

HEADQUARTERS

**1st FIGHTER WING / 192d WING /
633d AIR BASE WING**

JOINT BASE LANGLEY-EUSTIS, VA



**JOINT BASE LANGLEY-EUSTIS
BIRD/WILDLIFE AIRCRAFT STRIKE
HAZARD (BASH) PLAN**

26 September 2019

FOR OFFICIAL USE ONLY

INTENTIONALLY LEFT BLANK



DEPARTMENT OF THE AIR FORCE
HEADQUARTERS 1ST FIGHTER WING
JOINT BASE LANGLEY-EUSTIS VA

26 September 2019

MEMORANDUM FOR See Distribution (Annex Z)

From: 1 FW/SE

SUBJECT: Joint Base Langley-Eustis (JBLE) Bird/Wildlife Aircraft Strike Hazard Plan

1. Attached is the JBLE Bird/Wildlife Aircraft Strike Hazard (BASH) Plan dated 26 September 2019. This plan supersedes the JBLE BASH Plan dated 27 FEB 2017.
2. This plan is in operational support of Air Force Instruction 91-202 and is effective for planning purposes on receipt and for implementation when directed by the appropriate authority.
3. Review of this plan shall be conducted 90 days prior to 30 Sep 2020. Should any changes to the plan be required, the document will be staffed accordingly.
4. The 1 FW/SE is the Office of Primary Responsibility for this plan.

LOPEZ.DAVID.
R.1049115160

Digitally signed by
LOPEZ.DAVID.R.1049115160
Date: 2019.10.02 14:49:30
-04'00'

DAVID R. LOPEZ, Colonel, USAF
Commander, 1st Fighter Wing

PIPER.MARK.DA
VID.1079579498

Digitally signed by
PIPER.MARK.DAVID.107957949
8
Date: 2019.10.07 12:53:11
-04'00'

MARK D. PIPER, Colonel, USAF
Commander, 192d Wing

ROSS.CLINTON.AN
DREW.1123977404

Digitally signed by
ROSS.CLINTON.ANDREW.112397
7404
Date: 2019.10.25 15:05:31 -04'00'

CLINTON A. ROSS, Colonel, USAF
Commander, 633d Air Base Wing

Attachment:
Joint Base Langley-Eustis BASH Plan

JBLE BASH PLAN
SECURITY INSTRUCTIONS AND RECORD OF CHANGES

1. The title of this plan is JBLE BASH Plan.
2. This document is unclassified. IAW AFI 31-401, Information Security Program Management this document is designated "For Official Use Only" and requires no special handling.
3. Reproduction of this document for official use is permitted.
4. The provisions of AFI 10-701, Operations Security (OPSEC) have been considered in the development and implementation of this plan.
5. This document was updated to include organization changes and supporting data for the 2019 review process.

RECORD OF CHANGES

CHANGE NUMBER	DATE	DATE POSTED	POSTED BY
1- Added Hurrevac Procedures for Scare wars system in Appendix 2 to Annex A, page A-2-5 para 10.f.	15 APR 2019	15 APR 2019	Jay Carr 1FW/SEF-USDA
2-Annex B has been revised and needs to be completely reviewed.	15 APR 2019	15 APR 2019	Adam Priestley 1FW/SEF-USDA
3- A wildlife exclusion zone for LAFB was added to the Summary, page vii section 3.e. IAW AFI 91-212.	15 APR 2019	15 APR 2019	Jay Carr 1FW/SEF/USDA
4- clarification for responsibilities of BRT in Appendix 2 to Annex A, page A-2-5 section 10.h.	15 APR 2019	15 APR 2019	Jay Carr 1FW/SEF/USDA

RECORD OF REVIEW

REVIEWED BY	DATE REVIEWED	REMARKS

JBLE BASH PLAN
LIST OF ACRONYMS

ABW	Air Base Wing
AC	Advisory Circular
AF	Air Force
AFI	Air Force Instruction
AFJPAM	Air Force Joint Pamphlet
AFPAM	Air Force Pamphlet
AFSM	Felker Army Airfield Aviation Safety Manager
AGL	Above Ground Level
AHAS	Avian Hazard Advisory System
AICUZ	Air Installation Compatible Use Zone
AM	Airfield Management
AMOPS	Airfield Management Operations
AMXS	Aircraft Maintenance Squadron
AOR	Area of Responsibility
APHIS	Animal and Plant Health Inspection Service
AR	Army Regulation
ATIS	Airport Terminal Information System
ATC	Air Traffic Control
BAM	Bird Avoidance Model
BASH	Bird/Wildlife Aircraft Strike Hazard
BDT	Bird/Wildlife Dispersal Team
BGEPA	Bald and Golden Eagle Protection Act
BHWG	Bird/Wildlife Hazard Working Group
BRT	BASH Response Team
BWC	Bird Watch Condition
CC	Commander
CED	Civil Engineer Division
CEIE	Civil Engineer Environmental Element
CEO	Civil Engineer Operations
CEOIE	Civil Engineer Entomology
CEPT	Civil Engineer Geospatial
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
COV	Code of Virginia
CV	Vice Commander
CWA	Clean Water Act
DC	Deputy Commander
DoD	Department of Defense
DODI	Department of Defense Instruction

EOR	End of Runway
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAAF	Felker Army Airfield
FE	Fort Eustis
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FO	Foreign Object
FOD	Foreign Object Damage
Ft	Feet
FTA	Federal Transit Administration
FW	Fighter Wing
IAW	In Accordance With
ILS	Instrument Landing System
INRMP	Integrated Natural Resource Management Plan
IPMC	Installation Pest Management Coordinator
IPMP	Integrated Pest Management Plan
IPMQAE	Installation Pest Management Plan Quality Assurance Evaluator
JA	Judge Advocate
JBLE	Joint Base Langley-Eustis
JBLEI	Joint Base Langley-Eustis Instruction
CIAS	Knots Indicated Airspeed
LAFB	Langley Air Force Base
MBTA	Migratory Bird Treaty Act
MGR	Felker Army Airfield Manager
MOA	Memorandum of Agreement
MOC	Maintenance Operations Control
MOU	Memorandum of Understanding
MSG	Mission Support Group
MSL	Mean Sea Level
MXG	Maintenance Group
MXQ	Maintenance Quality Assurance
NASA	National Aeronautics and Space Administration
NEPA	National Environmental Policy Act
NOTAM	Notice to Airmen
OG	Operations Group
OGV	Operations Group Standardization/Evaluation

OPR	Office of Primary Responsibility
OPS	Felker Army Airfield Operations
OPSEC	Operations Security
OSAA	Airfield Management
OSAT	Air Traffic Control
OSF/FOD	Operational Support Felker Army Airfield/Foreign Objects and Debris
OSF/MGR	Operational Support Felker Army Airfield/Airfield Manager
OSF/OPS	Operational Support Felker Army Airfield/Operations
OSOS	Scheduling
OSS	Operations Support Squadron
PA	Public Affairs
SAA	Senior Airfield Authority
SAFSO	Squadron Assigned Flying Safety Officers
SAS	Safety Automated System
SE	Safety Office
SEF	Flight Safety
SFS	Security Forces Squadron
SOF	Supervisor of Flying
STAT	Statute
TA	Training Area
U.S.	United States
USA	United States Army
USACE	United States Army Corps of Engineers
USAF	United States Air Force
USC	United States Code
USDA	United States Department of Agriculture
USDA/WS	United States Department of Agriculture Wildlife Services
USFWS	United States Fish and Wildlife Service
VAC	Virginia Administrative Code
VDACS	Virginia Department of Agriculture and Consumer Services
VDGIF	Virginia Department of Game and Inland Fisheries
WHA	Wildlife Hazard Assessment
WHM	Wildlife Hazard Manual
WHMR	Wildlife Hazard Monitoring Report
WMA	Wildlife Management Area
WS	Wildlife Services

JBLE BASH PLAN
SUMMARY

1. Purpose. This plan defines responsibilities and prescribes procedures for developing and implementing a BASH prevention program at JBLE. The BASH plan is designed to minimize aircraft exposure to potentially hazardous wildlife strikes during airfield and flying operations at JBLE. The plan specific to each installation are grouped into separate corresponding Annexes. Execution of each plan is dictated by the mission, instruction, and BASH conditions governing each respective airfield.

2. Condition for Execution.

a. CCs are responsible for ensuring their units and designated representatives are familiar with their responsibilities in all 633 ABW, 1 FW and 192 WG Plans.

b. This plan is based on hazards from indigenous and migratory birds and mammal species. Execution of specific portions of this plan is continuous, while other portions are dictated by hazardous wildlife activity, environmental changes, base development, and land use practices.

3. Responsibilities. The 1 FW/CC has SAA for the JBLE airfields at Langley AFB and Felker AAF as depicted in Figures 1 and 2. The 633 ABW/CC is the JBLE Installation Commander and is responsible for providing installation support to the 1 FW. Management of the JBLE airfields, air traffic patterns, and associated lands and facilities is a shared responsibility between the 1 FW/CC and 633 ABW/CC.

a. SAA. The 1 FW/CC is responsible for the control, operations, and maintenance of the JBLE airfields to include the runways, helicopter pads, taxiways, parking-ramps, navigational aids, as well as the land and facilities whose proximity affects airfield operations. The SAA controls flight line access and is responsible for the safety of all operations on the JBLE airfields and the airspace above the SAA boundary within the confines of the associated Class-D Airspace as defined per FAA regulations. The 1 FW/CC will develop and coordinate airfield and airspace improvement plans with the 633 ABW/CC for inclusion into JBLE's overall improvement plan.

b. The 1 FW/192 WG SEF will manage the flight safety programs at LAFB. The 1 OSS/FSA will manage the flight safety programs at Felker Army Airfield.

c. The USDA manages the 1 FW's BASH programs both at LAFB and Felker AAF. USDA will advise the 633 CES and 733 CES when BASH activities will occur outside the SAA area of responsibility (AOR), time permitting.

- d. The 633 CES and 733 CES manage the Installation's natural resources.
- e. Wildlife Exclusion Zone (WEZ).

(1) Function. A Wildlife Exclusion Zone is a locally defined, airfield specific, area where a zero tolerance goal for hazardous wildlife is maintained. This area may encompass the Aircraft Movement Area and any additional habitat attractants (such as water treatment facilities, golf courses, and athletic fields) in proximity to the airfield and low-level flight corridors (such as final approach/departure, or training areas). Wildlife observed within the WEZ are to be immediately removed, dispersed, or mitigated, the BWC increased as appropriate, and the situation monitored until the wildlife is no longer present within the WEZ.

(2) Authority. A WEZ will be defined, mapped, and managed IAW AFI 91-212. The WEZ at LAFB is delineated by the SAA area drawn in Figure 1, with the exception of the munitions storage area and the Runway 08 approach area that is outside the LAFB boundary fence.

(3) Guild Exceptions to the WEZ. Due to the nature of airfield environments maintained IAW with AFI 91-202, BASH maintenance measures given in the BASH Plan and AFI 91-212, a zero tolerance objective is impractical for several guilds of wildlife at LAFB. These guilds often show limited response to dispersal stimuli, many times cannot be detected due to small size, and can be expected to occur even during LOW BWC. Guilds within this exception include grassland birds, nocturnal birds, and bats. Two other guilds that are exempt to the WEZ are shorebirds and aerial foragers. These guilds are seasonally abundant and non-responsive to dispersal stimuli. Instances that should be considered exempt is during times of low numbers of shorebirds or aerial foragers present on the airfield. When numbers become overly abundant, BWC severe should be considered to prevent wildlife strikes. Tasks and responsibilities for managing wildlife in the WEZ are delineated in appendix 2 of annex A.

FIGURE 1. SAA BOUNDARY LINE, LANGLEY AFB



FIGURE 2. SAA BOUNDARY LINE, FELKER AAF



4. Operations to Be Conducted. Specific operations include:

- a. The establishment of a bird/wildlife hazard working group (BHWG).
- b. Procedures for reporting wildlife-aircraft strike incidents and hazardous wildlife activity.
- c. Provisions to provide information to all assigned aircrews and transient aircrews on hazardous wildlife activity and procedures for avoidance.
- d. Taking active measures to monitor and control hazardous wildlife within the local airspace and airfield environments.
- e. Actions to identify, eliminate, mitigate, and prevent habitats that may attract hazardous wildlife to the airfield and within the local airspace.

5. Key Assumptions. Sufficient time and resources will be available for specific organization tasks and responsibilities outlined in this plan.

6. Operational Constraints.

a. Wildlife strikes can never be eliminated; but an aggressive, well-planned program developed on the basis of hazardous wildlife behavior, habitat, and the base mission may limit the potential for strikes to occur. Successful implementation of this plan requires participation of well informed and trained individuals assigned to specific tasks and responsibilities from multiple units.

This plan is based on the principles of best practice for integrated wildlife damage management, in which a variety of management techniques including wildlife hazard monitoring, wildlife strike avoidance, habitat modification and prevention, harassment, alteration of human activities, and legal take are applied simultaneously.

b. Access to the runway environment may be limited due to time-critical recovery of aircraft.

c. Prior to implementing control actions involving wildlife and their habitats, the legal status must be determined and required permits must be obtained for the target species or habitat.

d. BASH must be included as a general section and the plan itself as an attachment to the INRMP to comply with the provisions set forth by the NEPA. Alterations of wetlands, soils, or forested areas to support BASH plan requirements may require separate NEPA documentation and related permits.

e. Required time and effort necessary to maintain a safe airdrome will depend upon the severity of the wildlife strike hazard and how well base personnel are prepared to reduce these hazards.

f. Funding may limit specific organization tasks and responsibilities outlined in this plan.

7. Supporting Plans. This plan is supported by the JBLE General Base Plan, Mishap Response Plans (MRPs), Integrated Natural Resource Management Plan (INRMPs), Integrated Pest Management Plans, JBLE Stormwater Management Plans, Air Installation Compatibility Use Zone, and Hampton-Langley Joint Land Use Study. It is essential that these plans must be mutually supportive and not in conflict.

JBLE BASH PLAN
TABLE OF CONTENTS

Letter of Transmittal i
Security Instructions and Record of Changes ii
List of Acronyms iii
Plan Summaryvi
Table of Contents xi
Basic Plan..... 1

ANNEX A--LAFB BASH PLAN A-1

 Appendix 1--Tasked OrganizationsA-1-1
 Appendix 2--Tasks and Responsibilities.....A-2-1
 Appendix 3--Bird Hazard Warning System.....A-3-1
 Appendix 4--Reporting Procedures.....A-4-1
 Appendix 5--Habitat ManagementA-5-1
 Appendix 6--Hazardous Wildlife.....A-6-1
 Appendix 7--Regulatory Requirements.....A-7-1
 Appendix 8--Interagency Agreement with Wildlife Services.....A-8-1
 Appendix 9--Map and Charts.....A-9-1
 Tab A--BASH Awareness Map A-9-A-1

ANNEX B--FE BASH PLANB-1

 Appendix 1--Tasked Organizations B-1-1
 Appendix 2--References by Type B-2-1
 Appendix 3--Habitat Map B-3-1
 Appendix 4--Wildlife Exclusion Zone (WEZ) and Senior Airfield Authority
 (SAA) Map B-4-1
 Appendix 5--BASH Log Data Sheet B-5-1
 Appendix 6--Strike Report Data Sheet B-6-1
 Appendix 7--Example Day-time Survey Sheet B-7-1
 Appendix 8--Example Night-time Survey Sheet B-8-1
 Appendix 9--Example Wildlife Control Data Sheet..... B-9-1
 Appendix 10--Pyrotechnic UsageB-10-1
 Appendix 11--Firearms SOPB-11-1
 Appendix 12--Example Permits.....B-12-1
 Appendix 13--Record of Environmental ConsiderationB-13-1
 Appendix 14--General Conformity - Record of Non-Applicability.....B-14-1

ANNEX Z--DISTRIBUTION..... Z-1

JBLE BASH PLAN
BASIC PLAN

1. The JBLE BASH Plan covers the airfields at LAFB and FAAF. Despite their proximity, each airfield has its own unique concerns and is covered in a separate annex to this plan.

2. Specific Annexes.

a. Annex A contains the LAFB BASH Plan and related Appendices (1-9) for LAFB.

b. Annex B contains the FE BASH Plan and related Appendices (1-14) for FAAF.

ANNEX A TO JBLE BASH PLAN
LAFB BASH PLAN

References:

- a. The USAF Mishap Prevention Program (AFI 91-202)
- b. The USAF Safety Investigations and Reports (AFI 91-204)
- c. The USAF Bird/Wildlife Aircraft Strike Hazard (BASH) Management Program (AFI 91-212)
- d. The USAF Integrated Natural Resources Management (AFI 32-7064)
- e. The USAF Airfield and Heliport Design (AFJPAM 32-8013)
- f. The FAA Wildlife Hazard Management Manual (FAA/WHM)
- g. Hazardous Wildlife Attractants On or Near Airports (AC 150/5200-33B)

1. Situation.

a. A significant threat exists at LAFB and its vicinity due to indigenous and migratory wildlife species. Since 1985, 504 wildlife strikes have occurred to 1 FW aircraft which included 8 reportable mishap events totaling over \$3 million in aircraft parts and labor. The airfield is encompassed with and surrounded by natural communities and ecosystems that support various populations of wildlife including waterfowl, raptors, gulls, wading birds, seabirds, shorebirds, blackbirds, columbids, larks, and aerialist as well as various mammalian species including white-tailed deer, red fox, and coyotes. Daily and seasonal wildlife movements create a range of conditions that present a threat to flight safety. Throughout the year, an estimated 30,000 or more birds and mammals frequent the airfield and surrounding habitats. Wildlife hazards associated with airfield grassland and wetland habitats combined with the base's geographic location and surrounding wildlife attractants, present a formidable BASH risk for safe flying operations.

b. Topography at LAFB is generally level with a maximum elevation of 11 feet above sea level. Current drainage schemes and the high water table allow water to collect in low-lying areas throughout the airfield. The base is encompassed with various wetland habitats that include 300 acres that are forested, 450 acres of salt marsh and 100 acres of other wetlands. North of the airfield, Eaglewood Golf Course contains seven freshwater ponds totaling 10 acres and 320 acres of fairways and greens. Forest woodlots and ornamental

trees on and surrounding the airfield provide a wide range of food and cover for hazardous wildlife species.

c. Compounding the attraction is LAFB's geographic location. The airfield is surrounded by the Back River situated 2.5 miles from the mouth of the Chesapeake Bay and along the Atlantic Flyway where several million birds traverse during the spring/fall migration periods. Surrounding the airfield are several natural areas that include: Plum Tree Island National Wildlife Refuge in Poquoson and Grandview Natural Preserve, Blue Bird Gap Farm and Sandy Bottom Nature Park in Hampton as well as several miles of undeveloped shoreline along the Chesapeake Bay. Bethel Landfill and The Hamptons Golf Course include more hazardous wildlife attractants located approximately 3.5 miles west of the airfield and 20 degrees north of the runway centerline.

d. Phase I and Phase II BASH Periods.

(1) BASH Phase I is the time period during the year when little to no bird migration activity occurs. BASH Phase I is in effect from 01 December – 31 January and 01 April – 30 September. During BASH Phase I, BASH mitigation actions and activities will be per this plan and applicable BASH guidance which will be commensurate with the observed wildlife activity and inputs from 1 FW/SEF and USDA/WS. Normal flight operations are expected during this Phase I. OSAA will ensure Phase I and II periods and any associated hazards are published in the IFR Supplement.

(2) BASH Phase II is the time period during the year when peak bird migration activity occurs. BASH Phase II is in effect from 15 February- 31 March and 01 October-30 November. During BASH Phase II, BASH mitigation actions and activities will include Phase I actions and activities plus adhere to the following additional restrictions. Schedulers should not plan flights during the period of peak bird activity (one hour before to one hour after sunrise/sunset) due to the higher inherent BASH risk, regardless of BWC. 1 FW/SEF & USDA/WS will be responsible for notifying Airfield Operations and the Supervisor of Flying (SOF) during this time period to increase their level of awareness. In addition, 1 FW/SEF and USDA/WS will make every effort to increase the mitigation techniques to help reduce observed threats during Phase II. This may include but not be limited to an increased presence on the airfield during active fly windows, use of seasonal methods and tools such as nest box traps for starlings, Canada goose nest management, raptor trapping, and increased mammal trapping, etc., as needed.

(3) During Phase II, the highest levels of daily wildlife activity normally occur +/- one hour of sunrise/sunset as birds move to and from their roosts. This applies to airfield wildlife activity as well as wildlife activity at altitude to/from the airspace. Again, flight operations should be avoided during these

periods unless mission essential. A risk analysis shall be completed by the 1 or 192 OG/CC to determine potential risks and develop mitigation measures if operations are conducted during these peak periods. These measures will also maintain zero tolerance towards large free-roaming animals on or adjacent to the aircraft movement area (free roaming animals are, but not limited to, deer, canines, geese, vultures, eagles, etc...).

