

**BY ORDER OF THE COMMANDER  
51ST FIGHTER WING**

**51ST FIGHTER WING INSTRUCTION  
91-212**



**18 MARCH 2016**

**Safety**

**BIRD AIRCRAFT  
STRIKE HAZARD PLAN**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive (AFPD) 91-2, *Safety Programs* and complements AFI 91-202, *The US Air Force Mishap Prevention Program* and AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*. It establishes the BASH Program at Osan Air Base and provides guidance for reducing the bird strike hazard in the areas where the 51 FW conducts flying operations. Specific organization responsibilities are outlined in Chapter 2 of this instruction. It applies to all units assigned to Osan Air Base (AB). 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 from the field through the appropriate functional chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with (IAW) Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of IAW Air Force Records Disposition Schedule (RDS) located in the Air Force Records Information Management System (AFRIMS). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

**SUMMARY OF CHANGES**

This document has been substantially revised and needs to be completely reviewed. Major changes include; updates paragraphs 1.2.3., 1.4.1., 2.3., 2.13.9.9., 2.20.1., 2.20.3., 2.20.4., 3.3.1., 3.6.4.2., 4.2.3., 4.6., 4.7., 5.2.1., 5.2.2., A2.3.1., and A2.11; adds new paragraphs 2.10.1., and

4.7; adds new Figure 2.1.; deletes paragraph 2.20.3., 4.1.4., 4.2.2., 4.5., 4.5.1., 4.5.2., and Figure 4.2.

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## Chapter 1

### GENERAL INFORMATION

**1.1. Situation:** Provide pilots with a safe operating environment to conduct both peacetime and wartime operations by reducing the potential threat of wildlife strikes and maintaining our combat capability.

1.1.1. General: Bird activity is very dynamic, requiring continuous adjustment to established procedures. The potential hazard posed by birds is also very dynamic and requires subjective judgment. This instruction cannot establish procedures for every situation. Good judgment and effective teamwork by all organizations is required to reduce the bird strike risk at Osan AB.

1.1.2. Airfield and Local Area: Osan AB's location makes it a very attractive habitat for birds. On the airfield there are several drainage ditches that potentially serve as roosting, food, and water sources. Directly to the north there is a major river, and in the local area there are multiple rice fields.

1.1.3. Low Level Zone (LLZ) Flying Areas: The entire Korean peninsula is divided into LLZs used for low-level flying and has many features that attract a variety of birds. Traditional Instrument Route (IR) and Visual Route (VR) routes do not exist. Therefore, the entire peninsula must be analyzed for its bird hazard potential. Coastal areas pose a greater hazard to aircraft due to the increased number of bird species that are indigenous to those surroundings. Tidal low lands used for agriculture characterize the western one-third of the peninsula. LLZ1 overlays this area and is used extensively by 51 FW aircraft. A major river flows through Kunsan northeast through LLZ1. Several large rivers flow from Seoul to Choongwon and the OP4 area. Mountainous terrain characterizes the north and eastern parts of the peninsula.

1.1.4. Pilsung Range: 51 FW aircraft use this range extensively. Pilsung is a mountainous tactical range and, although it is not as attractive to birds for loafing and roosting, large game birds such as pheasants and hawks live in this area throughout the year.

### 1.2. Plan Execution:

1.2.1. The Bird Hazard Working Group (BHWG) is the primary instrument for implementing this instruction.

1.2.2. The BHWG: Collects, compiles and reviews data on bird strikes. Identifies and recommends actions to reduce hazards. Recommends changes in operational procedures and serves as a point of contact for off-base BASH issues.

1.2.3. Authority: The BHWG submits all recommendations to the 51 FW/CC for approval. Implementation is through the normal chain of command.

1.2.4. Composition: The chairman, appointed by the Commander, is the 51 FW/CV. The Commander, or designated representative, of each tasked organization in Chapter 2 shall attend the BHWG meeting.

1.2.5. Meeting Schedule: As a minimum the BHWG will meet semi-annually. Additional meetings will convene, as necessary.

1.2.6. Meeting Agenda: The BHWG meetings may discuss, but are not limited to: local bird strike statistics; locally observed bird activity; local wildlife habitat management and modification; annual bird migration; local BASH Plan procedures and responsibilities; BASH awareness/education/training; flying schedule-bird activity conflicts; and changes to this BASH instruction. Additional topics may be discussed as needed.

### 1.3. Definitions:

1.3.1. Wing Flying: This is determined by the weekly schedule distributed by the 51 OSS. It covers the time from the first A-10/F-16 takeoff to the last A-10/F-16 land. The Supervisor of Flying (SOF) declares the Bird Watch Condition (BWC) while on duty. Airfield Management (AM) declares the BWC at all other times.

1.3.2. Peak Bird Activity: Osan lies on three major migratory flyways. The migration activity in these flyways is most active from March-May and August-October. A river just north of the airfield runs parallel to the runway. As many as 1,200 birds (ducks) have been observed in this area of the river during the winter season (November-February). During the spring and fall months (March-May and August-October) there are large numbers of egrets on-and-around the airfield. Phase I denotes "low activity" during the months of November-February and June-July. Phase II denotes "peak activity season" during the months of March-May and August-October.

1.3.3. Bird Control System (BCS): System used to remotely-activate propane-powered bird-scare cannons dispersed across the airfield. Control Tower personnel or the SOF can activate the system through the BCS software using the dedicated laptop computer. The control tower watch supervisor, or a delegated person in the tower, must approve any activation of BCS.

1.3.4. BASH Team: Term is used for personnel authorized to conduct bird dispersal. This team is trained by "Birdman." "Birdman" is the primary dispersal individual during the contracted work period. When "Birdman" is unavailable, AM has primary responsibility for bird dispersal duties. Any person trained in BASH duties may be on this team.

1.3.5. Bird Remains Collection: All personnel handling bird remains will wear rubber gloves and a surgical mask. Non-fleshy bird remains (feathers, feet, and beaks) taken from the aircraft, or near the airfield, following all bird strikes will be placed in a Ziploc bag marked with: date, aircraft tail number and names of pilot/ground crew who discovered the strike. Even the smallest of remains (such as feather fragments, blood, guts and similar pieces) can be used for positive identification and are not to be discarded. For splatter patterns, lightly dampen the area with alcohol, gently wipe with a paper towel, place in the bag and deliver to 51 FW/SEF. All other bird remains will be sealed in double plastic bags and placed in regular outdoor trash containers.

### 1.4. Revision and Review

1.4.1. This instruction will be reviewed annually and updated as necessary. Tasked organizations will propose all changes to 51 FW/SEF.

