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**Safety**



**THE BIRD/WILDLIFE AIRCRAFT STRIKE  
HAZARD (BASH) REDUCTION PROGRAM**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction outlines procedures to minimize the Bird/Wildlife Aircraft Strike Hazard (BASH) to aircraft operating at Charleston AFB (CAFB) and North Air Field (NAF). It applies to the following agencies: Charleston Air Traffic Control Tower, 437 AW/SE, 315 AW/SE, 437 AW/OG, 315 AW/OG, 437 AW/MXG, 437 AW/MSG, SEADS OL-A / LGGSI, 437CS/SCMV (Visual Information Center) (Photo Lab/Graphics), 437 AW/CP and the flying squadrons. It implements AFI 91-204, *Safety Investigations and Reports* AFI 91-202, *The US Air Force Mishap Prevention Program* and AFP 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*.

**SUMMARY OF REVISIONS**

**This document is substantially revised and must be completely reviewed.**

Changes list of attendees for the Bird/Wildlife Hazard Working Group (BHWG) meeting, adds procedures for the wildlife control contractor, and revises the procedures for other functional areas. Any future changes to this regulation will be coordinated through 437 AW/SEF for 437 AW/CC approval.

**1. General:**

1.1. BASH Phase conditions.

1.1.1. A moderate bird-aircraft strike hazard exists at CAFB, NAF, and the surrounding areas due to resident and migratory wildlife. Daily and seasonal bird movements, as well movement from non-flying wildlife, create a hazard to aircraft. All pilots and operations supervisors must be alert to these dangers, which can be sub-divided into categories as follows:

1.1.1.1. Migratory bird threat: CAFB lies along a minor migratory route and its open space sometimes attracts species for rest and feeding. Some species migrate through the airfield at particular times of the year increasing the total amount of birds at CAFB and NAF. Mitigation is accomplished through the use of harassment and depredation, the use of a wildlife control

contractor, and by restricting our flying operations. During heightened times of bird migration, Phase II BASH procedures are implemented as listed in the AFI 11-2C-17 V3, *C-17 Operation Procedures* CAFB Flight Crew Bulletin (FCB) and/or Flight Crew Information File (FCIF).

1.1.1.2. Indigenous bird threat: CAFB and NAF are inhabited year-round by several species of birds regardless of the migration of birds, or times of year. When the local bird population is comprised mostly of indigenous birds rather than migrating birds, Phase I BASH procedures, which are outlined in AFI 11-2C-17 V3, the FCBs and/or FCIFs are in effect.

1.1.1.3. Local wildlife threat: Many species of wildlife including deer, coyote, foxes, etc. represent a high risk to flying operations at CAFB and NAF.

1.1.2. Bird activity is historically highest from 1-14 April and 1 August through 30 November. During this period, the 437 OG/CC normally establishes a Phase II period at CAFB and NAF. Other times are designated Phase I periods. If bird migration is prolonged, or started earlier than normal, the 437 OG/CC may modify Phase II periods as necessary, with recommendations provided by SEF. The wildlife contractor is primarily responsible for wildlife control at CAFB and NAF, and Wing Flight Safety and Airfield Operations are able to assist if the need arises.

## 1.2. Bird Watch Condition (BWC).

1.2.1. Completely separate from the BASH Phase I or II distinction, the BWC measures an immediate and continuously changing bird threat at CAFB and NAF. It measures the threat only within close proximity to the runways. It does not in any way, give data or bird activity information for low level routes (consult the Bird Avoidance Model (BAM) and Avian Hazard Avoidance System (AHAS) databases for this information). The threat is determined by observation of the type of birds seen, the quantity of birds, and the proximity of the birds to the runways.

1.2.2. Changing BWC. BWC is formally changed by Airfield Operations. Recommendations for BWC changes can come from anyone (aircrew, safety, etc.), but the final approval authority for changing the BWC lies with Airfield Operations. Personnel observing bird concentrations on the airfield, as defined in 1.2.2.1. through 1.2.2.3., should call airfield operations with the appropriate information. This information should include, at a minimum, the type, quantity, and location of the birds. Airfield Operations will pass all pertinent information to the tower, command post, and will update their board in base operations.

**EXCEPTION:** If the Wildlife Control Contractor sees a threat that represents an immediate extreme threat, they will call the tower (on either ground or tower frequency) with all appropriate information (change in BWC, location of species, species type, other important information, etc.) and immediately disperse/eradicate the species. Upon completion, they will brief Airfield Operations as soon as possible. Airfield Operations will pass all pertinent information to the command post, and will update their board in base operations. There are three types of BWC.

1.2.2.1. Bird watch condition LOW is defined as no significant threat of bird activity in the local pattern. Flying operations are not restricted.

