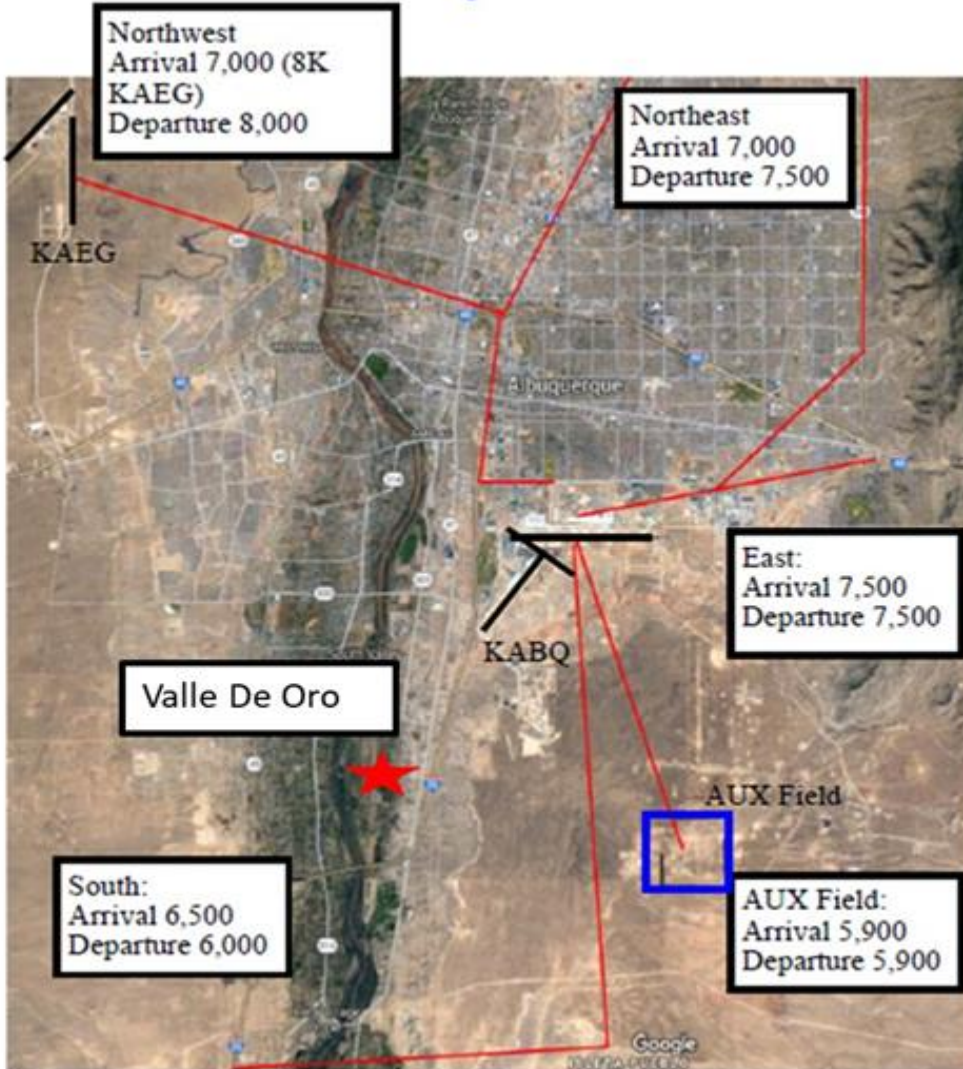


Figure A2.2. Northern 58 SOW Training Area.