(4) The BASH Phase I and II designation may be affected and adjusted slightly from year to year depending on seasonal weather changes and how they affect actual migratory bird movement. 1 OSS/OSAA will ensure Phase I and II periods, and any associated hazards, are published in the IFR Supplement. Adjustments may be made based on assessments from wildlife surveys and by monitoring wildlife activity, weather, and habitat conditions during routine airfield operations. USDA/WS will make recommendations and mitigate threats based on these assessments with the appropriate methods as needed.

e. While this plan establishes procedures to minimize BASH, no single solution will eliminate the risk. This plan is based on an integrated-multidiscipline wildlife damage management approach that involves four primary components: monitoring and research, habitat modification and prevention, aircraft avoidance, and wildlife hazard response. Each component requires the cooperative and proactive efforts of multiple organizations.

2. Execution.

a. The 1 FW/CC, or 192 WG/CC during 192 WG flying operations, directs execution of this plan.

b. The 1FW/SEF is the OPR for the management of this plan.

c. The BHWG is responsible for implementing this plan, as it relates to each organization's tasks and responsibilities. The BHWG will monitor activities, status, and provide recommendations to the 1 FW/CV for approval.

d. The chairperson of the BHWG will be the 1 FW/CV. At a minimum, the group will consist of representatives from flight safety, airfield management, air traffic control, civil engineering, and aircraft maintenance. Consultation from a wildlife damage biologist or natural resources manager is recommended. Section 7.3.1.5.4 of AFI 91-202 strongly recommends that a dedicated wildlife hazard management specialist be retained on staff. Each organization and associated agencies have responsibilities outlined in this plan and must incorporate them into their programs.

e. BHWG meetings will be held quarterly as conditions necessitate or at the discretion of the BHWG chairman.

3. Concept of Operations. This plan and its annexes address the responsibilities, policies, and procedures to reduce BASH on and near JBLE. This plan includes 9 components, each of which is a separate appendix in this document. The appendix categories include:

a. (Appendix 1, Tasked Organizations) The organizations that provide administrative, technical, and operational support to this plan.

b. (Appendix 2, Tasks and Responsibilities) The organizations that have the authority and responsibility for implementing specific portions of this plan.

c. (Appendix 3, Bird Hazard Warning System) Explanation of the BASH warning system and establishing procedures for its operations.

d. (Appendix 4, Reporting Procedures) Explanation of and providing guidance for documenting wildlife strike mishaps, wildlife hazard response, and a self-inspection checklist.

e. (Appendix 5, Habitat Management) Recommendations to mitigate habitat attractive to hazardous wildlife species.

f. (Appendix 6, Hazardous Wildlife) Identifying and providing recommendations to mitigate hazardous wildlife species common to JBLE.

g. (Appendix 7, Regulatory Requirements) Requirements for and, where applicable, copies of local, state, and federal wildlife control permits.

h. (Appendix 8, Interagency Agreement with Wildlife Services) Outlining the interagency agreement between LAFB and USDA/WS for assistance in executing this plan.

i. (Appendix 9, Maps and Charts) Providing maps and charts related to this plan.

APPENDIX 1 TO ANNEX A TO JBLE BASH PLAN
TASKED ORGANIZATIONS

633 CES/CC
633 CES/CEIE
633 CES/CEO
633 CES/CEOIE
633 CES/CEPT
633 ABW/PA
1 FW/CC
1 FW/CV
1 FW/SEF
1 OG/CC
1 OG/OGV
1 OSS/CC
1 OSS/OSAA
1 OSS/OSAT
1 MXG/CC
1 MXG/MXQ
1 AMXS
192 WG/CC
192 OG/CC
192 MXG/CC
192 MXG/MXQ
USDA/WS

Local Off-base Assistance

USFWS
Migratory Bird Permit Office
P.O. Box 779
Hadley, MA 01035-0779
(413) 253-8673

USFWS
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
(804) 693-6694

USDA/WS
Virginia State Office
P.O. Box 130
Moseley, VA 21312
(804) 739-7739

VDGIF
Region 1 Office
3801 John Tyler Memorial Highway
Charles City, VA 23030
(804) 289-6580

APPENDIX 2 TO ANNEX A TO JBLE BASH PLAN
TASKS AND RESPONSIBILITIES

1. 1 FW/CC. Directs and funds execution of this plan.
2. 1 FW/CV.
 - a. Chairs BHWG meetings.
 - b. Approves BASH mitigation recommendations provided by the BHWG.
3. 1 FW/SEF. Works with USDA/WS to provide direct support in the following areas:
 - a. Is the OPR for the management and updating of this plan.
 - b. Monitors base-wide compliance with AFPAM 91-212.
 - c. Maintains an appointment letter designating organization representatives to the BHWG.
 - d. Reviews proposed land use changes, construction plans, and mitigation projects for environmental conditions that may increase BASH potential (see Appendix 5 of this Annex).
 - e. Reports on BASH to include recommendations and actions in the agenda and minutes of the BHWG meetings.
 - f. Disseminates BASH data to the BHWG and flying units.
 - g. Provides the BHWG with current BASH guidance from higher headquarters, safety center, and other agencies, as necessary.
 - h. Ensures procedures are established for wildlife-aircraft strike reporting, remains collection, and species identification. During 192 WG flying window, USDA/WS and 192d SEF are the primary responders for collecting wildlife remains from aircraft. Even the smallest fragment of feather, hair, or blood can provide enough information for a positive identification (see Appendix 4 of this Annex).
 - i. Establishes and maintains a continuity folder that contains pertinent BASH information and guidance to assure continuity of knowledge with personnel turnover.

j. Establishes a BASH awareness program in conjunction with squadron flying safety officers, to include films, posters, maps and information on local wildlife hazards and reporting procedures.

k. Ensures each wildlife strike is analyzed, along with previous data, for unacceptable trends and possible corrective action(s). Includes trend analysis of all wildlife strikes in flight safety meetings, and BHWG meetings.

l. In conjunction with AM Operations, ensures an airfield BASH inspection and response team is developed and adequately equipped and trained.

m. Ensures BASH training programs and opportunities are made available to BHWG representatives and organizations.

n. Ensures state and federal wildlife permits required for the removal of protected wildlife species are acquired and current (See Appendix 7 of this Annex).

o. Appoints the 1 FW/SEF representative(s) to the BHWG.

p. Attends quarterly BHWG meetings.

q. Retains operational control of FAAF's USDA/WS personnel.

4. USDA/WS Senior Representative.

a. Provide support IAW the Interagency Agreement between the 1FW and USDA-APHIS Wildlife Services

b. Retains administrative control of USDA/WS assigned to FAAF.

5. 633 ABW/PA.

a. As required, provides a public information program to inform base personnel, dependents, and the general public on BASH activities and the hazards of uncontrolled wildlife on flight safety.

b. Provides photographic services to document wildlife strikes and related activities, as required.

6. 1 OG/CC and/or 192 OG/CC.

a. Issues specific guidance to the SOF concerning actions required for implementing this plan.

b. Mission permitting, makes operational changes to avoid areas and times of known hazardous bird concentrations. Considers the following during periods of increased bird activity:

(1) Raises the traffic pattern altitude.

(2) Changes the traffic pattern direction to avoid bird concentrations.

(3) Avoids takeoffs/landings one hour before and after sunrise and sunset during BASH Phase II, or when there is a known increase in hazardous bird activity.

(4) Limits or prohibits formation takeoffs and landings.

(5) Directs full-stop landings.

c. Ensures personnel report all discovered wildlife strikes on aircraft to the 1/192 MXG/MXQ, MOC, and the 1 FW/SEF.

d. Ensures personnel report all hazardous wildlife activity on the airfield directly to the SOF, AM Operations, or USDA/WS.

e. Appoints the 1 OG and/or the 192 OG representative(s) to the BHWG.

f. Attends quarterly BHWG meetings.

g. Ensures organization compliance of this plan.

7. 1/192 OG/OGV.

a. Reviews the BAM (<http://www.usahas.com/bam/>) for BASH potential with the 1 OG/CC on all proposed new training areas or changes to existing areas. Real-time access to evaluate bird strike risk for published routes, ranges, operating areas and airfields can be reviewed on the AHAS located at <http://www.usahas.com>. NOTE: USDA/WS is available for technical assistance in this area.

b. Issues BASH Alerts at the start of each Phase II BASH period to emphasize the beginning of the bird migration period. NOTE: USDA/WS is available for technical assistance in this area.

c. Issues specific guidance for aircrews and the SOF on procedures to be followed under BWCs (see Appendix 3 of this Annex).

d. Ensures all the 1 OG/OGV and the 192 OG/OGV personnel receive AHAS and BAM training as part of their upgrade.

e. Attends quarterly BHWG meetings.

f. Ensures all SOF personnel receive BASH training as part of their upgrade.

8. 1 OSS/CC.

a. Appoints the 1 OSS representative(s) to the BHWG.

b. Attends quarterly BHWG meetings.

c. Ensures organization compliance of this plan.

9. SOF.

a. Operates as overall coordinating agent for the delay or diversion of controlled aircraft based on hazardous wildlife activity.

b. Declares, disseminates, and terminates BWC at LAFB, except as outlined in Appendix 3 of this Annex.

c. Coordinates with Tower Watch Supervisor to broadcast current MODERATE or SEVERE BWC to all aircraft on ATIS. See Appendix 3 for description of BWC and associated flight restrictions.

d. Establishes direct communications with AM Operations or USDA/WS anytime BWC is increased to MODERATE or SEVERE, so information on hazardous wildlife movement can be instantaneously disseminated.

e. Disapproves requests for other aircraft to train in the local flying area when BWC is MODERATE or SEVERE.

f. Ensures 1 FW/SEF is notified any time a wildlife strike incident is reported.

10. 1 OSS/OSAA.

a. Per Appendix 3 of this Annex, the authority to declare BWC is vested with the 1 OG/CC through the SOF during 1 FW/192 WG flight operations. During all other periods, the 1 OSS/OSAA, or his or her designated representative, is the declaring authority.

- b. Bases the declaration of a BWC on:
 - (1) Information relayed by airborne aircraft.
 - (2) Observations made by and relayed to USDA/WS control tower and/or transient alert personnel.
- c. Maintains airfield habitat consistent with runway lateral and approach zone management criteria per AFMAN 32-1123(I). Habitat modification or prevention to reduce BASH beyond the 1000' distance criterion is desired as per Appendix 5 of this Annex.
- d. Reviews proposed land use changes, construction plans, and mitigation projects for environmental conditions that may increase BASH potential in coordination with CE (see Appendix 5 of this Annex). NOTE: USDA/WS is available for technical assistance in this area.
- e. Reviews proposals in coordination with CE involving land-use changes within the 10,000 ft and 5-mile critical zones of the airfield to mitigate wildlife attractants (see Appendix 5 of this Annex). NOTE: USDA/WS is available for technical assistance in this area.
- f. Responsible for the operational use, maintenance, and repair of the Scare Wars Remote Bird Deterrent System. Is responsible for removal/installation of the Scare Wars system during Hurrevac procedures.
- g. Appoints a BRT to supplement control operations conducted by USDA/WS during Wing flying. Outside of Wing flying hours, OSAA will remain the primary contact for wildlife dispersal. BRT activation will be determined by OSAA. When active, personnel will communicate directly with the SOF during BWC MODERATE or SEVERE to assess and reduce hazardous bird activity on the airfield.
- h. Ensures the BRT:
 - (1) Maintain wildlife hazard management supplies and resources in vehicles including binoculars, pyrotechnics, distress calls, remote for Scare Wars Bird Deterrent System, and other wildlife control equipment.
 - (2) Personnel are properly trained in the safe use and handling of pyrotechnics, propane cannons, and identification of hazardous wildlife.
 - (3) Ensures animal carcasses/FOs found within 100 ft. of aircraft operating pavements must be removed promptly from the airfield and reported

as an aircraft strike. Forward all wildlife remains to USDA/WS for investigation.

(4) Notifies Security Forces and ATC when pyrotechnics and/or firearms will be used on the airfield.

i. Attends quarterly BHWG meetings.

j. Conducts airfield inspections daily to document and takes action to disperse hazardous wildlife activity. Hazardous wildlife (see Appendix 6 of this Annex) harassed or lethally taken must be documented, filed, and a copy delivered to USDA/WS at the end of each month.

11. 1 OSS/OSAT.

a. Langley tower personnel will support the SOF in determining the BWC, to include radar data, and will notify all necessary personnel of the current BWC, to include keeping the ATIS up to date.

b. Notifies AM Operations or USDA/WS when hazardous wildlife is observed on or near the airfield.

c. Provides AM Operations and USDA/WS access to the runway under BWC MODERATE, SEVERE, or as required.

d. Attends quarterly BHWG meetings.

12. 1 OSS/OSOS.

a. When not mission critical, avoids scheduling sorties during periods of peak bird activity (one hour before to one hour after sunrise/sunset) while in the BASH Phase II period.

b. Attends quarterly BHWG meetings.

13. SAFSO.

a. Ensures aircrew and maintenance personnel report all discovered wildlife aircraft strikes to the 1/192 MXG/MXQ, MOC, and the 1 FW/SEF.

b. Ensures wildlife remains are collected, preserved, and sent to the USDA/WS for species identification. Even the smallest fragment of feather, hair, or blood can provide enough information for a positive identification (see Appendix 4 of this Annex).

c. Ensures personnel report all hazardous wildlife activity on the airfield directly to the SOF, MOC, and AM Operations.

d. Obtains and posts current wildlife activity data and ensures it is readily available for briefing aircrews. NOTE: USDA/WS is available for technical assistance in this area.

e. Ensures that adequate supplies of wildlife strike report forms (AF Form 853) are readily available for aircrews. NOTE: AF Form 853 is available and filed at the 1 FW/SEF.

f. Briefs aircrews on seasonal wildlife hazards. Movies, news articles, and other information will be used, as appropriate, to maintain awareness. NOTE: USDA/WS is available for technical assistance in this area.

g. Attends quarterly BHWG meetings.

14. 1 MXG/CC and/or 192 MXG/CC.

a. Appoints the 1/192 MXG representative(s) to the BHWG.

b. Attends quarterly BHWG meetings.

c. Ensures organization compliance of this plan.

15. 1/192 MXG/MXQ.

a. Ensures the 1/192 MXG personnel report all discovered wildlife strikes on aircraft to the 1 MXQ/MXQ, MOC, and the 1 FW/SEF.

b. Ensures wildlife-strike incident reports are provided to the 1 FW/SEF.

c. Attends quarterly BHWG meetings.

16. 1/192 AMXS.

a. In absence of the 1 FW/SEF, the Production Superintendent ensures wildlife remains are collected, preserved, and provided to the 1 FW/SEF for species identification. Even the smallest fragment of feather, hair, or blood can provide enough information for a positive identification (see Appendix 4 of this Annex).

b. Ensures wildlife strike NOTAMs, BASH awareness posters, and selected publications are posted or disseminated throughout the squadron.

17. 633 CES/CC.

- a. Appoints the 633 CES representative(s) to the BHWG.
- b. Attends quarterly BHWG meetings.
- c. Ensures organization compliance of this plan.

18. 633 CES/CEIE.

a. Ensures the LAFB INRMP and other environmental plans are mutually supportive and not in conflict with this plan and the requirements of AFPAM 91-212. NOTE: Updates or changes to the LAFB INRMP must be reviewed by the BHWG and 1 FW/SE.

b. Ensures this plan and other BASH management actions are implemented IAW Federal and State regulations for protected wildlife and habitats (see Appendix 7 of this Annex). NOTE: USDA/WS is available for technical assistance in this area.

c. Incorporates specific BASH mitigation projects into the management goals and objectives section of the LAFB INRMP. NOTE: USDA/WS is available for technical assistance in this area.

d. Reviews proposed on-and off-base land-use changes, construction plans, and mitigation projects for environmental conditions that may increase BASH potential (see Appendix 5 to this Annex). NOTE: USDA/WS is available for technical assistance in this area.

e. Provides information on migratory, local, and seasonal wildlife hazard activities to the BHWG through contact with local, state, and/or federal wildlife agencies (see Appendix 6 of this Annex). NOTE: USDA/WS is available for technical assistance in this area.

f. Advocates and develops cooperative agreements with neighboring entities whose development projects could potentially attract hazardous wildlife within 5-miles of the approach departure corridors. NOTE: USDA/WS is available for technical assistance in this area and to reference the Hampton-Langley Joint Land Use Study.

- g. Attends quarterly BHWG meetings.

19. 633 CES/CEO.

a. Ensures airfield habitat is maintained consistent with runway lateral and approach zone management criteria per AFMAN 32-1123(I). Habitat modification or prevention to reduce BASH beyond the 1000' distance criterion is desired as per Appendix 5 of this Annex.

b. Per Appendix 5 of this Annex, incorporates habitat management practices that will mitigate the attraction to hazardous wildlife. Habitat management efforts will be monitored carefully to ensure that they reduce wildlife hazards and do not create new attractions for different wildlife. NOTE: Completion of specific habitat modification and prevention projects is dependent on available funding and manpower resources.

20. 633 CES/CEOIE.

a. Provides recommendations and develops work plans to control pest (invertebrates and rodents) populations on the airfield (see Appendix 6 to this Annex). NOTE: USDA/WS is available for technical assistance in this area.

b. As part of the LAFB IPMP, periodically surveys and reduces pest species when required. Pesticides and traps can reduce invertebrate and rodent populations. Only EPA approved pesticides are authorized, and they must be used strictly according to label instructions. NOTE: USDA/WS is available for assistance in this area.

c. Attends quarterly BASH meetings.

21. 633 CES/CEPT.

a. Provides geographic information support to the BHWG.

b. Generates and maintains BASH map products, as required (Appendix 9, Tab A)

APPENDIX 3 TO ANNEX A TO JBLE BASH PLAN
BIRD HAZARD WARNING SYSTEM

Reference: AFI 91-202

1. General. This appendix outlines procedures to use for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of hazardous wildlife activity.

2. Terminology. Bird Watch Condition (BWC) codes will be used for rapid communications to disseminate hazardous wildlife activity information, implement unit operational procedures, and give bird and mammal locations with the condition code. BWC codes are based on observations of local airfield wildlife activity and are independent of Bird Avoidance Model (BAM) or (Avian Hazard Advisory System) risk hazard levels. BWC is determined using a variety of factors including but not limited to: physical size of individual birds, size of bird flocks, behavior of birds in relation to the runway area, and the ability to mitigate the risks associated with birds.

a. BWC Severe.

(1) Wildlife activity on or immediately above the active runway or other specific location representing high potential for strikes. For example, wildlife are unresponsive to harassment techniques and will not leave the runway area which could be a few large birds towering near the runway or a large number of small birds loafing/foraging on the airfield during flight operations which would have a high probability for a strike. Supervision and aircrews must thoroughly evaluate mission need before conducting operations in areas under condition SEVERE.

(2) 1 FW/192 WG aircraft will not normally conduct flight operations (takeoffs, landings, and approaches) in an area declared severe.

(3) Airborne aircraft will delay departure/arrival or divert to an alternate until the condition is downgraded.

(4) Deviations will require the 1 OG/CC (or higher) approval.

(5) If landings are directed, fly single-ship, straight-ins to a full-stop landing.

(6) AM Ops and USDA/WS will provide response to the airfield and implement control procedures to engage hazardous wildlife to reduce BWC to MODERATE or LOW.

b. BWC Moderate.

(1) Wildlife activity near the active runway or other specific location representing increased potential for strikes. For example, one or many groups of small birds flying across the runway, or one large bird loafing/towering in the runway resulting in an increased potential for a strike. BWC Moderate requires increased vigilance by all agencies and supervisors and caution by aircrews.

(2) Initial takeoff or final landing is allowed if departure or arrival routes avoid identified bird activity.

(3) The necessity to conduct multiple approaches should be seriously considered before conducting such operations.

(4) Formation takeoffs, approaches (except chase formations) and landings are not authorized.

(5) AM Ops and USDA/WS will provide rapid response to the airfield and implement control procedures to engage hazardous wildlife to reduce BWC to MODERATE or LOW.

c. BWC Low. Wildlife activity on and around the airfield representing low probability for a wildlife strike incident during normal flight operations.

4. Authority.

a. The 1 OG/CC, through the SOF, is the authority to declare a BWC during normal flight operations.

b. The 1 OSS/OSAA, or his or her designated representative, is the declaring authority during all other periods. This person will declare conditions based on ground observations, pilot reports, tower observations, etc.