## Chapter 2

### RESPONSIBILITIES

- 2.1. Commander (51 FW/CC):** Approves recommendations of BHWG.
- 2.2. Vice Commander (51 FW/CV):** Chairs BHWG.
- 2.3. Chief of Safety (51 FW/SE):** Authorizes the Depredation Program.
- 2.4. Flight Safety (51 FW/SEF):** OPR for 51 FW BASH Plan.
  - 2.4.1. Ensures compliance with AFPAM 91-212, AFI 91-202 and reports all bird strikes and hazards IAW AFI 91-204, *Safety Investigations and Reports*.
  - 2.4.2. Monitors tasked organization's activities for compliance with this directive.
  - 2.4.3. Provides BASH data and guidance from higher headquarters, BASH team, and other agencies to the BHWG.
  - 2.4.4. Provides information on migratory and resident bird activities.
  - 2.4.5. Monitors bird activity and advises the BHWG chairman when other than a scheduled meeting is necessary.
  - 2.4.6. Reports on BASH during the Environmental Safety and Occupational Health Councils and during Quarterly Flight Safety Meetings.
  - 2.4.7. Organizes BHWG meetings and invites members to attend. Produces BHWG meeting minutes for distribution to members.
  - 2.4.8. Coordinates with pilots and maintenance personnel for collection of non-fleshy remains after strikes. Sends remains to the Smithsonian Museum for identification.
  - 2.4.9. Maintains BASH continuity information.
  - 2.4.10. Maintains appropriate maps and charts.
  - 2.4.11. Ensures a wing/squadron flight safety representative is available during wing flying for response to investigate bird strikes.
  - 2.4.12. Ensure all members of the BASH team are trained prior to the migratory season. This includes training on coordination with tower for BCS activation, bird dispersal, depredation, and annual Computer Based Training (CBT) requirement.
  - 2.4.13. Oversees establishment and maintenance of full-time BASH position (Birdman).
  - 2.4.14. Oversees and acts as liaison to Korean Hunting Association (KHA, off-base bird dispersal team).
  - 2.4.15. Ensures that the KHA team notifies 51 SFS prior to commencing any bird dispersal activity using firearms during exercises or contingency operations. The primary POC for this notification will be the SFS duty interpreter at commercial 0505-784-6826. The alternate POC is the LE desk at DSN 784-5515/4049, commercial 0505-784-5515/4049.

**2.5. Operations Group Commander (51 OG/CC):**

2.5.1. Declares, disseminates and terminates the Osan AB BWC. Assists in declaring, disseminating and terminating the BWC for wing utilized Ranges, MOAs and LLZs to 51 FW aircraft. Usually accomplished via the SOF, or AM, as the 51 OG/CC's acting representative.

2.5.2. Makes operational changes to avoid areas and times of known hazardous bird concentrations, mission permitting. Consideration shall be given, but not limited to the following:

2.5.2.1. Change pattern direction to avoid bird concentrations.

2.5.2.2. Reschedule local training or change airspace.

2.5.2.3. Increase altitudes en-route to low-level training areas.

2.5.2.4. Limit time in low-level training areas to the minimum required for training.

2.5.3. Ensures BASH awareness is incorporated into wing exercises and training schedules.

2.5.4. Ensures bird hazards are published in the Flight Information Publication (FLIP), General Planning (GP), and Instrument Flight Rules (IFR) Supplement, along with any operating hour restrictions and avoidance instructions as required.

**2.6. Standardization/Evaluation (51 OG/OGV):**

2.6.1. Reviews new low-level areas or changes in existing low-level operations for BASH potential.

2.6.2. Monitors pilot briefings on a regular basis to ensure BASH is briefed.

2.6.3. Incorporates guidelines for declaring each BWC into the SOF training plan.

**2.7. Quality Assurance (51 MXG/MXGQ):**

2.7.1. Contacts 51 FW/SEF when notified of a bird strike.

2.7.2. Responds to bird strikes to investigate damage.

2.7.2.1. If wing or unit safety personnel do not respond within 30 minutes, preserve non-fleshy remains and take digital photos of impact points/damage. Forward remains and photos to 51 FW/SEF.

**2.8. Flying and Maintenance Squadron Commanders:**

2.8.1. Issues specific guidance, as needed, to maintenance personnel to execute the procedures of this instruction for the following:

2.8.1.1. Reporting of hazardous bird activity to the SOF, Tower or Airfield Management. Particular attention should be given to the monitoring of possible roosting areas in the aircraft shelters/hangars.

2.8.1.2. Reporting of all bird strikes to Quality Assurance (QA), 51 MOS/MXOOM (MOC) and 51 FW/SEF.

2.8.1.3. Preservation of non-fleshy bird remains when discovered after wing flying is complete.

2.8.1.4. Ensuring the current BWC is available and briefed prior to flight.

## **2.9. Squadron/Detachment Flight Safety Officers/Representatives (FSO/FSR):**

2.9.1. Ensure pilots participate in the BASH reduction program by promptly reporting all bird strikes and hazardous conditions IAW this instruction.

2.9.2. Ensure AF Form 853, *Air Force Wildlife Strike Report*, BASH Reports are readily available to pilots for bird strike reporting.

2.9.3. Brief pilots on seasonal bird hazards. Use movies, articles and other information to maintain awareness.

2.9.4. Monitors aircraft parking areas/shelters for possible roosting areas and notify 51 FW/SEF of actual roosting areas.

**2.10. Supervisor of Flying (SOF):** Coordinate through the Tower Watch Supervisor (TWS) for dispatch of the BASH team immediately for bird dispersal. Monitor activity for conflicts with flying operations.

2.10.1. The BASH matrix will be used as a tool to evaluate/set the bird watch condition. (see fig. 2.1)

## **2.11. Airfield Management (51 OSS/OSAM):**

2.11.1. Conduct airfield checks to monitor the local bird conditions on a routine basis. AM has the authority to use a variety of pre-approved methods to control local bird activity.

2.11.2. During the daily airfield inspections, AM personnel will:

2.11.2.1. Look for any environmental conditions (grass height, standing water, etc.) on the airfield that could attract birds and report these conditions to 51 FW/SEF and 51 CES/CEO. Particular attention should be given to the monitoring of possible roosting areas in the airfield environment.

2.11.2.2. Remove dead birds and forward non-fleshy remains to 51 FW/SEF.

2.11.2.3. Note and report any hazardous bird conditions to 51 FW/SEF.

2.11.2.4. Complete bird activity log and forward a copy to 51 FW/SEF as bird activity dictates.

2.11.3. Conduct a runway check anytime a bird strike is reported in the vicinity of the runway. The TWS will normally request this.

2.11.4. Ensure enough AM personnel are trained as BASH team members for dispersal duties when Birdman is unavailable. This includes training on BCS equipment, bird dispersal and depredation.

2.11.5. Provide secure storage of BASH equipment.

## **2.12. Air Traffic Control Tower (51 OSS/OSAT):**

2.12.1. Report observed bird activity to the SOF, AM and Radar Approach Control (RAPCON).

2.12.2. Issue bird watch advisories IAW FAAH 7110.65, *Official guideline for Air Traffic Controllers* and include BWC on the Automated Terminal Information Service (ATIS) to

alert pilots of significant bird activity. Include the location of the bird hazard if the birds are concentrated.

