BY ORDER OF THE COMMANDER
341ST MISSILE WING

341ST MISSILE WING INSTRUCTION
91-212

3 FEBRUARY 2023

Safety

BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD (BASH) REDUCTION PROGRAM

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available on the e-publishing website at http://www.e-publishing.af.mil/**www.e-publishing.af.mil** for downloading or ordering

RELEASABILITY: There are no releasability restrictions on this publication

---

OPR: 582HG/SEF

Certified by: 341MW/CC
(Colonel Barry E. Little)

Supersedes: 341MWI91-212, 28 April 2016

Pages: 21

This instruction defines and coordinates various base agencies responsible for minimizing the Bird/Wildlife Aircraft Strike Hazard (BASH) to aircraft operating at Malmstrom Air Force Base and throughout the missile field complex. It complements DAFI 91-204, *Safety Investigations and Reports*, AFI 91-202, *The US Air Force Mishap Prevention Program*, AFMAN 32-7003, *Environmental Conservation* and AFI 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program*. It applies to all military personnel, DOD civilians, civilian contract and vendor personnel required to operate at Malmstrom. This instruction does not apply to Air National Guard or Air Force Reserve personnel. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using AF Form 847, *Recommendation for Change of Publication*; route AF Form 847 through the wing publishing office. Ensure all records created as a result of prescribed processes in this publication are maintained in accordance with this publication and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System.

SUMMARY OF CHANGES

This publication is updated to reflect updated organizational tasking, roles, and responsibilities, airfield changes, and current knowledge of potential wildlife hazards. It should be reviewed in entirety.

Chapter 1

ADMINISTRATIVE GUIDANCE

1.1. Purpose. A bird/wildlife strike hazard exists at Malmstrom AFB and in its vicinity. Daily and seasonal migratory bird movements and on-base deer, fox, and coyote population create various hazardous conditions. Local golf courses, landfills, and multiple bodies of water including lakes, ponds, and streams are bird attractants and are especially dangerous during seasonal migratory movements.

1.2. Scope. This instruction prescribes local procedures and policies concerning aircraft and airfield vehicular operations at Malmstrom. It does not supersede United States Air Force, Air Force Global Strike Command (AFGSC), or Federal Aviation Administration (FAA) directives. Deviation from this instruction is authorized only in emergencies where adherence would jeopardize safe aircraft or vehicular operation. Airfield and flight operations in the Malmstrom area necessitate compliance with the procedures established herein.

1.3. Policy. Each partner unit or assigned organization is responsible for ensuring its personnel are familiar with this instruction.

1.3.1. Word Meanings. The following definitions apply within this instruction:

1.3.2. Shall, will, or must—indicate a mandatory procedure.

1.3.3. Should—indicates a recommended procedure.

1.3.4. May or need not—indicates an optional procedure.

1.4. Revisions. IAW AFMAN 13-204v2, *Airfield Management*, this instruction will be reviewed annually. Recommendations for revisions to this instruction are encouraged and should be forwarded to the 582 HG/SEF.

1.5. Deviations. Any party subject to these procedures may deviate from the policy contained herein only in the interest of safety. All other deviations or waiver requests must be approved by the 341 MW/CC before operations begin. All deviations must be reported to the OPR for this publication.

