

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

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



**10 AUGUST 2023**

**Safety**

**LUKE AIR FORCE BASE BIRD/  
WILDLIFE AIRCRAFT STRIKE  
HAZARD (BASH) MANAGEMENT  
PROGRAM**

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This instruction implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs*, and is used in conjunction with Department of the Air Force Instruction (DAFI) 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*. This instruction applies to Luke AFB, Gila Bend Auxiliary Airfield, Luke AFB Aux-1, and the Berry M. Goldwater Air Force Range (BMGR). This publication applies to all host, associate, and Temporary Duty (TDY) organizations on Luke Air Force Base (AFB). It also applies to Air Force Reserve Command (AFRC) and Air National Guard (ANG) units. The BASH Program Manager is 56th Fighter Wing Safety (56 FW/SEF). Refer recommended changes and questions about this publication to the OPR using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. The authorities to waive wing, unit, delta or garrison level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. Submit requests for waivers through the chain of command to the appropriate tier waiver approval authority or alternately to the publication OPR for non-tiered compliance items. See DAF Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*, for a description of the authorities associated with the tier numbers. This publication may not be supplemented or further implemented/extended. The use of the name or mark of any specific manufacturer,

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### ***SUMMARY OF CHANGES***

The rewrite of this publication is due to AFI 91-212 changed to DAFI 91-212 Federal Administration (FAA) order reference number updated. It also updated formatting in accordance with (IAW) DAFI 90-160, *Publications and Forms Management* guidelines. Updated reference used.

## Chapter 1

### OVERVIEW

**1.1. Purpose.** The 56 FW BASH Plan is designed to provide assigned units, agencies, and tenants a program to minimize aircraft exposure to potentially hazardous bird and wildlife strikes where Luke AFB units conduct flying operations. This plan includes the terminal area, Military Training Routes (MTRs), Military Operating Areas (MOA), ranges, local airfields, and auxiliary fields.

**1.2. Conditions of Execution.** This plan is based upon hazards from both indigenous bird and wildlife populations, as well as seasonal bird migration. Implementation of specific portions of this plan are continuous, while other portions may require implementation as directed by bird or wildlife activity.

**1.3. Operations to be Conducted.** Specific operations include:

1.3.1. Report hazardous bird and wildlife activity, and alter/discontinue flying operations, as appropriate.

1.3.2. Provide information to all assigned and transient aircrews on specific bird and wildlife hazards, and procedures for avoidance.

1.3.3. Eliminate/reduce environmental factors that could potentially attract birds to Luke AFB (KLUF), Luke AUX-1 (Aux-1), Gila Bend Air Force Auxiliary Airfield (KGXF), and the Barry M. Goldwater Range (BMGR).

1.3.4. Depredation of birds on the airfield by authorized personnel.

## Chapter 2

### CONTROL MEASURES

#### 2.1. Bird Hazard Working Group (BHWG).

2.1.1. Function: Collect, compile, and review data on bird/wildlife strikes; identify and initiate actions to reduce wildlife hazards; recommend changes in operational procedures; prepare informational programs for aircrew; and highlight BASH issues with off-base agencies.

2.1.2. Authority: The 56 FW Vice Commander chairs the BHWG meetings and approves/disapproves recommendations of the group. 56 FW Flight Safety (SEF) will provide oversight.

2.1.3. Composition: The 56 FW BHWG will be comprised, at a minimum, of the participants outlined in DAFI 91-212 paragraph 2.3.

2.1.4. Meeting schedule: The BHWG will conduct semi-annual meetings IAW DAFI 91-212, or as directed by the BHWG Chairperson. The BHWG will initiate action items to directly combat BASH problems. Attendance by members listed above is mandatory.

#### 2.2. Bird Watch Conditions (BWCs).

2.2.1. DAFI 91-212 defines the BWCs as SEVERE, MODERATE, or LOW based upon location and density of activity. The following terminology will be used for rapid communication of wildlife activity, and to implement operational mitigation procedures. BWC will ultimately be determined through the accumulation of data from multiple sources and observation. Sources to aid in the determination of BWC may be, but are not limited to: published BASH Phase, AHAS (<http://usahas.com>), real-time observation is paramount to setting an appropriate BWC, sources of observation may include: United States Department of Agriculture (USDA), Supervisor of Flying (SOF), pilot(s), and Range Control Officers (RCO). Actual observations will always supersede NEXRAD reports.

2.2.1.1. Bird Watch Condition SEVERE. Wildlife activity on or immediately above the active runway(s) or within the WEZ, representing an imminent threat for strikes.

2.2.1.2. Bird Watch Condition MODERATE. Wildlife activity near the active runway or location representing an increased potential for strikes. BWC MODERATE should be utilized when a presence of more than 50 small birds or one large bird is a factor to flying operations.

2.2.1.2.1. BWC MODERATE will be the assumed and opening state of the airfield during the BASH Phase II period. This only applies to the terminal area of KLUF, but does not include KGXF or Aux-1.

2.2.1.3. Bird Watch Condition LOW. Bird/wildlife activity on and around the airfield represent a low potential for strikes. BWC LOW should be utilized when there is a presence of less than 50 small birds and no large birds.

