



UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION  
BEAUFORT, SOUTH CAROLINA 29904-5001

ASO 3750.6A  
NREAO/DSS

APR 03 2019

AIR STATION ORDER 3750.6A

From: Commanding Officer  
To: Distribution List

Subj: BIRD/ANIMAL-AIRCRAFT STRIKE HAZARD REDUCTION PROGRAM

Ref: (a) OPNAVINST 3750.6Q  
(b) OPNAVINST 5090.1  
(c) OPNAVINST 6250.4  
(d) ASO P3710.2S AOM

Encl: (1) General Guidelines for Specific Hazard Control  
(2) Bird/Animal Watch Conditions  
(3) Reporting a Bird/Animal Strike  
(4) MCAS Beaufort Bird/Animal Strike Bag Form  
(5) BASH Land Management Procedures

1. Situation. A Bird/Animal-Aircraft Strike Hazard (BASH) exists at Marine Corps Air Station (MCAS) Beaufort due to resident and migratory bird species in the vicinity. Daily and seasonal bird/animal movements create various hazardous conditions with the peak period starting in October and ending in May. In addition, mammals (e.g., white-tailed deer, feral dogs and cats) pose a hazard to aviation safety. No single solution exists to the BASH problem, so a variety of techniques and organizations are involved in the control program.

2. Cancellation. ASO 3750.6.

3. Mission. The MCAS Beaufort Commanding Officer (CO) maintains an aggressive BASH program and coordinates the efforts of the various departments and tenant units to reduce wildlife strikes.

4. Execution

a. Commander's Intent and Concept of Operations

(1) Commander's Intent. All commands operating aboard MCAS Beaufort will comply with this Order and references to minimize risks associated with BASHs.

(2) Concept of Operations. This Order applies to all units aboard MCAS Beaufort responsible for the administration of the BASH program. Enclosure (1) gives guidelines for specific hazard control. Enclosure (2) establishes local Bird/Animal Watch Conditions (BAWCs). In order to track and identify specific bird species which have been killed by an aircraft strike, all remains are to be bagged and tagged utilizing enclosure (4). The bag will then be forwarded to the Natural Resources Environmental Affairs Office (NREAO). The remains along with a copy of the Web Enabled Safety System (WESS) report will then be sent to the Smithsonian Institution for identification. Enclosure (5) are the BASH land management procedures.

DISTRIBUTION STATEMENT A: Approved for public release; distribution unlimited.

b. Subordinate Element Tasks. The administration of the BASH Reduction Plan is the responsibility of the Department of Safety and Standardization (DSS). A Bird/Animal Hazard Work Group (BHWG) will be established as a committee for the MCAS Aviation Safety Council. The group will consist of the following representatives: DSS Officer, S-3 Airfield Operations Officer, S-4 Logistics Officer, S-4 Natural Resources Environmental Affairs Office (NREAO) (Recorder), Public Works Division S-4, and Marine Aircraft Group 31 (MAG-31). The BHWG will meet as directed by the Aviation Safety Council Chairman. The BHWG will review data on wildlife strikes and recommend actions to reduce the hazard to include changes in operational procedures if necessary. Outside wildlife agencies may be asked to participate and provide information to the BHWG.

c. S-3 Airfield Operations Officer

(1) Ensure the Air Traffic Control section is tasked with keeping Airfield Operations informed of BAWCs based on information received by airborne or ground observations. They will also make the necessary operational changes to avoid areas and times of known bird concentrations, mission permitting.

(2) Declare, disseminate, and terminate BAWCs on the Air Station.

(3) Ensure BAWCs are displayed with weather information.

(4) Activate and direct the Bird Reaction Team (BRT) to specific sites for bird/animal-deterrent operations.