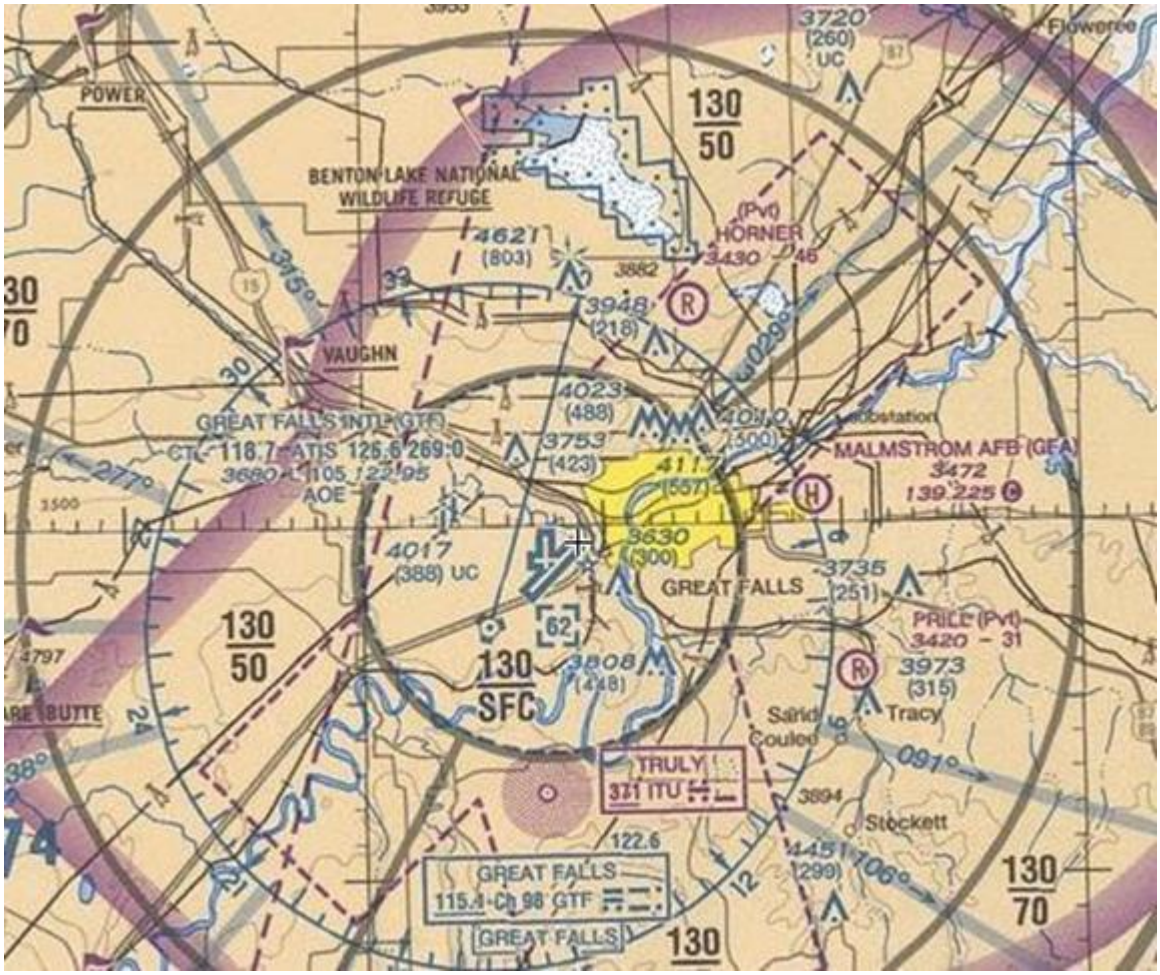
Chapter 2

BIRD AIRCRAFT STRIKE HAZARD (BASH) PROGRAM INFORMATION

2.1. Malmstrom Air Force Base Location and Geography.

2.1.1. Malmstrom AFB is located east of Great Falls, Montana. The base is situated atop a plateau with an airfield elevation of 3,472 feet above mean sea level. The surrounding area has lower elevations. The Missouri River is located 1 mile north of the base. See **Figure 2.1**.

Figure 2.1. Location and Geography.



2.1.2. Little native vegetation currently exists on Malmstrom AFB. Over the years, native vegetation on lands within the base boundaries have been altered or modified by developmental activities and the introduction of exotic grasses. Most of the open fields in the southeast portion of the base were plowed and planted with introduced grasses such as Crested Wheatgrass (Agropyron cristatum), Kentucky Bluegrass (Poa pratensis), and Intermediate Wheatgrass (Thinopyrum intermedium). Bare ground requirements and regular mowing of installation grasses to satisfy BASH requirements also have contributed to the present composition of range vegetation found on Malmstrom AFB. Introduced weedy forbs, including Bracteate Verbena (Verbena bracteata) and Summer Cypress (Kochia scoparius), have invaded the area,

although some native grass species have recolonized sites to a small degree (BioSystems Analysis, Inc., 1994). The base and surrounding areas have sunflowers which attract seed-eating birds and small mammals. A cottonwood grove is located along both sides of the abandoned runway approximately 1,200 feet from the base flying area environment.

2.1.3. Eight Category 1 Montana State-listed noxious weeds were identified at Malmstrom AFB and the deployment area during a survey conducted in 2004 (341st Civil Engineer Squadron Installation Management Flight, 2010). They include Canada Thistle (Cirsium arvense), Leafy Spurge (Euphorbia esula), Dalmatian Toadflax (Linaria dalmatica), Field Bindweed (Convolvulus arvensis), Spotted Knapweed (Centaurea maculosa), Russian Knapweed (Acroptilon repens), and Hoary Cress (Cardaria draba), Hound's Tongue (Cynoglossum officinale), Common Mullein (Verbascum Thapsus) and Curly Dock (Rumex crispus). Hound's Tongue (Cynoglossum officinale) was identified in the deployment area. Five other invasive species also were found during the field surveys, including Russian Thistle (Salsola kali), Kochia (Kochia scoparia), Musk Thistle (Carduus nutans), Bull Thistle (Cirsium vulgare), and Russian Olive (Elaeagnus angustifolia). Each of these species is difficult to control and poses an invasive threat to the native vegetation at Malmstrom AFB and throughout the deployment area.

2.2. Local Flying Area/Helicopter Movement Area (HMA).

2.2.1. The helicopter local flying area includes the 13,800 square miles encompassing the missile field complex. The local flying area is surveyed annually for low-level operations.

2.2.2. Heliport. Malmstrom AFB runway 03/21 is 11,500 feet x 150 feet with a 1,000 feet x 150 feet overrun on each end. This runway is permanently closed to all aircraft. Malmstrom AFB has three operational Visual Flight Rules (VFR) helipads. "Jolly" helipad, which is the helipad nearest the runway and is made up of an asphalt surface. "Pedro" helipad, which is located to the southwest of the parking apron and "Huey" helipad, which is located nearest the parking apron; both of which are a concrete surfaces. All helipads are 100 feet by 100 feet. A 2,500 foot portion of the runway that falls within the HMA is used as a helicopter slide area and is unmarked (**Figure 2.2**). The grass around the HMA and adjacent to the closed runway must be mowed to prevent birds from using the area to rest, feed, or nest (**Figure 2.3**).