1.2.2.2. Bird watch condition MODERATE is loosely defined as concentrations of 10 to 15 large birds (egrets, waterfowl, raptors, gulls, etc.) or 15 to 30 small birds (terns, swallows, etc.) observed in locations that represent an increased potential for strike.

1.2.2.3. Bird watch condition SEVERE is loosely defined as heavy concentrations of birds (more than 15 large birds or 30 small birds) on or above the runway, taxiways, in-field areas

and departure or arrival routes or in areas that represent a imminent hazard to safe flying operations.

1.2.2.4. The different BWC levels may restrict flying operations. Check your most current FCB/FCIF for the latest guidance.

1.3. Bird/Wildlife Hazard Working Group. A coordinated agency effort aimed primarily at preventive measures that provide the best chance of avoiding a collision between birds/wildlife and aircraft. The BHWG meets monthly during phase II periods, otherwise it meets once a quarter. The 437 AW/CV chairs the BHWG and members include: Operation Group (OG/CC or CD), Maintenance Group (MXG/CC or CD), Charleston Air Traffic Control Representative, Airfield Management (OSS/OSA), Wildlife Control Contractor, Base Civil Engineer (CE), CE Environmental Office (CEV), SEADS OL-A / LGGSI, Wing Flight Safety (SEF), Charleston County Aviation Authority Director of Operations, and local flying squadron safety representatives.

1.4. Birdstrike determination: 437 AW personnel will use the following guidance to determine the presence of a bird strike. If bird strike is confirmed, use appropriate checklists to report the strike, collect remains, and wipe clean the area to avoid duplicate reports. Bird strikes are defined as:

1.4.1. Any smudge accompanied by fleshy bird remains (i.e., down, feathers, body parts, etc.)

1.4.2. Any smudge that is close (within 2 inches) to new aircraft damage (i.e., a dent, hole in aircraft skin, etc.), with or without fleshy remains

1.4.3. Any smudge that does not meet the conditions of [1.4.1.](#) or [1.4.2.](#), but is greater than 6 inches in length and has a reddish color is a birdstrike.

1.4.4. Any other smudges will not be reported as bird strikes.

**NOTE:** These procedures do not relieve 437 MXG of the responsibility to conduct proper aircraft inspections. For instance, if a smudge is found on an engine inlet, deciding the smudge is not a bird strike does not mean an engine inspection should not be accomplished.

1.5. Deer population control. Deer inhabit areas within the boundaries of NAF. Deer population control will be attained through the use of the recreational hunting program, deer depredation, and non-lethal methods of control. The OPR for deer management is Wing Safety. The following agencies actively help achieve our deer control.

1.5.1. 437 CES/CEVP controls the recreational deer hunting program. The hunting program operates four days per week, Friday through Monday, during the hunting season (15 Sep through 31 Dec) in accordance with all appropriate laws. Any questions regarding rules and procedures for the hunting program will be referred to 437 CES/CEVP.

1.5.2. Deer depredation may be accomplished by the wildlife control contractor, 437 CES/CEVP, Wing Safety, and Airfield Operations. Depredation activities will occur year round. During hunting season (see [1.5.1.](#)), depredation will only occur three days per week, Tuesday through Thursday. Other than hunting season, depredation activities may occur at any time. All depredation activities will be conducted under the laws and procedures on file with 437 CES/CEVP. Questions regarding these rules and laws will be referred to 437 CES/CEVP.

1.6. Disposal of depredated animals. Animal depredation must be conducted IAW all federal and state laws. Applicable depredation permits are kept for the base at 437 CES/CEVP. Animals depredated are to be disposed of by the person who performed the depredation, and IAW the federal and state laws on

file at the 437 CES/CEVP. Animal remains may be donated, but only after a hold harmless agreement has been signed and placed on file with 437 AW/SEF.

## 2. Roles and Responsibilities:

### 2.1. Wing Flight Safety will:

- 2.1.1. Serve as the overall OPR for the CAFB and NAF BASH programs.
- 2.1.2. Serve as the overall OPR for the Bird/Wildlife Hazard Working Group
- 2.1.3. Record and report bird/animal strikes in accordance with AFI 91-202 and AFI 91-204.
- 2.1.4. Recommend implementation/termination of BASH Phase II procedures to OG/CC in response to significant changes in bird migration patterns.
- 2.1.5. Establish an educational program in conjunction with the flying squadron safety offices to acquaint aircrews with the hazards associated with bird migration with particular emphasis on Phase II periods.
- 2.1.6. Coordinate with aircrews and maintenance for collection of remains after strikes. Identify bird or animal remains locally if expertise is available. Have contractor or Wing Safety send remains to:

Smithsonian Institution  
Division of Birds, NHB, MRC 116  
10<sup>th</sup> and Constitution Ave., NW  
Washington, DC 20560.