(5) Ensure Aircraft Rescue and Firefighting and all air and ground crews are tasked with reporting to the Airfield Operations Office any bird activity while in a BAWC. The recovery of bird/animal strike remains will be forwarded to the NREAO, per enclosure (3).

d. S-4 Logistics Officer

(1) Ensure the NREAO is tasked with the budgetary and logistical support requirements for the BASH Program. The NREAO will receive bird/animal strike remains and a copy of the WESS report for analysis of species type. All remains will be sent to The Smithsonian Institute for identification. The NREAO will determine appropriate action to be taken to reduce bird/animal activity on the airfield and provide this information to the appropriate departments.

(2) Monitor and advise the BHWG of environmental modifications.

(3) Develop procedures for removal or control of bird/animal attractants.

(4) Initiate surveys and write environmental impact assessments and statements as required.

(5) Conduct BASH surveys and report findings to the BHWG and flying units.

a. Point-count surveys twice a month.

b. Spotlight survey once a month.

(6) Use land management practices to reduce potential BASH problems per enclosure (4).

(7) Modify airfield habitat consistent with runway lateral and approach zone management criteria. Reduced habitat conditions beyond the 1000' distance criterion is desired and will further reduce potential BASH problems per enclosure (1).

(8) Ensure the NREAO report on BASH activities is forwarded to higher headquarters and include BHWG recommendations and actions.

(9) The Public Works Officer shall ensure the MCAS Maintenance Service Provider's (Contractor) Pest Control Technician is available for operational use on insect control around the airfield during the BASH period.

e. Communication Strategy and Operations

(1) Publicize the BASH Program and release continuous updates to BASH conditions at the Air Station to the public from October through May.

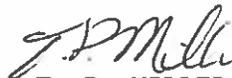
(2) Provide photographic services to document bird/animal strikes and related activities as required.

5. Administration and Logistics. The point of contact for the BASH Program is the NREAO at (843)228-7054.

6. Command and Signal

a. Command. This Order is applicable to all tenant commands aboard MCAS Beaufort.

b. Signal. This Order is effective the date signed.

  
T. P. MILLER

Distribution: A

GENERAL GUIDELINES FOR SPECIFIC HAZARD CONTROL

1. The following is a summary of specific wildlife strike hazards and recommendations for reducing each hazard to flight operations. An integrated wildlife damage management (IWDM) approach is preferred utilizing non-lethal and lethal methods. A brief description of each bird and how each species can be controlled or avoided is included. Each control measure will require action by one or more tasked organizations as described in the basic plan. All necessary Federal and State permits should be secured prior to conducting any lethal control. Wildlife "taken" will need to be recorded and reported to the NREAO. Other wildlife agencies may be called upon for assistance. It is very important to know which species is present before control techniques are most effectively applied. An appropriate field guide should be used to aid in bird identification.

a. Loons, Grebes, Pelicans, Cormorants, and Mergansers. These are fish-eating birds. Control is best accomplished by removing fish-producing ponds near the airfield. Removal of the food source is not always possible, though pyrotechnics can be used to effectively frighten the birds from the area. Avoid flying at sunrise and sunset when large flocks, often in formation, can be found flying to and from feeding areas.

b. Hérons and Allies (Hérons, Egrets, Ibises, and Storks). Most of these species are attracted to water where they feed on fish, amphibians, reptiles and arthropods. Control is best accomplished by eliminating the food sources (i.e. temporary standing water on the airfield) and roost sites. Steeping the sides of ditches and ponds and removing emergent vegetation will drastically reduce accessibility to food sources. Pyrotechnics and other frightening devices should be used to disperse any birds. (Note: Wood storks are a Federally and State Endangered species in South Carolina.)

c. Cattle Egrets. These birds have different feeding habits than their relatives, preferring open fields where they primarily feed on insects. They frequently follow mowers for the insects which are stirred up. Mowing should be accomplished during non flying hours when cattle egrets are present. Grass should be maintained between 7-14 inches. Periodic pesticide application may be necessary for insect control. Roost sites should be eliminated on or near base by removing or thinning roost trees and brush and dispersing the birds utilizing various harassment techniques.

d. Waterfowl (Ducks, Geese, and Swans). A distinction must be made between resident and migrating populations.