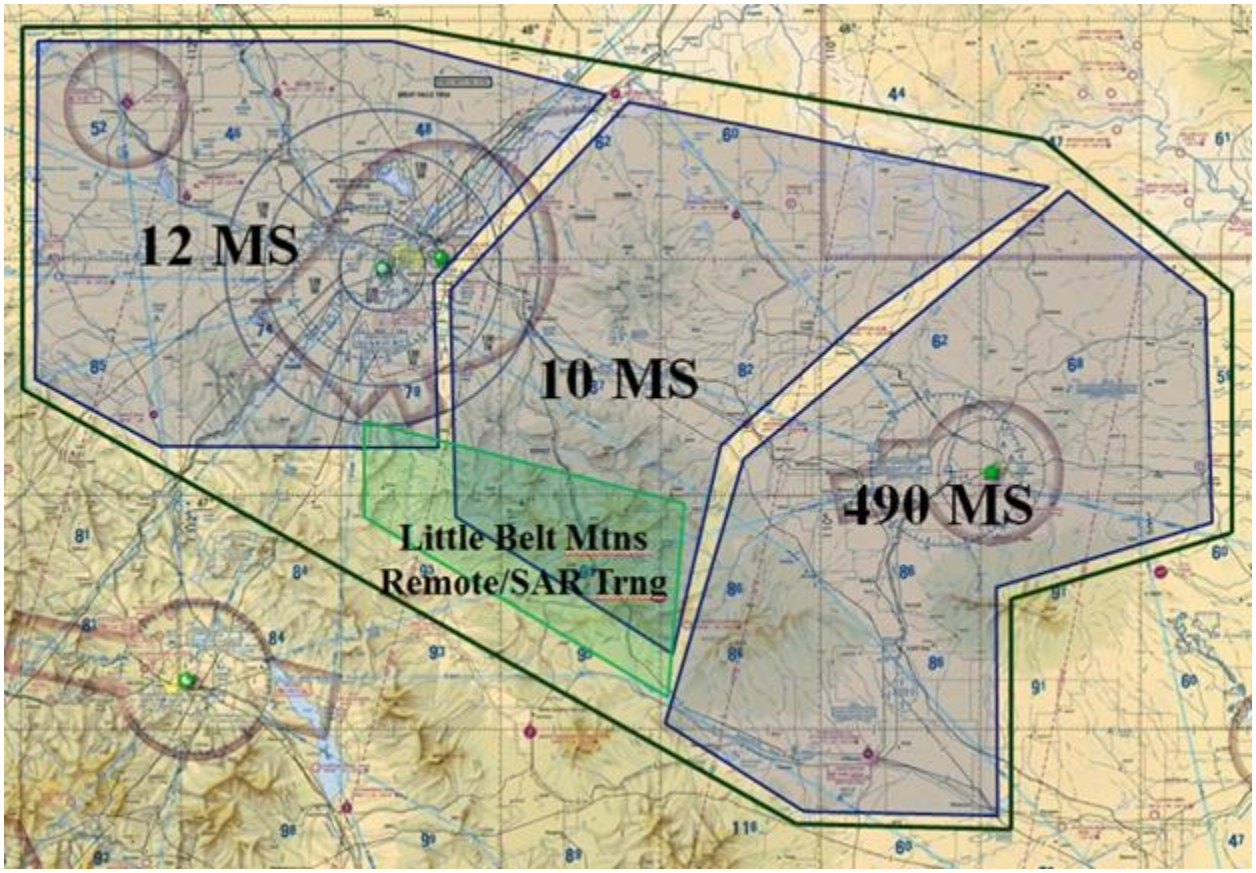
2.2.3. Wildlife Exclusion Zone. The area encompassing the HMA, Warrior Training Launch Facility (LF), and closed airfield areas are considered the Wildlife Exclusion Zone (depicted as the purple mowing area in **Figure 2.3**). Wildlife in this area shall be discouraged and/or actively removed in order to reduce the threat to aircraft operations.

Figure 2.2. Helicopter Movement Area (HMA).

Figure 2.3. Mowing Area (Displayed in Purple).

2.2.4. The missile field complex includes comprises approximately 13,800sq.mi. of Montana, and includes 150 LFs, 15 missile alert facilities (MAFs), multiple helicopter landing zones (HLZs), and communications and maintenance support sites. (**Figure 2.4**) The 40 HS regularly conducts missions and training throughout the missile field complex.

Figure 2.4. Missile Complex Flight Area.