2.12.3. Notify the BASH team for response to the bird hazard location if the birds are concentrated. Provide BASH team access to the runway/taxiways without undue delay under BWC **MODERATE** or **SEVERE** for bird dispersal.

2.12.4. Anytime a bird strike is reported in the direct vicinity of the runway, runway operations will be temporarily suspended until AM personnel can accomplish a runway Foreign Object Damage (FOD) check.

2.12.5. Provide pilots with updated information on bird hazards in order to make timely decisions with regard to flight operations when in the traffic pattern, especially during takeoff and landing phases. These actions will be coordinated with the SOF, time permitting.

2.12.6. Approve requests for bird dispersal, including BCS activation, as traffic permits.

2.12.7. Activate BCS prior to first launch and at the SOFs discretion during the flying window.

### **2.13. Base Civil Engineer (51 CES):**

2.13.1. Provide a Natural Resources Representative, or individual with similar qualifications, to the BHWG to monitor and advise the group of environmental modifications.

2.13.2. Develop procedures for removal or control of bird attractants and food sources.

2.13.3. Initiate surveys and write environmental impact assessments and statements as required.

2.13.4. Correct environmental conditions that increase BASH potential.

2.13.5. Utilize network of facility managers to report bird activities (i.e. roosting or loitering) inside airfield structures to 51 FW/SEF.

2.13.6. Use land management practices that reduce BASH potential.

2.13.7. Modify airfield habitat consistent with runway lateral and approach zone management criteria IAW UFC 3-260-01, *Airfield and Heliport Planning and Design*. Habitat reduction to reduce BASH beyond the 1000' distance criterion is desired and will further reduce BASH potential.

2.13.8. Develop a long-range program in conjunction with other base improvements and modifications in an attempt to make the airfield unattractive to birds.

2.13.9. Incorporate the following practices into the base Natural Resources Plan:

2.13.9.1. Grass height management. Grass heights of 7 to 14 inches are mandated by AFI 91-202 within the airfield mowing zone boundary (see Figure 4.1.). Mowing will be conducted when the average grass height reaches 14 inches or when seed heads begin to develop, whichever occurs first. Grass must be cut before it goes to seed to discourage flocking species from entering the airfield. Begin mowing adjacent to the runway and proceed outward away from the runway to finish infield or outer-most grass areas. This will cause insects and other animals to move away from the runway. Coordinate mowing

operations with periods outside of flying activity within the Osan aerodrome when possible.

2.13.9.2. Broad-leaf weed control. Broad-leaf weeds will be kept to a minimum on the airfield.

2.13.9.3. Planting bare areas. Bare areas are used by resting birds and grass will be planted as necessary.

2.13.9.4. Fertilizing. Fertilizer will be used as necessary to achieve a uniform cover. Watering or irrigation will be used to enhance grass root production in newly seeded areas.

2.13.9.5. Reducing edge effect. The airfield will be maintained as uniformly as possible to reduce the highly bird attractive zone between two distinct habitat types (e.g. brush and grassland).

2.13.9.6. Leveling. High and low spots on the airfield will be leveled or filled as much as possible to reduce attractiveness to birds and to prevent standing water. This does not apply to drainage ditches.

2.13.9.7. Dead vegetation such as brush piles, grass clipping piles, etc. and the cover it affords will be removed as soon as possible.

2.13.9.8. Dead birds or other animals will be removed from the airfield to avoid attracting vultures and other birds. Non-fleshy bird remains from a potential bird strike will be forwarded to 51 FW/SEF.

2.13.9.9. Pest Control. Invertebrates and rodents provide important food sources for many birds. 51 CES will periodically survey and reduce these pests when required. Control of insects, earthworms, rodents, frogs, etc. will be accomplished under the supervision of the entomology office IAW AFI 32-1053, *Integrated Pest Management Program*.

2.13.9.10. Drainage ditches. Ditches will be inspected regularly and kept clear and obstacle-free. Ditch sides outside the 300-foot distance from the runway centerline will be kept as steep as possible to discourage wading birds and emergent vegetation. At a minimum, vegetation will be removed in April and September and as often as necessary to maintain flow.

2.13.9.11. Control waste disposal. Landfills are the most significant bird attractant. When identified to 51 CES, they will ask local authorities to operate local landfills considering the following methods, if applicable:

2.13.9.11.1. Maintain a small working area to minimize exposed waste.

2.13.9.11.2. Incinerate waste.

2.13.9.11.3. Operate landfill as a pit or trench to limit bird access.

2.13.9.11.4. Dump waste at night or during non-flying periods.

2.13.9.11.5. Cover waste material immediately.

2.13.9.11.6. Restrict birds with overhead wire barriers.

2.13.9.11.7. Relocate putrescible wastes.

2.13.9.11.8. Eliminate roosting sites.

2.13.9.12. Bird-proof buildings, hangars, and aircraft shelters by blocking entry routes. If necessary, methods such as toxic perches, pellet guns, netting, night harassment, etc. will be used.

2.13.9.13. Routinely seek the guidance and assistance of HQ PACAF concerning bird hazard reduction policies and guidelines.

2.13.9.14. As resources permit, perform bird fogging during peak migration seasons in coordination with SEF, AM and Tower.

#### **2.14. Tenant Flying Units (5 RS):**

2.14.1. Provide inputs to BHWG to improve the BASH program as it pertains to tenant operations.

2.14.2. Responsibilities within the unit will mirror the responsibilities assigned in this instruction for similar job titles.

2.14.3. Report all bird strikes and send non-fleshy bird remains to 51 FW/SEF.

2.14.4. All U-2 sorties require a U-2 SOF on duty. U-2 SOF will consider Osan BWC and then apply appropriate Major Command (MAJCOM) guidance to U-2 operations.

#### **2.15. Public Affairs (51 FW/PA):**

2.15.1. Participate as required and upon request to provide a public information program designed to inform base personnel, dependents, and the general public of the hazards and costs of uncontrolled bird activity, and the measures being taken to minimize them.

2.15.2. Provide visual information services (photography and video recording) to document bird strikes and related activities that cause damage equal or greater to that of a Class B mishap.

#### **2.16. Command Post (51 FW/CP):**

2.16.1. Make notifications as required.

2.16.2. Relay Bird Warning Reports/PIREPS to SOF/TWS.

**2.17. 51 MDG/SGPB:** Provide assistance, advice, and support to the BASH Program as required on bioenvironmental matters.

**2.18. Combat Arms (51 SFS/S4C):** Conduct Shotgun Training Course for shotgun use by BASH Team.

**2.19. AERO Club (51 FSS/FSCA):** Ensure all pilots are aware of bird hazards associated with flying light aircraft and the specific hazards at Osan AB.

#### **2.20. Bird and Animal Controller (BIRDMAN):**

2.20.1. Government service employee responsible for coordinating/performing wing bird/wildlife dispersal and depredation activities.