2.2.1.3.1. BWC LOW will be the assumed opening state at KLUF during the BASH Phase I period.

**2.3. BASH PHASE I: 1 September – 30 June.** Wildlife activity is historically LOW during these periods.

**2.4. BASH PHASE II: 1 July – 31 August.** Wildlife activity is increased during this period primarily due to migration. Dove activity is also increased and are most prevalent in flocks below 100' AGL. The daily default BWC upon opening the airfield at KLUF will be MODERATE. Therefore, flight leads will utilize this assumption and its associated restrictions during mission planning. Therefore, pattern work will occur at KGXF, and instrument work at Aux-1 or off station. If the BWC is subsequently determined LOW, it will be downgraded accordingly.

## Chapter 3

### RESTRICTIONS

#### 3.1. Bird Watch Condition SEVERE.

3.1.1. When operating within the traffic pattern in BWC SEVERE, takeoffs and landing will cease except for inflight emergencies, minimum fuel, or other extenuating circumstances. Early and clear communication with the SOF is paramount. If KGXF or Aux-1 are BWC SEVERE, these areas will not be utilized for training. KGXF may be utilized for emergency use only, coordinate with KGXF tower as early as possible. Bird control measures will be immediately implemented.

3.1.2. When flying a MTR, or on an unmanned range, flights will utilize a three strike construct. If the flight experiences three near passes with birds, among anyone in the formation, this will constitute declaring the entire MTR or unmanned range SEVERE. This will then be communicated among the flight and also relayed to the SOF and/or Snakeye. Furthermore, the flight will utilize an altitude no lower than 5,000' AGL and decrease airspeed to slowest practical. If the top of the route structure is lower than 5,000' AGL, execute a route abort. The SOF will update the 56 FW Step Brief to reflect a local closure of the MTR due to BWC SEVERE. The increased BWC state for the affected MTR will be valid for one hour, then the BWC will revert back to the current NEXRAD condition. If the condition is determined to be BWC SEVERE in a specific airspace or unmanned range, restrict altitudes to no lower than 5,000' AGL and notify Snakeye. If AHAS indicates SEVERE due to NEXRAD data for a MTR segment prior to takeoff, the flight will adhere to the same 5,000' AGL and slowest practical airspeed restriction during that MTR segment. If practical, flights should utilize a different MTR in order to avoid those possessing SEVERE segments.

#### 3.2. Bird Watch Condition MODERATE.

3.2.1. When operating within the KLUF traffic pattern under BWC MODERATE, pilots will modify flight events, if possible, to avoid wildlife activity. Limit pattern operations under BWC MODERATE to takeoffs, full-stop landings, TR syllabus pattern events, or checkride requirements. Formation takeoffs, approaches, and landings will be discontinued. The SOF should modify traffic pattern operations as necessary to avoid bird activity. If KGXF is BWC MODERATE, the same pattern restrictions apply as outlined above. However, if Aux-1 is BWC MODERATE there are no restrictions to the Jay-Hi TACAN, but the ILS will only be authorized for TR syllabus sorties or checkride requirements.

3.2.2. Flights will utilize an altitude no lower than 1,000' AGL within a MODERATE segment of a MTR. The 1,000' AGL restriction will also apply to any airspace or unmanned range determined to be MODERATE.

#### 3.3. Bird Watch Condition LOW.

3.3.1. There are no imposed restrictions when operating under BWC LOW.

## Chapter 4

### EXECUTION

**4.1. Flight Members will:** AHAS data will be included in mission planning for the airspace being utilized on any sortie event(s) accomplished below 5,000' AGL. AHAS will also be utilized to check divert bases on all off station sorties. It is the Flight Lead's responsibility to ensure this data is briefed along with the weather and NOTAMs (check the range NOTAMs for air-to-air low and tactical/manned range BWC status) in the flight briefing. Since this initial check will occur several hours prior to takeoff, only BAM or SOAR data will be available from AHAS. Bird status will be checked by a member of the flight again at Step, or briefed by the Operations Supervisor. If the overall "AHAS RISK" is not based upon NEXRAD data, inform the Operations Supervisor so that they may relay BWC status at the flight's taxi call. Flight Leads must obtain NEXRAD data prior to entering low levels, except for the rare instance when AHAS does not provide it for the current hour.

4.1.1. AHAS (<http://usahas.com>) data may be accessed by selecting "Air Force Units" under the area type, then selecting "56th FW" under area and date format, and lastly selecting "AHAS RISK" under content display. AHAS will default to the current ZULU month/day/hour unless otherwise specified within the area and date format section. The page will then display the risk and what source that is based on (BAM, SOAR, or NEXRAD). BAM/SOAR are predictive models based on historical data. NEXRAD is a real time radar observation of the bird condition.

4.1.1.1. For unmanned ranges and MTRs only, NEXRAD MODERATE and SEVERE will be treated as BWC MODERATE or SEVERE. On manned ranges, pilot or ranger observations will always supersede NEXRAD. However, pilot observations cannot downgrade the BWC from NEXRAD data on ranges or MTRs.

4.1.2. All personnel discovering a bird strike will notify 56 FW/SEF as soon as possible. This is required to ensure the evidence and any remains are preserved (feathers, beaks, feet, etc.) to enable identification of the species of bird involved in the strike. Maintenance and/or Airfield Management personnel will make arrangements for the preservation of remains and ensure that the remains are preserved in a plastic bag as soon as possible.

4.1.2.1. If a bird or wildlife strike occurs, or remains are discovered during the post-flight walk around, coordinate with Aircraft Maintenance to have the remains collected. Then utilize the "Wing Safety Database" (F-16) or "JSF Safety Database" (F-35), available on the computers located at the squadron operations desk, to input the strike data providing as much information as possible for the event, including location, altitude, and airspeed (if known).