- 2.1.7. Review the wildlife control contractor's bird strike metrics and track their impact on the wing mission. The contractor will present these metrics at BHWG meetings and wing safety will disseminate to flying squadrons.
- 2.1.8. Track the progress of all projects designed to decrease the appeal of CAFB and NAF as a bird/wildlife habitat.
- 2.1.9. Establish and maintain a continuity folder on pertinent BASH data, metrics and project action plans.
- 2.1.10. Monitor BASH conditions at CAFB and NAF to ensure effectiveness and identify potential hazards. Wing Safety will present any significant findings to the BHWG and facilitate any actions required to reduce bird strike potential.
- 2.1.11. Maintain Wing Safety's Wildlife Dispersal Team IAW AFP 91-212. The Chief of Flight Safety will identify the names of individuals selected for the dispersal team and forward to 437 CES/CEVP for addition to applicable federal and state permits.

### 2.2. Base Civil Engineer

- 2.2.1. Maintain the grass height IAW AFI 91-202 and AFI 91-202/AMCSUP1.

**EXCEPTION:** A 6-foot wide strip adjacent to runways and taxiways will be cut short enough to ensure visibility of airfield lighting.

2.2.2. Eliminate all growth in airfield ditches as it grows. Perform weekly checks to monitor contractor performance.

2.2.3. Identify and drain standing water in low areas that might attract birds, unless such areas have been designated as wetlands.

2.2.4. Eliminate stands of brush and shrubs from grassy areas of airfield to maintain the vegetation as homogeneous as possible. Perform monthly checks to verify conditions.

2.2.5. Inspect areas of the airdrome that are subject to ponding for adequate insect control. Excessive insect breeding attracts birds.

2.2.6. Arrange for application of pesticides, seed suppressants and herbicides, as necessary, to eliminate attractants to bird populations.

2.2.7. Obtain the federal and state wildlife depredation permits for use by recreational deer hunters, Wing Flight Safety, Airfield Operations, and the wildlife control contractor at CAFB and NAF. Names to be included on permits (other than recreational deer hunting) will be forwarded by Wing Safety to 437 CES/CEVP.

2.2.8. Submit all required reports for depredation activities to appropriate regulatory agencies using data provided by wildlife control contractor and wing flight safety.

2.2.9. Manage the recreational deer hunting program at NAF.

### 2.3. Charleston Air Traffic Control

2.3.1. Charleston ground controllers will maintain communications with wildlife control contractors on the ground control frequency in order to coordinate a change in bird watch condition (BWC) at CAFB. Furthermore, Charleston ground controllers will coordinate with Charleston tower controllers and pass bird watch condition, as well as reported bird concentration and location, to the military and civilian carriers taking off or landing at CAFB during BWC moderate or severe via controller initiated broadcasts on the primary tower frequency.

### 2.4. Airfield Operations

2.4.1. Notify Command Post and the control tower of BWC changes.

2.4.2. Notify aircrews as they file flight plan of significant bird activity on the airdrome. Post the bird condition on the base operations status board.

2.4.3. Keep a record of bird and deer activity noted during airfield inspections and all changes in bird status. Forward these metrics to 437 AW/SEF and/or the wildlife control contractor for presentation at BHWG meetings.

2.4.4. Maintain a Bird Dispersal Team IAW AFP 91-212 and maintain appropriate weapons IAW AFMAN 91-201. Airfield Management is responsible for all of the Wildlife Control Contractor's responsibilities during non-duty hours of BASH Phase I operations at CAFB and NAF. During Phase II operations at CAFB or at NAF the contractor will be on call during the non-duty hours at those airfields.

2.4.5. In conjunction with the daily airfield inspection, report any bird hazard condition requiring the dispersal of birds to the wildlife control contractor and/or Wing Flight Safety.

2.4.6. Coordinate with Base Civil Engineering to maintain airdrome grass height IAW paragraph [2.2.1](#).

2.4.7. Coordinate publishing of BASH Phase II period in appropriate Flight Information Publications.

2.4.8. Coordinate with Command Post when Phase II is implemented or discontinued to dispatch a birdstrike hazard advisory message to agencies that transit and fly transition at CAFB. (Phase II)

## 2.5. Wildlife Control Contractor.

2.5.1. The wildlife control contractor is the primary executor of **ALL** wildlife dispersal efforts at CAFB and NAF IAW their Statement of Work. They report directly to 437 AW/SEF and 437 AW/SEF is the OPR for wildlife control activities. The contractor will meet with 437 AW/SEF periodically to discuss the following conditions that may attract wildlife:

2.5.1.1. The status of the "clear zone" areas off the end of runways at CAFB and NAF.

2.5.1.2. Grass height, drainage ditch foliage, low area standing water, etc.

2.5.1.3. Phase I and Phase II forecasts and the associated priorities for the wildlife management contractor during these times.