2.20.2. Train BASH Team personnel in proper dispersal techniques. Maintain a BASH team roster with name, organization, phone number, DEROS, BASH training date and Combat Arms Training and Maintenance (CATM) Shotgun expiration date. See attachments 1 and 2 to this instruction for BASH team training requirements and documentation.

2.20.3. Oversee the maintenance of BASH equipment to include bird cannons, ammo/pyrotechnics, weapons and river buoys. Check the status of bird cannons on a weekly basis.

2.20.4. Coordinate with local government for off-base BASH activities to include obtaining the necessary permits.

**2.21. BASH Team:** Augment the Birdman in bird dispersal and depredation.

**2.22. Range Control Officer (607 AOG/DOK):**

2.22.1. Declare BWC for Pilsung Range IAW Chapter 3 of this instruction.

2.22.2. Report BWC above **LOW** and changes to the BWC to the 51 FW SOF and pilots operating in the range areas.

Figure 2.1. 51 FW Bash Assessment Worksheet .

51 FW BASH ASSESSMENT WORKSHEET																																																																																												
This worksheet is only a guide to assist the SOF in identifying potential BASH risks. Experience and judgment should be used to make final bird status declaration.																																																																																												
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">OBSERVATIONS</th> </tr> </thead> <tbody> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">Birds on Ground near runway</th> </tr> <tr> <td>&lt;3 Birds within 50ft of runway</td> <td style="text-align: center;">1</td> </tr> <tr> <td>3-6 Birds within 50ft of runway</td> <td style="text-align: center;">3</td> </tr> <tr> <td>&gt;6 Birds within 50ft of runway</td> <td style="text-align: center;">5</td> </tr> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">Birds in Air</th> </tr> <tr> <td>No birds flying near runway</td> <td style="text-align: center;">0</td> </tr> <tr> <td>&gt;1 Large bird soaring near runway</td> <td style="text-align: center;">3</td> </tr> <tr> <td>&gt;2 Flocks passing over w/in 30 min</td> <td style="text-align: center;">4</td> </tr> <tr> <td>&gt;1 Flock swimming over airfield</td> <td style="text-align: center;">5</td> </tr> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">Birds on Airfield Environment</th> </tr> <tr> <td>&lt;10 birds greater than 50ft from runway</td> <td style="text-align: center;">1</td> </tr> <tr> <td>&gt;11 birds greater than 50ft from runway</td> <td style="text-align: center;">3</td> </tr> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">AIRFIELD OPS</th> </tr> <tr style="background-color: #cccccc;"> <th colspan="2" style="text-align: center;">Men &amp; 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## Chapter 3

### EXECUTION

**3.1. General:** This chapter describes the BASH operations at Osan AB. It requires an exchange of information between ground agencies and pilots concerning the existence and location of birds posing a potential hazard to flight safety. For flying restrictions during periods of heightened migratory activity, see 51 FWI 13-204, *Airfield Operations and Local Flying Procedures*.

#### **3.2. Bird Watch Conditions and Restrictions:**

3.2.1. BWC is a subjective assessment of the potential hazard of bird activity to flight operations. Careful consideration should be given to the activity level and proximity to the flight path of arrival/departure/overhead traffic patterns. *The potential hazard posed by a single bird or flock of birds should be the driving factor in choosing the BWC.*

3.2.1.1. Low: Normal bird activity on and above the airfield with a low probability of hazard.

3.2.1.2. Moderate: Increased bird population in locations that represent an increased potential for strike. This condition requires increased vigilance by all agencies, supervisors and caution by aircrew.

3.2.1.2.1. Ranges/MOAs/LLZs: 1000' AGL minimum. (500' AGL minimum for helicopter flight outside of established landing zones).

3.2.1.2.2. Osan AB Pattern: Low approaches are restricted to 500' AGL and multiple patterns are limited to the minimum required to fulfill training requirements. Touch-and-go and formation takeoffs/landings require 51 OG/CC approval. (Helicopter formations are exempt from this restriction).

3.2.1.2.3. Osan AB tactical departures and recoveries: low tactical departures and low tactical recovery patterns require 51 OG/CC approval.

3.2.1.3. Severe: High bird population on or immediately above the active runway or other specific location that represents a high potential for strike. Supervisors and aircrew must thoroughly evaluate mission needs before conducting operations in areas under condition **SEVERE**.

3.2.1.3.1. Ranges/MOAs/LLZs: 3000' AGL minimum. (1000' AGL minimum for helicopter flight outside of established landing zones).

3.2.1.3.2. Osan AB Pattern: Takeoffs, patterns, and landings require 51 OG/CC approval. Helicopters restricted to operational rescue missions or single-ship landing.

3.2.1.3.3. Osan AB tactical departures and recoveries: Low TAC Departures and Low Tactical Recovery Patterns are not authorized.

3.2.1.4. BWC **MODERATE** or **SEVERE** at Osan does not mean all Ranges/MOAs/LLZs are the same. Also, a BWC for Ranges/MOAs/LLZ may be localized for a segment within that Special Use Airspace (e.g., Glove Lake area is **SEVERE**).

### 3.3. Declaration Authority:

3.3.1. Osan AB Pattern: Inside of the 51 FW flying window, the SOF can raise or lower the BWC on behalf of the 51 OG/CC. Outside of the flying window, the TWS can raise or lower the BWC. The BWC is declared using inputs primarily from pilots, the 51 FW BIRDMAN, TWS, the SOF, AM and the BASH team. (**NOTE:** Inputs may come from anyone in the airfield vicinity, military or civilian.) These inputs will be funneled to the appropriate declaring authority for consideration. Contact the SOF at DSN 784-5110, commercial 031-661-5110 or TWS at DSN 7 784-6716, commercial 031-661-6716.

3.3.2. Pilsung Range: The Range Control Officer sets the BWC on Pilsung range, and will include the BWC during initial check in or if the BWC changes while on range.

3.3.3. MOAs/LLZs/Ranges (not including Pilsung): With the current lack of Avian Hazard Advisory System (AHAS) and Bird Avoidance Model (BAM) on the Korean Peninsula, BWC status for MOAs/LLZs/Ranges (not including Pilsung) is exclusively based on PIREPs from the area. At the beginning of wing flying, the BWC for MOAs/LLZs/Ranges (not including Pilsung) will be set to **LOW**. PIREPs supporting a change in the BWC status should be passed to the SOF as soon as possible. The SOF will be responsible for changing the BWC status for these areas based on the PIREPs passed. Any BWC established in these areas will remain in effect until the SOF determines PIREPs support an increase or decrease in BWC for the designated area or Wing Flying is complete.

**3.4. BWC LOW and MODERATE Operations:** During his primary duty hours, the Birdman patrols the airfield dispersing birds with tower's consent. An active dispersal sweep of the airfield takes 15-25 minutes. The SOF should work with the Birdman to perform a sweep before wing flying launch and recovery windows. Spot dispersal takes 5-15 minutes, depending on location and number of aircraft operations/activity.