5. Communications. Disseminate BWC by the following means:

a. During periods of flight operations, BWC other than LOW at LAFB will be included in the hourly ATIS information message. When the SOF declares BWC MODERATE or SEVERE they will notify the 1 OSS/OSAT, AM Operations, and the 1FW/SEF. AM Operations personnel will post the BWC for aircrew personnel, and notify all stations of the change in conditions.

b. During periods of non-flying operations, the 1 OSS/OSAA, or his or her designee, will declare the BWC. Upon declaration of a BWC other than LOW,

AM Operations personnel will notify the Command Post and the 1 OSS/OSAT. They will also ensure bird watch information is posted, as required.

c. The primary means of transmitting BWC will be via ATIS. However, under BWC MODERATE or SEVERE, LAFB tower will verify that all inbound aircrews are aware of the BWC and will comply with the provisions of paragraph 2 above.

d. SOF will notify the 1 OG/CC of bird conditions as needed.

6. Aircrew Responsibilities and Procedures.

a. Aircrews should review the AHAS and BAM during BASH Phase II period and prior to conducting low-level training missions to determine the relative BASH potential. NOTE: The AHAS and BAM avoidance tools are available at <http://www.usahas.com/>.

b. Aircrews experiencing a wildlife strike should abort the mission when possible. While engine ingestion or a windscreen strike may readily be apparent from the cockpit, the damage from many fuselage, wing, tail, or random strikes cannot be adequately assessed. Continuing a mission may cause greater structural damage and a serious in-flight emergency situation later.

c. If an aircrew observes or encounters any wildlife activity while in flight which could constitute a hazard, the aircrew will contact the control tower, so that the observed bird activity can be passed on to the SOF. The following information is necessary:

- (1) Call sign.
- (2) Location.
- (3) Altitude.
- (4) Time of sighting.
- (5) Type of wildlife (if known).
- (6) Approximate number of wildlife hazards.
- (7) Behavior of wildlife.

d. This information should be forwarded to the 1 FW/SEF or USDA/WS for trend analysis. Additional direction to all pilots is provided below based upon the coded BWCs and the location.

7. BWC Changes.

a. Once the SOF has declared a BWC, it is their responsibility to cancel, downgrade, or upgrade the condition commensurate with updated information.

b. In the absence of the SOF, ATC personnel may recommend to the 1 OSS/OSAA, or his or her designated representative, a change to the BWC when the observed conditions change.

APPENDIX 4 TO ANNEX A TO JBLE BASH PLAN
REPORTING PROCEDURES

References:

- a. AFI 91-204.
- b. AFPAM 91-212.
- c. AFMAN 91-223.

1. General. This chapter outlines the procedures and forms required to report wildlife-strike mishaps, hazardous wildlife activity, and program checklists.

2. Bird/Wildlife Aircraft Strike Reporting.

a. IAW AFMAN 91-223, paragraphs 1.3, 2.8, and 1.5, all bird/wildlife strikes (damaging and non-damaging) are reported by using the AFSAS located at <https://afsas.safety.af.mil>. AFSAS replaces all other methods of reporting wildlife aircraft collisions.

b. All bird/wildlife aircraft strikes (damaging and non-damaging) and related wildlife FOD incidents (animal remains found within 100 ft. from aircraft operating pavement) must be documented using AF Form 853, AF Bird Strike Report, and submitted to the 1 FW/SEF. NOTE: AF Form 853 is available and filed at the 1 FW/SEF.

c. The 1 FW/SEF will compile all reported wildlife strike data and submit electronically into the AFSAS program IAW AFI 91-202.

d. IAW paragraph 4, 1 FW/SEF must report all strikes to 1 FW owned aircraft regardless of the geographic location of the strikes. For strikes occurring at airfields other than home base, the incident will be reported IAW AFI 91-202 and a copy of the report sent to the flight safety office of the installation at which the strike occurred.

e. IAW paragraph 4, Damaging Wildlife Strike Report: Report bird strikes that cause reportable aircraft damage to appropriate agencies in message format per paragraph 4. Include the following information in paragraph 7 of the message:

- (1) Landing lights: on or off.
- (2) Strobe lights: on, off, or not applicable (if not installed).

- (3) Phase of flight: climb, touch-and-go, low level, etc.
- (4) Aircraft speed: (KIAS).
- (5) Altitude: (AGL and MSL).
- (6) Flight path in relation to clouds: above, below, between layers, etc.
- (7) Species and number of birds.
- (8) Impact point on aircraft.
- (9) Pilot warned of bird hazard: yes or no.
- (10) Low-level route number: (if applicable).
- (11) Wildlife strike resulted in fire: yes or no.
- (12) Geographic coordinates: (latitude and longitude).
- (13) Remarks.

4. Bird/Wildlife Strike Remains Collection.

a. Do not discount the possibility of a positive identification due to the lack of a complete feather. Using high-powered electron microscopy, even the smallest fragment of a feather can provide positive identification. Forward any bird or animal remains (feathers, beaks, feet, etc.) taken from aircraft or airfield to the 1 FW/SEF.

b. Basic safety measures and good hygiene when collecting material is encouraged. Use latex gloves, face mask and eye protection; always thoroughly wash hands after handling remains.

c. The 1 FW/SEF will make available and maintain bird/wildlife aircraft strike collecting kits. Bird/wildlife aircraft strike collecting kits will include the following:

- (1) Re-sealable plastic bags
- (2) Permanent black marker
- (3) Alcohol wipes
- (4) Sterile applicators

- (5) FTA micro-card
- (6) Tweezers
- (7) Latex gloves
- (8) Protective eyewear
- (9) Face mask
- (10) Hand sanitizer

d. Pluck a variety of feather samples (i.e. breast, back, wing, and tail feather with a variety of color patterns) from whole carcass or partial bird remains. Do not cut feathers from the bird or use sticky substances when collecting samples. Dry strike remains and place samples in a re-sealable plastic bag for shipment.

e. Scrape blood and/or tissue samples using a sterile applicator, coffee filter, or tweezers. Apply fresh blood or tissue samples to an FTA card if available. Use alcohol pads to loosen remains that are dried to the aircraft surface. Consult aircraft manuals to make sure alcohol is an approved cleaning solution. Dry strike remains and place samples in a re-sealable plastic bag for shipment.

5. Bird/Wildlife Aircraft Strike Identification.

a. The 1 FW/SEF will mail bird/wildlife aircraft strike samples to the Smithsonian Institution Feather Identification Lab. Allow all remains to dry before shipment. The AF Form 853 and SAS shipping remains sheet must be included in the shipment.

b. Routine Class E BASH Mishap (non-damaging strike events) are mailed using the following address: Feather Identification Lab/Smithsonian Institution; NHB E600, MRC 116; P.O. Box 37012; Washington, DC 20013-7012.

c. Priority Class A, B, or C Mishap (reportable strike events) are priority mailed overnight using the following address: Feather Identification Lab/Smithsonian Institution; NHB, E600, MRC 116; 10th & Constitution Ave., NW; Washington, DC 20560-0116.

6. Airfield BASH Response Log.

a. AM Operations personnel and/or the designated BRT will use LAFB BASH Log to report all hazardous wildlife sightings and employed wildlife hazard response operations.

b. Copies must be kept on file and forwarded to the 1 FW/SEF each month for trends analysis purposes. NOTE: LAFB BASH Log documents are available and filed at the 1 FW/SEF.

7. BASH Checklist. MICT provides a useful tool as a BASH self-inspection checklist for identifying deficiencies in BASH reduction plans.

APPENDIX 5 TO ANNEX A TO JBLE BASH PLAN
HABITAT MANAGEMENT

References:

- a. AFI 91-202
- b. AFPAM 91-212
- c. AFI 32-7064
- d. The USAF Airfield and Heliport Design (AFI 32-1123)
- e. FAA/WHM
- f. Hazards Wildlife Attractants on or near Airports (AC 150/5200-33B)

1. General. This chapter provides guidance to recognize and control land-use practices and habitats that are attractive to hazardous wildlife on the airfield and within 5-miles of the approach-departure patterns. Implement habitat management procedures when funding and manpower resources are available. As per AFI 91-202, all base improvement projects (including, but not limited to, grounds maintenance, wastewater treatment, wetlands, golf courses, stormwater, etc...) must be coordinated through the BHWG for BASH-related issues and/or mitigation requirements.

2. Concept of Operations.

a. The objective of this plan is to actively modify and prevent wildlife hazard attractants at LAFB, while also working cooperatively with adjacent property owners to discourage land-use practices that may increase hazardous wildlife conditions. Habitat management provides the most effective long term remedial measure for reducing wildlife hazards on and near airfields. Habitat management includes the physical removal, exclusion, or manipulation of areas that are attractive to wildlife. The ultimate goal is to make the environment fairly uniform and unattractive to the species that are considered the greatest hazard to aviation. Habitat modifications will be monitored carefully to ensure that they reduce wildlife hazards and do not create new attractions for different wildlife species. Although effective, budget restrictions may preclude incorporating all of these measures. Successful implementation relies on the combined efforts of the BHWG.

b. Water Sources. On- or off-site:

(1) Wetlands. The airfield is encompassed with and surrounded by several hundred acres of small man-made and/or natural wetlands areas. All wetland mitigation efforts resulting from base development or construction projects are required to consider payment in lieu of or banking mitigation alternatives. On- or off-site (base) wetland mitigation practices should not be tolerated, unless it can be demonstrated with reasonable certainty that the mitigation would not likely increase wildlife hazards. Existing wetland areas attracting hazardous wildlife should be modified to discourage wildlife by maintaining excessive vegetation growth and installing overhead grid systems.

(2) Storm water. Several storm water basins exist on base and are in close proximity to the airfield. All storm water mitigation efforts impacting base development plans or construction projects are required to incorporate detention basins or underground drainage system mitigation alternatives. Development of wet retention basins should not be tolerated. Design or modify detention basins to remain dry between rainfalls. Where constant flow of water is anticipated through the basin, or where any portion of the basin bottom may remain wet, include a concrete or paved pad and/or ditch/swale in the bottom to prevent vegetation that may provide cover and food for wildlife. Detention basins holding water for more than 72 hours and attracting hazardous wildlife should be redesigned or modified to discourage wildlife installing physical barriers, such as bird balls, wire grids, pillows, rip-rap, or netting. When physical barriers are used, carefully evaluate their use and ensure they will not adversely affect water rescue.

(3) Golf Courses. The large grassy areas and open water found on most golf courses are attractive to hazardous wildlife, particularly Canada geese, mallards, and cormorants. These species can pose a threat to flight safety. Ensure golf courses are monitored on a continuing basis for the presence of hazardous wildlife. If hazardous wildlife is detected, coordinate BASH prevention efforts immediately.

(4) Temporary Standing Water. During the wetter months, small depressions and undrained low areas within the infield areas fill up with water for short periods of time and can be attractive to hazardous wildlife. As soon as funding allows, airfield areas holding water for periods greater than 72 hours are required to be filled and/or graded to ensure water consistently drains in a timely manner.

(5) Drainage Ditches. The airfield contains tidal and non-tidal ditches. All drainage ditches must be maintained to control excessive vegetation growth and appropriately sloped to ensure water does not pool and discharges water within 72 hours, where applicable. Tidal ditches attracting hazardous wildlife

should be designed or modified to discourage wildlife by installing physical barriers such as bird balls, wires grids, pillows, rip-rap, or netting. When physical barriers are used, carefully evaluate their use and ensure they will not adversely affect water rescue.

c. Vegetation.

(1) Grass Height. Maintain a uniform grass height between 7 and 14 inches on the airfield, except around runway and taxiway marker lights where it will be cut to 3 inches for purposes of visibility. Coordinate mowing with periods of low flight activity. Cut grass before it goes to seed to discourage seed-eating birds from utilizing the airfield. Long grass discourages flocks of birds from entering the airfield because reduced visibility disrupts interflock communications, flock integrity, and prevents predator detection. Additionally, tall grass inhibits detection of birds. As a rule, do not permit grass to exceed 14 inches in height. High grass will attract some birds and rodents that, in turn, will attract raptors (birds of prey). Airfields with a variety of grasses may have a fast-growing strain, which reaches 14 inches sooner than the rest of the airfield. Mow when the tallest grass height reaches 14 inches. Herbicides may also be used to stunt grass growth, seed production, and encourage a monoculture stand. NOTE: A waiver may be obtained for a selected time period to modify grass height in an effort to manage specific wildlife hazard species.

(2) Controlling Broad-Leafed Weeds. Eliminating weeds and cultivating a uniform monoculture of grasses can be more effective in discouraging seed-eating birds from feeding on the airfield than mowing grass seed stalks. Broad-leafed weeds attract a variety of wildlife because they produce seeds or berries and may limit grass growth. Keep broad-leafed weeds to a minimum on the airfield. Apply herbicides, as necessary, to achieve this.

(3) Bare Ground Areas. Reduce bare areas as birds frequently use them to pick up grit and as resting sites on the airfield. Birds need grit, or very small rocks, to crush seeds, allowing digestion of the seeds. Eliminating bare areas on the airfield denies access to grit and forces birds to seek sources elsewhere. Plant grass adapted to the area, add fertilizer and lime as necessary, and irrigate only until new grass is established.

(4) Seeding. The timing, application method, and grass species is important. Airfield seeding applications that restrict access to seeds from birds must be used. A drill-seeder is required for airfield seeding applications. Broadcast seeding is highly attractive to foraging birds and should not be used to re-seed bare ground or seed new construction areas. Seeding applications should be avoided from June through August. Select fertilizers to stimulate uniform grass growth and irrigate properly to enhance root production without increasing seed head production. Seeding applications for airfield bare ground

and construction sites are required to contain 100% high fungal endophytes fescue species or a 40% Bermuda - 60% tall fescue mix. Some of these endophytes are unpalatable to grazing birds such as geese as well as rodents and deer. These endophytic grasses may also support fewer insects.

(5) Ornamental Landscaping. Aesthetically pleasing landscaping should not compromise flight safety. Trees and bushes offering hunting perches, roosting and loafing sites, nesting cover, and food for birds and other wildlife will be removed. Ornamental trees and bushes used to enhance aesthetics will be kept to a minimum on and near the airfield. Varieties that are unattractive to wildlife must be selected. Species which produce edible fruits, nuts, or berries will not be used on LAFB property if they might attract hazardous wildlife. If such species are found to exist on or near the airfield they will be replaced with more desirable species as soon as funding allows. All base landscaping projects will be reviewed to ensure ornamental landscaping will not be attractive to hazardous wildlife. NOTE: A list of plants attractive to wildlife should be kept on file at the 633 CES/CEIE.

(6) Forested/Brushy Areas. There are three (Raptor Town, Poplar Road, and Golf Course Driving Range) forested/brushy areas within the airfield perimeter that provide suitable food, shelter and/or perching habitat for white-tailed deer, fox, coyotes, small mammals, and various bird species. Each of these sites are comprised of forested hardwoods, pine, and various weed species. These should be thinned or cleared as soon as funding allows. New growth of woody vegetation must not be tolerated upon or in close proximity to the airfield.

d. Structure Management.

(1) Airfield structures such as runway lights, ramp and taxiway signs, ILS towers, and light poles are used as hunting and loafing perches for birds, such as raptors, doves, and starlings. Where applicable, existing airfield structures are required to be modified with anti-bird perch inhibitors (i.e., wire coils, porcupine wire, or catclaw). Lights attract insects at night, and in turn, insect eating wildlife. During night airfield operations, non-essential lights should be turned off to discourage insects and insect eating wildlife. Flightline hangars and buildings may require exclusion devices to prevent access to nesting or roosting birds. NOTE: All airfield development plans or construction projects are required to incorporate bird exclusion devices to applicable structures.

(2) Abandoned Structures. Structures not pertinent to air operations and no longer in use, must be removed, including abandoned vehicles, sheds, machinery, and light poles. Such structures are attractive to rodents, small birds and rabbits and, in turn, attract hawks, owls, and other predators that

can become a significant air hazard. Structures used for crash-fire training are considered to be pertinent to air operations and are generally compatible with safe air operations.

e. Prey/Food Items.

(1) Rodents. Mice, voles, and hares appear to be the primary attractants of raptors, wading birds, and canids. Airfield rodent populations may require monitoring. When habitat management efforts fail to control populations, use registered rodenticides approved by the Virginia Department of Agriculture. Airfield rodenticide (zinc phosphide) treatments should occur every three to five years. Treatment applications should be concentrated within and expand from the runway control area.

(2) Insects and Other Invertebrates. Starlings, gulls, raptors, swallows, and wading birds feed on beetles, grasshoppers, worms, mollusks, and amphibians. Airfield insect populations may require monitoring. When habitat management efforts fail to control populations, use registered insecticides approved by the Virginia Department of Agriculture to control populations when necessary. Airfield insecticide (Sevin or Merit) treatments should occur biannually. Treatment applications should concentrate within and expand from the runway control area.

(3) Animal Carcasses. Carcasses of animals, such as those that were involved in collisions with vehicles or aircraft or that were taken pursuant to permits, should be immediately collected and disposed of. This is important not only to properly record wildlife strikes and to remove FOD, but will also reduce the extent to which scavenging birds are attracted to the airport by the presence of carrion.

(4) Garbage. Trash and debris can attract scavengers such as rodents, gulls, pigeons, starlings and blackbirds. All dumpsters and trash can lids must be secured, especially within the flightline. Feeding hazardous birds or mammals anywhere on base is prohibited. Signs may be posted throughout the base (i.e., outdoor break/smoking areas, taxi stands, loading docks, walkways, and in the marina) to educate personnel and the public on the association between feeding animals and creating wildlife hazards.

APPENDIX 6 TO ANNEX A TO JBLE BASH PLAN
HAZARDOUS WILDLIFE

References:

- a. AFI 91-202
- b. AFPAM 91-212
- c. 1 FW BASH Report Fiscal Year 2017
- d. FAAF BASH Report Fiscal Year 2017

1. General. This chapter provides information on specific wildlife strike hazards and recommendations for countering each hazard.

2. Concept of Operations.

a. The following is a brief description of wildlife hazards common to LAFB and effective management techniques that may be used. Management efforts (i.e., habitat modification, wildlife dispersal, and population control) will require actions by one or more tasked organizations as described in the basic plan. It is very important to know which species is present before control techniques can be effectively applied. Section 7.3.1.5.9 of AFI 91-202 advocates maintaining a zero tolerance toward large free roaming animals on or adjacent to the aircraft movement area (free-roaming animals are, but not limited to, deer, canines, geese, vultures, etc.). Federal depredation and state scientific collection or kill permits are required for the take (e.g., capture, kill, relocation, etc.) of the wildlife species listed below. An appropriate field guide should be used to aid in wildlife identification. Federal law allows people to protect themselves and their property from damage caused by migratory birds. Provided no effort is made to kill or capture the birds, a depredation permit is not required to merely scare or herd depredating migratory birds other than endangered or threatened species or bald or golden eagles (50 CFR 21.41). The 1FW contracts USDA to mitigate wildlife during 1 FW/192 WG flight ops. AMOPS is responsible for wildlife mitigation outside of 1 FW/192 WG flight ops

b. BASH Mitigation.

(1) Bird Mitigation Techniques. Airfield grass should contain a strong percentage of fungal endophyte tall fescue and be maintained at 7 to 14 inches. The growth of seed-producing plants on the airfield should be prevented. All bare ground spots and construction areas should be drill seeded, fertilized, and irrigated to ensure germination and grass establishment. Ponds, ditches, and wetlands should be excluded using an over-head grid wire system or

polyurethane barrier balls. Steepening ditch and pond banks and removing vegetation may inhibit attractiveness to waterfowl. Airfield areas collecting water over a 72-hour period should be filled and/or graded so that water consistently drains in a timely manner. Treat selected airfield areas with insecticides to control and/or eliminate wildlife from feeding on Japanese beetles, grasshoppers, and earthworms. Remove or modify known staging or roosting areas near the airfield. Hangars and buildings should be modified or designed to exclude birds from nesting. Pyrotechnics, bioacoustics, propane cannons, vehicular dispersal, can all be effective temporary mitigation tool dependent upon species. However, depredation is often necessary to reinforce dispersal efforts and help control local populations. Shooting when there is an immediate threat to flight safety and trapping or nest destruction when population numbers create hazardous flying conditions may be used. Avoid or adjust flying operations during periods of increased bird activity. No feeding policies should also be enforced on and near the airfield. Construction activities and development projects should be coordinated to avoid creating habitats attractive to birds. Existing and new airfield structures should be modified with bird perch inhibitors. Pilots are encouraged to review the online BAM and AHAS for bird avoidance information associated with waterfowl migration and low-level routes. NOTE: Resident Canada Geese populations located within three miles of the airfield should be managed as per control order at military airfields (CFR 50.21.49). Coordinate spring nesting egg addle-oil treatments and summer molt round-up programs with neighboring properties (i.e., Hamptons Golf Course, Bluebird Gap Farm, Sandy Bottom Nature Park, and Plum Tree Island Wildlife Refuge) as necessary.