**4.2. Operations Supervisor will:** Operations Supervisors will check AHAS at the top of each hour that lies between pilot step and low-level end times. Current hour AHAS data will normally be based on NEXRAD rather than the predictive BAM or SOAR data that the pilots receive at step. Operations Supervisors will relay any changes to the flight's AHAS status between step and taxi, or no later than the point at which the flight calls for "words". If NEXRAD data is still not possessed at this point, the Operations Supervisor will require the flight to call again for bird status

prior to takeoff. If NEXRAD data is still not available, the flight will call and receive an update from the SOF or the Operations Supervisor prior to MTR entry.

4.2.1. If a squadron assigned aircraft experiences a bird or wildlife strike, the Operations Supervisor will be responsible for ensuring the effected pilot utilizes the “Wing Safety Database” (F-16), or “JSF Safety Database” (F-35), to input the strike data providing as much information as possible for the event. These databases may be accessed via links located on the computers located at the squadron operations desk.

**4.3. The SOF will:** The SOF is responsible for checking AHAS data at the top of each hour, for Luke AFB, Luke AFB Aux-1, KGXF, and any declared divert base. Furthermore, the SOF will ensure that Tower personnel have included the appropriate BWC in the ATIS, and that the 56 FW Step Brief also reflects the current BWC. If a PIREP is received effecting MTRs or airspace, ensure information is passed to Snakeye. The increased BWC state for the affected area will be valid for one hour, then the BWC will revert back to the current NEXRAD condition.

4.3.1. The SOF will be the point of contact to gain 56 OG/CC approval for any aircraft launches during BWC SEVERE.

4.3.2. When BWC SEVERE is declared, the SOF will ensure tower personnel have notified 56 FW/SEF (856-6942) to initiate deprecation.

**4.4. Range Management will:**

4.4.1. Snakeye is responsible for checking AHAS data, at the top of each hour, for the BMGR to include both manned and unmanned (tactical) ranges, and the Air-to-Air Low airspace. The KGXF Tower Controller will determine the BWC at KGXF with recommendations from Airfield Management, wildlife biologists, and/or pilots. RCOs will check AHAS data for their range, at the top of each hour. Dissemination of this information is the same as for the BWC and is covered in **Chapter 5**.

4.4.1.1. AHAS (<http://usahas.com>) data may be accessed by selecting “Ranges” under area type, “Gila Bend, AZ” covers R-2304 and R-2305, and “Barry Goldwater Range, AZ” covers R-2301E which can be selected under the area and date format section.

4.4.1.2. Snakeye will inform applicable RCO(s) if their range(s) go BWC SEVERE based upon AHAS NEXRAD.

4.4.1.3. Inform Range Scheduling of changes to the BWC in the airspace.

4.4.1.4. Inform pilots upon airspace check-in of applicable PIREPs and/or BWC status.

4.4.2. RCOs will issue bird hazard warnings and determine the appropriate BWC for their respective range.

4.4.2.1. RCOs will inform Snakeye of the initial BWC or any changes to the BWC that subsequently occur.

4.4.2.2. RCOs will advise flights if the BWC is other than LOW.

4.4.3. Range Scheduling will update Range NOTAMs to reflect the current BWC status.

**4.5. USDA Wildlife Services Representative will:**

4.5.1. Conduct daily airfield inspections for bird and wildlife strike hazards. Inspect the airfield prior to the first scheduled flight, with particular interest within the WEZ. When BWC MODERATE is declared, USDA will inspect the airfield every three hours, and will continuously monitor wildlife and depredate during BWC SEVERE.

4.5.2. Identify conditions that could create a bird strike hazard and develop corrective actions with 56th Civil Engineer Squadron (56 CES) and 56th Operations Support Squadron (56 OSS), if assistance is required.

4.5.3. Provide training to Airfield Management personnel on safe use and storage of pyrotechnic devices.

4.5.4. Develop bird count inspection procedures and provide training as required to base personnel.

4.5.5. Provide a monthly bird report to 56 FW/SEF.

4.5.6. Will be the declaring agency for KLUF BWC when the SOF is not on duty.

**4.6. Airfield Management will:**

4.6.1. Observe conditions that could create a bird strike hazard, and react to or disperse flocks of birds using appropriate equipment. This may be accomplished with assistance from USDA Wildlife Services Representatives, 56 FW/SEF, or 56 CES, if required. Methods of dispersal may include but are not limited to: bioacoustics, pyrotechnics, vehicle chase (increased speeds/maneuvers applied when necessary and conducted in a safe manner).

4.6.2. Observe environmental conditions within the WEZ that could attract birds or wildlife, report these conditions to 56 Entomology Section, USDA Representatives, and 56 FW/SEF. Monitor vegetation height to ensure it remains within DAFI 91-212 requirements.

4.6.3. Outside of normal duty hours, or times when 56 FW/SEF or USDA personnel are unavailable (leave, weekends, etc.), Airfield Management will monitor bird activities and provide on-call abatement services using approved pyrotechnic devices as requested by the Tower.

4.6.4. Provide a method for transient aircrews to access AHAS (<http://usahas.com>), as well as inform and post the current KLUF BWC.

4.6.5. Outside of normal duty hours, or times when USDA is unavailable, Airfield Management will monitor bird and wildlife activity. As requested by SOF or Tower, abatement services will be provided utilizing approved pyrotechnic devices.