**3.5. BWC SEVERE Operations:** The main focus during BWC **SEVERE** is bird dispersal. The Birdman, if on duty, and AM will coordinate dispersal efforts. There may be several dispersal teams on the airfield. With immediate access to taxiways and runways, the dispersal should take 10-20 minutes to return the field to BWC **MODERATE**.

3.5.1. During exercise conditions, BASH team members will remove their chemical protective mask and gloves only when loading and firing a weapon to disperse a bird hazard. This is to ensure safe operation of the weapon and to mitigate the risk associated with bird dispersal. Once the bird hazard is eliminated the team members will recover to exercise play. All BASH team members must be qualified to drive during Mission Orientated Protective Posture (MOPP) 4 conditions in order to respond to bird activity during an exercise.

### 3.6. Notification Procedures:

3.6.1. The primary means of transmitting the BWC is via ATIS. During periods of rapidly changing BWC, ATIS will be updated periodically, but will maintain the more restrictive BWC until conditions stabilize.

3.6.2. The Declaring Authority will notify the AM of the BWC and complete the following actions:

3.6.2.1. SOF.

3.6.2.2. Notify TWS, AM and flying units of BWC and any subsequent changes.

3.6.2.3. Notify airborne wing aircraft if BWC will affect normal recovery.

3.6.2.4. Notify Kunsan SOF and SODO if bird activity may preclude use of Osan for training or divert.

3.6.2.5. Notify the 51 OG/CC of BWC **SEVERE**.

3.6.3. Air Traffic Control:

3.6.3.1. Update ATIS and notify RAPCON.

3.6.3.2. Notify inbound aircraft of BWC **SEVERE** and expected delay.

3.6.4. Airfield Management:

3.6.4.1. Update the transient flight planning room.

3.6.4.2. Notify TWS and 51 FW Command Post and Birdman of all BWC changes.

3.6.4.3. Notify 51 FW/SEF of BWC **SEVERE**.

3.6.4.4. Transmit BWC in local NOTAM.

3.6.5. Command Post:

3.6.5.1. Notify the SODO and inbound aircraft of BWC above **LOW** and any changes.

3.6.6. RCO:

3.6.6.1. Notify SOF and/or AM of BWC above **LOW** and any changes.

3.6.6.2. Notify each flight of BWC above **LOW** and specific hazard, if known.

3.6.7. Flying Units:

3.6.7.1. At step, brief aircrews on the current BWC for the airfield.

3.6.7.2. At step, brief aircrews on any MOAs/LLZs/Ranges (*including Pilsung*) with BWC above **LOW**.

### **3.7. SOF, TOWER Procedures:**

3.7.1. SOF:

3.7.1.1. During the morning runway inspection, examine the airfield for the presence of birds or conditions favorable for birds (grass height, standing water, etc.).

3.7.1.2. Continually monitor the airfield for bird activity and utilize the BASH matrix.

3.7.1.3. Monitor the BWC in accordance with Chapter 3.

3.7.1.4. Coordinate through the TWS for BASH team bird dispersal and monitor for a timely response. Assist the TWS in building “holes” in the wing flying window for dispersal.

3.7.1.5. During BWC **MODERATE** or **SEVERE**, coordinate with the TWS for ways to minimize exposure to bird hazards such as changing runways, delaying takeoffs/landings, or diverting aircraft.

3.7.2. Tower:

3.7.2.1. Continually monitor the airfield for bird activity.

3.7.2.2. Assist the BASH team as they respond for bird dispersal. Coordinate timing and create "holes" in airfield traffic to allow dispersal activities.

3.7.2.3. Proactively utilize BCS on a non-interference basis with other ATC duties. Activation of BCS may be the quickest way to disperse birds and will often preclude the dispatch of a BASH team. At night, during wing flying, program BCS for random cannon salvos outside of planned take-off and land windows. Due to poor visibility at night, random BCS salvos are optimal for preemptive bird dispersal.

3.7.2.3.1. Prior to activating BCS, tower personnel will, time permitting, notify 51 SFS. The primary POC for this notification is the Base Defense Operations Center on LMR/SFS Net 1. The Base Defense Operations Center can also be reached at DSN 784-5515/4049.

3.7.3. Pilot Procedures: Pilots who observe bird activity hazardous to flight operations will contact the SOF, tower, Command Post, or RCO with location, altitude, time, number, type, size, and activity of birds.

3.7.4. Birdman/Airfield Management:

3.7.4.1. Patrol the airfield during appropriate hours to locate and disperse birds and other wildlife. Respond to requests from ground control for dispersal at specific points around the airfield.

3.7.4.2. Safely employ BCS, pyrotechnics, and shotguns to maximize dispersal and depredation activities while minimizing FOD, damage to the airfield, and damage to personnel or aircraft.

3.7.4.3. Obtain tower approval prior to any form of bird dispersal.

3.7.4.4. BWC **SEVERE**: Call for assistance and coordinate a dispersal plan using assets from 51 FW/SEF, AM and additional BASH team members.

3.7.4.5. Birdman will coordinate with the AM when unavailable for dispersal during normal duty hours.

3.7.4.6. Birdman will contact the Base Defense Operations Center when he is conducting bird dispersal. This is especially important during increased force protection conditions and Combat Employment Readiness Exercises.

3.7.5. Threat Assessment: The following is a summary, in order of seriousness, of specific bird strike hazards at Osan AB and recommendations for reducing these hazards to flight operations. A brief description of each bird and methods of control/avoidance are provided. Each control measure has a corresponding tasked organization in the Basic Plan. Hazard control should follow a phased approach. Initial phases should focus on habitat modification. Follow on phases should consist of passive deterrents with subsequent phases incorporating a stronger method of deterrence/dispersal.

3.7.5.1. Specific Hazards: (Osan AB area).

3.7.5.1.1. Great White Egret (*Egretta alba*).

3.7.5.1.1.1. Hazards: This species provides a large threat to flight operations in the airfield area. A number of these birds will normally be scattered throughout

the airfield in the summer months. It feeds primarily on frogs. Although these frogs are dependent on waste for breeding, they appear fairly drought resistant. The Egrets seem to avoid areas on the airfield where grass is taller than eight inches because it makes finding food more difficult. They pose a very serious threat to aircraft due to their size.

3.7.5.1.1.2. Hazard Reduction: Habitat modification to reduce the available food supply should be the most effective method. Draining standing water and keeping grass height at the tall side of the mowing scale can do this. Additional methods are harassment and dispersal techniques, including pyrotechnics, bioacoustics, reflective tape and netting.

#### 3.7.5.1.2. Little Egrets (*Egretta garzetta*).

3.7.5.1.2.1. Hazard: This is the smaller version of the Egret family and feeds primarily on large insects and grasshoppers.

3.7.5.1.2.2. Hazard Reduction: Similar to that for the Great White Egret. Spraying for insects eliminates their primary food source. This should be very effective.