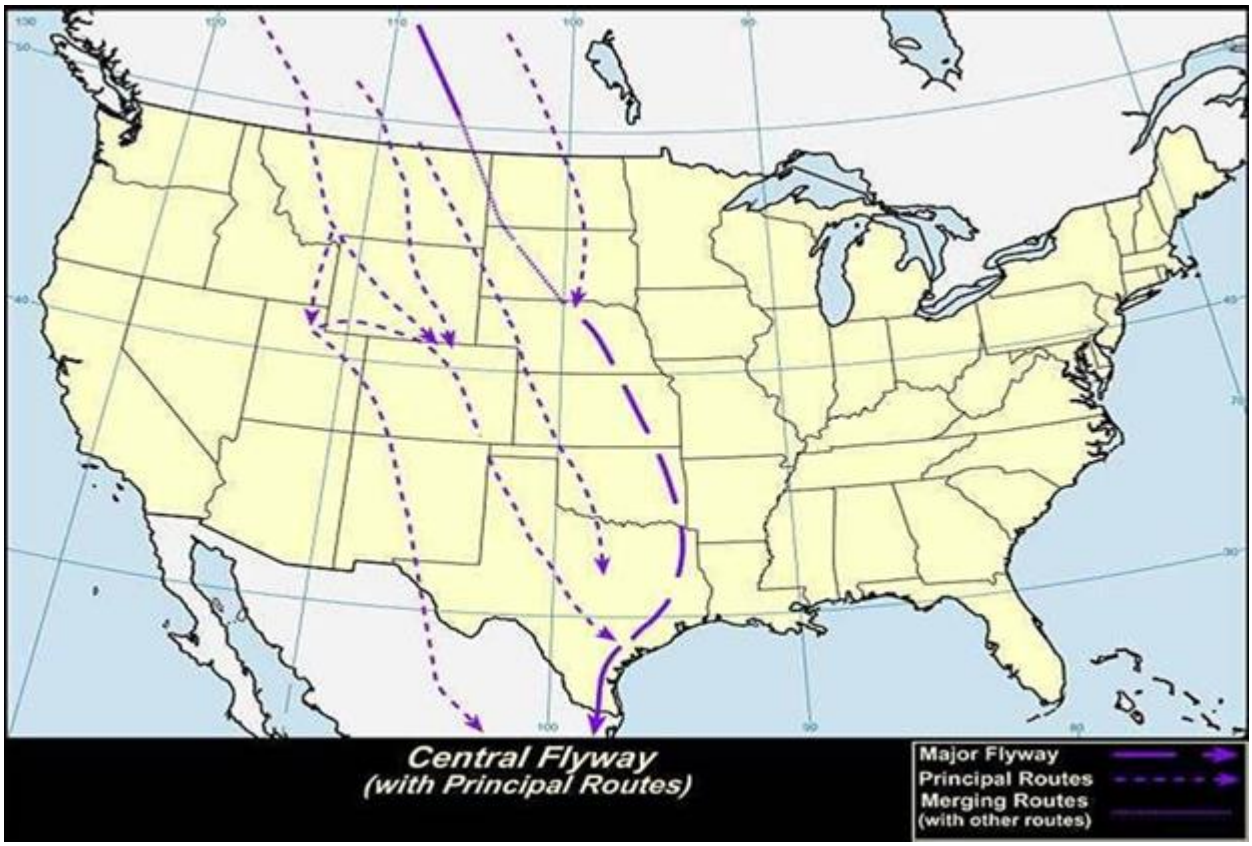
2.3. Specific bird threats.

2.3.1. Flocks of gulls feed and rest within the HMA and operations area during late summer. California gulls (Larus californicus) are present year-round, but thousands of migratory gull species pass through Malmstrom AFB each fall, usually in August and September. In the morning hours, birds use the runway overruns to warm up and feed in the grassy areas on grasshoppers, other insects and carrion from mowing activities. Gulls, raptors, and pelicans have been observed riding thermals approximately 300 – 500 feet above ground level (AGL) directly over the HMA. Control techniques may include pyrotechnics, vehicle disturbance, grass height management, insect control, non-lethal control, and limited lethal control.

2.3.2. Migratory waterfowl present a hazard to the Malmstrom flying environment (**Figure 2.5**). Migratory waterfowl are particularly hazardous around Benton Lake (18 mi N of MAFB) and Freezeout Lake (58 mi NW of MAFB). The proximity of Malmstrom to the Missouri River, where tens of thousands of Canada geese overwinter, and agricultural land surrounding the base and throughout eastern Montana present a significant risk to helicopter operations during the migratory season (August –April).

2.3.3. Birds within the missile field complex. Additional to the specific threats above, numerous birds are present within the missile field complex, including Bald Eagles, numerous species of hawk, gulls, geese, and smaller birds. Due to the limited ability to track birds over this wide area, organizations are encouraged to contact the 40 HS Operations Desk whenever unusual concentrations of birds are observed near 341 MW sites.

Figure 2.5. Central Waterfowl Flyway.



2.4. BASH Phase II. The period August to April is designated as Phase II, or heightened "Bird Awareness" months, based on bird strike data and previous observations of bird activity in or around Malmstrom AFB. The period outside of Phase II is considered Phase I.

2.5. Bird Watch Condition. Completely separate from the BASH Phase I or II distinctions, the local Bird Watch Condition (BWC) measures immediate and continuously changing bird threat throughout the missile field complex. It estimates the threat in close proximity to established HLZs, LFs, and MAFs. The threat is estimated – via observations from aircrew members, 40 HS Operations Supervisor (OPS SUP), or any other ground personnel – based on the type, quantity, altitude, and proximity of the birds in relation to established landing sites. Information containing daily and seasonal bird activities over the airfield, by species, helps determine the appropriate BWC, or level of risk to helicopter operations (see section 3.1.). The BWC does not 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). However, BAM, a component of the AHAS, provides only general guidance (Low, Medium, or Severe) regarding the hazard rating during any two-week period. Section 3 (below) describes how the BWC is determined or changed, and the operational restrictions associated with each of the following condition:

2.5.1. BIRD WATCH CONDITION SEVERE – Heavy concentration of birds on or immediately above the base's boundary, departure routes, arrival routes, or other specific locations that represent a high potential for strikes or an immediate hazard to safe flying operations. Supervisors and aircrews must thoroughly evaluate mission need before operating in areas under condition SEVERE.

2.5.2. BIRD WATCH CONDITION MODERATE – Concentration of observable birds in locations which represent an increased potential for strikes or a probable hazard to safe flying operations. This condition requires increased vigilance by all agencies and significant caution by aircrews.

2.5.3. BIRD WATCH CONDITION LOW – Normal bird activity on and above the base flying area with a low potential for strikes or a low probability of a hazard. Upon extended normal bird activity, no BIRD WATCH condition need be declared. NOTE: Bird Watch Condition SEVERE or MODERATE will necessitate action from the installation's wildlife dispersal team to reduce the Bird Watch Condition to LOW as soon as possible.