4.6.6. Will be the BWC declaring agency for KLUF in the absence of the SOF, USDA, and Tower Watch Supervisor.

4.6.7. Notify 56 FW/SEF of all bird strikes, ensure bird strike report worksheet is filled out (for transient aircraft), and preserve bird remains until pickup by 56 FW/SEF.

4.6.8. Assist transient aircrew in the collection of wildlife remains as applicable by providing them with AF 853, *Air Force Wildlife Strike Report*. Personnel will fill out the AF 853, providing as much information as possible for the event. The AF 853 will then either be faxed or emailed to the safety office of the organization owning the aircraft for entry into AFSAS.

**4.7. Air Traffic Control Tower will:**

4.7.1. Relay information to the SOF, Airfield Management, and USDA Representative when significant bird activity is reported or tower observed.

4.7.1.1. KGXF Tower Controller will also inform KGXF Airfield Management, Snakeye, and Luke SOF of any changes to KGXF BWC.

4.7.2. Issue bird advisories to aircraft IAW FAA ORDER 7110.65Z.

4.7.3. Broadcast current KLUF BWC on ATIS.

**4.8. Air Traffic Control RAPCON will:**

4.8.1. Relay information to the SOF, Tower, and Airfield Management when significant bird activity is pilot reported, or radar observed and pilot verified.

4.8.2. Issue bird advisories to aircraft as required IAW FAA ORDER 7110.65Z.

**4.9. Aircraft Maintenance Unit OIC will:**

4.9.1. Issue specific guidance to personnel for the reporting of discovered bird strikes, regardless of damage on aircraft, to their production staff (who will notify 56 FW/SEF of the bird strike).

4.9.2. Issue procedures for the preservation of bird remains discovered on an aircraft. Bird beaks, feet, and feathers, or blood are to be put in a plastic bag and given to 56 FW/SEF with strike information (e.g. aircraft tail number, time and location of strike and extent of damage). Utilize bird strike collection kits provided by 56 FW/SEF. Contact 56 FW/SEF if collection kits are not available.

4.9.2.1. If a wildlife strike is found post-flight by maintenance, personnel will collect remains utilizing BASH kits provided by 56 FW/SEF. Personnel will fill out the forms included in the BASH kits, providing as much information as possible for the event. AMU production staff will then notify 56 FW/SEF at 856-6942, or by email [56fw.sef@us.af.mil](mailto:56fw.sef@us.af.mil).

**4.10. Command Post will:**

4.10.1. Command Post will receive bird status change from Tower, USDA Representatives, Airfield Management, or Snakeye.

## Chapter 5

### COMMUNICATION

#### 5.1. SOF will:

5.1.1. When the SOF changes the BWC, the communication flow will be:

5.1.1.1. Inform Tower Supervisor.

5.1.1.2. Update 56 FW Step Brief.

5.1.1.3. If SEVERE: Call the Operations Supervisor of an Squadron that is currently conducting ground ops, about to step, and/or flying.

5.1.1.4. If SEVERE: Call OG/CC representative.

#### 5.2. Air Traffic Control Tower will:

5.2.1. Ensure aircraft are issued bird advisories IAW FAA ORDER 7110.65Z.

5.2.2. Notify USDA personnel and Airfield Management via tower net or phone.

5.2.3. Notify RAPCON.

#### 5.3. Airfield Management will:

5.3.1. Notify Command Post and 56 FW/SEF.

**5.4. If there is no SOF on Duty.** If there is no SOF on duty, and a USDA Representative changes the BWC, the communication flow will be:

5.4.1. USDA will:

5.4.1.1. Inform Tower and Airfield Management via tower net or phone.

#### 5.4. 2. Air Traffic Control Tower will:

5.4.2.1. Ensure aircraft are issued bird advisories IAW FAA ORDER 7110.65Z.

5.4.2.2. Notify RAPCON.

5.4.3. Airfield Management will:

5.4.3.1. Notify Command Post and 56 FW/SEF.

**5.5. If there is no SOF or USDA Representative.** In the absence of a SOF and USDA, the Tower Watch Supervisor will be primary for declaring the BWC. If the Tower Watch Supervisor changes the BWC, the communication flow will be:

5.5.1. Air Traffic Control Tower will:

5.5.1.1. Ensure aircraft are issued bird advisories IAW FAA ORDER 7110.65Z.

5.5.1.2. Notify Airfield Management via tower net or phone.

5.5.2. Airfield Management will:

5.5.2.1. Notify Command Post and 56 FW/SEF.

## Chapter 6

### AIRFIELD

#### 6.1. Authority.

6.1.1. During normal flight operations, the SOF will be the individual to determine the current BWC in the KLUF terminal area. The primary source to recommend a BWC at KLUF will be USDA as a result of their analysis and bird count. Recommendations may also come from Air Traffic Controllers, pilots, Airfield Management, or 56 FW/SEF. The SOF may use a myriad of information sources to formulate their decision. However, if NEXRAD reports SEVERE and USDA recommends LOW, the preference should be to follow the USDA recommendation.

6.1.2. If the SOF is not on duty, the BWC at KLUF will be declared by one of the following agencies in order: USDA Wildlife Services Representative, the Tower Watch Supervisor, or Airfield Management. Although any of these individuals may raise the BWC, USDA must visually assess the area before the BWC may be downgraded. In the absence of a USDA Representative on duty, this function may then be performed by Airfield Management.