2.5.1.4. Provide data on number and species killed to 437 CES/CEV to be used in preparing reports to be submitted to appropriate regulatory agencies. Provide 437 AW/SEF with a copy of this information.

2.5.1.5. Coordinate trapping or depredation activities with 437 CES/CEVP. Keep 437 CES/CEVP informed of communication with regulatory agencies.

2.5.2. During daily operations, if the contractor deems it necessary to change the BWC (per the guidance listed in this instruction) they will do so IAW paragraph [1.2.2](#). If they see a group of birds that pose, in their opinion, a severe threat to aircraft safety, then the contractor will call the tower immediately and change the BWC. Inform the tower of the location, size, and number of birds that are driving the increased BWC. The tower will pass applicable information to aircraft at the field, and the wildlife control contractor will disperse the animals causing the threat. When it is safe to do so, contact airfield management and notify them of the change in BWC. Under no circumstance should the contractor delay their notification to tower, and subsequent dispersal of birds, to communicate with other agencies. The primary intent is to remove imminent hazards to the flying environment as quickly as possible and help keep airplanes safe.

2.5.3. Inform Airfield Operations when entering or leaving the airfield.

## 2.6. Operations Group.

2.6.1. Issue specific BASH guidance to aircrew personnel through FCIFs and the FCB. Aircrew mission planning guidance and operating restrictions for both Phase I and Phase II will be permanently maintained in the FCB's or in 11-2C-17 Vol 3, chapter 10.

## 2.7. Maintenance Group.

- 2.7.1. Ensure all bird strikes are reported to Wing Safety using an AF Form 853 **Air Force Bird Strike Report** or local 437 AGS Safety DOP/Incident/Mishap/No Drop Worksheet. Fax a copy of the completed form to 3-4030.
- 2.7.2. Preserve non-fleshy bird remains if discovered on the aircraft. Even the smallest feather (down) should be forwarded to Wing Safety for identification. Follow procedures outlined in paragraph 1.4. concerning proper identification of birdstrikes.
- 2.8. Command Post.
- 2.8.1. Notify all inbound crews when BWC is MODERATE or SEVERE on initial UHF/VHF contact.
- 2.8.2. Transmit in the blind on Command Post UHF/VHF frequency all changes in BWC.
- 2.8.3. When notified of a bird strike from either aircrew or maintenance, command post will notify Wing Safety for recommendations prior to notifying OG/CC. After normal duty hours notify the on-call Wing Flight Safety Officer regarding all damaging bird strikes.
- 2.8.4. Relay all aircrew calls concerning bird activity to airfield management/base operations personnel for action. Relay all calls about bird activity on the low-level routes to Base Operations and Wing Safety.
- 2.9. Flying Squadron Safety Offices and 315 AW/SE:
- 2.9.1. Ensure aircrews participate in the BASH Reduction Program by promptly reporting all bird strikes and hazardous bird conditions to Wing Safety, Command Post, and Base Operations or to ATC (if airborne).
- 2.9.2. Ensure aircrews use the Bird Avoidance Model, Avian Hazard Avoidance System and other planning tools as directed by the OG and Wing Safety. Links to the BAM and AHAS can be found on the Wing Safety and Tactics web sites.
- 2.9.3. Brief aircrews on seasonal bird hazards. Movies, articles, and other information will be used as appropriate to maintain awareness.
- 2.9.4. Ensure that all trip kits are stocked with AF Form 853, and the 437 AW Bird Observation Worksheet. Ensure all completed forms are forwarded to 437 Wing Safety.
- 2.10. 437CS/SCMV (Visual Information Center).
- 2.10.1. Provide photographic services to document bird/wildlife strikes and related activities as required.
- 2.10.2. Provide graphic support to publicize bird hazards and actions taken to minimize the risks as required.

BROOKS L. BASH, Col, USAF  
Commander

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

AFI 11-2C-17 V3, *C-17 Operation Procedures*, 1 December 1999

AFI 91-202, *The US Air Force Mishap Prevention Program*, 1 August 1998

AFI 91-204, *Safety investigations and Reports*, 12 April 2004

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

***Abbreviations and Acronyms***

**AHAS**—Avian Hazard Avoidance System

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

**BAM** —Bird Avoidance Model

**BHWG**—Bird Hazard Working Group

**BWC**—Bird Watch Condition

**FCB**—Flight Crew Bulletin

**FCIF**—Flight Crew Information File

**NAF**—North Air Field