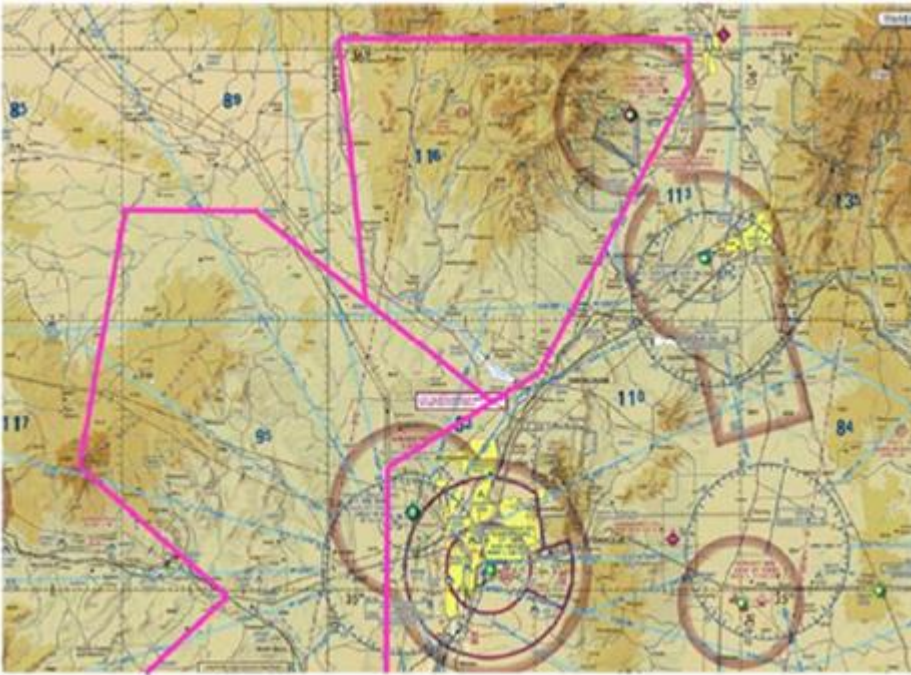


Figure A2.3. Southern 58 SOW Training Area.



Figure A2.4. C-130 Low-Level Training Routes.

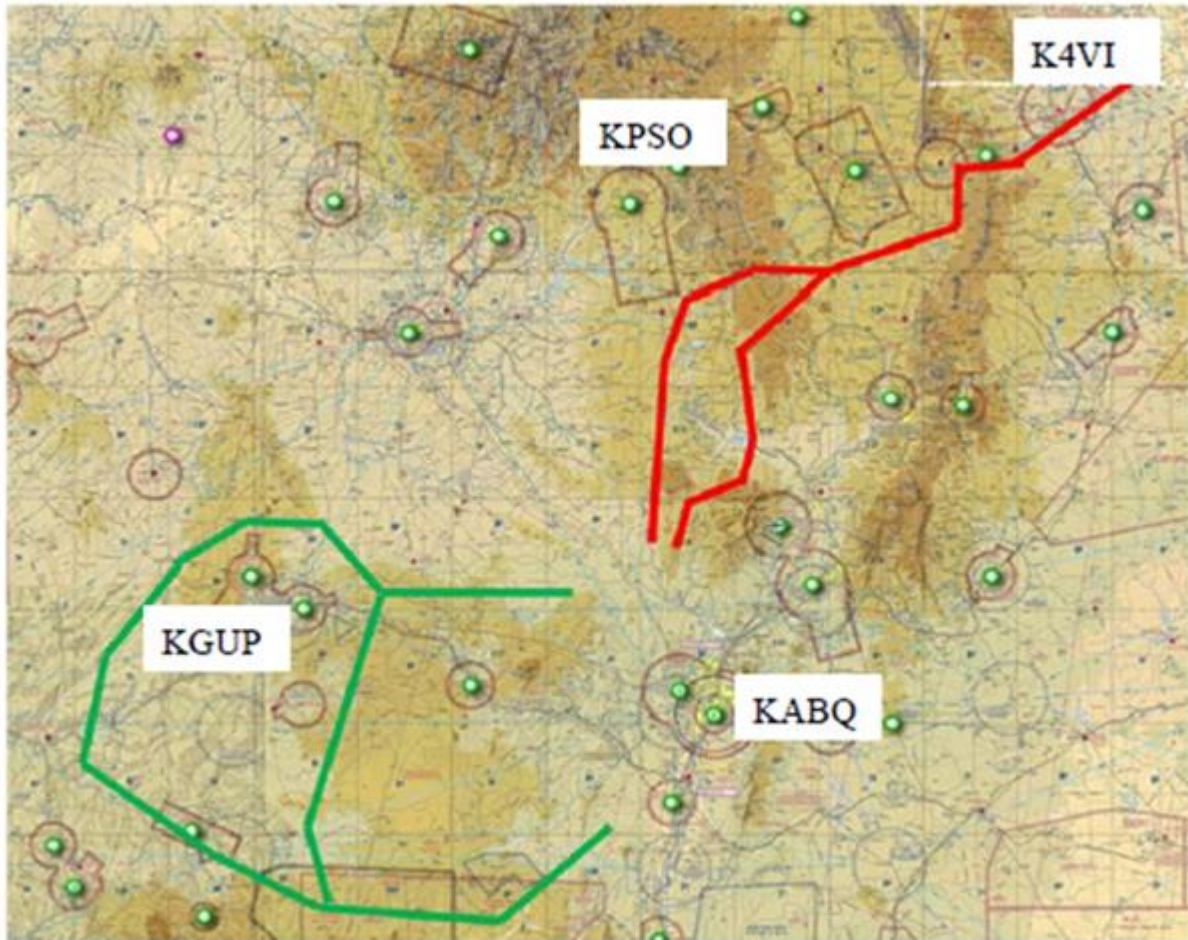


Figure A2.5. C-130/HH-60/CV-22 Air Refueling Tracks.