6.1.3. The KGXF Tower Controller will determine the BWC at KGXF, and the Range Control Officer(s) (RCO) will determine the BWC on the manned ranges as a result of observations and/or Pilot Reports (PIREP).

6.1.4. The 56 OG/CC will evaluate the mission needs and authorize any flight operations in areas under BWC SEVERE.

#### 6.2. Prevention.

6.2.1. Wildlife Exclusion Zone: A perimeter around the airfield property has been defined in which bird concentrations of any significance will not be tolerated. The WEZ (See [Attachment 2](#)) includes the runway, all taxiways, and all parking ramps. In addition, much of the base's improved common property that is within one-half mile of the runway is also included in the zone.

6.2.2. Drainage Control: Drainage within the WEZ is closely monitored and controlled. Routine inspections are accomplished following heavy rains to identify areas where water tends to pool. Civil Engineering is notified to raise the levels of the low areas where necessary to prevent future standing water. Vegetation within drainage ditches is kept clear.

6.2.3. Vegetative Cover: Vegetative cover will be maintained IAW DAFI 91-212 paragraph 3.2.1.4. to a height of seven inches and will not exceed 14 inches within the Aircraft Movement Area (AMA). This vegetative cover height will further be maintained at a minimum of 500 feet beyond the AMA. Within 10 feet of all airfield navigation aids or visual air navigation facilities, vegetative cover will not exceed seven inches.

6.2.4. Training: BASH is included in detail in all Quarterly Flight Safety Meeting products. Semi-Annual SOF training is conducted to emphasize BASH awareness and appropriate actions to minimize hazards while maximizing mission effectiveness. Additionally, BASH training is given by 56 FW/SEF for initial SOF training. BASH statistics are also provided to pilots and commanders of operations squadrons on a monthly basis, including five year historical data.

## Chapter 7

### DEPREDAATION

**7.1. General.** In order to reduce the number of birds on and around the airfield at Luke AFB, depredation by qualified base personnel is authorized on designated days after coordination with Airfield Management and Security Forces. Depredation allows the shooting of birds on Luke AFB under a permit issued by the US Fish and Wildlife Service for authorized government issued firearms/ammo and certified shooters. Depredation is authorized any time of the year. The 56 FW/SEF will train and maintain a list of qualified personnel.

**7.2. Procedures.** Qualified personnel wishing to depredate on the airfield will coordinate with 56 FW/SEF providing their name, rank, phone number, and office symbol. Each participant will receive depredation training and will be placed on the Bird Depredation list after completion of DD Form 2760, qualification on applicable government firearm(s), and annotation on AF Form 522. Individuals on the depredation list will be solicited when depredation is required. The following will be followed during depredation:

7.2.1. Depredation permits already in place are still valid and Federal agencies will be able to obtain new permits for depredation. This is the responsibility of the USDA Representative.

7.2.2. All reasonable efforts should be made to harass birds and/or eliminate attractants before initiating depredation.

7.2.3. Participants are not authorized to shoot or harass species that are listed as Threatened or Endangered by the state (Arizona) or the Federal government. A Bald and Golden Eagle Protection Act permit is required for the lethal control and harassment of eagles.

7.2.4. All birds taken will be disposed of. Birds will be disposed of by landfill burial, or given to Entomology/Pest Management or USDA Wildlife Services. Participants must report to 56 FW/SEF the number and species of birds taken for permit reporting purposes.

7.2.5. Only personnel listed on the 56 FW/SEF BASH Depredation letter are allowed to participate with the prior knowledge of 56 FW/SEF.

7.2.6. Prior to arming for any depredation, the excursion leader(s) will validate personnel on the arming roster, contact their unit commander to ensure individuals are not on the do-not-arm list, and give a refresher safety briefing covering, at a minimum, the following topics:

7.2.6.1. Primary emphasis is on safety and reducing the hazard, not killing wildlife.

7.2.6.2. General firearms safety rules.

7.2.6.3. Shoot/no shoot decisions and fields of fire.

7.2.6.4. Proximity to personnel, aircraft, runways, buildings, and base perimeter.

7.2.6.5. Use of hearing and eye protection.

7.2.6.6. Type of ammunition allowed (shot size T or smaller).

7.2.6.7. Visual identification training to prevent shooting protected, threatened, and endangered birds.

7.2.6.8. All weapons will remain unloaded until ready to shoot. Weapons will be unloaded immediately after deprecation is complete, IAW AFMAN 31-129, *USAF Small Arms and Light Weapons Handling Procedures*.

7.2.6.9. Airfield Management, 56 FW/SEF, Tower, and SOF retain authority to decline or terminate deprecation activities as mission needs or safety dictates.

7.2.6.10. Excursion leader(s) are required to have a hand-held radio and be in constant contact with Airfield Management/Tower during deprecation.

**7.3. Participant Responsibilities.** Participants will:

7.3.1. Report to wing safety and check in with the excursion leader.

7.3.2. Comply with all firearms laws (privately owned firearms are not authorized). Luke AFB has a permit for the purpose of deprecation to control wildlife on the airfield. When conducting deprecation the purpose is controlling wildlife only -- not hunting.

7.3.3. Provide their own eye protection and ear protection.

7.3.4. Only government weapons and ammunition are authorized for use.

7.3.5. Collect and dispose of all expended shells. DO NOT leave dead or injured birds on the airfield.

7.3.6. If driving on the flightline/CMA area, the driver will have a valid Luke AFB competency card. Only GOVs will travel on the airfield perimeter road.