#### 3.7.5.1.3. Ring Necked Pheasant

3.7.5.1.3.1. Hazard: This species is most hazardous during takeoff, landing, and taxi. These birds have been observed running or flying low across the runway and taxiways. They appear to have become accustomed to the presence of aircraft, to the point that they will walk out and stand on the runway during flying operations. The POL farm (located on east-side of Osan) is a primary roosting area.

3.7.5.1.3.2. Hazard Reduction: These birds are most effectively controlled through proper grass-height management. Do not allow grass to exceed 12 inches, and eliminate brush and weed patches on the airfield, particularly when the plants are producing seeds. Pyrotechnics, gas cannons, and depredation can effectively disperse these birds.

#### 3.7.5.1.4. Flock birds (Skylarks – *Alauda Arvensis*, Sparrows – *Passer Montanus*, and Magpies – *Pica Pica*)

3.7.5.1.4.1. Hazard: These birds provide a hazard to aircraft operations because of their flocking habit patterns. They travel from their roost, to food sources and to loafing areas in large groups. They have been observed moving from rice fields to small trees near the ROK encampments on the perimeter road.

3.7.5.1.4.2. Hazard Reduction: Habitat modification and control techniques are the most effective. These include:

3.7.5.1.4.2.1. Food removal/reduction by eliminating insects.

3.7.5.1.4.2.2. Reducing the attraction of loafing areas, such as the perimeter fence and closely mowed fields.

3.7.5.1.4.2.3. Eliminating sources of drinking water near loafing areas.

3.7.5.1.4.2.4. Bio-acoustic or pyrotechnic scare actions when bird concentrations become hazardous.

#### 3.7.5.1.5. Pintail Duck (*Anas Acuta*)

3.7.5.1.5.1. Hazard: These birds provide a hazard because of the generally large number of birds and higher altitudes at which they fly. They are attracted to ponds, ditches, etc., particularly if these contain emergent or submerged vegetation for feeding, nesting or shelter. Resident ducks are most active at dawn and dusk when they move to and from feeding areas. Migratory ducks are usually most active from sunset to midnight.

3.7.5.1.5.2. Hazard reduction: Steepen ditch banks and drain water sources. Remove vegetation from those areas where water continually pools. Pyrotechnics, bio-acoustics, reflective tape, netting and depredation may also be used to control these birds.

#### 3.7.5.1.6. Deer and Small Mammals

3.7.5.1.6.1. Hazard: Osan AB does not have a large population of wild mammals. Deer, however, have regularly (though not often) been depredated or chased off of the airfield. These animals are smaller than US type deer and are similar in size to a medium to large sized dog. They are attracted to sources of water and areas of overgrown vegetation which they use as food sources and for cover.

3.7.5.1.6.2. Hazard reduction: Maintaining airfield grass heights within 7-14 inches will eliminate many food sources and deny these animals cover. When discovered on the airfield, these animals should be immediately removed to eliminate the risk of an aircraft collision with a larger animal.

3.7.5.1.7. Other Hazards: The list above is not a complete list of all birds in the Osan AB area. Other resident/migratory species may create a hazard for which a combination of the above hazard reduction techniques may be used. Some of the other more common birds include:

3.7.5.1.7.1. Gray Heron – *Ardea Cinerea*

3.7.5.1.7.2. Barn Swallow – *Hirundo Rustica*

3.7.5.1.7.3. White Wagtails – *Motacilla Alba*

3.7.5.1.7.4. Jackdaws – *Corvus Monedula*

### **3.8. Hazard Reduction Methods:**

3.8.1. Manage the airfield environment to reduce the attractiveness to birds.

3.8.1.1. Fill low areas on the airfield as material becomes available.

3.8.1.2. Maintain all areas north of Taxiway F grass heights between 7-14 inches to discourage nesting and loafing areas and make it more difficult to find food.

3.8.1.3. Keep drainage ditches clear to ensure proper drainage.

3.8.2. Use appropriate methods to eliminate birds that are present in the area.

3.8.2.1. Pyrotechnics, bio-acoustics (gas cannons), and dispersal techniques: These should be used to remove roosting and loafing birds from the airfield. Coordinate with the TWS prior to dispersal. Move gas cannons periodically to prevent birds from becoming accustomed to their presence. Additionally, netting and reflective tape will be used to distract birds and eliminate roosting/feeding areas on the airfield.

3.8.2.2. Depredation: When necessary, the shooting of birds and animals will be conducted (except protected species). The Chief of Safety will manage the depredation program. All personnel must complete the Air Force Shotgun Training Course prior to participating in depredation. Prior to depredation activities, the BASH team will review protected species material to ensure those species are not targeted.

3.8.2.3. Training: All BASH team members will receive the Wildlife Hazard Management CBT annually. The CBT is designed to provide users with information that will allow them to better understand and practice wildlife hazard mitigation at military airfields.

## Chapter 4

### MAPS AND CHARTS

**4.1. General:** This chapter outlines the use of and requirement for maps and charts needed to help implement the BASH program. 51 FW/SEF will maintain these maps and charts and may combine them to eliminate duplication. All maps will be made by 51 CES and updated by 51 FW/SEF.

4.1.1. Osan AB Habitat Map

4.1.2. Low-Level Area Range Map

4.1.3. Migration Route Map

4.1.4. . Osan AB Bird Depredation Area Map

#### **4.2. Osan AB Habitat Map:**

4.2.1. A habitat survey was conducted at Osan AB in 2006 to determine the specific habitats available to birds.

4.2.2. Once a specific hazard is identified and the location of the activity can be isolated, the habitat study should be referenced to determine if a specific attractant to the species exists, and whether this attractant could be influenced within the scope of this program.

**4.3. Low-Level Area Range Map:** A small-scale map depicting the locations of bird strikes in areas utilized by 51 FW aircraft.

4.3.1. This map should be used to identify those areas that have a higher potential for bird strikes.

4.3.2. Use data from this map to recommend changes to or restrictions on flying in high-risk areas.

**4.4. Migration Route Map:** A small-scale map depicting migratory patterns in Korea.

4.4.1. This map should be used to monitor migratory patterns near Osan AB.

4.4.2. At present, the only map available is a small scale drawing from the USAF Safety Center BASH Home page.

**4.5. Osan AB Bird Depredation Area Map:** Identifies areas on the airfield authorized for bird depredation activities (See Figure 4.1).

**Figure 4.1. BASH dispersal, Depredation and Airfield Mowing Zone (as established by the BHWG).**



**4.6. Osan AB Airfield Mowing Zone Map.** Identifies the Airfield Mowing Zone where grass heights will be added to the mowing zone as construction is completed (see Figure 4.1.).

**4.7. Airfield Mowing Zone (as established by the BHWG).** This area encompasses all areas north of Taxiway F up to the perimeter fencing.

## Chapter 5

### INCIDENT REPORTING

**5.1. General:** This chapter outlines the procedures and forms required to report bird strikes IAW AFI 91-204 and AFPAM 91-212. Accurate reporting of all bird strikes will enhance the Osan AB BASH program.