(2) Mammal Mitigation Techniques. Properly installed fencing will limit the number of mammals occupying the airfield. It is recommend that airfield fencing be installed IAW AFI 91-212 section 3.2.1.3. Excluding airfield drainage culverts will also prevent access to the airfield. Broad-leaf weeds, shrubs, and mast producing trees should be eliminated from the airfield. Airfield woodlots should be thinned and maintained to control excessive understory vegetation growth. Rodent and small animal control will reduce the attractiveness to mammalian predators. Pyrotechnics may be used to frighten and disperse these animals from the airfield. Depredation is often necessary to reinforce dispersal efforts and help control the local population. Shooting when there is an immediate threat to flight safety and trapping or den removal when population numbers create hazardous flying conditions may be required. Avoid or adjust flying operations when hazardous mammals are observed on the airfield. Construction activities and development projects should be coordinated to avoid creating habitats attractive to these species. NOTE: Airfield white-tailed deer sharp-shooting operations are coordinated and executed by USDA/WS.

APPENDIX 7 TO ANNEX A TO JBLE BASH PLAN
REGULATORY REQUIREMENTS

References:

- a. 42 USC
- b. 50 CFR
- c. VAC
- d. COV Title 29 Fish and Wildlife Laws
- e. The USAF Environmental Impact Analysis Process (AFI 32-7061)
- f. FAA/WHM

1. General. This chapter provides information on pertinent laws, regulations, and permits governing the implementation of this plan.

2. Laws and Regulations.

a. Most forms of wildlife and their habitat are protected by one or more federal, state and/or municipal laws. Prior to implementing control actions involving wildlife and their habitats, the legal status and permit requirements of the target species must be determined. LAFB is responsible for adhering to the current regulations regarding wildlife management and for obtaining the appropriate permits to take wildlife. The 1 FW/SEF with the assistance of USDA/WS is responsible for obtaining and maintaining appropriate wildlife permits, and may assign this process to the 633 CES/CEIE. Permits to take wildlife in Virginia are issued by the USFWS and the VDGIF.

b. Federal Regulations. Several federal regulations, including the MBTA, the Lacey Act, the ESA, BGEPA, the CWA, and the FIFRA, and NEPA regulate various aspects of this plan. Additional regulations that may affect wildlife hazard response operations at LAFB are found in CFR Title 50, Part 1-99 and several Federal agencies may be responsible for their implementation. Federal wildlife laws are typically administered by the USFWS and involve primarily migratory birds and threatened and endangered wildlife species. Permits from the USFWS must be updated annually, unless otherwise stated on the permit.

c. State Regulations. In addition to federal protection, all states protect migratory birds as well as game birds, such as pheasant, turkey, grouse, and partridge. States might or might not protect exotic or feral species. With the exception of federally listed or proposed threatened or endangered species,

federal law does not protect terrestrial mammals, reptiles, or other wildlife (i.e. deer, coyotes, raccoons, groundhogs, snakes, turtles, and freshwater fish). Protection of these wildlife groups is left to the individual states. Pertinent regulations can be found in the COV Title 29, Chapter 5 and VAC Title 15, Chapter 20 wildlife laws involving birds, mammals, reptiles, and amphibians, as well as state threatened and endangered species are administered by the VDGIF. Hampton City firearms regulations may also affect BASH operations. BHWG personnel should check with city officials prior to conducting operations control measures. The use of pesticides in Virginia is conducted pursuant to COV Title 3, Chapter 14 within the administration of the VDACS.

3. Permits.

a. Federal and state permits must be obtained for the take of any protected bird or animal that is identified as a flight safety hazard. The term “take” is defined as “pursuit, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to pursue, hunt, shoot, wound, kill, trap, capture or collect” a federal or state protected bird or animal. Additional permits may also be required to modify existing habitats (i.e., wetlands) and to band or mark wildlife (i.e., raptors). Some state wildlife management agencies may require that a state permit be obtained also. Persons wishing to take state-protected species must first secure a permit from their respective state wildlife management agency. Excluding Bald Eagles, a federal or state permit is not required to harass migratory birds or other wildlife species.

(1) Migratory Bird Depredation and Salvage Permit (50 CFR 21.23 and 41). Migratory birds are protected by the MBTA. A federal permit issued by the USFWS is required to take hazardous migratory birds, nests, or eggs. Possession and transport of migratory birds, their parts, nests, or eggs for scientific research or educational purposes may also be included. Applications are available for download at <http://www.fws.gov/permits>. Permits are awarded under specific conditions and criteria for a one year period.

(2) Depredation Order for Resident Canada Geese at Military Airfields (50 CFR 21.49). A depredation order is a federal regulation which authorizes the take of certain bird species involved in damage situations, without a federal permit. Under this control order, managers of commercial, public and private airports (or their employees or agents) and military air operation facilities (and their employees or agents) may take resident Canada Geese (including nests and eggs) with landowner(s) permission from on or within 3 miles of the airport or airfield boundaries, without a federal permit. Nests and eggs may be taken only between March 1 and June 30, and live birds may be taken only between April 1 and September 15. Any take of geese or nests outside of these dates (except for take IAW hunting regulations) by airport managers requires a federal permit. Airport managers acting under authority of this depredation

order must submit a report of activities (including the dates, numbers and county of birds, nests and eggs taken) to USFWS by December 31 annually. To be designated as an airport authorized to participate in this program, an airport must be part of the National Plan of Integrated Airport Systems and have received federal grant-in-aid assistance, or be a military airfield, meaning an airfield or air station that is under the jurisdiction, custody, or control of the Secretary of a military department. NOTE: Additional information is located at <http://www.fws.gov/pdm>.

(3) Depredation Order for Blackbirds, Cowbirds, Grackles, Crows, and Magpies (50 CFR 21.43). A depredation order is a federal regulation which authorizes the take of certain bird species involved in damage situations, without a federal permit. Under this order, blackbirds, cowbirds, grackles, crows, and magpies may be taken without a federal permit when they are concentrated in such numbers and manner as to constitute a health hazard or other nuisance. Proper licenses and permits for firearms and toxicants must be acquired and maintained. NOTE: additional information is located at <http://www.fws.gov/pdm>.

(4) Bald Eagle Permits (50 CFR 22.23). Bald Eagles are protected under the BGEPA. A federal permit issued by the USFWS is required to harass or take eagles, nests, and/or eggs that are hazard to flight safety. Applications are available for download at <http://www.fws.gov/permits>. Permits are awarded under specific conditions and criteria for a 90 day period.

(5) Bird Banding or Marking Permits (50 CFR 21.22). The banding or marking of birds is controlled under the MBTA. A Federal permit issued by the U.S. Geological Service Bird Banding Laboratory is required to legally place bands or other identification markers on birds and release into the wild within the US. Applications are available for download at <http://www.pwrc.usgs.gov/bbl>. Permits are awarded under specific conditions and criteria for a one year period.

(6) Wetland Permits. Wetlands are protected under Section 404 of the Clean Water Act. Wetland modifications require permits from various agencies, including the USFWS, USACE, or county governments. Permits to dredge or fill of wetland habitats require compensatory mitigation efforts that include: on-site, off-site, banking, and in-lieu fee. To support this plan, LAFB must advocate for off-site mitigation practices such as purchase of wetland mitigation credits for all base development or airfield construction projects. Mitigation banking and in-lieu fee mitigation are forms of "third party" compensation, where the liability for project success is transferred to the mitigation bank or in-lieu fee sponsor.

(7) Animal Population Control Permit. Game and fur-bearing animals are protected under the COV wildlife and fish law. A state permit issued by VDGIF may be required to take hazardous game and fur-bearing animals in excess of the general hunting season bag limits. Applications are available for download at <http://www.dgif.virginia.gov/permits/>. Permits are awarded under specific conditions and criteria for a one year period.

(8) Official Kill Permit. White-tailed deer and black bear are protected by the COV wildlife and fish law. A state permit issued by VDGIF is required to kill deer or bear that cause damage to fruit trees, crops, livestock or personal property or create a hazard to aircraft. Permits are awarded under specific conditions and criteria for a one year period. Applications are available upon request and investigation by the District Conservation Police Officer at 804-829-6580.

(9) Scientific Collection Permit. A state permit issued by VDGIF may be required for the collection, or capture and release, of non-listed wildlife for scientific or educational purposes. Applications are available for download at <http://www.dgif.virginia.gov/permits/>. Permits are awarded under specific conditions and criteria for a two year period.

(10) Salvage Permit. A state permit issued by VDGIF may be required for the collection of animals found dead for scientific or educational purposes. Applications are available for download at <http://www.dgif.virginia.gov/permits/>. Permits are awarded under specific conditions and criteria for a three year period.

(11) Pesticide Applicators License. The use of restricted-use pesticides is regulated by the FIFRA. A state permit issued by VDACS is required for the removal of hazardous wildlife (e.g., blackbirds, starlings) or prey species (e.g., rodents, rabbits, insects, earthworms, and weeds) using restricted use pesticides. Only certified pesticide applicators or persons under their direct supervision are authorized to apply pesticides. To obtain the necessary license to apply restricted-use pesticides, a person must pass an exam administered by VDACS or successfully complete a DoD pesticide applicator certification course. All BHWG personnel that use restricted-use chemicals must first obtain a pesticide applicator's license or be under the direct supervision of an applicator. Use of all pesticides will adhere to the product label and will follow EPA and other guidelines.

b. Permit Exceptions.

(1) Exotic and Nuisance Wildlife. Exotic and nuisance wildlife species are not afforded federal or state protection. Therefore, these animals or their nests, eggs, or young may be taken without a permit. These species include

starlings, pigeons, house sparrows, house mice, norway rats, black rats, coyotes, feral hogs, nutrias, and woodchucks.

(2) Feral/Domestic Wildlife. The take of feral mammals such as dogs and cats does not require a federal or state permit, although the method of take is regulated by state law. For example, use of firearms must comply with Virginia firearms laws and traps must comply with state trapping regulations.

5. Other Regulations of Interest.

a. NEPA (42 USC 426). This act provides direction to federal agencies for making informed decisions about federal actions that could impact the human environment. All federal actions must comply with NEPA. NEPA requires that a detailed statement accompany every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment. The 633 CES/CEIE normally prepares environmental impact statements for feasibility reports for authorization and construction of major projects, for changes in projects which increase size substantially or incorporate additional purposes, and for major changes in the operation and/or maintenance of completed projects. Environmental assessments are normally prepared for other corps actions except for certain minor and/or routine actions, which are categorically excluded from NEPA documentation. A finding of no significant impact is prepared by the reporting officer to accompany an assessment when it is determined that an environmental impact statement will not be prepared. NEPA documentation is accomplished prior to implementation of emergency work, if practicable.

b. Municipal Solid Waste Landfill Location Restrictions for Airport Safety (40 CFR 258.10). The EPA recognizes that birds can be attracted in large numbers to municipal solid waste landfills and recognizing the potential threat posed by birds to aircraft safety, requires owners or operators of new units, or lateral expansions of existing units, that are located within 10,000 feet of any airport runway used by turbojet aircraft or within 5,000 feet of any airport runway used only by piston-type aircraft demonstrate successfully that such units do not create hazardous conditions for aircraft. The EPA also requires any operator proposing a new or expanded waste disposal operation within 5 statute miles of a runway end to notify the appropriate FAA Regional Airports Division Office and the airport operator of the proposal.

c. Incidental Migratory Bird Take (50 CFR 21.15). A federal rule allows the incidental take (i.e., bird aircraft strikes or range firing exercises) of migratory birds during military readiness activities as directed by the 2003 National Defense Authorization Act. The measure directs the armed forces to assess the effects of military readiness activities on migratory birds, IAW the NEPA. It also requires the armed forces to develop and implement appropriate conservation measures if a proposed action may have a significant adverse effect on a

migratory bird population. The rule also provides that when conservation measures require monitoring of migratory bird populations, the armed forces retain the data for five years.

d. Federal Threatened and Endangered Species Act (16 USC 15.31). This act protects plants and animals which may be threatened with extinction. This act also protects wildlife habitat. An endangered species is defined as any species or subspecies which is in danger of extinction throughout all or a significant portion of its range. A threatened species is a species or subspecies which is in danger of becoming an endangered species within the foreseeable future throughout or over a significant portion of its range. Once listed, a threatened or endangered species cannot be taken or harassed without a special permit. If a significant hazard exists with a listed species that jeopardizes air safety, the USFWS and/or the VDGIF should be contacted for assistance.

e. The Animal Damage Control Act (7 USC 426). This act authorizes and directs the Secretary of Agriculture to manage wildlife injurious to agricultural interests, other wildlife, or human health and safety, including wildlife hazards to aviation. The USDA/WS is the agency that carries out this mandate.

APPENDIX 8 TO ANNEX A TO JBLE BASH PLAN
INTERAGENCY AGREEMENT WITH WILDLIFE SERVICES

References:

- a. AFI 91-202
- b. AFPAM 91-212
- c. MOA between the FAA, the USAF, the USA, the U.S. EPA, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture to address aircraft-wildlife strikes (MOA)
- d. MOU between the USAF and the USDA, APHIS Health Inspection Service, Wildlife Services (MOU)

1. General. Due to the complexities of hazard abatement and potential for loss of aircraft and crew, section 7.3.1.5.4 of AFI 91-202 strongly encourages that a dedicated wildlife hazard management specialist be retained on staff. This chapter summarizes the interagency agreement between LAFB and USDA/WS for assistance in the management and implementation of this plan.

2. Interagency Agreement.

a. Purpose. LAFB requested assistance from USDA/WS in managing wildlife to alleviate threats and damage to human health and safety, aviation, property damage to aircraft, equipment, tools, supplies in warehouses and hangars; and human health and safety from wildlife strikes, fecal droppings or any other damage.

b. Background. USDA/WS conducted a WHA/BASH assessment from June 1999 through May 2000. The assessment documented results of a 12-month ecological study of birds and mammals inhabiting Langley airfield and surrounding environments, evaluated wildlife strike potential, and provided management recommendations to mitigate the presence of hazardous wildlife. In April of 2001, the JBLE BASH Plan was updated to reflect the information and recommendations in the initial WHA. Following the assessment, LAFB expanded the interagency agreement with USDA/WS to provide staff dedicated to the implementation and management of the JBLE BASH PLAN initiated October 2000 and renewed annually.

c. Description. USDA/WS will provide assistance to LAFB in the following basic areas: wildlife hazard monitoring, wildlife control operations, habitat management, data analysis and research, administrative support, and training. USDA/WS will provide qualified wildlife damage management professionals

dedicated to BASH at LAFB as per Annex A of the JBLE BASH Plan. These individuals may be subject to USDA temporary duty assignments and 1 FW/192 WG recall under emergency or exercise conditions. Upon request, USDA/WS may also provide BASH support to Felker Army Airfield at Fort Eustis as per Annex B of the JBLE BASH Plan. USDA/WS will conduct wildlife damage management activities in accordance with IAW applicable USDA/WS directives and AFI requirements.

d. Wildlife Hazard Monitoring. USDA/WS will develop and implement a monitoring program to assess wildlife species posing a threat to flight safety. Standardized wildlife surveys will be conducted monthly and seasonally to monitor seasonal patterns, habitat use, and species composition of birds and mammals. The surveys will identify trends and will not provide absolute estimate of population sizes.

(1) Airfield Bird Surveys. USDA/WS will conduct standardized bi-monthly airfield point count surveys to collect data on species inhabiting the airfield and surrounding environment.

(2) Mammal Surveys. USDA/WS will conduct standardized bi-monthly vehicle surveys at night to collect data on white-tailed deer inhabiting the airfield and surrounding environment. Additional vehicle surveys may be conducted on NASA Langley Research Center. As required, USDA/WS will conduct seasonal (spring and fall) catch per unit effort surveys to collect data on rodent species inhabiting the airfield.

(3) Strike Reporting. USDA/WS will provide aircraft strike reporting assistance to Flight Safety. As required, USDA/WS will respond to strike incidents and collect strike remains, perform investigation, and ensure remains are submitted to the Smithsonian Institute Bird Identification Laboratory.

(4) Wildlife Control Operations. USDA/WS will develop and implement an integrated wildlife control program to reduce flight safety threats from hazardous wildlife species. Wildlife control operations will be conducted daily and seasonally to disperse or remove hazardous wildlife species posing an immediate risk to flight safety and to control the local population of hazardous wildlife. USDA/WS will document all wildlife control activities.

(5) Airfield BASH Inspections. USDA/WS will conduct routine airfield BASH inspections throughout the 1 FW/192 WG daily flying windows. In absence of and/or outside the 1 FW/192 WG flying windows, Airfield Management will be the primary for airfield BASH response. When identified, USDA/WS will report hazardous wildlife activity to Control Tower for dispersal authorization and to disseminate hazardous wildlife information/BWC codes.

Dispersal methods will include and are not limited to the following: pyrotechnics, distress calls, paintballs guns, vehicles, and shooting.

(6) Population Control. As required, USDA/WS will coordinate and implement methods to control the abundance of hazardous wildlife on and surrounding the airfield. Population reduction methods will include and are not limited to the following: egg oiling, live trapping and relocation, live trapping and euthanization, chemical immobilization, general firearms, and sharpshooting.

(7) Habitat Management. USDA/WS will provide technical assistance in developing habitat modification and prevention plans to reduce the attractiveness to hazardous wildlife species. USDA/WS will monitor existing airfield habitats, review land use projects, and base development projects to ensure conditions do not support or attract hazardous wildlife species. The goal is to make the airfield less attractive to wildlife, while sustaining environmental compliance requirements. Habitat management efforts will include and are not limited to the following: grass management, controlling drainage, landscaping, structure exclusion, wetland mitigation practices, and storm water management.

(8) Data Analysis and Research. USDA/WS will conduct data analysis and interpretation to accurately assess wildlife hazards, provide management recommendations, and measure the effectiveness of management actions. USDA/WS will use descriptive statistics to describe wildlife abundance trends, behavior, habitat use, and population indices. USDA/WS will provide quarterly and/or annual WHA reports. USDA/WS may also participate in scientific based wildlife damage research projects with the National Wildlife Research Center and Berryman Institute.

(9) Administrative Support. USDA/WS will work in concert with and provide administrative support to the Chief of Flight Safety. Administrative support will include, but not limited to the following: JBLE BASH PLAN management; BHWG coordinator; monitors base wide compliance with applicable AFI; maintains appropriate wildlife damage management permits, maintains continuity folder, attends applicable meetings, liaison to on base and off base agency officials, and establishes BASH culture program.

(10) Training. USDA/WS will provide BASH training to BHWG representatives and/or organizations as necessary or upon request. BASH training is necessary to elevate BASH awareness and facilitate active participation within the BHWG. The training may include and is not limited to the following: overview of laws associated with wildlife management, wildlife identification and control, habitat management, seasonal BASH threats, and strike reporting.

e. Legal Authority.

(1) USDA is directed by law to protect American agriculture and other resources from damage associated with wildlife. APHIS has statutory authority under the Act of March 2, 1931 (46 Stat. 1468; 7 U.S.C.426-426b) as amended, and the act of December 22, 1987 (101 Stat. 1329-331, 7 U.S.C. 426c), to cooperate with states, local jurisdictions, individuals, public and private agencies, organizations, and institutions while conducting a program of wildlife service's involving mammal and bird species that are reservoirs for zoonotic diseases, or animal species that are injurious and/or a nuisance to, among other things, agriculture, horticulture, forestry, animal husbandry, wildlife, and human health and safety.

(2) WS Directive 2.305, Wildlife Hazards to Aviation, provides guidance for USDA/WS wildlife biologists in providing technical assistance or direct control to airport managers, state aviation agencies, the aviation industry, the FAA, and the DoD regarding hazards caused by wildlife to airport safety. WS activities are conducted in cooperation with other federal, state and local agencies, and with private organizations and individuals.

(3) The USDA/WS program is a non-regulatory, federal cooperative wildlife management program whose mission is to provide leadership in reducing conflicts between people and wildlife. WS has the primary responsibility for responding to threats caused by migratory birds. A growing focus of USDA/WS is to help promote the safe operation of aircraft by working with airport management to document, access and manage wildlife hazards at airports throughout the country.

(4) A MOU established a cooperative relationship between the DoD and USDA to resolve hazards to aviation by wildlife and to define the respective roles of the agencies in resolving wildlife hazards on airbases. This MOU recognizes that WS has the professional and technical knowledge to reduce wildlife hazards on or near airports, and it acknowledges that most airbases do not possess this expertise. Even though the airbase may work with USDA/WS to develop this plan or use a WHA to support the plan, it is the responsibility of the safety office (not USDA/WS) for the development, approval and implementation of the plan. AFPAM 91-212 provides guidance on the content and implementation of a BASH plan for an airbase.

(5) Interagency MOA (2003). The FAA, the USAF, the USACE, the USEPA, the USFWS, and the USDA/WS signed a MOA to acknowledge their respective missions in protecting aviation from wildlife hazards. Through the MOA, the agencies established procedures necessary to coordinate their missions to address more effectively existing and future environmental conditions contributing to collisions between wildlife and aircraft (wildlife

strikes) throughout the U.S. These efforts are intended to minimize wildlife risks to aviation and human safety while protecting the nation's valuable environmental resources.