**7.4. Excursion Leader Responsibilities.** The Excursion leader will:

7.4.1. Ensure all participants comply with the provisions of this instruction.

7.4.2. Inform Airfield Management where on the airfield the group will be deprecating.

7.4.3. Inform Airfield Management when the group is finished.

**7.5. Airfield Management Responsibilities.** Airfield Management will:

7.5.1. Deconflict deprecation with other known activities on the airfield such as construction, surveying, maintenance, etc. No deprecation is allowed in the vicinity of such activities.

7.5.2. Notify Command Post, Maintenance Operations Center (MOC), Tower, and the Base Defense Operations Center (BDOC) at 856-5971, prior to going out onto the airfield.

7.5.3. Notify Command Post, MOC, Tower, and the BDOC when complete.

**7.6. 56 CES Responsibilities.** 56 CES will assist with the deprecation when shop personnel are available. However, Pest Management should primarily be used for reducing wildlife habitat through herbicide and toxicant operations. To the maximum extent possible, ensure sufficient materials are available during the Spring/Summer months.

**7.7. Restrictions.**

7.7.1. Activities are restricted to the south end of the airfield near the skeet range; in between the runways; the west side of the airfield between the skeet range and the EOD area; the infield; and the north end of the airfield.

7.7.2. Firearms will not be discharged if there is reasonable chance the shot will exit the base perimeter. Firearms will not be discharged over any paved roads, taxiways, or runways.

7.7.3. There will be no shooting toward the main base or any aircraft within 500 feet.

7.7.4. Permission from Luke Tower is required within 100 feet of a runway or overrun. Follow airfield driving procedures IAW AFI 13-213 LUKE AFB Supplement. When shooting does take place within 100 feet it will only be parallel to, or opposite direction of these areas.

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USAF  
Commander, 56th Fighter Wing

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

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

AFPD 91-2, *Safety Programs*, 3 September 2019

DAFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*, 13 April 2023

DAFI 91-202, *The US Air Force Mishap Prevention Program*, 12 March 2020 w/ DAFI91-202\_DAFGM2023-01

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

Executive Order 13751, *Safeguarding the Nation from the Impacts of Invasive Species*, 8 December 2016

***Adopted Form***

DAF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**AGL**—Above Ground Level