#### **5.2. Bird Strike Reporting:**

5.2.1. Maintenance personnel discovering a bird strike will notify QA, 51 MOF/MXOOM (MOC), and the respective flying squadron operations. QA and MOC will notify 51 FW/SEF immediately. This is required to ensure evidence and any remains are preserved for bird identification. No maintenance work will be accomplished in the area of the bird strike until QA and 51 FW/SEF have investigated the incident. If a strike is discovered after wing flying, QA (local aircraft) or AM (transient aircraft) will collect non-fleshy remains and take photos of impact points/damage. If unable to accomplish this, they will make arrangements to preserve the evidence until 51 FW/SEF can respond the next duty day.

5.2.1.1. In the event that maintenance discovers the strike and the aircrew was unaware, the squadron Ops Sup and Assigned Flight Safety Officer will be responsible for ensuring the aircraft commander completes the AF Form 853, IAW para 5.3.1. If the aircrew is not assigned to Osan AB, 51 FW/SEF will ensure form completion.

5.2.2. Bird strikes to tenant unit or transient aircraft will be investigated and reported by the flight safety office of the organization credited with the aircraft flying hours IAW AFI 91-204. The 51 FW/SEF will assist as needed. The unit flight safety office will send an information copy of the preliminary and final investigation reports to 51 FW/SEF for inclusion in its BASH database. Bird strikes that cause reportable aircraft damage greater than \$20,000 require additional reporting IAW AFI 91-204.

#### **5.3. Flight Incident Report:**

5.3.1. Report all bird strikes, damaging and non-damaging, using AF Form 853. 51 FW/SEF will ensure sufficient copies are available to all flying units and AM. Unit FSO/FSRs will provide copies to their respective maintenance debrief.

5.3.2. The pilot involved in a bird strike will fill out an AF Form 853 report providing as much information as possible concerning the circumstances of the incident. Include additional comments in the remarks section to help establish the time and location of strike. The pilot will give the report to the unit FSO who will forward a copy to 51 FW/SEF. Transient pilots will give the worksheet to AM who will forward to 51 FW/SEF.

ANDREW P. HANSEN, Colonel, USAF  
Commander

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

AFPD 91-2, *Safety Programs*, 24 July 2012

AFI31-117, *Arming and Use of Force by Air Force Personnel*, 2 February 2016

AFI 91-202, *The US Air Force Mishap Prevention Program*, 24 Jun 2015

AFI 91-204, *Safety Investigations and Reports*, 12 Feb 2014

AFI 32-1053, *Integrated Pest Management Program*, 20 Nov 2014

AFMAN 33-363, *Management of Records*, 1 March 2008

AFMAN 91-201, *Explosives Safety Standards*, 12 January 2011

AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*, 1 February 2004

AFMAN 91-201/PACAFSUP, *Explosive Safety Standards*, 10 November 2011

51FWI 13-204, *Airfield Operations and Local Flying Procedures*, 2 Feb 2015

51 FWI 13-213, *Osan Air Base Airfield Driving*, 11 May 2012

51 FWI 91-201, *Weapons Safety Program Management*, 23 June 2008

UFC 3-260-01, *Airfield and Heliport Planning and Design*, 17 November 2008

FAAH 7110.65, *Official guideline for Air Traffic Controllers*, 11 February 2010

***Adopted Forms***

AF Form 847, *Recommendation for Change of Publication*

AF Form 853, *Air Force Wildlife Strike Report*

***Abbreviations and Acronyms***

**AB**—Air Base

**AFMAN**—Air Force Manual

**AFPD**—Air Force Policy Directive

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

**AHAS**—Avian Hazard Advisory System

**AM**—Airfield Management

**ATIS**—Automated Terminal Information Service

**BAM**—Bird Avoidance Model

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

**BCS**—Bird Control System

**BHWG**—Bird Hazard Working Group  
**BWC**—Bird Watch Condition  
**CATM**—Combat Arms Training and Maintenance  
**CBT**—Computer Based Training  
**KHA**—Korean Hunting Association  
**FD**—Fire Department  
**FLIP**—Flight Information Publication  
**FOD**—Foreign Object Damage  
**FSO/FSR**—Flight Safety Officers/Representatives  
**GP**—General Planning  
**IAW**—in accordance with  
**IFR**—Instrument Flight Rules  
**IR**—Instrument Route  
**LLZ**—Low Level Zone  
**MAJCOM**—Major Command  
**MOC**—Maintenance Operations Center  
**MOPP**—Mission Orientated Protective Posture  
**OPR**—Office of Primary Responsibility  
**QA**—Quality Assurance  
**RAPCON**—Radar Approach Control  
**RDS**—Records Disposition Schedule  
**SOF**—Supervisor of Flying  
**TWS**—Tower Watch Supervisor  
**VR**—Visual Route

## Attachment 2

### BASH TEAM MEMBER TRAINING

**A2.1. Purpose:** This attachment establishes procedures for training BASH Team members. It also establishes procedures for storing, issuing, transporting, and securing munitions used for the BASH Program. It incorporates the requirements of 51 FWI 91-201, *Weapons Safety Program Management* and AFI31-117, *Arming and Use of Force by Air Force Personnel*.

A2.1.1. Responsibilities. 51 FW/SEF exercises sole responsibility for the use of bird scare/depredation techniques by any BASH Team member at Osan AB. All members will be trained on all weapons and ammunition. 51 FW/SEF will maintain a Letter of all BASH Team members. AM OPS will maintain a current copy of this letter.

A2.1.1.1. 51 FW/SEF will assume the responsibility of providing transportation of all ammunition to/from 51 MUNS to all approved ammunition storage facility.

**A2.2. Equipment.** The following equipment is available in support of the BASH program: 12-gauge shotgun, 12-gauge 7 ½ shot, and 12-gauge pyrotechnics “bangers” and BASH cannons. “Ammunition” refers to 12-gauge 7 ½ shot, and 12-gauge “bangers.” “Weapon” refers to any 12-gauge shotgun. Additional equipment includes, ear and eye protection, orange/reflective vest, portable radio, empty metal ammunition container, two portable 2A:10BC fire extinguishers.

A2.2.1. When issued for use, no more than the required amount of rounds to disperse wildlife (normally 25 rounds) will be transported onto the airfield at one time.

**A2.3. Security.** Appropriate security precautions will be taken to ensure that unauthorized personnel cannot gain access to the BASH weapons or ammunition.

A2.3.1. 51 FW/SEF weapons custodian and AM personnel will be notified immediately upon the discovery of missing weapons or ammunition.

A2.3.2. 51 FW/SEF and the AM weapons custodian will be notified of any change in location of the weapons storage facility or quantity of weapons.

A2.3.3. Once removed from storage, weapons and ammunition will never be left unattended.

A2.3.4. All weapons and ammunition will be stored and secured in an approved safe when not in use.

**A2.4. Safety:** Two serviceable 2A: 10BC fire extinguishers will be available at all times when handling or transporting ammunition or weapons.

A2.4.1. Ear and eye protection along with an orange high visibility vest will be worn while loading and firing.