APPENDIX 9 TO ANNEX A JBLE BASH PLAN
MAP AND CHARTS

1. General. This chapter outlines the use and requirements for the maps and charts required to implement the BASH program.

2. A BASH awareness map is included with this plan and displayed in the AM Operations mission planning room and squadron flight safety boards. This information is available from the wing's GeoBase office which is maintained by the 633 CES/CEPT.

a. This map is used to identify specific airfield (i.e. wetlands, ditches, woodlots, etc.) and surrounding habitats (i.e. refuges, nature preserves, lakes, landfills, storm sewer etc...) that are attractive to hazardous wildlife. Additionally, the BASH map may be used to plot local bird/wildlife aircraft strikes, wildlife hazard observations, and monitoring efforts.

b. Use the BASH map as a guide for the long-range civil engineering program to reduce actual and potential hazardous environmental factors at LAFB.

c. Pilots and schedulers should reference the BASH map during mission planning events to support bird/wildlife aircraft strike avoidance procedures.

3. BASH Data Charts and Tables.

a. The LAFB WHA conducted and prepared by USDA/WS provides several BASH related charts supporting this plan. Annual and quarterly WHMRs are conducted by means of systematic data collection through on-site observations, surveys, and reported incidents. Data analysis charts include strike incidents, wildlife surveys, wildlife control actions, and other BASH related trends or accomplishments.

b. WHMR(s) are considered an attachment to this plan and are maintained and distributed by 1 FW/SEF.

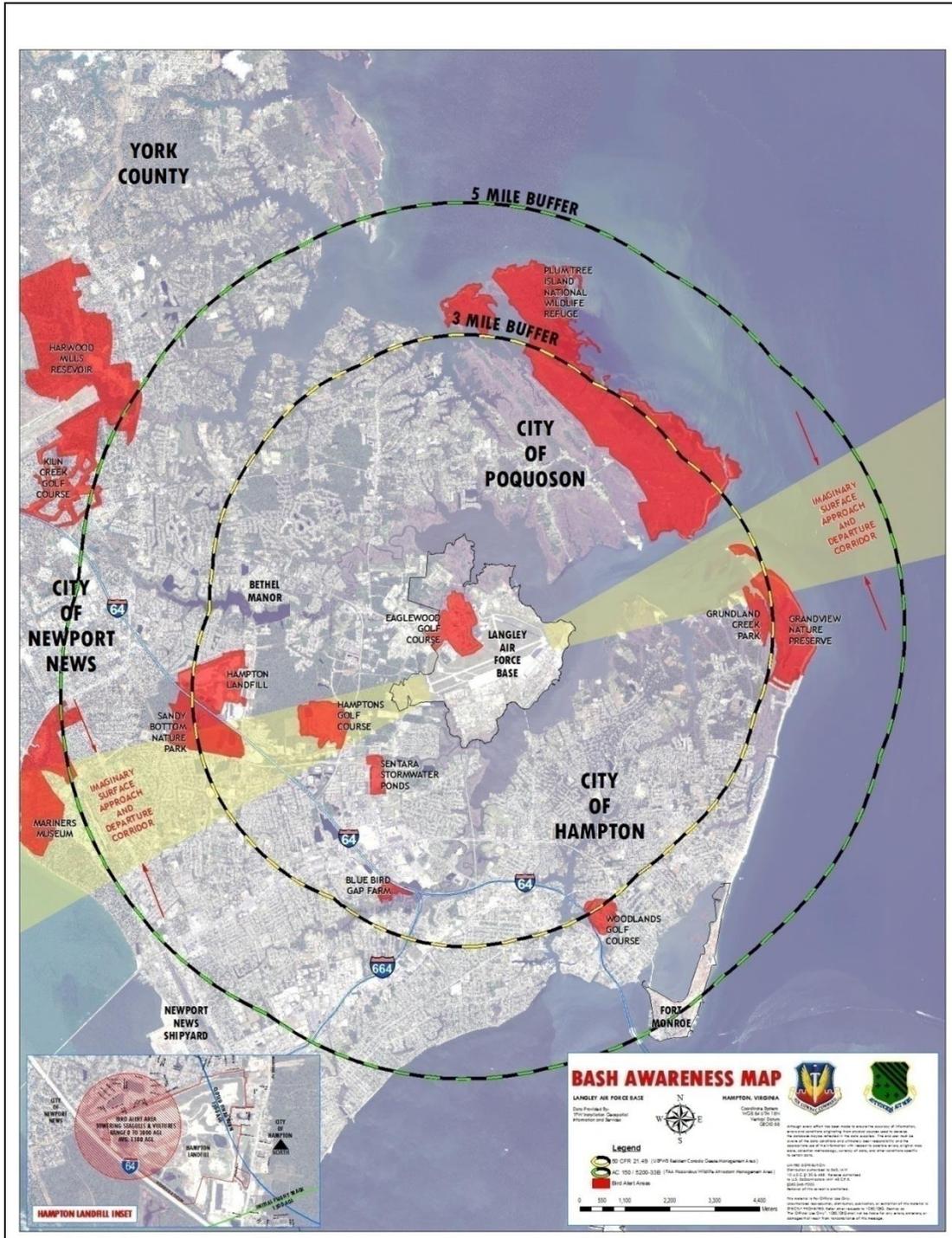
c. BHWG representatives are required to review and file WHMR.

d. Information provided in WHMR are used to chart seasonal BASH trends to determine Phase II periods and for display at AM operations mission planning room and squadron flight safety boards.

e. Pilots and schedulers should reference the charts during mission planning events to support bird/wildlife strike avoidance procedures.

TAB A TO APPENDIX 9 TO ANNEX A TO JBLE BASH PLAN
BASH AWARENESS MAP

FIGURE 3. LANGLEY AFB BASH AWARENESS MAP



ANNEX B TO JBLE BASH PLAN
FE BASH PLAN

1. Situation.

a. A significant bird/wildlife aircraft strike hazard exists at Felker Army Airfield (FAAF), Fort Eustis (FE), and its vicinity from resident and migratory bird species and large mammal populations. FE possesses approximately 100 miles of developed and undeveloped shoreline. Topography at FAAF is generally level with a maximum elevation of 11 feet above sea level. Fort Eustis constitutes approximately 7,800 acres. It contains approximately 2,700 acres of commercial forest land and approximately 3,600 acres of wetlands (Appendix 2). Wetland communities and ecosystems, used as habitat and navigational routes for waterfowl, exist on three sides of the airfield: the James River to the west, Warwick River to the east, and Morrison's Creek to the south. These habitats support migratory bird and wildlife populations directly on and adjacent to the airfield.

b. Current drainage schemes and the high water table exacerbate the situation by allowing water to collect in low-lying areas in the vicinity of the airfield. Compounding this problem is FAAF's geographic location, near the mouth of the Chesapeake Bay and in the middle of the Atlantic flyway with several million birds transitioning through this region during the spring/fall migration periods. Surrounding land uses and management practices also contribute to the occurrence of migratory birds and wildlife populations at FAAF. The FE Pines Golf Course, adjacent to FAAF, contains seven freshwater ponds totaling 5 acres and 200 acres of fairways and greens that attract resident and migratory Canada geese. The neighboring Hog Island WMA is managed to provide suitable habitat for resident and migratory birds/waterfowl to include Canada goose (*Branta canadensis*). Waterfowl and other birds from these areas frequent FAAF throughout the year. Managed recreational, commercial, and wildlife use areas located within 5 miles of the installation include several Newport News Parks, drinking and wastewater treatment facilities, and Hog Island WMA, all of which pose significant BASH concerns because they attract thousands of waterfowl and other bird species to the local area. The wildlife hazards associated with FE's wetland areas combined with the installation's geographic location and surrounding wildlife attractants present a formidable Bird-Aircraft Strike Hazard (BASH) risk for FAAF's flight operations. The FAAF BHWG charter focuses on identifying wildlife hazards and implementing subsequent solutions towards mitigating or removing risks associated with these hazards.

c. Phase I and Phase II BASH Periods.

(1) BASH Phase I is the time period during the year when little to no bird migration activity occurs. BASH Phase I is in effect from 01 December – 31 January and 01 April – 30 September. During BASH Phase I, BASH mitigation actions and activities will be per this plan and applicable BASH guidance which will be commensurate with the observed wildlife activity and inputs from 1 FW/SE and USDA/WS. Normal flight operations are expected during this Phase.

(2) BASH Phase II is the time period during the year when peak bird migration activity occurs. BASH Phase II is in effect from 01 February- 31 March and 01 October-30 November. During Phase II, the highest levels of daily wildlife activity normally occur +/- one hour of sunrise/sunset and cause a higher inherent BASH risk. This applies to airfield wildlife activity as well as wildlife activity at altitude to/from the airspace. 1 FW/SE, 1 OSS/OSFA, and USDA/WS will make every effort to increase the mitigation techniques to help reduce observed threats during Phase II.

(3) The BASH Phase I and II designation may be affected and adjusted slightly from year to year depending on seasonal weather changes and how they affect actual migratory bird movement. 1 OSS/OSFA will ensure Phase I and II periods, and any associated hazards, are published in the IFR Supplement. USDA/WS will make recommendations and mitigate threats based on these assessments using the appropriate methods as determined.

2. Mission. To minimize risk and impact of wildlife on flight operations.

a. The primary role of every military aviation facility is to ensure mission readiness and combat capability while providing the safest flying environment possible. Military airfields are artificially maintained environments designed specifically for the safe launch and recovery of aircraft. Proper habitat management on and surrounding military airfields will reduce the probability of wildlife strikes and provide an adequate safety margin for flight operations. While it is impossible to keep all wildlife away from the airfield environment, it is important to discourage habitats (availability of food, water, cover, and nesting) that directly or indirectly (increasing prey species) attract wildlife; attracting wildlife to an airfield is mutually detrimental to wildlife and mission capability (AFI 91-212).

b. Reducing the BASH at FAAF requires a cooperative effort between the 633 ABW (BOS-I) and the 1 FW (SAA). The OPR for coordinating Annex B to this BASH plan is the 1 OSS/OSFA.

3. Execution.

a. Bird Hazard Working Group (BHWG).

(1) Function. Collects, compiles and reviews data on bird strikes. Identifies and recommends actions to reduce hazards. Recommends changes in operational procedures. Prepares informational programs for aircrews and 1 OSS/OSFA AMOPS (AMOPS). Assists 1 OSS/OSFA by acting as a point of contact for external BASH issues (i.e., issues from agencies outside the installation).

(2) Composition. At a minimum, the group consists of a representative from 1 OSS/OSFA Airfield Manager (AFM), Airfield Safety Manager (AFSM), AMOPS, Air Traffic Control (ATC), 733 CED/CEIE (Pest Management, Natural Resources, and Grounds Maintenance), 733 SFS (Game Warden), USDA/WS, tenant and transient unit representatives, and representatives from other tasked organizations. Meetings are held quarterly in conjunction with the JBLE BASH Briefing, or at the call of the AFSM.

(3) Authority. The BHWG submits all recommendations to the 1 OSS/CC for approval. Implementation is through normal chain of command.

b. BASH Team.

(1) Function. The BASH Team is tasked with implementing a wildlife hazard monitoring program, response and mitigation of wildlife hazards, and disseminating information to all assigned and transient aircrews on wildlife hazards posed to aircraft operating at FAAF. Ensures personnel report all BASH activity on the airfield directly to the AFSM and USDA/WS. Ensures that all wildlife strikes are reported IAW (AFI 91-212; AFMAN 91-223). Ensures that wildlife hazards, Phase II, and current BWC are posted in the IFR Publications and airfield conditions board.

(2) Composition. The BASH Team is primarily made up of AFSM, AMOPS, ATC, 733 CED/CEIE, and USDA/WS.

(3) Authority. The FAAF BASH Team is designated by the BHWG and is responsible for identifying, monitoring, and mitigating BASH threats within the Senior Airfield Authority (SAA) depicted in Appendix 4. Tasked Organizations and Off Regulatory Contacts are noted in Appendix 1 to Annex B. Air Force Instructions and Manuals and references to outside agency recommendations for airfield safety, are noted in Appendix 2 to Annex B.

c. Wildlife Exclusion Zone (WEZ).

(1) Function. A Wildlife Exclusion Zone (Appendix 4) is a locally defined, airfield specific, area where a zero tolerance goal for hazardous wildlife is maintained. This area may encompass the Aircraft Movement Area and any additional habitat attractants (such as water treatment facilities, golf courses, and athletic fields) in proximity to the airfield and low-level flight corridors (such as final approach/departure, or training areas). The primary focus is to address wildlife issues and habitats that are outside of the normal wildlife concerns to FAAF. Wildlife observed within the WEZ are to be immediately removed, dispersed, or mitigated, the BWC increased as appropriate, and the situation monitored until the wildlife is no longer present within the WEZ.

(2) Authority. A WEZ will be defined, mapped (Appendix 4), and managed IAW AFI 91-212.

(3) Guild Exceptions to the WEZ. Due to the nature of airfield environments, properly maintained airfields, and BASH maintenance measures given in the BASH Plan and AFI 91-212, a zero tolerance objective is impractical for several guilds of wildlife at FAAF. These guilds often show limited response to dispersal stimuli, are often non-flocking in nature, and can be expected to occur even during LOW BWC. Guilds within this exception include grassland birds, woodland birds, aerial foragers, nocturnal birds, and bats.

d. Bird Watch Condition Codes (BWC).

(1) Function. IAW (AFI-91-212) BWCs are used for the immediate exchange of information between the BASH team and aircrews concerning the existence and location of birds that could pose a hazard to flight safety.

(2) Terminology. BWCs use the following terminology for rapid communications to disseminate bird activity information and implement unit operational procedures. Provide bird locations and approximate numbers with the condition code, when communication occurs between AMOPS, USDA, ATC, and AFSM.

(a) BWC LOW. Wildlife activity on and around the airfield is considered normal and low probability for wildlife strikes during normal flight operations.

(b) BWC MODERATE. Wildlife activity near the active runway or other specific location representing increased potential for strikes. For example, one or many groups of small birds flying across the runway, or one large bird loafing/towering in the runway pattern representing a potential strike hazard.

BWC Moderate requires increased vigilance by all agencies and caution by aircrews. Aircrews assume responsibility when operating under MODERATE advisory. A MODERATE advisory will recommend:

1. Formation takeoffs and approaches and landings should be avoided.

2. Considering potential risk of multiple approaches or closed traffic operations.

(c) BWC SEVERE. Wildlife activity on or immediately above the active runway or other specific location representing high potential for strikes. For example, wildlife are unresponsive to harassment techniques and will not leave the runway area. This could be a few large birds towering near the runway, or a large number of small birds loafing/foraging on the airfield during flight operations, both constituting a high probability for a strike. Command and aircrews must thoroughly evaluate mission necessity before conducting operations in areas under condition SEVERE, and assume responsibility when operating under SEVERE advisory. A SEVERE advisory will recommend:

1. Operations be temporarily limited to departures and arrivals only.

2. Avoiding formation takeoffs, approaches and landings.

3. Suspending fixed wing operations until BWC has been reduced.

4. Suspending unnecessary flight operations until BWC has been reduced.

(3) Communications. FAAF ATC will advise all participating aircraft of any BWC above LOW. When declaration of BWC MODERATE or SEVERE is made, BASH team personnel will post the BWC on airfield conditions board and notify all aircrews filing flight plans, and initiate appropriate mitigation efforts.

(a) ATC will notify AMOPS anytime the BWC has changed, as well as aircraft operating in the airspace until BWC has been downgraded to LOW.

(b) BASH team members will notify ATC anytime they change BWC.

(c) BASH Team members will notify the airfield manager of bird conditions MODERATE or SEVERE.

(d) Upgrading of BWC advisories will include:

1. Approximate number of wildlife.
2. Activity of wildlife.
3. Type of wildlife.
4. Location of wildlife hazard. FAAF is separated into 3 regions for this purpose: 1) Helipad, 2) Runway, and 3) Sling Load Training Area.
5. Wildlife response, or non-response, to dispersal efforts.

(4) Authority. AMOPS, USDA or ATC have authority to raise the BWC, but must notify the AFSM or AFM as soon as possible. A BWC increase may be determined based on information relayed by airborne aircraft, observations made by or relayed to AMOPS by airfield support personnel, or observations made by unit flight operations, or unit Aviation Safety Officers. An official downgrade of the BWC will be authorized by the AFSM, AFM, only, or in their absence, the AMOPS Manager.

e. Tasks and Responsibilities.

- (1) 1 FW/CC. Directs and funds execution of this Plan.
- (2) 1 OSS/CC. Approves recommendations of BHWG and attends quarterly BHWG meetings.
- (3) 1 OSS/OSFA AFM.

(a) Issues guidance concerning implementation of this Plan, makes operational recommendations to avoid areas and times of known hazardous wildlife and considers the following options during times of increased wildlife activity:

1. Adjusting traffic patterns
2. Advising against formation takeoffs and landings
3. Recommending traffic pattern departures in trail
4. Recommending full-stop landings when necessary

(b) Requests funding for purchase, maintenance, and repair of wildlife mitigation devices.

(c) Requests funding for airfield projects targeted at reducing wildlife hazards to aircraft at FAAF.

(4) 1 OSS/OSFA AFSM. Is the OPR for management and updating of this Plan, and will:

(a) Attend quarterly BHWG meetings and hosts quarterly FAAF Safety Council meetings, and is the primary member of the BASH team.

(b) Provide recurring BASH training to BASH Team personnel annually.

(c) Ensure that all personnel report wildlife strikes, ensures strike data is collected IAW AFI 91-212 on Form AF IMT 853 (Appendix 6), ensures strike remains are collected and sent to the Smithsonian for Identification, and tracks trends in wildlife strikes and reporting rates at FAAF.

(d) Establish a BASH awareness program at FAAF and ensures that observation, mitigation, and communication of wildlife hazards are documented, tracked and disseminated.

(e) Remain listed on all Federal, State, and Local permits and SOPs regarding the lethal removal, harassment, and monitoring of Wildlife in regards to FAAF (Appendix 12).

(f) Ensure that FAAF is maintained IAW with this Plan and AFI 91-212, as to not increase attractiveness to wildlife.

(g) Is involved in Felker airfield and base planning sessions, and will provide input IAW with this Plan and AF 91-212 to installation planners and contractors, and communicate potential hazards caused by these activities to the proper contacts.

(5) 1 OSS/OSFA AMOPS. Is the primary agency responsible for, dissemination and communication of current BASH threats, updating IFR publications, updating airfield conditions board, and mitigating hazardous wildlife threats in the absence of USDA/WS.

(a) Maintains current BASH log (Appendix 5) for FAAF and provides input to AFSM when tracking trends of wildlife strikes and hazards. Example data sheets for monitoring and control of wildlife are provided in Appendices 7, 8, and 9.

(b) Issues advisories to crews filing flight plans at times of increased BWC or during Phase II (migration). Anticipates and advises aircrews of delays caused by wildlife or BASH team mitigation efforts.

(c) Ensures that AFSM and USDA/WS are notified when wildlife strikes occur or Animal Foreign Object Debris (AFOD) is found on the airfield. Collects strike report data and wildlife remains (referred to as Snarge) (Appendix 5) and provides them to AFSM or USDA/WS.

(d) Ensures that AFSM and USDA/WS are notified when BWC are upgraded or downgraded.

(e) Reviews BASH potential with AFSM and USDA/WS on new or proposed changes to flight operations areas.

(f) Maintains, stores and utilizes wildlife dispersal devices and firearms in accordance with AFM instruction (Appendices 10-14).

(g) In conjunction with AFSM, USDA/WS, inspects the airfield at least weekly for any conditions, which may attract birds/wildlife.

(6) 1 OSS/OSFA ATC. Operates as overall coordinating agent for BWC advisories and delay or diversion of controlled aircraft based on bird activity.

(a) Provides advisories to all aircrews on the ground and in the traffic pattern of the new BWC and advises aircrews on initial contact of BWC MODERATE or SEVERE.

(b) Continually observes the airfield environment for bird/wildlife hazards while on duty. If a hazardous bird/wildlife condition is spotted, ATC Controller in Charge will elevate the BWC, using their professional judgment, based on guidance in this Plan and AFI 91-212.

(c) Immediately notifies AMOPS of changes in BWC. For BWC SEVERE, immediately contacts the airfield manager for guidance on airfield status. Logs bird/wildlife activity in the BASH Log located in the ATC shared drive and Appendix 5 of this Annex. Indicates whether a responsible authority was notified or not available.

(d) Provides BASH Team access to the runway under bird watch conditions MODERATE or SEVERE as required. Logs the appropriate BWC and any changes thereafter.

(7) CED/CEIE.