2.6. The Bird Hazard Working Group (BHWG). The BHWG meets semi- annually (usually in conjunction with the Environment, Safety and Occupational Health [ESOH] Council) to review wildlife strike data, identify and recommend actions to reduce hazards, and recommend changes in operational procedures.

2.6.1. BHWG shall consist of:

2.6.1.1. 341 MW/CV

2.6.1.2. 341 MW/SE

2.6.1.3. 582 HG/SEF or 40 HS/SEF

2.6.1.4. 582 HG/OGV

2.6.1.5. 582 OSS/AFM

2.6.1.6. 341 CES (including but not limited to the Natural Resources Program Manager, Entomology Shop NCOIC, Grounds Contract Manager, and Pavements and Equipment Shop Foreman)

2.6.1.7. 341 MW/JA

2.6.1.8. 341 MW/PA

2.6.1.9. 341 SFG

2.6.2. The BHWG meeting topics will include, but are not limited to:

2.6.2.1. USAF and unit reported Bird/wildlife mishaps and incidents.

2.6.2.2. USAF Bird/wildlife Aircraft Strike Hazard Team information updates.

2.6.2.3. Locally observed/reported Bird/wildlife activity (to include low level ranges/routes).

2.6.2.4. Airfield inspections/surveys, recovered Bird/wildlife remains, Bird/wildlife strikes.

2.6.2.5. Local Bird/wildlife habitat management/modifications (to include dispersal/depredation activity), environmental/land management activity, land uses (landfills, agriculture crop seasons), current or projected community projects off installation with the potential to affect wildlife activity on or near the installation, and encroachment issues.

2.6.2.6. All proposed outdoor construction or modification projects.

2.6.2.7. Annual bird migrations.

2.6.2.8. Bird/wildlife Aircraft Strike Hazard-related budgeting issues.

2.6.2.9. Local Bird/wildlife Aircraft Strike Hazard plan procedures and responsibilities (to include observed effectiveness/deficiencies).

2.6.2.10. Bird/wildlife Aircraft Strike Hazard awareness training/education (to include Bird Watch Condition code definitions and communications).

2.6.2.11. Flying schedule and Bird/wildlife activity conflicts.

2.6.2.12. Status of Bird/wildlife Aircraft Strike Hazard equipment (Bird/wildlife Aircraft Strike Hazard 870 Shotgun, Avian Laser, Avian Radar, Acoustic Devices, Propane Cannon, Binoculars, etc.)

2.6.2.13. Status of bird dispersal supplies.

2.6.2.14. Review of Flight Information Publication documents for Bird/wildlife advisories (Phase I / II designations).

2.6.2.15. Review trend of traffic pattern bird strike rate. This is a function of traffic pattern bird strikes divided by the number of traffic pattern operations at your installation.

Chapter 3

ORGANIZATIONAL TASKING, ROLES AND RESPONSIBILITIES

3.1. Approval.

3.1.1. 341 MW/CV chairs the BHWG and approves/disapproves all recommendations. The BHWG will meet IAW **paragraph 2.6**.

3.2. Roles and Responsibilities.

3.2.1. 341 MW/SE will:

3.2.1.1. Coordinate BASH activities between base agencies, as applicable.

3.2.1.2. Conduct a stand-alone, year-long, to include all seasons, formal wildlife hazard assessment every 72 months that specifically inspects the immediate Wildlife Exclusion Zone, airfield infrastructure components and perimeter fencing within a 5-mile perimeter from any point of the runway center line. The primary focus of this assessment is to address wildlife issues and habitat, outside of the normal bird concerns, that may be impacting airfield operations

3.2.2. 582 Helicopter Group Flight Safety Officer (582 HG/SEF) will:

3.2.2.1. Serve as OPR for the overall BASH Program.

3.2.2.2. Oversee the wing's BASH dispersal initiatives.

3.2.2.3. Ensure base-wide compliance with AFI 91-202, AFMAN 32-7003 and report all bird- aircraft strikes and hazards IAW AFI 91-202, DAFI 91-204 and AFMAN 91-223 and all related supplements.

3.2.2.4. Report on BASH and include BHWG recommendations and actions in the agenda and minutes of the quarterly Wing ESOH Council Meetings or other meeting if held outside the ESOH Council.

3.2.2.5. Monitor all tasked organization activities for compliance with this directive.

3.2.2.6. Disseminate BASH data to BHWG and flying units to include number of strikes, location and animal type.

3.2.2.7. Provide the BHWG with the current BASH guidance from higher headquarters, the BASH Team, the U.S. Fish and Wildlife Service, and other agencies.

3.2.2.8. Monitor bird activity and strike statistics and advise the chairman of the working group when a meeting is deemed necessary.

3.2.2.9. Coordinate with aircrews and maintenance for collection of any bird remains after strikes and send all salvaged material to the Smithsonian Institute Feather Identification Lab for identification. Consult with Natural Resources Program Manager, when possible, to assist with remains processing and information sharing.

3.2.2.10. Establish and maintain a continuity folder with any pertinent BASH data (i.e. bird observation reports, bird strikes, and recent regional/state bird strike data from APHIS database) and information to assure continuity of knowledge with personnel turnover.

3.2.2.11. Establish a bird hazard awareness program in conjunction with the unit flight safety officers, to include films, posters, and information on local bird hazards and reporting procedures.