**AHAS**—Avian Hazard Advisory System

**AMA**—Aircraft Movement Area

**ATIS**—Automatic Terminal Information Service

**BAM**—Bird Avoidance Model

**BASH**—Bird/Wildlife Aircraft Strike Hazard

**BDOC**—Base Defense Operations Center

**BHWG**—Bird Hazard Working Group

**BMGR**—Barry M. Goldwater Range

**BWC**—Bird Watch Condition

**EOD**—Explosive Ordnance Disposal

**FAA**—Federal Aviation Administration

**ILS**—Instrument Landing System

**MOA**—Military Operating Area

**MOC**—Maintenance Operations Center

**MTR**—Military Training Route

**NEXRAD**—Next Generation Radar

**NOTAM**—Notice to Airmen

**OIC**—Officer-In-Charge

**OPR**—Office of Primary Responsibility

**PIREP**—Pilot Report

**RAPCON**—Radar Approach Control

**RCO**—Range Control Officer

**RDS**—Records Disposition Schedule

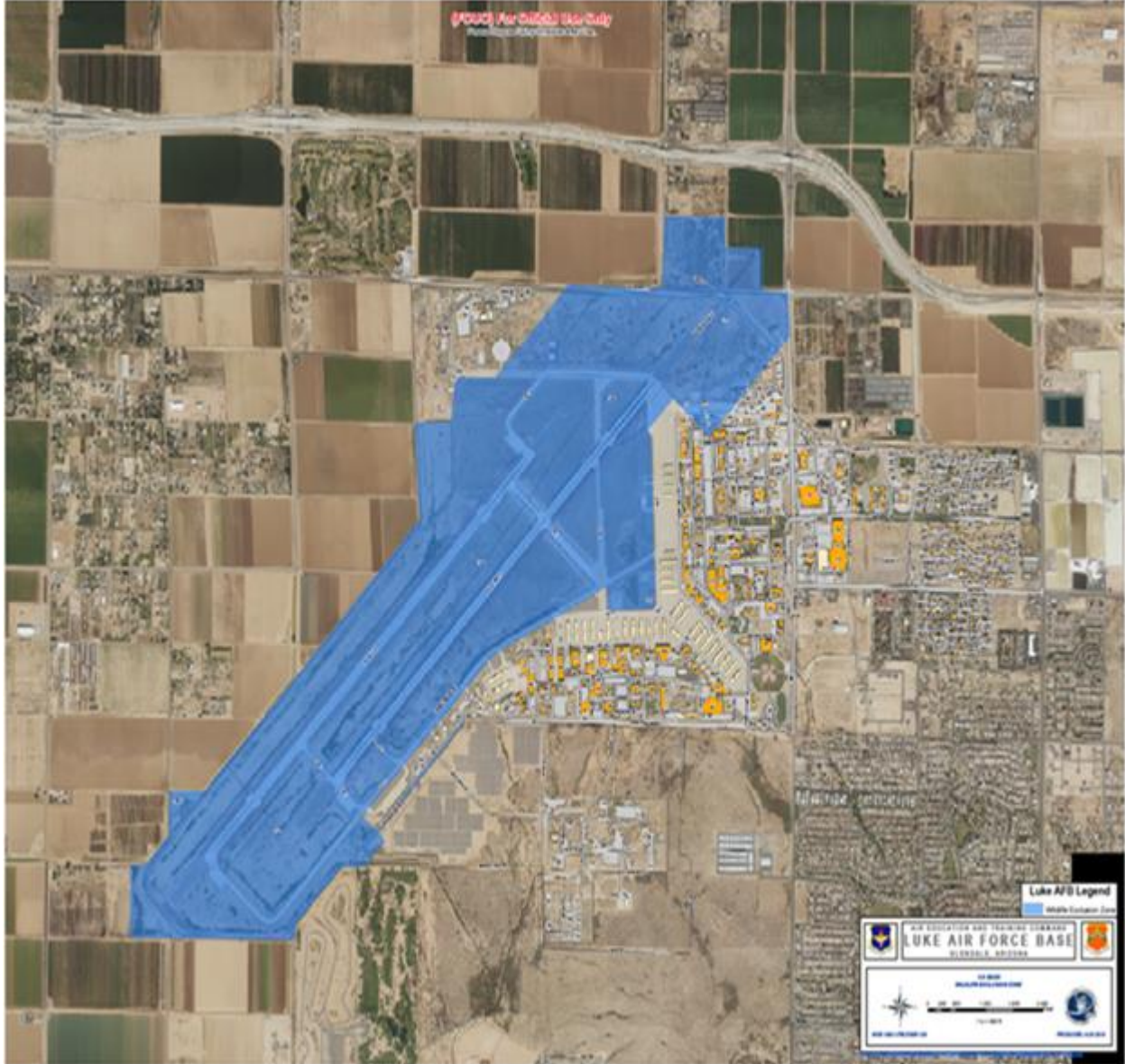
**SOF**—Supervisor of Flying

**USDA**—United States Department of Agriculture

**WEZ**—Wildlife Exclusion Zone

Attachment 2  
WILDLIFE EXCLUSION ZONE

Figure A2.1. Wildlife Exclusion Zone.



### Attachment 3

#### BIRD STRIKE HAZARDS

**A3.1. The following is a summary of:** The bird strike hazards, and possible options for reducing each hazard to flight operations. A brief description of each bird, and how each method of control or avoidance is to be employed, is provided. 56 CES Entomology section and environment section should be notified before new techniques are implemented for bird strike hazards. Program activities shall follow the Luke AFB and BMGR Integrated Natural Resources Management Plan for wildlife conservation consistent with the intended use of the installation subject to aviation safety requirements. Luke AFB Integrated Pest Management Plan provides guidance for Pest Management actions. Species shall be managed according to their relative hazard score ranking. The Wildlife Exclusion Zone will be the focus of active and passive control efforts. These documents may be referenced on the 56 FW Flight Safety SharePoint.

##### A3.1.1. Small Birds.

###### A3.1.1.1. Mourning Doves (*Zenaida macroura*):

A3.1.1.1.1. Hazard. This species provides the "routine" threat to flight operations. They create a hazard because of the bird attractants on the airfield. Doves loaf in the short grass, weedy vegetation, and bare soil in the fields along the sides of the runways, and roost or perch on trees and fences. They feed on the seeds of weeds and grass, and swallow grit.

A3.1.1.1.2. Hazard Reduction. Habitat modification and control techniques have been devised to effectively reduce the threat.

A3.1.1.1.2.1. The source of easy food within the general airfield area must be reduced to an absolute minimum.

A3.1.1.1.2.2. Once the food source is eliminated, action should be taken to reduce the attraction of the loafing areas, such as clear ramp space and closely mowed fields.

A3.1.1.1.2.3. Bird depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

A3.1.1.1.2.4. Scare devices such as noisemakers will be used.

###### A3.1.1.2. Horned Lark (*Eremophila alpestris*):

A3.1.1.2.1. Hazard. Horned larks create a hazard because of the bird attractants on the airfield, although the propensity of the species to wander widely would ensure that some are likely to visit even if measures are taken to remove attractants. Larks loaf in the short grass, weedy vegetation, and bare soil in the fields along the sides of the runway. They feed on insects and on the seeds of weeds and grass.

A3.1.1.2.2. Hazard Reduction. Habitat modification and control techniques have been devised to effectively reduce the threat.

A3.1.1.2.2.1. The source of easy food within the general airfield area must be reduced to an absolute minimum.

A3.1.1.2.2.2. Once the food source is eliminated, action should be taken to reduce the attraction of the loafing areas, such as clear ramp space and closely mowed fields.

A3.1.1.2.2.3. Bird depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

A3.1.1.2.2.4. Scare devices such as noisemakers may be effective.

#### A3.1.1.3. White-Winged Doves (*Zenaida asiatica*):

A3.1.1.3.1. Hazard. This species arrives in Arizona in mid-April and departs in early September, although migration sometimes occurs beyond those dates. They generally travel to and from resting and feeding areas in flocks of five to 50 or more, at altitudes of 100 to 200 feet AGL.

A3.1.1.3.2. Hazard Reduction. Since most of the white-winged doves are transient over the base, habitat management is not effective. Increased vigilance in the early morning hours, accompanied by the same scare tactics used for mourning doves, is the only viable control measure.

#### A3.1.1.4. Burrowing Owls (*Athene cunicularia*):

A3.1.1.4.1. Hazard. Burrowing Owls are a strike hazard because they inhabit ground squirrel burrows near the runways. Their primary food sources are insects, amphibians, and small mammals caught at night.