(1) Resident waterfowl are attracted to an area to breed or feed. Ponds, lakes, ditches, temporary standing water etc., may attract these birds, particularly if these areas contain emergent or submerged vegetation for feeding, nesting, or shelter. Steepening ditch and pond banks and removal or exclusion of attractive wildlife habitat will reduce waterfowl numbers. When possible, drainage of water sources should be accomplished. Grain fields may also attract waterfowl in large numbers and should be eliminated. Pyrotechnics, lasers, sirens and other harassment techniques can be utilized to disperse birds.

ENCLOSURE (1)

(2) Migratory waterfowl are winter residents in South Carolina and are interspersed with resident populations during the fall and winter months. Hazing waterfowl is effective and may need to be reinforced with lethal control.

e. Blackbirds/Starlings. Both of these species of bird have flocking tendencies. Blackbirds will roost in ditches or cattails near water and will feed in the open areas. Starlings will feed in the open fields with short grass and roost together in tight spaces (i.e., buildings). Removing the vegetation in and around ditches on the airfield will help keep the blackbird numbers down while various harassment techniques will be helpful in dispersing both of the species.

f. Shorebirds and Gulls (Plovers, Sandpipers, and Killdeer). Most of these birds are migratory and will appear more numerous from October through May. Persistent harassment is critical in dispersing these birds. Sirens, propane cannons, pyrotechnics and flashing lights can be used in combination. Gulls have a tendency to be attracted to airfields when temporary pools of water form after periods of rain. Elimination of standing water may be necessary. Gulls also have a tendency to habituate rather quickly to harassment (pyrotechnics and distress call tapes) and several individual birds may need to be taken to reinforce the non-lethal control.

g. Pigeons (Rock Dove). These birds are an aviation and health hazard. The pigeons roost and nest in man made structures (i.e., hangars) and the droppings create a health and FOD risk. Local population reduction (trapping and shooting) along with excluding birds from roost/nest sites can reduce the hazard.

h. Vultures, Hawks, and Falcons. These are predatory birds and scavengers that are attracted to open spaces with abundant insect and small mammal populations, roosting structures and perching structures. Habitat modifications; specifically vegetation, structures, and prey base management will have profound effects. Hazing can be used to deter birds. Trapping/relocation and lethal control may be necessary.

i. Perching birds (Swallows, Larks, and Crows). Pyrotechnics combined with periodic shooting is effective in moving these birds from one area to another, but needs to be conducted persistently. Visual repellents especially; raptor kites, and stretched Mylar tape will add to the effectiveness of hazing.

j. Mammals (Deer, Feral Dogs, etc.). The habitat around the airfield is conducive to harboring most of these species. Fencing is the best long term management strategy along with elimination of vegetation especially in and around drainage ditches on the airfield. Dispersal of animals from critical areas provides short-term relief. Before initializing a hazing action, the potential response of the animal should be considered because they may respond in an unpredictable manner when frightened. Legal harvest of white-tailed deer should be encouraged on the Air Station. Supplemental shooting may be necessary to reduce local populations. Feral dogs and cats can be captured using catch poles or traps, both cage and foot-hold.

### BIRD/ANIMAL WATCH CONDITIONS

The following terminology will be used for rapid communication of Bird/Animal Watch Condition (BAWC) Alerts. Corrective actions with the below conditions are to be executed in accordance with reference (d).

1. BAWC Condition (LOW). Reported bird/animal activity on or around runways and taxiways is negligible, representing low potential for strikes.
2. BAWC Condition (MODERATE). Bird/animal activity has been observed on or around the active runway or other specific location representing increased potential for strikes. Bird Guideline: 5-15 large birds or 15-30 small birds in locations, which represent a probable hazard to safe flying operations).
3. BAWC Condition (SEVERE). Numerous birds/animal activities have been observed on or immediately around the active runway or other specific locations on the airfield representing high potential for strikes. Bird Guideline: Heavy bird concentration (more than 15 large or 30 small birds) on or immediately above runways, taxiways, infield areas and departure and arrival routes.