(a) Provides technical assistance regarding environmental laws and permitting guidance regarding the INRMP, and coordinates biodiversity efforts through AFSM IAW AFI 91-212 so that potential BASH changes can be discussed.

(b) Ensures that land use and biodiversity plans do not include Aircraft Movement Areas and will not increase BASH threats to FAAF (AFI 91-212).

(c) Provides copies of installation wildlife surveys and related information to 1 FW/USDA-WS.

(d) Staffs INRMP revisions and Annual INRMP Review Summaries with 1FW/USDA.

(e) Obtains migratory bird depredation and bald eagle permits and coordinates these permits with 1FW/USDA.

(f) Provides integrated pest management support as it relates to BASH.

(8) Unit Assigned Safety Officers. Ensure all personnel receive BASH training IAW agency requirements and brief aircrews on seasonal bird/wildlife hazards from information requested from, or provided by, AFSM or USDA/WS.

(a) Attends Quarterly Airfield Safety Council meetings at the request of AFSM.

(b) Ensures aircrew and maintenance personnel report (Appendix 6) all discovered bird/wildlife strikes on aircraft to AFSM or USDA/WS. Ensure all bird remains are preserved for identification by USDA/WS. Even the smallest fragment of feather (down) can provide enough information for a positive identification

(c) Ensures personnel report all hazardous bird/wildlife activity on the airfield directly AMOPS, AFSM, or USDA/WS.

(9) USDA/WS. Will be operationally controlled by 1 FW Chief of Safety, administratively controlled by the USDA/WS senior representative assigned at JBLE, and act as the primary airfield BASH team member while fulfilling duties IAW the Interagency Agreement between 1 FW and USDA/WS.

(a) USDA/WS daily activities will be IAW this plan and associated SOPs. The 1 FW Chief of Safety will be the final authority should any dispute arise between the parties in relation to BASH procedures. At no time will coordination between the parties take precedence over safety of flight.

(b) Provides representative to the BHWG and generates quarterly wildlife harassment, take, and survey data for BHWG. Provides recommendation and supporting data for renewal of all Federal and State depredation permits (Appendix 12). Example data sheets are given in Appendices 7, 8, and 9.

(c) When necessary, USDA/WS will be authorized to use firearms for the lethal take of hazardous wildlife species on Ft. Eustis IAW FAAF Firearms SOP signed AUG 2015 (Appendix 11). Coordination through 733 CED/CEIE, 733 SFS, and various agencies will be IAW protocols determined between those agencies and USDA/WS.

(d) Prevents wildlife hazards to aircraft, by using appropriate trapping, exclusion, or deterrent methods. If necessary, wildlife will be humanely euthanized using American Veterinary Medical Association approved methods.

(e) Employs bird/wildlife dispersal measures and will be the overall coordinating agency for on-airfield bird/wildlife control. When necessary, employ pyrotechnics (Appendix 10), bioacoustics, and other wildlife dispersal devices to move wildlife that pose a hazard to aircraft operations

(f) Conducts BASH surveys, compiles strike data, analyzes wildlife control and BASH Log data for trends, investigates land use and habitat changes that impact wildlife, and summarizes all data into monthly BASH Insights, quarterly BASH briefs and an Annual BASH Review.

(g) In conjunction with AMOPS and AFSM, inspects the airfield at least weekly for any conditions, which may attract birds/wildlife and recommends landscape management or wildlife mitigation practices to reduce BASH potential.

(h) Attends airfield and installation planning sessions on behalf of AFM to be aware of installation maintenance projects, construction, and land use changes and recommend best practices to reduce BASH potential.

(i) Coordinates BASH mitigation outside of SAA with CED/CEIE IAW Fort Eustis INRMP and the coordination memo (FE INRMP 2019).

(j) Provides quarterly AOB/BASH and FAAF Safety Council and annual USDA reports for activities performed at Fort Eustis to CED/CEIE.

(k) Coordinates with CED/CEIE for any pest management requirements related to BASH.

(l) Provides copies USDA/WS surveys performed at JBLE-E with CED/CEIE.

4. Command and Signal. The guidance in the above Annex is specific to Felker Army Airfield and is incorporated into quarterly joint safety meetings at Langley AFB and Felker AAF that are chaired by the 1 FW/CC and AFSM respectively. Questions regarding Annex B of the JBLE BASH Plan should be directed to AFM or AFSM.

APPENDIX 1 TO ANNEX B TO JBLE BASH PLAN
TASKED ORGANIZATIONS

1 FW/CC
1 FW/CV
1 FW/SE
1 OG/CC
1 OG/OGV
1 OSS/CC
1 OSS/OSFA AFM
1 OSS/OSFA AFSM
1 OSS/OSFA AMOPS
1 OSS/OSFA ATC
733 CED/CEIE
Unit Assigned Safety Officers
USDA/WS

Local Off-base Assistance

USFWS
Migratory Bird Permit Office
P.O. Box 779
Hadley, MA 01035-0779
(413) 253-8673

USDA/WS
Virginia State Office
P.O. Box 130
Moseley, VA 21312
(804) 739-7739

USFWS
Virginia Field Office
6669 Short Lane
Gloucester, VA 23061
(804) 693-6694

VDGIF
Region 1 Office
3801 John Tyler Memorial Highway
Charles City, VA 23030
(804) 289-6580

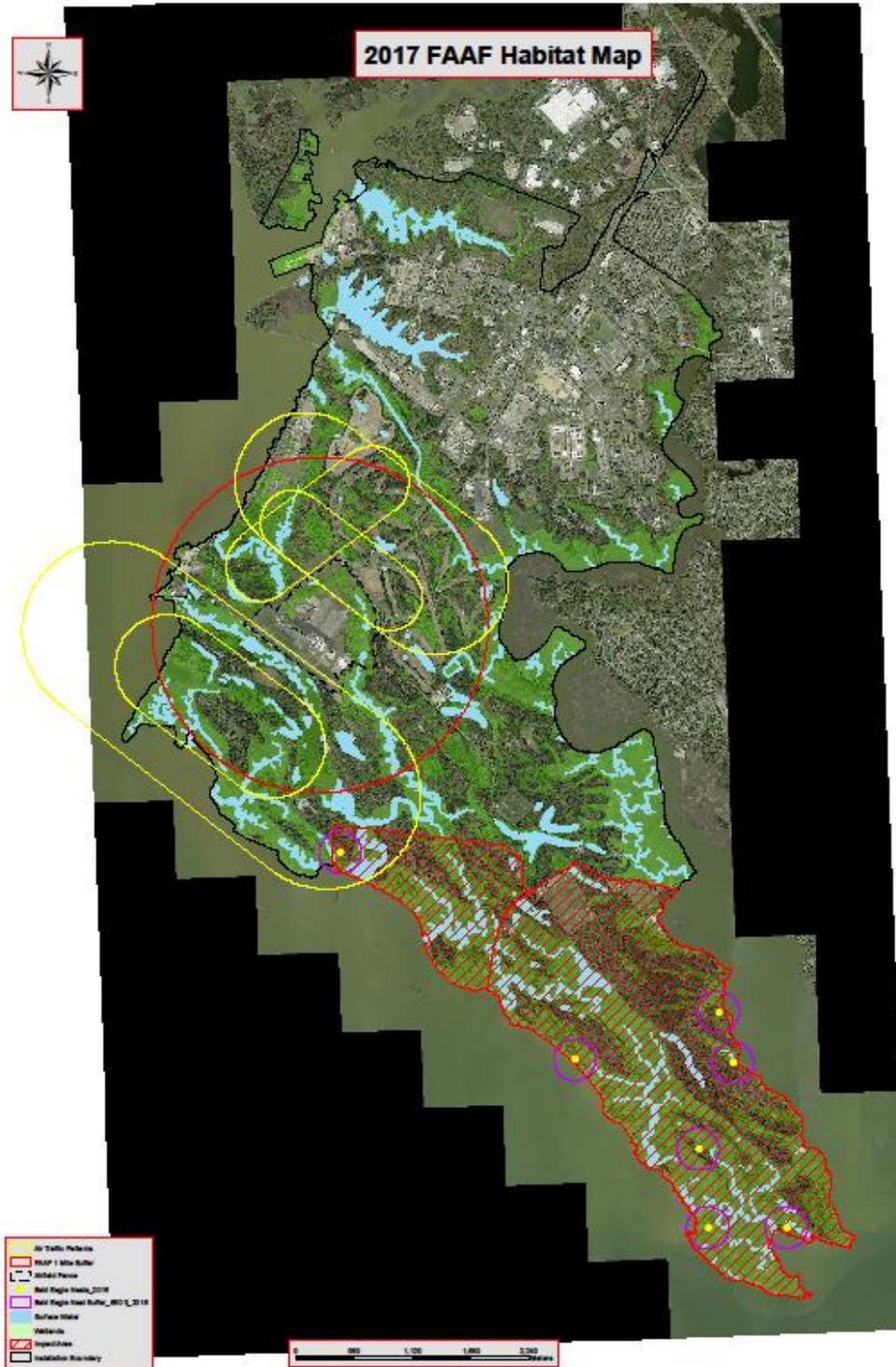
APPENDIX 2 TO ANNEX B TO JBLE BASH PLAN
REFERENCES BY TYPE

1. Bird Strike Reporting and Remains Collection.
 - a. AFI 91-212
 - b. AFMAN 91-223
2. Bird Watch Condition Code (BWC).
 - a. AFI 91-202
 - b. AFI 91-212
3. Habitat Management.
 - a. AFI 32-7064
 - b. AFI 91-212
 - c. FAA AC 150/5200-33C
4. Hazard/Mishap Reporting and Abatement.
 - a. AFI 91-202
 - b. AFI 91-204
 - c. AFMAN 91-223
5. Hazardous Wildlife.
 - a. AFI 91-212
 - b. FAA AC 150/5200-33C
 - c. FAAF Annual BASH Review FY 2017
 - d. 1 FW Annual BASH Review FY 2017
6. Interagency Agreement with USDA Wildlife Services.
 - a. AFI 91-212

- b. FAA AC 150-5200-33C
- 7. Land-Use Practices on/near Airports. FAA AC 150/5200-33C
- 8. Regulatory Requirements.
 - a. AFI 32-7064
 - b. Code of VA Title 29
 - c. FAA Wildlife Hazards Management at Airports
 - d. FE INRMP Signed 2019
 - e. USAF Environmental Impact Analysis Process (AFI 32-7061)
 - f. 42 USC
 - g. 50 CFR
- 9. Wildlife Exclusion Zone (WEZ). AFI 91-212

APPENDIX 3 TO ANNEX B TO JBLE BASH PLAN
HABITAT MAP

FIGURE 4. FELKER AAF HABITAT MAP



APPENDIX 4 TO ANNEX B TO JBLE BASH PLAN
WILDLIFE EXCLUSION ZONE (WEZ) AND SENIOR AIRFIELD AUTHORITY
(SAA) MAP

FIGURE 5. WILDLIFE EXCLUSION ZONE (WEZ) AND SENIOR AIRFIELD AUTHORITY
AUTHORITY (SAA) MAP



APPENDIX 6 TO ANNEX B TO JBLE BASH PLAN
STRIKE REPORT DATA SHEET

FIGURE 7. AF IMT 853, AIR FORCE WILDLIFE STRIKE REPORT

AIR FORCE WILDLIFE STRIKE REPORT		
1. UNIT--WING/SQUADRON	7c. LOW-LEVEL ROUTE <input type="checkbox"/> INSTRUMENT ROUTE IR <input type="checkbox"/> SLOW ROUTE SR <input type="checkbox"/> VISUAL ROUTE VR <input type="checkbox"/> UNKNOWN OTHER:	14. PHASE OF OPERATION (cont) <input type="checkbox"/> LANDING TRAFFIC PATTERN <input type="checkbox"/> LANDING FLARE ROLLOUT <input type="checkbox"/> MISSED APPROACH/TOUCH & GO <input type="checkbox"/> OTHER
2. AIRCRAFT (alphanumeric designation)	8. STRIKE AWARENESS IN FLIGHT <input type="checkbox"/> YES <input type="checkbox"/> NO <input type="checkbox"/> UNKNOWN	15. BIRD AVOIDANCE MODEL <input type="checkbox"/> UNKNOWN <input type="checkbox"/> NO REPORT <input type="checkbox"/> LOW <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE
3. TAIL NUMBER/REGISTRATION	9. LATITUDE (DDMM.M) N S	16. BIRD WATCH CONDITIONS <input type="checkbox"/> UNKNOWN <input type="checkbox"/> NO REPORT <input type="checkbox"/> LOW <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE
4. DATE (dd mmm yyyy)	10. LONGITUDE (DDMM.M) E W	17. WILDLIFE STRUCK <input type="checkbox"/> UNKNOWN <input type="checkbox"/> NONE <input type="checkbox"/> ONE <input type="checkbox"/> 2-11 <input type="checkbox"/> 11-100 <input type="checkbox"/> MORE THAN 100
5. TIME (local)	11. EFFECT ON FLIGHT <input type="checkbox"/> UNKNOWN <input type="checkbox"/> ABORTED TAKE-OFF <input type="checkbox"/> ENGINES SHUTDOWN <input type="checkbox"/> NONE <input type="checkbox"/> OTHER <input type="checkbox"/> PRECAUTIONARY LANDING	18. AVIAN HAZARD ADVISORY SYSTEM <input type="checkbox"/> UNKNOWN <input type="checkbox"/> NO REPORT <input type="checkbox"/> LOW <input type="checkbox"/> MODERATE <input type="checkbox"/> SEVERE
6. DAILY PERIOD <input type="checkbox"/> UNKNOWN <input type="checkbox"/> DAWN <input type="checkbox"/> DAY <input type="checkbox"/> DUSK <input type="checkbox"/> NIGHT	12. SPEED (KIAS)	19. REMARKS ON LOCATION
7a. AIRPORT NAME ICAO HOST ID (FAA IDENT) RUNWAY OTHER	13. ALTITUDE (ft AGL)	
7b. SPECIAL USE AIRSPACE <input type="checkbox"/> ALERT <input type="checkbox"/> DANGER <input type="checkbox"/> MILITARY OPERATIONS AREA <input type="checkbox"/> PROHIBITED <input type="checkbox"/> RESTRICTED <input type="checkbox"/> TEMPORARY RESERVED AIRSPACE <input type="checkbox"/> RESTRICTED <input type="checkbox"/> UNKNOWN NAME:	14. PHASE OF OPERATION <input type="checkbox"/> UNKNOWN <input type="checkbox"/> PARKED <input type="checkbox"/> TAXIING <input type="checkbox"/> TAKEOFF ROLL <input type="checkbox"/> TAKEOFF INITIAL CLIMB <input type="checkbox"/> CRUISE CLIMB <input type="checkbox"/> CRUISE <input type="checkbox"/> CRUISE LOW LEVEL <input type="checkbox"/> RANGE OPS <input type="checkbox"/> CRUISE DESCENT <input type="checkbox"/> HOVER <input type="checkbox"/> LANDING FINAL APPROACH	

AF IMT 853, 20051015, V2

AIR FORCE WILDLIFE STRIKE REPORT																																																																																														
<p>20. COST ESTIMATE</p> <p><input type="checkbox"/> NOT APPLICABLE</p> <p><input type="checkbox"/> ESTIMATED COST(<i>not yet known</i>)</p> <p><input type="checkbox"/> ACTUAL COST</p> <p>\$ _____</p> <hr/> <p>21. CLASS</p> <p><input type="checkbox"/> CLASS A <input type="checkbox"/> CLASS C</p> <p><input type="checkbox"/> CLASS B <input type="checkbox"/> CLASS E</p>	<p>23. REMAINS FOUND</p> <p><input type="checkbox"/> YES, remains found on aircraft</p> <p><input type="checkbox"/> YES, remains found on runway <i>(aircraft struck known)</i></p> <p><input type="checkbox"/> YES, remains found on runway <i>(aircraft struck unknown)</i></p> <p><input type="checkbox"/> NO</p> <hr/> <p>24. DATE REMAINS SENT TO SMITHSONIAN INSTITUTION <i>(dd mmm yyyy)</i></p> <p>_____</p>	<p>26. SHIPPING WILDLIFE REMAINS</p> <p>IAW AFMAN 91-223, 5.4.2, feather remains from every bird strike (if available) must be sent to the Smithsonian National Museum of Natural History for identification. Send feathers or feather fragments and a copy of the corresponding AFSAS report to:</p> <p>Smithsonian Institution Feather Identification Lab NHBE 610 MRC 116 PO BOX 37012 Washington, DC 20013-7012</p>																																																																																												
<p>22. IMPACT POINTS <i>(description of impact points and struck or damaged; if list is not representative of the strike, please explain in the remarks section)</i></p> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 80%;"></th> <th style="width: 5%; text-align: center;">S</th> <th style="width: 5%; text-align: center;">D</th> </tr> </thead> <tbody> <tr><td>UNKNOWN</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 1</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 2</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 3</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 4</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 5</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 6</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 7</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>INSIDE ENGINE 8</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 1</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 2</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 3</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 4</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 5</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 6</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 7</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OUTSIDE ENGINE 8</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>FUSELAGE/ANTENNA/SKIN</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>RADOME/NOSE</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>WINDSHIELD/CANOPY</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>WINDSHIELD PENETRATION</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>TAIL/STABILIZER/RUDDER</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>WEAPONS/MISSILE POD</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>LANDING GEAR</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>LIGHTS</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>WING/ROTOR</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>FUEL TANKS</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>PROPELLER</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>ECM PODS/PYLONS</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> <tr><td>OTHER</td><td style="text-align: center;"><input type="checkbox"/></td><td style="text-align: center;"><input type="checkbox"/></td></tr> </tbody> </table>		S	D	UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 1	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 2	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 3	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 4	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 5	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 6	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 7	<input type="checkbox"/>	<input type="checkbox"/>	INSIDE ENGINE 8	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 1	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 2	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 3	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 4	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 5	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 6	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 7	<input type="checkbox"/>	<input type="checkbox"/>	OUTSIDE ENGINE 8	<input type="checkbox"/>	<input type="checkbox"/>	FUSELAGE/ANTENNA/SKIN	<input type="checkbox"/>	<input type="checkbox"/>	RADOME/NOSE	<input type="checkbox"/>	<input type="checkbox"/>	WINDSHIELD/CANOPY	<input type="checkbox"/>	<input type="checkbox"/>	WINDSHIELD PENETRATION	<input type="checkbox"/>	<input type="checkbox"/>	TAIL/STABILIZER/RUDDER	<input type="checkbox"/>	<input type="checkbox"/>	WEAPONS/MISSILE POD	<input type="checkbox"/>	<input type="checkbox"/>	LANDING GEAR	<input type="checkbox"/>	<input type="checkbox"/>	LIGHTS	<input type="checkbox"/>	<input type="checkbox"/>	WING/ROTOR	<input type="checkbox"/>	<input type="checkbox"/>	FUEL TANKS	<input type="checkbox"/>	<input type="checkbox"/>	PROPELLER	<input type="checkbox"/>	<input type="checkbox"/>	ECM PODS/PYLONS	<input type="checkbox"/>	<input type="checkbox"/>	OTHER	<input type="checkbox"/>	<input type="checkbox"/>	<p>25. ADDITIONAL REMARKS</p> <p>Send as much material as possible to include feet, beak, wing, tail, breast, and back feathers. For wildlife strikes other than birds, send samples of skin, fur, teeth, other non-fleshy remains, or a picture if possible, along with the corresponding AFSAS report to the Smithsonian for identification.</p> <p>In the event that remains are found on the runway as the result of a suspected strike, they should also be sent to the Smithsonian.</p> <p>For overnight shipping of a specimen, wrapping the remains in newspaper and freezing it entirely should be adequate. If you collect a whole bird carcass, freeze it per the above instructions and contact the Smithsonian at (202) 633-0801 to see if they could use the specimen in their collection. For overnight shipping send the remains to:</p> <p>Smithsonian Institution Feather Identification Lab ATTN: Dr. Carla Dove NHBE 610 MRC 116 10th and Constitution Ave NW Washington DC 20560</p>
	S	D																																																																																												
UNKNOWN	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 1	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 2	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 3	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 4	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 5	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 6	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 7	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
INSIDE ENGINE 8	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 1	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 2	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 3	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 4	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 5	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 6	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 7	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OUTSIDE ENGINE 8	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
FUSELAGE/ANTENNA/SKIN	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
RADOME/NOSE	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
WINDSHIELD/CANOPY	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
WINDSHIELD PENETRATION	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
TAIL/STABILIZER/RUDDER	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
WEAPONS/MISSILE POD	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
LANDING GEAR	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
LIGHTS	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
WING/ROTOR	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
FUEL TANKS	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
PROPELLER	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
ECM PODS/PYLONS	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												
OTHER	<input type="checkbox"/>	<input type="checkbox"/>																																																																																												

AF IMT 853, 20051015, V2 (REVERSE)

APPENDIX 10 TO ANNEX B TO JBLE BASH PLAN
PYROTECHNIC USAGE

1. Situation. United States Department of Agriculture (USDA), Wildlife Services (WS) has been contracted by 1 FW to conduct Bird Aircraft Strike Hazard (BASH) mitigation at Felker Army Airfield (FAAF). In accordance with USFWS permit MB237450-0, purposeful eagle take for safety and eagle nest take, monitoring and harassment is a condition of the programmatic permit to remove inactive eagle nests within 1 mile of FAAF and prevent future nesting attempts within 1 mile.