A3.1.1.4.2. Hazard Reduction. Habitat modification and control techniques have been devised to effectively reduce the threat.

A3.1.1.4.2.1. Burrowing owls can be trapped and relocated. Authorization is required by the US Fish and Wildlife Service prior to commencing trapping activities, which is accomplished by the Wing USDA Representative.

A3.1.1.4.2.2. Depredation of food sources such as ground squirrels.

A3.1.1.4.2.3. Depredation of burrowing owls requires prior authorization from the US Fish and Wildlife Service. Depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

#### A3.1.2. Raptors and Birds of Prey.

A3.1.2.1. Hazard. Raptors in the immediate area include the Turkey Vulture, Red-tailed Hawk, Swainson's Hawk, Harris Hawk, Ferruginous Hawk, Cooper's Hawk, Sharp-shinned Hawk, Prairie Falcon, Peregrine Falcon, American Kestrel, and Northern Harrier. Owls such as the Burrowing Owl, Barn Owl and Great-Horned Owl are also found in the area. The Swainson's Hawk is migratory, passing through the area during March and April, and from September through early October. These pose the greatest potential hazard since they travel in flocks of up to 40 or more birds. Red-tailed and Ferruginous hawks, kestrels, and harriers are all common winter residents in the vicinity of the base. These temporary residents arrive in the fall and depart in the spring. Turkey Vultures are frequently observed from spring through fall in the local area. These birds are commonly encountered throughout the local area at altitudes of less than 1500' AGL. 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. The potential for damage is increased due to the large size of many raptors and their frequent occurrence on the airfield. The ground squirrels that reside on base provide potential food for raptors. Raptors may cross over runways in pursuit of prey. Thermals generated by the runways are attractive to hawks and vultures. The properties adjacent to Luke Air Force Base, especially on the western and southern sides, often contain raptors such as the northern harrier, which sometimes stray into the air space over the runways.

A3.1.2.1.1. Hazard Reduction. Habitat modification and control techniques have been devised to effectively reduce the threat.

A3.1.2.1.1.1. Raptors can be trapped and relocated. This may require coordination with state and federal agencies, which is accomplished by the Wing USDA Representative.

A3.1.2.1.1.2. Depredation of food sources such as ground squirrels and rabbits.

A3.1.2.1.1.3. Removal of carrion from roads, particularly along SR 85 near KGXF and Ranges 1 and 2.

A3.1.2.1.1.4. Scare devices such as noisemakers may be effective.

A3.1.2.1.1.5. Bird depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

#### A3.1.3. Pigeons (*Columbus Livia*):

A3.1.3.1. Hazard. Domestic pigeons, also known as rock doves, are uncommon on the airfield, but nest occasionally in hangars and other buildings near the airfield.

A3.1.3.1.1. Hazard Reduction.

A3.1.3.1.1.1. Nets can be installed to mechanically exclude pigeons from building ledges.

A3.1.3.1.1.2. Birds can be captured with traps and/or euthanized. This should be coordinated with 56 CES Entomology section.

A3.1.3.1.1.3. Birds can be poisoned using DRC-1339. This should be coordinated with 56 CES Pest Management section.

A3.1.3.1.1.4. Bird depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

#### A3.1.4. Other Birds:

A3.1.4.1. Hazard. House Finches, various blackbirds and grackles, and a variety of other species of small birds are occasionally found on or near the airfield. All birds except House Sparrows, common pigeons, Eurasian collared doves and starlings are protected by law, but can be taken by permit.

A3.1.4.1.1. Hazard Reduction. Current depredation permit allows most of these species to be taken as part of the depredation program. However,

threatened/endangered and Bald/Golden Eagles may not be harassed or killed under current permits.

A3.1.4.1.1.1. Closing dumpster lids excludes potential food sources for scavengers.

#### A3.1.5. Ground Squirrels and Rabbits.

A3.1.5.1. Hazard. Although aircraft could strike these animals on the runway, the greatest danger is these species will attract predators such as birds of prey, coyotes, and/or foxes, which are themselves a strike hazard.

##### A3.1.5.1.1. Hazard Reduction.

A3.1.5.1.1.1. Reduce the number of ground squirrels and rabbits, which are a potential food source of raptors. These species can be poisoned by using Carbon Monoxide cartridges placed into the burrows and by application of Zinc Phosphide toxicant. Gas injection systems such as the Rodenator can be used to eliminate burrowing animals and destroy their burrows.

A3.1.5.1.1.2. Animals can be trapped and euthanized.

A3.1.5.1.1.3. Empty burrows can be destroyed.

A3.1.5.1.1.4. Animal depredation will be performed by qualified personnel IAW established procedures in this instruction. (See [Chapter 5](#))

#### A3.1.6. Coyotes.

A3.1.6.1. Hazard. The probability of an aircraft striking a coyote is low, but if it occurs damage is likely to be extensive.

##### A3.1.6.1.1. Hazard Reduction.

A3.1.6.1.1.1. Maintain airfield perimeter fencing and install barriers in ditches to prevent easy coyote access to the airfield.

A3.1.6.1.1.2. Control of ground squirrels, rabbits and quail may reduce the attractiveness of the airfield to coyotes.

A3.1.6.1.1.3. Animals can be harassed.

A3.1.6.1.1.4. Animals can be trapped and euthanized.

A3.1.6.1.1.5. Animals can be depredated by qualified personnel.