ENCLOSURE (2)

REPORTING A BIRD/ANIMAL STRIKE

All bird/animal wildlife strikes are required to be reported via the Web Enabled Safety System (WESS). Once the strike is reported, a copy of the WESS report and any remains collected will be forwarded to the NREAO. Collection of remains, no matter how small, is the responsibility of the incident squadron and a bird remains collection kit has been supplied to each squadron. The NREAO is responsible for sending the remains and report to the Smithsonian Institution for DNA analysis. The NREAO will keep a log of all strikes aboard MCAS Beaufort. If any assistance is needed in these procedures the USDA wildlife biologist may be contacted at (843) 228-7054.

MCAS BEAUFORT BIRD/ANIMAL STRIKE BAG FORM

1. \_\_\_\_\_  
(Squadron / Reported by / Phone number)

2. \_\_\_\_\_  
(Date and time of bird strike)

3. \_\_\_\_\_  
(Location of incident, runway, pattern of flight)

4. \_\_\_\_\_  
(Pilot of A/C, and phone number)

5. Brief Description of Incident: -----  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Please attach this form to the bagged remains and forward to building 1036, Natural Resource Office, or call (843)228-7054 for analysis.

6. \_\_\_\_\_  
(Date and time received by the NREAO and initial)

7. Remarks:  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

ENCLOSURE (4)

## BASH LAND MANAGEMENT PROCEDURES

1. Grass Height Management. Mowing operations shall maintain a uniform grass height between 7 and 14 inches. Mowing frequency will be as needed to maintain height requirements. Coordinate mowing with periods of low flight activity. Grass must be cut before it goes to seed to discourage seed-eating birds from utilizing the airfield. Long grass discourages flocking species from entering the airfield because reduced visibility disrupts inter-flock communication and flock integrity and also prevents predator detection. Grass normally should not exceed 14 inches, as high grass will attract some bird species and rodents, which in turn attract raptors. Airfields with a variety of grass species may have a fast growing strain, which reaches 14 inches sooner than the rest of the airfield. Mowing shall be conducted whenever the average grass height reaches 14 inches. Higher grass height may be allowed if the airfield has leased out property for hay production. Obtain assistance in herbicide selection for weed control, appropriate grass seed selection, fertilization and erosion control vegetation from the U.S. Soil Conservation Service or the Agricultural Extension Service.
2. Broad-Leafed Weed Control on the Airfield. Broad-leafed weeds will be kept to a minimum for herbicides, as necessary. Broad-leafed weeds attract a variety of birds, may produce seeds and berries, and may limit grass growth.
3. Planting Bare Areas. Bare areas are frequently used by birds as resting sites and should be eliminated on the airfield. Grass shall be planted as necessary and appropriate irrigation maintained.
4. Fertilizing. Selectively stimulate grasses to support turf growth, enhance root production, and promote a uniform cover. Watering should be performed routinely after fertilizing to promote seed head production.
5. Reducing Edge Effect. Edge effect refers to the highly attractive transition zone between two distinct habitat types (e.g., brush to grassland). The airfield shall be maintained as uniformly as possible to reduce this effect.
6. Leveling of Airfield. High and low spots on the airfield will be leveled or filled to reduce attractiveness to birds and prevent standing water.
7. Dead Vegetation. Dead brush piles, grass clippings, hay bales, etc., and the cover it affords, will be removed as soon as possible.
8. Dead Birds and Animals. Dead birds and animals shall be removed from the field to avoid attracting vultures and other birds. Forward remains, which may have been caused by collision with an aircraft, for identification.
9. Pest Control. Invertebrates and rodents provide important food sources for many birds. Control of insects, earthworms, rodents, etc., through the use of insecticides and rodenticides will be accomplished under the supervision of the Air Station's contracted Pest Control technician service provider. Control should begin early in the spring. This must be coordinated with the Integrated Natural Resources Management Plan (INRMP).

10. Drainage Ditches. Ditches shall be inspected regularly and kept clear and obstacle free. Ditch sides will be maintained as steeply as possible with a minimum slope ratio of 5:1 to discourage wading birds and emergent vegetation. Vegetation will be removed as often as necessary to maintain flow and discourage use by birds.