2. Mission. USDA will use 15mm pyrotechnic Bird Bangers and Screamer Sirens; launched from a starter pistol using 6mm blanks. USDA will also use paintballs launched from paintball marker using compressed air or CO2. USDA will use paintballs and pyrotechnic within 1 mile of the airfield for all permitted species as defined from: 1) Gold Picnic Area on Harrison Road, south to the James River Reserve Fleet parking lot. 2) Mulberry Island Rd between Back River Rd and Klingenhaden Rd; including Back River Rd and Klingenhaden Rd.

3. Coordination. USDA will contact Military Police prior to discharging pyrotechnics outside of the SAA. USDA will be in a pick-up truck marked with "USDA" on the doors; government issued license plates, and will have an amber beacon on the vehicle. All USDA employees will be wearing USDA marked uniforms.

APPENDIX 11 TO ANNEX B TO JBLE BASH PLAN
FIREARMS SOP

1. Situation: A Wildlife Hazard Assessment (WHA) was conducted at Felker Army Airfield (FAAF) by the United States Department of Agriculture (USDA), Animal and Plant Health Inspection Service, Wildlife Services Program (WS), March 2012 through February 2013. The WHA documented results of a 12-month ecological study of birds and mammals inhabiting the airfield and surrounding environments, evaluated wildlife strike potential, and provided management recommendations to mitigate the presence of hazardous wildlife. This WHA will be used as a basis for developing a comprehensive bird/airstrike hazard (BASH) plan at FAAF. The WHA also documented safety threats on the airfield including but not limited to bald eagles, white-tailed deer, vultures, starlings, gulls, and Canada geese. To assist FAAF in mitigating these threats to aircraft, the 1 FW expanded its agreement with USDA to establish USDA personnel at FAAF, to establish a BASH working group, and to conduct wildlife damage management operations. Wildlife damage management operations at FAAF require the use of rim fire rifles, pellet rifles, center fire rifles, and shotguns, and specially trained personnel to plan and implement such operations. All participating personnel within the Virginia Wildlife Services (WS) program will have obtained Advanced Firearms Training and/or Sharpshooter Certification. This Standard Operating Procedures Document (SOP) serves as a working guide to aide personnel in planning and implementing safe, efficient, and effective wildlife management operations at FAAF, and enhancing communication regarding these operations.

2. Mission: Maintaining safe shooting operations requires comprehensive knowledge of the area in which the operation will take place. All WS personnel participating in the operation will become familiar with the site prior to firearms use. This familiarization will aid in maintaining situational awareness at all times. Site evaluation will include the analysis of aerial photography and topography maps if available to identify safe firing zones. Additional ground surveys during daylight hours as well as nighttime hours should be conducted to further identify areas that may be potentially unsafe for shooting. A modified map with zones labeled safe for shooting will be created and available prior to any shooting operation and as a reference during the operation.

3. Communications: Air Traffic Control (ATC) and Airfield Management Operations (AMOPS) must approve firearms discharge within SAA. Coordination must be made with Range Control (RC) prior to discharging firearms within training areas, or in areas of the SAA where rounds may enter training areas. Areas outside of the SAA that will not impact training areas will be addressed through CED/CEIE-Conservation Branch and a separate site evaluation will be addressed for each location. WS will address firearms safety for these locations with CED/CEIE, Military Police, and other parties of interest

for that location. Firearm selection in these areas will be congruent with those listed the SOP.

APPENDIX 12 TO ANNEX B TO JBLE BASH PLAN
EXAMPLE PERMITS

FIGURE 11. OFFICIAL WILDLIFE KILL PERMIT



CAD # CFS1812046206

OFFICIAL WILDLIFE KILL PERMIT
Virginia Department of Game and Inland Fisheries



DEPARTMENT OF
**GAME & INLAND
FISHERIES**
CONSERVATION AND RECREATION

Ver.2018.7

To Whom It May Concern

Permission is hereby grant to: JBLE-FELKER ARMY AIRFIELD 757-209-1201 A.PRIESTLEY@USDA
Name (landowner, lessee or airport) Telephone # E-Mail

2408 CONDON ROAD FT.EUSTIS // NEWPORT NEWS VA 23604
Address City State Zip

and those persons named below: (State law prohibits persons convicted of wildlife violations from being designated as a shooter or carrying out the authorized activity for the landowner/lessee).

USDA PERSONNEL// ADAM PRESTLEY, JAMES CARR, JOSEPH GENTRY, ERIN SMITH

To Kill: ANY Species: Deer Antler/Antlerless List Species for Airport DEER, TURKEY
(Quantity)

damaging the property of FT. EUSTIS AIRFIELD in NEWPORT NEWS
County or City

for the period from 12/1/2018 to 11/30/2019

Time Restrictions: N/A

Damage control is limited to the location described below or on the attachment. No one except those listed on this permit may assist or be present during the damage control activities. Additionally, the landowner/lessee acknowledges that all damage control operations will comply with local firearm ordinances. This permit authorizes the killing of wild animals pursuant to Section 29.1-516, and 29.1-529 of the Code of Virginia. Unless otherwise authorized on this permit, deer killed on this permit must be antlerless. Permit must be carried and available for inspection during damage control activities.

Has the landowner/lessee been issued a kill permit previously on the requested parcel? Yes No
Has the parcel been hunted in the previous hunting season for deer or bear? Yes No
How does the landowner/lessee plan to dispose of the carcass(es) (Required within 24 hours after killing a deer or bear)
Burial Personal Use Charitable Organization Other: _____
Upon request and receipt the landowner/lessee agrees to the conditions of this permit and understands that failure to comply with these conditions may lead to its revocation or criminal prosecution.

JOSHUA JOYCE #156
Department Authorizing Agent

12/14/2018
Date

<p>1. Describe the type of damage or hazard in space below HAZARD TO AIRCRAFT AT FELKER AIRFIELD</p> <p>2. Area type: AIRFIELD <input type="checkbox"/> <input type="checkbox"/></p> <p>3. Type of crop/fruit trees/livestock/other: _____</p> <p>4. Total acres in property/parcel: <u>17.5</u></p> <p>5. Total acres of damage within property / parcel: <u>0</u></p> <p>6. Total acres of crop/orchard: <u>0</u></p> <p>7. Total number of animals killed under this permit: _____</p> <p>8. Complete if this permit is for deer:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Antlered Bucks</td> <td style="width: 33%;">Button Bucks</td> <td style="width: 33%;">Does</td> </tr> <tr> <td> </td> <td> </td> <td> </td> </tr> </table> <p>9. DCAP Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p> <p>E-mail to - Sergeant, Lieutenant, Region Secretary, Ruth Fitzgerald</p>	Antlered Bucks	Button Bucks	Does				<p>Description and/or map of control area:</p> <p>PERMIT CONTROL OF DEER AND TURKEY IS LIMITED TO THE SENIOR AIRFIELD AUTHORITY OF JBLE-FELKER ARMY AIRFIELD</p>
Antlered Bucks	Button Bucks	Does					

FIGURE 12. DEPREDATION AT AIRPORTS



Permit Number: MB074587-0
Effective: 01/01/2019 Expires: 12/31/2019

Issuing Office:

Department of the Interior
U.S. FISH AND WILDLIFE SERVICE
Migratory Bird Permit Office
300 Westgate Center Drive
Hadley, MA 01035-0779
Tel: 413-253-8643 Fax: 413-253-8424

Randy Dettmers
Acting
CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 5

Permittee:

JOINT BASE LANGLEY-EUSTIS
ATTN: JAMES DOLAN, WILDLIFE BIOLOGIST
733D MSG/CED/EE
1407 WASHINGTON BLVD.
FORT EUSTIS, VA 23604
U.S.A.

Name and Title of Principal Officer:

JAMES DOLAN - CHIEF--NATURAL RESOURCES

Authority: Statutes and Regulations: 16 USC 703-712; 50 CFR Part 13, 50 CFR 21.41.

Location where authorized activity may be conducted:

Felker Army Airfield, Fort Eustis (Join Base Langley-Eustis), VA

Reporting requirements:

- 1) Annual Report is due with next renewal. Report forms can be found at: <http://www.fws.gov/forms/3-202-9.pdf>.
- 2) Supplemental Report on the relative success of any trapping and relocation efforts per condition (K) of this permit is due with next renewal.

Authorizations and Conditions:

A. General conditions set out in Subpart B of 50 CFR 13, and specific conditions contained in Federal regulations cited above, are hereby made a part of this permit. All activities authorized herein must be carried out in accord with and for the purposes described in the application submitted. Continued validity, or renewal of this permit is subject to complete and timely compliance with all applicable conditions, including the filing of all required information and reports.

B. The validity of this permit is also conditioned upon strict observance of all applicable foreign, state, local tribal, or other federal law.

C. Valid for use by permittee named above

D. You are authorized to take, temporarily possess, and transport the migratory birds specified below to relieve or prevent injurious situations impacting public safety. All take must be done as part of an integrated wildlife damage management program that emphasizes nonlethal management techniques, where practical and effective. Lethal take is not to be the primary means of control. Active hazing, harassment or other non-lethal techniques must continue in conjunction with any lethal take of migratory birds. You may not use this authority for situations in which migratory birds are merely causing a nuisance.

(1) The following may be lethally taken using a shotgun or rifle:

- (a) ONE-HUNDRED (100) Ring-billed gulls;
- (b) FIFTY (50) Killdeer;
- (c) THIRTY (30) Osprey;
- (d) TWENTY-FIVE (25) EACH: Laughing gull, Herring gull, Mallards, Great blue heron, Great egret, Snowy egret, Eastern meadowlark, Green-winged teal, Wood duck, Barn swallow, Tree swallow, Northern Rough-winged swallow.

(2) The following may be taken by shooting with a shotgun with non-toxic shot, a rifle, or capture followed by euthanasia*:



Permit Number: MB074587-0
Effective: 01/01/2019 Expires: 12/31/2019

- (a) TWO-HUNDRED (200) Canada geese;
- (b) ONE-HUNDRED (100) Mourning doves;
- (c) FORTY (40) Turkey vultures;
- (d) TWENTY (20) Black vultures;
- (e) FIVE (5) EACH: Red-tailed hawk, Great horned owl.

(3) The following may be taken by nest destruction:

(a) TEN (10) EACH: Killdeer nests, Eastern meadowlark nests, Mallard nests, and Osprey nests. Nests should be proactively destroyed during the inactive phase (no eggs present in the nest) to prevent nesting and eliminate the need to handle active nests. Any nest containing eggs or chicks, including those associated with successful re-nest attempts, are considered active nests. Adding eggs or intentional destruction of any active nests is considered take and should be included on the annual report. Inactive nests are those that do not contain viable eggs or chicks. Destroyed inactive nests should not be included on your annual report. Nests with chicks may not be destroyed or relocated, unless otherwise stated on this permit. You may treat the eggs by oiling (using Egg Oil, 100% food grade corn oil, ADC Tech Note-June 1996), freezing, shaking, puncturing and immediately replacing the eggs for subsequent incubation, OR remove and destroy these nests and any eggs contained therein.

(4) The following may be taken by shooting, with a shotgun with non-toxic shot, a rifle, live trapping followed by euthanasia*, or live trapping and relocation:

- (a) TEN (10) EACH: Cooper's hawk, Sharp-shinned hawk;
- (b) FIVE (5) Red-shouldered hawk.

State restrictions: Peregrine falcons are listed as Endangered or Threatened by Virginia State law and therefore may not be taken.

E. You are authorized in emergency situations only to take, trap, or relocate any migratory birds, nests and eggs, including species that are not listed in Condition D (except bald eagles, golden eagles, or endangered or threatened species) when the migratory birds, nests, or eggs are posing a direct threat to human safety. A direct threat to human safety is one which involves a threat of serious bodily injury or a risk to human life.

You must report any emergency take activity to your migratory bird permit issuing office by **EMAILING to permitsr5mb@fws.gov** or **FAXING to 413-253-8424** within 72 hours after the emergency take action. Your report must include the species and number of birds taken, the method of take, and a complete narrative description of the circumstances under which you determined an emergency existed. In doing so, you shall discuss species behaviors that created the hazard or risk being addressed; location of the birds relative to the aircraft or airport operations; duration of bird presence in the area where the emergency existed; timing and amount of practical non-lethal measures attempted prior to the lethal take, as well as results.

F. You are authorized to salvage and temporarily possess migratory birds found dead or taken under this permit for (1) disposal, (2) transfer to the U.S. Department of Agriculture, (3) diagnostic purposes, (4) purposes of training airport personnel, (5) donation to a public charity (those suitable for human consumption), or (6) donation to a public scientific or educational institution as defined in 50 CFR 10.12. Any dead bald eagles or golden eagles salvaged must be reported within 48 hours to the National Eagle Repository at (303) 287-2110 and to the migratory bird permit issuing office at **413-253-8424(fax)**. The Repository will provide directions for shipment of these specimens.

G. You may not salvage and must immediately report to U.S. Fish and Wildlife Service Law Enforcement any migratory birds that appear to have been poisoned, shot, or otherwise injured as the result of criminal activity.

H. You may use the following methods of take: (1) firearms; (2) nets; (3) registered animal drugs (excluding nicarbazin), pesticides and repellents; (4) falconry abatement; and (5) legal lethal and live traps (excluding pole traps). Birds caught live may be euthanized* or transported and relocated to another site approved by the appropriate State wildlife agency, if required. When using firearms, you may use rifles or air rifles to shoot any bird when you determine that the use of a shotgun is inadequate to resolve the injurious situation. The use of any of the above techniques is at your discretion for each situation.

I. You may temporarily possess and stabilize sick and injured migratory birds and immediately transport them to a federally licensed rehabilitator for care.

J. The following subpermittees are authorized: Employees of USDA/APHIS/Wildlife Services, James Dolon and Ted Harlow. In addition, any other person who is (1) employed by or under contract to you for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing, may exercise the authority of this permit.

K. **REPORTING:** Along with the above Annual Report, you shall annually report on the relative success of any trapping and relocation efforts undertaken pursuant to Conditions D(2) and E of this permit. Such report shall at a minimum: include the dates and species for which trapping and relocation efforts occurred, whether or not successful; specify the number of trapping attempts for each species and an the relative effectiveness described in terms of both trapping success, relocation success, and number of birds that return to the Airport once



Permit Number: MB074587-0
Effective: 01/01/2019 Expires: 12/31/2019

relocated.

L. You and any subpermittees must comply with the attached Standard Conditions for Migratory Bird Depredation Permits. **These standard conditions are a continuation of your permit conditions and must remain with your permit.**

M. A "No Feeding Policy" must be in place.

For Canada Geese Egg Adding or Nest Destruction you MUST register each year between January 1 and June 30 at: <https://epermits.fws.gov/eRCGR>. You must return to website and report your take before October 31 each year unless your state does not participate in this depredation, under 50 CFR 21.50.

For suspected illegal activity, immediately contact USFWS Law Enforcement at: Richmond, VA 804-771-2883

*Euthanasia procedures must follow the American Veterinary Medical Association Guidelines
<<https://www.avma.org/KB/Policies/Documents/euthanasia.pdf>>

FIGURE 13. STANDARD CONDITIONS, MIGRATORY BIRD DEPREDATION PERMITS



**Standard Conditions
Migratory Bird Depredation Permits
50 CFR 21.41**

All of the provisions and conditions of the governing regulations at 50 CFR part 13 and 50 CFR part 21.41 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit. The standard conditions below are a continuation of your permit conditions and must remain with your permit. If you have questions regarding these conditions, refer to the regulations or, if necessary, contact your migratory bird permit issuing office. For copies of the regulations and forms, or to obtain contact information for your issuing office, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>.

1. To minimize the lethal take of migratory birds, you are required to continually apply non-lethal methods of harassment in conjunction with lethal control.
[Note: Explosive Pest Control Devices (EPCDs) are regulated by the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF). If you plan to use EPCDs, you require a Federal explosives permit, unless you are exempt under 27 CFR 555.141. Information and contacts may be found at <http://www.atf.gov/explosives/how-to/become-an-fel.htm>.]

2. Shotguns used to take migratory birds can be no larger than 10-gauge and must be fired from the shoulder. You must use nontoxic shot listed in 50 CFR 20.21(j).
3. You may not use blinds, pits, or other means of concealment, decoys, duck calls, or other devices to lure or entice migratory birds into gun range.
4. You are not authorized to take, capture, harass, or disturb bald eagles or golden eagles, or species listed as threatened or endangered under the Endangered Species Act found in 50 CFR 17, without additional authorization.

For a list of threatened and endangered species in your state, visit the U.S. Fish and Wildlife Service's Threatened and Endangered Species System (TESS) at: <http://www.fws.gov/endangered>.

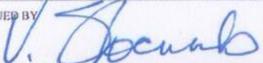
5. If you encounter a migratory bird with a Federal band issued by the U.S. Geological Survey Bird Banding Laboratory, Laurel, MD, report the band number to 1-800-327-BAND or <http://www.reportband.gov>.
6. This permit does not authorize take or release of any migratory birds, nests, or eggs on Federal lands without additional prior written authorization from the applicable Federal agency, or on State lands or other public or private property without prior written permission or permits from the landowner or custodian.
7. Unless otherwise specified on the face of the permit, migratory birds, nests, or eggs taken under this permit must be:
 - (a) turned over to the U.S. Department of Agriculture for official purposes, or
 - (b) donated to a public educational or scientific institution as defined by 50 CFR 10, or
 - (c) completely destroyed by burial or incineration, or
 - (d) with prior approval from the permit issuing office, donated to persons authorized by permit or regulation to possess them.

(page 1 of 2)

8. A subpermittee is an individual to whom you have provided written authorization to conduct some or all of the permitted activities in your absence. Subpermittees must be at least 18 years of age. As the permittee, you are legally responsible for ensuring that your subpermittees are adequately trained and adhere to the terms of your permit. You are responsible for maintaining current records of who you have designated as a subpermittee, including copies of designation letters you have provided.
9. You and any subpermittees must carry a legible copy of this permit, *including these Standard Conditions*, and display it upon request whenever you are exercising its authority.
10. You must maintain records as required in 50 CFR 13.46 and 50 CFR 21.41. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
11. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held, and to audit or copy any permits, books, or records required to be kept by the permit and governing regulations.
12. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law.