3.2.2.12. Coordinate for Natural Resources Program Manager to brief bird observations and hazards during safety briefings and meetings.

3.2.2.13. Monitor bare areas. Bare areas frequently used by birds as resting sites should be eliminated in the base flying area. Coordinate with CES for the planting of grass, as necessary. Grasses should be planted as necessary, and native grass species selected where possible.

3.2.3. Unit Flight Safety Officer (SEF) will:

3.2.3.1. Ensure aircrews participate in the BASH Reduction Program by promptly reporting all bird strikes and hazardous bird conditions to the OPS SUP and 582 HG Safety via BIRDREP.

3.2.3.2. Collect all BIRDREPS and coordinate with the OPS SUP and 40 HS/CC to update the local BWC accordingly.

3.2.3.3. Ensure aircrews use the Bird Avoidance Model (BAM), Avian Hazard Avoidance System (AHAS) and other planning tools as directed by the 40 HS/CC and Wing Safety.

3.2.3.4. Brief aircrews on seasonal bird hazards. Movies, articles, and other information will be used as appropriate to maintain awareness.

3.2.3.5. Ensure that all aircraft are stocked with AF Form 853, Bird Strike Report and materials necessary to obtain and preserve bird strike evidence or bird remains. Ensure all applicable forms are completed and an AFSAS report generated. Ensure collected remains are forwarded the Smithsonian Institution Feather Identification Lab for disposition and identification.

3.2.3.6. Evaluate the effectiveness of grounds control and bird dispersal equipment for use on the base.

3.2.3.7. Coordinate the collection of any remains after strikes, and ensure 582 HG/SEF is notified.

3.2.4. The 40 HS Operations Supervisor (OPS SUP) will:

3.2.4.1. Post the current BWC.

3.2.4.2. Monitor the online Bird Avoidance Model (BAM) and Avian Hazard Avoidance.

3.2.4.3. Solicit BWC updates and reports and update the local BWC based on aircrew recommendations and available information.

3.2.4.4. Brief crews on the BAM, AHAS, local BWC, and bird activity reported by airborne crews.

3.2.4.5. Notify all airborne aircrews when the local BWC at the airfield increases above Moderate.

3.2.4.6. Activate the bird scare/dispersal group at any time birds in the base flying area create hazardous conditions. Airfield Management is designated as the primary POC for bird dispersal. The Natural Resources Program Manager, together with Pest Management (CEOIE), will assist in hazing and dispersal tactics or relocation of base wildlife.

3.2.4.7. The 40 HS shall be responsible for the assembly, maintenance, and restocking of bird strike kits for all 582 HG owned aircraft at KGFA. These kits shall include at a minimum (but can include more):

3.2.4.7.1. 4 resealable plastic bags: 2 gallon, 1 quart, 1 pint

3.2.4.7.2. 2 pairs of nitrile exam gloves, large

3.2.4.7.3. 4 cotton swabs

3.2.4.7.4. 4 alcohol wipes

3.2.4.7.5. 1 permanent marker

3.2.4.7.6. 1 pair of tweezers

3.2.4.7.7. 1 bottle of hand sanitizer

3.2.4.7.8. 2 disposable face masks

3.2.4.7.9. 2 AF Form IMT 853 *Air Force Wildlife Strike Report*

3.2.4.7.10. 582 HG *In-Flight Emergency and Precautionary Landing Worksheet*

3.2.4.7.11. 1 laminated card with collection kit instructions/contents

3.2.5. Airfield Manager (582 OSS/AFM) will:

3.2.5.1. Monitor airfield for wildlife activity, and maintain records of significant wildlife activity for use in BASH statistics and reporting.

3.2.5.2. Serve as the OPR for bird dispersal activities.

3.2.5.3. Coordinate BASH mitigation actions on the airfield with 341 CES/CEOIE and 40 HS/OPS SUP.

3.2.5.4. Conduct daily checks of the HMA for condition and wildlife.

3.2.5.5. Coordinate for monthly inspections of the fence line(s) surrounding the Wildlife Exclusion Zone.

3.2.5.6. Coordinate with 341 CES for vegetation management.

3.2.5.7. Maintain training for the use of all utilized BASH equipment, including small arms.

3.2.6. Base Civil Engineering (341 CES) will:

3.2.6.1. Provide representatives to the BHWG to monitor and advise the group of environmental modification and plans that warrant BASH considerations.

3.2.6.2. Coordinate with Natural Resources (CEIE), the Wing Chief of Safety, and 582 HG/SEF to facilitate land management practices that reduce BASH potential. Evaluate environmental impacts of these land management practices in accordance with the Air Force Environmental Impact Analysis.

3.2.6.3. Oversee broad-leafed weed control. Broad-leafed weeds will be kept to a minimum within the base flying area. Application of herbicides, as necessary, will be accomplished to achieve this. Broad-leafed weeds attract a variety of birds, may produce seeds or berries, and may limit grass growth.

3.2.6.4. Modify base boundary habitat as required and coordinate with Natural Resources (CEIE) to ensure compliance with the base Integrated Natural Resources Management Plan to reduce BASH potential.

3.2.6.5. Evaluate elimination of standing water in or near the HMA as a means of reducing their attractiveness to birds. Coordination with the Army Corps of Engineers and the Montana Department of Natural Resources and Conservation is required prior to altering wetlands. No activities can take place within wetlands without obtaining the proper permits and without performing an environmental assessment with a finding of no practical alternative signed by Air Force Global Strike Command.