A2.4.2. There will be no smoking or open flames at anytime within 50 feet of ammunition.

A2.4.3. Any ammunition that is a dud will be removed from the weapon and placed in the empty metal ammunition container. The Team member will then notify EOD.

A2.4.4. Report all accidents to the AM, 51 OSS Safety Representative and 51 FW/SEF.

A2.4.5. Weapons will not be fired directly at vehicles, personnel, buildings, NAVAID facilities, aircraft, or when lightning is reported within five miles of Osan AB.

A2.4.6. Weapons will be loaded outside of and pointed away from vehicles and buildings.

A2.4.7. Personnel will adhere to Weapons Safety Standards IAW AFI 31-117, AFMAN 91-201, *Explosive Safety Standards*, and AFMAN 91-201/PACAFSUP, *Explosive Safety Standards*.

**A2.5. Transporting:** Only certified BASH Team members may transport weapons or ammunition. Weapons and ammunition will only be transported in government vehicles.

**A2.6. Fire Reporting and Prevention:**

A2.6.1. In case of a fire:

A2.6.1.1. Notify the Fire Department (FD) through tower and/or AM via the ramp net radio of the fire location and type of fire.

A2.6.1.2. Attempt to extinguish or control the fire using the proper fire extinguisher without putting yourself or others at risk. If the fire cannot be extinguished or controlled, wait for FD personnel.

A2.6.1.3. Evacuate all non-essential personnel at least 300 ft away from the fire and remain close to the scene but at a safe distance in order to direct FD to the fire. If ammunition is engulfed in flames, do not attempt to fight the fire and evacuate all personnel immediately.

**A2.7. Training:** All BASH members will be trained by a qualified BASH Team member trainer on the proper use of all weapons, ammunition, and field tactics.

A2.7.1. The following are the only authorized BASH Team trainers:

A2.7.1.1. Primary, BIRDMAN, 51 FW/SEF

A2.7.1.2. Alternate, Flight Safety NCO, 51 FW/SEF

A2.7.1.3. Alternate, AM OPS NCOIC

A2.7.2. Prerequisites: Prior to being scheduled for a shotgun class, member must have or complete the following:

A2.7.2.1. Flight Line Driver's License. POC: Unit Airfield Driving Program Manager.

A2.7.2.2. BASH Team member academics. POC: Any BASH Team trainer.

A2.7.3. Prior to being certified as a BASH Team member, field tactics training will be completed in the following areas:

A2.7.3.1. Authorized Dispersal and Depredation Areas

A2.7.3.2. Dispersal and Depredation Procedures & Techniques

A2.7.3.3. Control Movement Area Radio Procedures

A2.7.3.4. CATM trained on M870 Shotgun

A2.7.3.4.1. Class will be scheduled by 51 FW/SEF.

A2.7.3.5. Live fire proficiency demonstrated on airfield.

A2.7.3.6. All BASH Team members will be certified by the BASH Program Manager.

A2.7.3.7. Initial and semi-annual refresher training will be documented on the BASH Training Letter and maintained by 51 FW/SEF.

**A2.8. BASH Team member academics:** Any BASH Team trainer may administer academics. The academics will include, but are not limited to:

A2.8.1. BASH Theory. Dispersal, depredation, harassment, food source and environment

A2.8.2. Birds and wildlife at Osan. Species, quantities, habitats, migration periods, Korean protected species, handling and disposal procedures.

A2.8.3. Weapons and ammunition procedures.

A2.8.4. Authorized Dispersal and Depredation Areas

A2.8.5. Dispersal and Depredation Procedures & Techniques

A2.8.6. Control Movement Area Radio Procedures

A2.8.7. CATM Trained on M870 Shotgun

A2.8.8. Procedures and techniques for employing weapons on airfield. Live fire proficiency demonstrated on airfield.

**A2.9. Authorized Dispersal and Depredation Areas:** No weapons employment will be accomplished in the Diamond area or south of Taxiway F.

**A2.10. Dispersal and Depredation Procedures & Techniques.** Dispersal or depredation of birds and wildlife will be accomplished using the following procedures:

A2.10.1. Notify the following: AM, Tower, and Security Forces prior to departing the building for dispersal operations.

A2.10.2. Remove weapon and ammunition from the storage area. Ensure the safety mechanism is in the “on” position (red not showing) and weapon is cleared.

A2.10.3. Ensure all safety equipment is in the BASH bag.

A2.10.4. Proceed to area identified to have birds or wildlife.

A2.10.5. Don ear and eye protection, and the orange high visibility vest.

A2.10.6. Inspect weapon for obstructions.

A2.10.7. Contact tower via radio and request permission for bird and wildlife dispersal or depredation in the specific area needed.

A2.10.8. Load the weapon.

A2.10.9. Upon completion of dispersal or depredation, ensure weapon is cleared.

A2.10.10. Disposal of wildlife. While wearing plastic or latex gloves put the remains in 2 plastic bags and then put in any outdoor disposal container.

A2.10.11. Secure unused cartridges in their original container and police the area for FOD.

A2.10.12. Used cartridges will be stored in the approved “expended” container at AM OPS.

A2.10.13. All weapons and unused ammunition will be placed back in approved weapons storage facility.

A2.10.14. Make Events Log entry stating the completion of wildlife dispersal, complete BASH checklist in the airfield inspection binder, and document BASH response in the PACAF database.

**A2.11.** Control Movement Area Radio Procedures. All radio procedures will be IAW the 51 FWI 13-213, *Osan Air Base Airfield Driving*.

Attachment 3

SAMPLE BASH TEAM MEMBER TRAINING LETTER

Figure A3.1. Sample Bash Team Member Training Letter.

MEMORANDUM FOR RECORD		
FROM: 51 FW/SEF		
SUBJECT: Bird and Wildlife Aircraft Strike Hazard (BASH) Team Member Training Letter		
(Name/Rank/Org) _____ has been selected for 51 FW BASH Team member training.		
1. Prerequisites for CATM M870 Shotgun class:	<u>Date</u>	<u>Trainer Initials</u>
a. Flight Line Driver's License	_____	_____
b. BASH Team member academics	_____	_____
2. BASH Team Field Tactics Training	<u>Date</u>	<u>Trainer Initials</u>
a. Weapons Safety	_____	_____
b. Authorized Dispersal and Depredation Areas	_____	_____
c. Dispersal and Depredation Procedures & Techniques	_____	_____
d. Control Movement Area Radio Procedures	_____	_____
e. CATM Trained on M870 Shotgun	_____	_____
f. Live fire proficiency demonstrated on airfield	_____	_____
g. Certified by BASH Team Program Manager	_____	_____
3. Semi-Annual Refresher Training includes all items except M870 class	<u>Date</u>	<u>Trainer Initials</u>
a. Semi-Annual Refresher training	_____	_____
b. Semi-Annual Refresher training	_____	_____
c. Semi-Annual Refresher training	_____	_____
d. Semi-Annual Refresher training	_____	_____