11. Elimination of Standing Water. Coordination with the Army Corps of Engineers, and the appropriate state environmental permitting office, is required prior to altering wetlands. Small ponds or puddles and some large standing bodies of water must be eliminated to reduce the attractiveness to birds. Low spot and ditch maintenance is essential.

12. Erosion Control Vegetation. Vegetation should be used which is appropriate for the region and supports BASH reduction philosophy (i.e., do not control erosion using plants which produce seeds at heights below 14-18 inches).

13. Agricultural Crop Out-Leasing. Out-leasing of crops should be consistent with BASH reduction philosophy. Hay is a suitable crop for runway lateral and approach clearance zones when properly managed.

14. Eliminate Roosting Sites. Blackbird and starling roosts will be controlled by vegetation management of roost sites where possible. Trees shall be pruned to reduce the number of perches available and entire trees or stands will be removed when necessary.

15. Bird-Proof Buildings and Hangars

a. Pigeons, sparrows, and starlings roost in hangars and must be denied access. Starlings frequently enter buildings. Denying access by screened windows, closed doors, and blocked entry holes should be considered.

b. Toxic Perches: Pest Control will survey bird roosting sites and install perches in high contact areas.

c. Pellet Guns: Shoot Birds for a short-term solution. Experience has shown that all birds cannot be removed using this technique. Proper safety equipment is required.

d. Netting: Install under superstructure to exclude pest birds from roosting areas. Ensure no gaps or holes are present for birds to get through.

e. Avitrol: Pest Control will place Avitrol in or near hangar to kill birds or create a distressed response, scaring others away.

f. Trapping/Removal: Use a large cage with food, water, and other birds to trap pest birds. Birds should be destroyed once captured. Permits from the U.S. Fish and Wildlife Service and the state wildlife agency are required to kill protected birds.

g. Structural Design: When designing structures avoid creating areas for birds to perch or enter the structure (e.g., external exposed beams, doorway overhangs, and non-essential structural openings).

16. Other Animals Hazardous to Aircraft. Use appropriate trapping methods for animals. Some species or individual animals may be removed by shooting. Coordinate with the NREAO and obtain the appropriate permits.

# Air Station Order Annual Review Sheet MCAS Beaufort, SC

Reset Form

Calendar Year 2019

Per MGO 5215.1K and by direction of the Commanding Officer, directives shall be reviewed annually to ensure that they are necessary, current, and consistent with Marine Corps policy, existing law, and statutory authority.

ASO Directive Number: 3750.6A ASO Title: BASH Reduction Program

The directive has been completely reviewed and

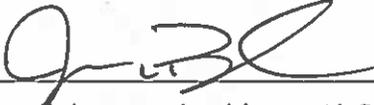
- does not require any changes or revisions (any Order that is nine years or older must be revised)
- will have a change issued NLT \_\_\_\_\_
- will revise and republish NLT 1 May 2019 (any Order that is nine years or older must be revised)
- will be consolidated with another directive of similar subject NLT \_\_\_\_\_
- should be canceled (justification and CO's signature are required)

#### Additional Remarks:

- Revised version attached.

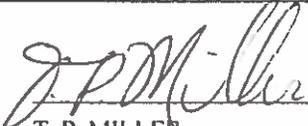
Sponsor's Name: Jeremy Bird Rank: 1stLT Phone: K-7322

Section: Adjutant (For WRMO)

Signature:  Today's Date: 20190327

Please note that all changes and revisions to Air Station Orders are the responsibility of the originating section. Upon completion of this review, please sign and return to the Adjutant's Office (Central Files) for processing.

#### Commanding Officer's Remarks (if applicable):

  
T. P. MILLER  
Colonel, U. S. Marine Corps  
Commanding Officer

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**\*\*Return to the Adjutant's Office (Central Files). Point of contact is the Directives Control Point (DCP) at 843-228-7360 \*\***