3.2.7. Pest Management (CEOIE) will:

3.2.7.1. Coordinate with Airfield Management (582 OSS) and 40 HS OPS SUP for activities in and around the HMA.

3.2.7.2. Inform the Natural Resources Program Manager of all BASH-related activities and controls.

3.2.7.3. Provide bird dispersal on the airfield, when birds in the area pose moderate to severe BASH risks. CES will primarily utilize non-lethal methods for dispersal and limited lethal methods only when other means prove ineffective. Personnel using lethal methods will be qualified by CATM in proper storage, transport, and operation of small arms, and will be named on a Malmstrom AFB depredation permit obtained from the U.S. Fish and Wildlife Service Migratory Bird Permit Office. The number of exterminated animals will be reported to Wing Safety, 582 HG/SEF, and the Natural Resources Program Manager. Depredation will be used as a last resort only when there is grave threat to people or aircraft.

3.2.7.4. Maintain a list of personnel trained and authorized to use BASH small arms.

3.2.7.5. Notify Security Forces any time pyrotechnics or lethal methods are to be used.

3.2.7.6. Manage, maintain, and evaluate the effectiveness of all bird dispersal equipment for use on the heliport (including at least 2x 870 shotguns and associated lethal and non-lethal ammunition).

3.2.7.7. emove dead animals from the field to avoid attracting vultures and other carrion eating animals and report findings to Wing Chief of Flight Safety for inclusion in the BHWG, if applicable. The Natural Resources Program Manager will assist in the early identification of dead birds and animals. Contact the Wing Chief of Flight Safety for any remains suspected to have been caused by impact with an aircraft.

3.2.7.8. Evaluate exclusion of birds from buildings and coordinate with Natural Resources Program Manager and CE to modify buildings to reduce BASH potential.

3.2.7.9. Invertebrates and rodents provide important food sources for many birds. The Natural Resources Program Manager (341 CES/CEIE) and Pest Control Management (341 CES/CEOIE) will coordinate to periodically survey and reduce these pests when requested. The 341 CES/CEOIE shall coordinate the control of insects, rodents, etc. Control should begin early in the spring. These activities shall be consistent with the Integrated Pest Management Plan and the Integrated Natural Resources Management Plan.

3.2.7.10. Eliminate areas of possible roosting and nesting sites. Blackbirds, starlings, swallows, and other bird species considered hazardous to helicopter operations roosting or nesting within helicopter operations area will be controlled by vegetation management with coordination of the 582 HG/SEF. Trees should be pruned to reduce the number of perches available and entire trees, or stands removed if necessary.

3.2.8. Natural Resources Program Manager (CEIE) will:

3.2.8.1. Serve as the OPR for depredation and other permitting from the U.S. Fish and Wildlife Service or applicable organizations.

3.2.8.2. Obtain a permit from the U.S. Fish and Wildlife Service (USFWS) and/or Montana Fish Wildlife and Parks (MFWP) prior to bird, egg, or active nest removal. Migratory birds, their eggs and active nests are protected under the Migratory Bird Treaty Act. Contact the Installation Management Flight (341 CES/CEI) with any questions.

3.2.8.3. Provide any additional information on migratory, local and seasonal bird activities through contact with the U.S. Fish and Wildlife Service, Montana Department of Fish, Wildlife and Parks, Audubon Society, local ornithologists, USGS, and other agencies.

3.2.8.4. Recommend and/or facilitate land management practices that reduce BASH risks. Seasonally inspect the grassy areas in/adjacent to the HMA for vegetation and developments that attract wildlife.

3.2.9. Grounds Maintenance (CEOES) will:

3.2.9.1. Incorporate the following practices into base grounds maintenance:

3.2.9.2. Manage grass height. Mowing operations shall maintain a uniform grass height between a minimum of 7 inches to a maximum of 14 inches (18-36 cm). Grass should be cut before seed heads develop to avoid attracting grain-eating birds, and re-seeding of invasive weed species. If a contractor performs grass-cutting, monitor performance to ensure compliance with this instruction.

3.2.9.3. Inspect and clear drainage ditches. Ditches will be inspected regularly and kept clear and obstacle-free.

3.2.9.4. Assess standing water bodies. Sides of standing water bodies should be maintained as steeply as possible—a slope ratio of 5:1 will discourage wading birds and emergent vegetation. Vegetation should be removed as often as necessary to control roosting and nesting areas of birds utilizing the HMA by vegetation management in accordance with Malmstrom AFB’s INRMP.

3.2.9.5. Ensure the appropriate use of erosion control vegetation for the region which supports BASH reduction philosophy--i.e., do not use plants producing seeds at heights below 14-18 inches.

3.2.10. Public Affairs (341 MW/PA) will:

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

3.2.11. Weather Flight (341 OSS/OSW) will:

3.2.11.1. Advise aircrews and helicopter operations when possible bird targets appear on weather radar.

3.2.12. Base Visual Information Services will:

3.2.12.1. Provide photographic services to document bird strikes and related activities as required.

3.2.12.2. Provide graphic support to publicize bird hazards and actions taken to minimize them, as required.

Chapter 4

FLYING OPERATIONS

4.1. Setting the local Bird Watch Condition.

4.1.1. The BWC is normally declared for the heliport and the missile field complex by geographical locations defined by the missile squadron located in that region. This does not prohibit smaller regions and/or specific altitudes being assigned a local BWC (i.e. —a three mile radius around Malmstrom AFB at 500 feet and below is BWC SEVERE due to multiple soaring raptors). This prevents unnecessarily restricting flight operations in areas of the missile field complex not adversely affected by bird activity.