(DPRD - 12/3/2011)

FIGURE 14. FEDERAL FISH AND WILDLIFE PERMIT

 DEPARTMENT OF THE INTERIOR U.S. FISH AND WILDLIFE SERVICE FEDERAL FISH AND WILDLIFE PERMIT		2. AUTHORITY-STATUTES 16 USC 668a REGULATIONS 50 CFR 13 50 CFR 22.23 50 CFR 22.27
1. PERMITTEE JOINT BASE LANGLEY-EUSTIS dba FORT EUSTIS 1407 MULBERRY ISLAND ROAD FORT EUSTIS, VA 23604 U.S.A.		3. NUMBER MB237450-0
		4. RENEWABLE <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
		5. MAY COPY <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
		6. EFFECTIVE 10/29/2014
		7. EXPIRES 09/30/2019
8. NAME AND TITLE OF PRINCIPAL OFFICER <i>(If #1 is a business)</i> JAMES D. DOLAN WILDLIFE BIOLOGIST		9. TYPE OF PERMIT PURPOSEFUL EAGLE TAKE FOR SAFETY / EAGLE NEST TAKE
10. LOCATION WHERE AUTHORIZED ACTIVITY MAY BE CONDUCTED Bald eagle nest(s) located at 76°36'21.56" W and 37°8'5.78" N and within 1 (one) mile of Felker Army Airfield Heliport, Fort Eustis, VA		
11. CONDITIONS AND AUTHORIZATIONS: A. GENERAL CONDITIONS SET OUT IN SUBPART D OF 50 CFR 13, AND SPECIFIC CONDITIONS CONTAINED IN FEDERAL REGULATIONS CITED IN BLOCK #2 ABOVE, ARE HEREBY MADE A PART OF THIS PERMIT. ALL ACTIVITIES AUTHORIZED HEREIN MUST BE CARRIED OUT IN ACCORD WITH AND FOR THE PURPOSES DESCRIBED IN THE APPLICATION SUBMITTED. CONTINUED VALIDITY, OR RENEWAL, OF THIS PERMIT IS SUBJECT TO COMPLETE AND TIMELY COMPLIANCE WITH ALL APPLICABLE CONDITIONS, INCLUDING THE FILING OF ALL REQUIRED INFORMATION AND REPORTS. B. THE VALIDITY OF THIS PERMIT IS ALSO CONDITIONED UPON STRICT OBSERVANCE OF ALL APPLICABLE FOREIGN, STATE, LOCAL, TRIBAL, OR OTHER FEDERAL LAW. C. VALID FOR USE BY PERMITTEE NAMED ABOVE. D. 1. You are authorized to remove any active bald eagle nests that do not contain eggs, chicks of fledglings or inactive bald eagle nests that are situated within 1 (one) mile of the Felker Army Airfield Heliport, Fort Eustis, VA to alleviate a safety emergency. Nest materials must be chipped and removed. 2. You are also authorized to harass and intentionally disturb any bald eagles within 1 (one) mile of Felker Army Airfield Heliport property, to address the risk to human and eagle health and safety. E. The authorizations granted by permits issued under this section apply only to take that results from activities conducted in accordance with the description contained in the permit application, and the terms of the permit. If the permitted activity changes, you must immediately contact the Service to determine whether a permit amendment is required in order to retain take authorization. F. You must comply with the following avoidance, minimization, or other mitigation measures: 1). A harassment program must be carried out within the grounds of Felker Army Airfield Heliport, to discourage/prevent the nesting of this pair or other bald eagles within the identified hazard areas. 2). Nest trees should be modified, if appropriate, to deter future nesting attempts. G. You are required to monitor important eagle-use areas, within the areas specified in conditions D1 and D2, where eagles are likely to be affected by your activities until August 2020 during the season(s) when eagles would normally be present and noting (1) whether		
<input checked="" type="checkbox"/> ADDITIONAL CONDITIONS AND AUTHORIZATIONS ALSO APPLY		
12. REPORTING REQUIREMENTS 1. Report due within 10 days of nest removal report can be found at: http://www.fws.gov/forms/3-202-16.pdf 2. Annual Monitoring report due 12/31 each year: 2014, 2015, 2016, 2017, 2018, 2019, 2020 3. Annual Monitoring report can be found at: http://www.fws.gov/forms/3-202-15.pdf If no bald eagle activity is observed, a report indicating "no activity observed" is still required.		
ISSUED BY 	TITLE CHIEF, MIGRATORY BIRD PERMIT OFFICE - REGION 5	DATE 10/29/2014

eagles attempt to build or occupy another nest at another site in the vicinity of the nests on public lands accessible to you and (2) whether the eagles produce eggs or nestlings. The monitor must be experienced in recognizing specific patterns and changes of eagle behavior, and employed or contracted by the permittee, landowner, company or entity responsible for having the activity monitored. Monitoring will consist of the following:

1. A qualified monitor is required to monitor eagle use of the areas up to 1/2 mile radius on lands accessible to you of the previous nesting location on Felker Army Airfield Heliport, in order to determine whether eagles have established a new breeding territory.
2. Monitoring of eagle activity at potential new breeding territories must be done at least once a week for a minimum of 60 minutes during the nesting season (November 1 - August 1) to determine if the eagles attempt to build or occupy another nest. Once nest occupancy by eagles is observed, monitoring must be conducted once per month for the remainder of the nesting season, until fledging or nest failure is documented. Monitoring should occur at a time of day when eagles are most likely to be in the area (e.g., early morning, before sunrise or late afternoon, just prior to sunset).
3. Monitoring must be able to provide data on the following:
 - a) Date and length of time bald eagles were observed;
 - b) Time of day;
 - c) Number of bald eagles observed;
 - d) Observed behavior (e.g., perching, feeding, sitting on or attending nest, in flight);
 - e) If a new bald eagle nest is built on or adjacent to your property, you must provide the new location and whether the bald eagles produced young at that site;
 - f) If any eagle nesting attempt was successful, failed or the eagles abandoned the area; and
 - g) A description of any human activity at the time eagles are observed during each month of the monitoring period, e.g., construction, road building, use of machinery, etc.

If nesting activity is observed, monitoring must continue until successful fledging or nest failure/ abandonment is documented.

H. You remain responsible for all outstanding monitoring requirements and mitigation measures required under the terms of the permit for take that occurs prior to cancellation, expiration, suspension, or revocation of the permit.

I. You must continue the harassment of eagles as authorized under this permit in order to discourage eagle re-nesting attempts on the property and eagle use of airport property. The hazing program must continue into the future to discourage establishment of a new territory and future eagle use within 1 (one) mile of the Felker Army Airfield Heliport property.

J. During nest removal activities, you are authorized to salvage any eagle carcasses, feathers and parts including nonviable eggs found in or around the nest. All molted eagle feathers, parts, and carcasses found at the site must be shipped to the National Eagle Repository. Contact: U.S. Fish and Wildlife Service National Eagle and Wildlife Repository, Rocky Mountain Arsenal, Building 128, Commerce City, Colorado, 80022, (303) 287- 2110.

K. Disposition: Nests or parts of nests must be destroyed by chipping and removal from the site.

L. **This permit does not authorize lethal take, trap and relocation, or injury of eagles.** You must contact the Service's Migratory Bird Permit Program at (413) 253- 8643 immediately upon discovery of any unanticipated take or regarding any apparent injury or death occurring to any eagle for any reason during the project activities. You must immediately transport any injured eagle to a qualified and federally permitted eagle rehabilitation facility.

M. During the permit term, and for up to 3 years after the permit expires, you must allow Service personnel, or other qualified persons designated by the Service, access to the areas where eagles are likely to be affected, at any reasonable hour, and with reasonable notice from the Service, for purposes of monitoring eagles at the site(s).

N. You may delegate the authority granted in this permit to the following subpermittee(s): any person who is (1) employed by or under contract to you, for the activities specified in this permit, or (2) otherwise designated a subpermittee by you in writing to the Federal permit issuing office, may exercise the authority of this permit. Any subpermittee who has been delegated this authority may not re-delegate to another individual/business. You must immediately notify the migratory bird permit issuing office in writing of any changes to subpermittee information so this permit can be amended to authorize those individuals/businesses.

O. Subpermittees must be at least 18 years of age. You are responsible for ensuring that your subpermittees are qualified to perform the work and adhere to the terms of your permit. You are also responsible for maintaining current records of designated subpermittees. As the permittee, you are ultimately legally responsible for compliance with the terms and conditions of this permit and that responsibility may not be delegated.

- P. You and any subpermittees must carry a legible copy of this permit and display it upon request whenever exercising its authority.
- Q. This permit is not transferable or assignable to another individual, business, government or tribal entity whether or not the property described in Condition D transfers ownership from the permittee, except as provided by rite of succession as outlined in 50 CFR 13.24.
- R. All of the provisions and conditions of the governing regulations at 50 CFR 13, 50 CFR 22.23 and 50 CFR 22.27 are conditions of your permit. Failure to comply with the conditions of your permit could be cause for suspension of the permit and/or prosecution. For copies of the regulations, visit: <http://www.fws.gov/migratorybirds/mbpermits.html>
- S. You must submit a report of activities conducted under this permit to the migratory bird permit issuing office, USFWS, PO Box 779, Hadley, MA, 01035 within 10 days following completion of the activities or of the expiration of this permit, whichever occurs first. Form 3-202-16 (Eagle Nest Take Report) can be found online at <http://www.fws.gov/forms/3-202-16.pdf>. You must submit an annual report summarizing the information you obtained through monitoring to the Service and for 1 year after completion of the activity or termination of the permit to the issuing permit office at USFWS, PO Box 779, Hadley, MA, 01035. Form 3-202-15 (Eagle Non-purposeful Take Report) can be found online at <http://www.fws.gov/forms/3-202-15.pdf>.
- T. You must maintain records as required in 50 CFR 13.46 and 50 CFR 22. Your records must also include the data gathered for monitoring and reporting purposes. All records relating to the permitted activities must be kept at the location indicated in writing by you to the migratory bird permit issuing office.
- U. Acceptance of this permit authorizes the U.S. Fish and Wildlife Service to inspect any wildlife held or any activities authorized by this permit and to audit or copy any permits, books or records required to be kept by the permit and governing regulations (50 CFR 13.46).
- V. You may not conduct the activities authorized by this permit if doing so would violate the laws of the applicable State, county, municipal or tribal government or any other applicable law. None of the privileges of this authorization are valid unless the permittee possesses the appropriate State permits, or other authorizations, if required.
- W. The U.S. Fish and Wildlife Service is not liable for any damage or injury to any person, wildlife, or property that occurs as the result of carrying out the activities associated with this permit.
- X. This permit does not authorize you to conduct activities on Federal, State, or other public or private property without additional prior written permits or permission from the agency/landowner.
- Y. To renew this permit if the activities described in Condition D have not been completed by the expiration date of this permit, you must meet issuance criteria at the time of renewal and must also have been in compliance with permit conditions, including all monitoring and reporting requirements of the original permit. Permit conditions may be modified based on changes in eagle or human use of the property surrounding the project described in Condition D.

APPENDIX 13 TO ANNEX B TO JBLE BASH PLAN
RECORD OF ENVIRONMENTAL CONSIDERATION

FIGURE 15. RECORD OF ENVIRONMENTAL CONSIDERATION

RECORD OF ENVIRONMENTAL CONSIDERATION

TO: Director, Public Works

THRU: Chief, Environmental and Natural Resources Division (ENRD), DPW

FROM: Chief, Aviation Branch, DPTMSEC

Project Title: BASH Cannon System

1. Brief Description: In order to provide a safe airfield environment, it was recommended that sonic bird scare devices and pyrotechnics be used to deter birds and wildlife on the airfield. The use of pyrotechnics is covered in the BASH EA. This REC will add the use of a BASH Cannon System supplements and is tiered to the BASH EA. A total of five propane bird scare cannons will be utilized. One between the helipad and compass rose, one on the west side of the runway midfield, one on each end of the runway to the east. The fifth cannon will be mounted in the services vehicle to be used as a mobile unit. All cannons will only be fired on demand. The four emplaced cannons will be remotely activated by the control tower and the truck mounted cannon will be push button activated by the driver of the vehicle. Pyrotechnics to be incorporated include "bird bangers and screamers". These devices will be fired, into the air only, not at birds or wildlife, to scare them away from the airfield. It is estimated that one cannon per day will be fired and pyrotechnics fired approximately twice a month.

2. The following components of environmental impact have been assessed.

- a. Air quality. There will be no significant impact to air quality. An evaluation under the General Conformity Rule of the Clean Air Act was conducted. A Record of Non-Applicability (RONA) was prepared and is attached. The requirements of this rule are not applicable to this project because the total direct and indirect emissions from this project are below the conformity threshold value established by 40 CFR 93.153 (b) of 100 tons VOCs and 100 tons NOx for a facility in an Ozone Maintenance Area.
- b. Water quality. This project is not expected to pose any adverse impacts on water quality and will not result in an increase in water use. The project is not expected to generate any harmful impact to either surface water or groundwater sources. No hazardous materials, wastes, marker dyes, paint or other chemicals will be introduced into any storm drains, sanitary sewer or any water source.
- c. Asbestos-containing materials (ACM), lead-based paint (LBP), Polychlorinated Biphenyls (PCB). This project will not involve the use or release of ACM, LBP, or PCB or any material containing these materials.
- d. Hazardous Materials and Wastes. No hazardous materials will be used during this project.

REC for BASH Cannon System

- e. Noise. This project will produce occasional noise. The purpose of the project is to create impulse noises to scare away birds and wildlife.
- f. Radiation. The project will not involve the use of ionizing or non-ionizing radiation sources.
- g. Natural resources. The project will take place at Felker Army Airfield only. Although the noise created is intended to scare birds and game from the airfield, no adverse affect is anticipated. These measures are designed to prevent harm to the animals. No significant impact on vegetation, wetland vegetation or fish is anticipated.
- h. Cultural and Archeological Resources. No disturbance to known cultural, historical or archeological sites is anticipated.
- i. Wetlands. No intrusions into wetlands are required.
- j. Environmental Cleanup Program (including Installation Restoration Program (IRP), Compliance-related Cleanup (CC), and Military Munitions Response Program (MMRP)). No IRP, CC, or MMRP sites are located within the footprint of this project. This has been coordinated with Joanna Bateman, Chief, Installation Restoration Branch, ENRD, DPW, 878-4123, est. 303.
- k. Threatened/Endangered Species. No federal or state threatened or endangered species inhabit the immediate area of the airfield.
- l. Bald Eagle Management. Bald eagles were removed from the federal list of threatened and endangered species in July 2007; however, this species is protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Species Act. Six eagle nest sites exist in Training Area 28 and the Impact. Scare devices will be used to chase all types of wildlife from the airfield as a protective measure to them and aircraft. No nests will be sought or disturbed. Consequently, no impact on the Bald Eagles is expected as a result of this project.
- m. Underground and aboveground storage tanks (USTs/ASTs). This project will not take place near or involve use or installation of USTs or ASTs.
- n. Infrastructure. No damage to existing facilities is anticipated.
- o. Aesthetics. Project will have no effect on aesthetics.
- p. Environmental Justice (Executive Order 12898). Project will take place on the Fort Eustis military reservation. No discharge of hazardous substances will occur. Noise generated will not be heard in the civilian community due to the distances involved. Therefore, the proposed project does not pose any disproportionately

REC for BASH Cannon System

high adverse human health or environmental effects on minority or low-income populations residing in the surrounding communities.

- q. Coastal Zone Management. This project will not involve any excavation, alteration or damage to sub-aqueous lands, wetlands, Conservation Sites, Resources Protection Areas or primary sand dunes. IAW the Coastal Zone Management Act (CZMA), 16 U.S.C. Subsection 1456(c), it has been determined that the proposed project will be carried out in a manner that is consistent with Virginia Coastal Resources Management Program.
- r. Sedimentation and Erosion Control. This project will not involve soil disturbance and therefore is exempted from Virginia Regulations requiring a Sedimentation and Erosion Control Plan.
- s. "Protection of Children from Environmental Health and Safety Risks" (Executive Order 13045). This project is located in isolated areas and is not located near any schools, day care centers, playgrounds or housing units. Subsequently, the health and safety of children will not be affected by this project.
- t. Excavation, deposition, and disposal of soil and sediment. None required.
- u. Solid Waste. This project will not generate solid waste requiring disposal.

3. Anticipated Date and/or Duration of Proposed Action: This project will occur as needed for an indefinite period of time. However, anticipated start date for this project is 15 March 09.

4. Reason for Using a Record of Environmental Consideration. It has been determined that the proposed action qualifies for Categorical Exclusion under 32 CFR Part 651 (AR 200-1) dated 29 Mar 2002, Appendix B, Section II, paragraph (g) (1): Routine repair and maintenance of buildings, airfields, grounds, equipment, and other facilities. This REC also supplements and is tiered to the US Army Transportation Center, Bird/Wildlife Air Strike Hazard (BASH) Plan EA. The proponent hereby confirms his/her understanding that the action will comply with the provisions of TCFE Regulation 22-6, Environmental Management. Any changes to the action after approval of the REC will invalidate the REC and require the proponent to create work and coordinate with ENRD, DPW. This may require preparation of a new REC or an EA (or EIS) depending on the situation as recommended by ENRD, DPW.

Proponent:


JOHN MUSSER III
Chief, Aviation Division
DPTMSEC

Date: 5 MAR 09

REC for BASH Cannon System

Environmental Coordinator:

CONCUR/NONCONCUR

Susan P. Miller
SUSAN P. MILLER
Chief, Environmental and
Natural Resources Division, DPW

9 March 09
Date:

APPROVED/DISAPPROVED:

Mark J. Sciacchitano
MARK J. SCIACCHITANO
Director, Public Works

Date: 10 Mar 09

APPENDIX 14 TO ANNEX B TO JBLE BASH PLAN
GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY

FIGURE 16. GENERAL CONFORMITY - RECORD OF NON-APPLICABILITY

General Conformity – Record of Non-Applicability

Date Prepared: 5 March 2009

Project Name: BASH Cannon System, Fort Eustis, Virginia

Project Point of Contact: Stephen Strother
DPW/ENRD

Project Description: In order to provide a safe airfield environment, it was recommended that sonic bird scare devices and pyrotechnics be used to deter birds and wildlife on the air field. A total of five propane bird scare cannons will be utilized.

Begin Date: 15 March 2009.

End Date:

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project because the project is an exempt action under:

- 40 CFR 93.153 (c)(2)(x): Actions with respect to existing structures, properties, facilities and lands where future activities conducted will be similar in scope and operation to activities currently being conducted at the existing structures, properties, facilities, and lands (e.g. relocation of personnel, disposition of federally owned existing structures, properties, facilities and lands, rent subsidies, operation and maintenance cost subsidies, the exercise of receivership or conservatorship authority, assistance in purchasing structures, and the production of coins and currency).
- 40 CFR 93.153 (c)(2)(xiii): Routine operation of facilities, mobile assets and equipment.


Michael Shaffer
Environmental Protection Specialist

Record Of Non-Applicability (RONA) Calculations
Project Name: Bird/Wildlife Air Strike Hazard (BASH)

Example Equation

$$\begin{aligned}
 \text{Pollutant} &= \text{Horsepower} \times \text{Operating Hours} \times \text{Emission Factor} = \text{grams} = \text{lbs} \\
 \text{Diesel Sources: VOC} &= 0 \text{ hp} \times 0 \text{ hrs} \times 0.000 \frac{\text{grams}}{\text{hp-hr}} = 0 \text{ grams} = 0 \\
 \text{Gasoline Sources: VOC} &= 3,360 \text{ miles} \times 1,428 \frac{\text{lbs}}{\text{miles}} \times \text{Emission Factor} = 4,798 \text{ grams} = 11 \text{ lbs}
 \end{aligned}$$

Conversion Factor: 1 gram = 0.0022 lbs

Diesel Sources	Number	Fuel	Hp	Hours/Day	Number of Days	Total Hours	Potential Miles Driven ³	Emission Factors ¹		Emissions	
								VOCs (g/hp-hr)	NOx (g/hp-hr)	VOCs (g)	NOx (g)
Gasoline Vehicles								Emission Factors ²			
	Number	Fuel	Hours/Day	Number of Days	Total Hours	Potential Miles Driven ³	VOCs (g/mile)	NOx (g/mile)			
Pick-up Trucks (heavy duty)	2	Gasoline	2	24	96	3,360	1,428	3.99			
									Total Grams	Total Pounds	Total Tons
									4,798	13,396	
									11	29	
									0.01	0.01	

- Notes: 1. Source: EPA Nonroad Engine and Vehicle Emission Study - Appendices, dated November 1991
 2. Source: AP42 Appendix H, Highway Mobile Source Emission Factors - Table H-172, dated 30 June 1995
 3. Assumes driving 35 miles/hour based on posted speed limit

General Conformity – Record of Non-Applicability

Date Prepared: 2 March 2005

Project Name: Bird/Wildlife Air Strike Hazard (BASH)
Fort Eustis, VA

Project Point of Contact: Tim Christensen
ENRD
Fort Eustis

Project Description: Bird/Wildlife Air Strike Hazard (BASH) Plan is being developed to alleviate future aircraft accidents. As part of the BASH Plan, it is estimated that two times a month pyrotechnics or firearms maybe used to keep bird away from the airfield. The only emission sources will be from the vehicles involved in driving around the airfield. This activity will be conducted using two trucks running approximately two hours each event.

Begin and End Date: Activities will be conducted as needed but it is estimated two events per month per year.

General Conformity under the Clean Air Act, Section 176 has been evaluated for the project described above according to the requirements of 40 CFR 93, Subpart B. The requirements of this rule are not applicable to this project because:

Total direct and indirect emissions from this project have been estimated at 0.01 tons VOCs and 0.01 tons NO_x, which are below the conformity threshold value established at 40 CFR 93.153 (b) of 100 tons VOCs and 100 tons NO_x.

Supported documentation and emission estimates are

- Attached
- Appear in the NEPA Documentation
- Other _____



DANIEL S. MUSEL
Environmental Engineer

ANNEX Z TO JBLE BASH PLAN
DISTRIBUTION

633 ABW/CC
633 ABW/CV
633 ABW/CP
633 ABW/JA
633 ABW/PA
633 ABW/SE
633 ABW/XP
633 CPTS/CC
633 MSG/CC
633 CES/CC
633 CONS/CC
633 CS/CC
633 FSS/CC
733 LRS/CC
633 MDG/CC
733 MSG/CC
733 CED
733 MSD
1 FW/CC
1 FW/CV
1 FW/XP
1 FW/SE
1 FW/HO
1 MXG/CC
1 AMXS/CC
1 MXS/CC
1 MOS/CC
1 OG/CC
27 FS/CC
94 FS/CC
1 OSS/CC
192 WG/CC
192 WG/CV
192 MXG/CC
192 OG/CC

FOR OFFICIAL USE ONLY