4.1.2. At the beginning of each week, the OPS SUP will reset the local BWC to LOW after considering BAM, AHAS, and observing the bird activity from the OPS SUP duty station. If observed bird activity warrants a higher BWC, the OPS SUP will execute the BWC quick reaction checklist.

4.1.3. BIRDREPS (Bird activity reports) are vital for reducing bird strikes throughout the missile field complex. Aircraft Commanders should provide BIRDREPS to the OPS SUP on UHF 271.9 with the following information:

4.1.3.1. Type of bird activity (i.e. transiting, soaring, circling, etc.).

4.1.3.2. Date, time, and location of bird activity (using GPS coordinates when possible).

4.1.3.3. Altitude of bird activity.

4.1.3.4. Approximate number.

4.1.3.5. A recommendation for the local BWC. **NOTE:** During daytime operations, Bird Watch Conditions will be determined by personnel viewing, patrolling, and analyzing actual Bird/wildlife activity on and around the airfield. **NOTE:** All aircraft commanders and the OPS SUP have the authority to raise the local BWC during periods of flight operations.

4.1.4. The ability to lower a local BWC resides with the 40 HS/CC, 40 HS/DO, 40 HS Flight Authorizing Official, and 40 HS OPS SUP. These agencies will coordinate with the 341 MW/SE as required.

4.1.5. Forward all BIRDREPS to 582 HG/SEF for analysis and record keeping.

4.2. Restrictions on flight operations for the local BWC other than LOW will be as follows.

4.2.1. Local BWC SEVERE. A high potential for strikes or an immediate hazard to safe flying operations exists. A Flight Authorizing Official (FAO) must approve specific operations within the areas and altitudes declared BWC SEVERE. Only those operations the FAO deems as absolutely essential should be conducted under this condition. The risk will be assessed and mitigated with appropriate entries made on the AFGSC Risk Assessment Worksheet located in AFGSCI 90-203. Aircraft commanders will display the landing light unless real world tactical situations or formation considerations require otherwise.

4.2.2. Local BWC MODERATE. Due to the concentration of birds in locations which create an increased potential for strikes or a probable hazard to safe flying operations, crews must increase their vigilance and use extreme caution. Should the aircraft commander deem operations are warranted in these areas, he/she will display the landing light unless real world tactical situations or formation considerations require otherwise. Additionally, the aircraft commander should utilize strobing or flashing light settings, as these have been shown to reduce bird strikes in civilian studies.

4.3. Upon any change in the local BWC. The OPS SUP will execute the BWC quick reaction checklist and ensure that all airborne aircrews are properly notified. Upon initial contact via UHF 271.9, the OPS SUP will report the local BWC if exceeding MODERATE to transient crews or those returning from off station.

Chapter 5

REPORTING STRIKES

5.1. If an aircrew or maintenance member discovers evidence of a strike, either post flight or after a precautionary landing, the member will. Collect any remains for identification using the in-aircraft bird strike kits. Crews are requested to collect complete feathers for identification. If a carcass, feathers or other sizeable material is not available and bloody imprints or smudges are the only evidence, use a cotton swab or paper towel to soak up whatever evidence is available. Place the collected material in a plastic bag and seal it for delivery to 40 HS/SEF.

5.2. All aircraft commanders and maintenance personnel will. Immediately notify the OPS SUP of all strikes. OPS SUPs will notify the AFM and 40 HS/SEF. Upon return to base, aircraft commanders will submit a completed AF Form 853 and any material collected to 40 HS/SEF, who will report the event IAW governing directives. If the event occurs during non-duty hours, provide the form and material to 40 HG/SEF the following duty day.

BARRY E. LITTLE, Colonel, USAF
Commander, 341 Missile Wing

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFI91-202, *The US Air Force Mishap Prevention Program* ,12 March 2020

DAFMAN91-223, *Aviation Safety Investigations and Reports,* 20 September 2022

AFGSCI90-203, *H-1 Helicopter Risk Management,* 4 August 2022

AFMAN13-204v2, *Airfield Management,* 22 July 2020

AFMAN32-7003, *Environmental Conservation,* 20 April 2020

DAFI91-204, *Safety Investigations and Reports,* 10 March 2021

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 853, *Bird Strike Report*

Abbreviations and Acronyms

AF—Air Force

AFB—Air Force Base

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFM—Airfield Manager

AFMAN—Air Force Manual

AFRIMS—Air Records Information Management System

AGL—Above Ground Level (Altitude)

AHAS—Avian Hazard Avoidance System

BAM—Bird Avoidance Model

BASH—Bird Aviation Strike Hazard

BHWG—Bird Hazard Working Group

BWC—Bird Watch Condition

CATM—Combat Arms Training and Maintenance

CC—Commander

CE—Civil Engineering

CES—Civil Engineering Squadron

CV—Vice Commander

DO—Director of Operations

ESOH—Environmental Safety & Occupational Hazard

FAO—Flight Authorizing Official

HLZ—Helicopter Landing Zone

HMA—Helicopter Movement Area

HS—Helicopter Squadron

IAW—In Accordance With

LF—Launch Facility

MAF—Missile Alert Facility

MW—Missile Wing

NCOIC—Non-Commissioned Officer in Charge

OPR—Office of Primary Responsibility

OPS SUP—Operations Supervisor

PA—Public Affairs

POC—Point of Contact

RDS—Records Disposition Schedule

SEF—Flight Safety

UHF—Ultra High Frequency Radio