HEADQUARTERS 45TH SPACE WING
PATRICK AIR FORCE BASE, FLORIDA

45 SW OPERATING PLAN 91-212.1 BIRD/WILDLIFE AIRCRAFT STRIKE HAZARD REDUCTION PLAN FOR PATRICK AIR FORCE BASE AND CAPE CANAVERAL AIR FORCE STATION

27 OCTOBER 2015

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Headquarters 45th Space Wing (AFSPC)
Patrick AFB, FL 32925-3239
27 Oct 15

45 SW OPERATING PLAN 91-212.1
SECURITY INSTRUCTIONS

1. The long title of this plan is 45 SW Operating Plan 91-212.1, *Bird/Wildlife Aircraft Strike Hazard (BASH) Reduction Plan for Patrick Air Force Base and Cape Canaveral Air Force Station*. The short title is 45 SW Operating Plan 91-212.1.

2. This plan is unclassified. Information in this plan will be disseminated to all activities and personnel whose duties require knowledge of the plan.

Headquarters 45th Space Wing (AFSPC)
Patrick AFB, FL 32925-3239
27 Oct 15

45 SW OPERATING PLAN 91-212.1
PLAN SUMMARY

1. PURPOSE. To establish and operate a wing program to minimize bird/wildlife strike damage to aircraft. This is the supporting plan for AFPAM 91-212, *Bird/Wildlife Aircraft Strike Hazard (BASH) Management Techniques*.

2. CONDITIONS FOR EXECUTION. This plan is based on hazards from both indigenous and seasonal bird populations. Implementation of specific portions of the plan is continuous, while other portions will be implemented as required by bird activity.

3. OPERATIONS TO BE CONDUCTED.

a. Specific operations include:

(1) Establish and maintain a Bird Hazard Working Group (BHWG).

(2) Eliminate or reduce environmental factors that attract birds to the airfield.

(3) Report hazardous bird activity and alter or discontinue flying operations.

(4) Inform all assigned and transient aircrews on specific bird hazards and procedures for avoidance.

(5) Disperse birds on 45th Space Wing (45 SW) airfields.

b. Tasked organizations: As listed in Annex A.

c. Supporting checklists are required.

Headquarters 45th Space Wing (AFSPC)
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Patrick AFB, FL 32925-3239
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45 SW OPERATING PLAN 91-212.1
BASIC PLAN

REFERENCES:

a. AFI 10-401, *Air Force Operations Planning and Execution*
b. AFI 32-1053, *Integrated Pest Management Program*
c. AFPD 32-70, *Environmental Quality*
d. AFI 91-202, *The USAF Mishap Prevention Program*
e. AFI 91-204, *Safety Investigations and Reports*
f. 45 SW OPLAN 91-212.2, *Ascension AAF BASH Plan*
g. BASH Team Staff Assistance Visit Reports
h. Field Guides to Regional Birds
i. AFPAM 91-212, *BASH Management Techniques*
j. Unified Facilities Criteria (UFC) 3-260-01, *Airfield and Heliport Planning and Design*

TASKED ORGANIZATIONS. See Annex A for tasked forces.

1. SITUATION.

a. General. Daily and seasonal bird movements create various hazardous conditions. A Bird/Wildlife Aircraft Strike Hazard (BASH) exists at 45 SW airfields (Patrick Air Force Base (PAFB), Cape Canaveral Air Force Station (CCAFS) and Ascension Auxiliary Air Field (Ascension AAF)) and vicinity due to resident and migratory bird species. A BASH threat also exists at Melbourne International Airport where 45 SW tenant units are based. This plan establishes procedures to minimize these hazards at PAFB and CCAFS while OPlan 91-212.2 covers procedures at Ascension AAF. No single solution exists to the BASH problem and a variety of techniques and organizations are involved in the control program. While focusing on bird hazards, this plan also encompasses all wildlife hazards posed to aircraft.

b. Airfield Local Area.

(1) Patrick Air Force Base (PAFB). Situated between two major bodies of water, PAFB is in an area of significant bird diversity and activity. The base occupies approximately 2,100 acres on a narrow portion of land between the Banana River and the Atlantic Ocean in Brevard County, Florida. The airfield is bounded by the main base to the north, the ocean on the east just beyond a four-lane highway, a river to the west slightly beyond a wooded area, and a golf course to the south. The elevation of the base is 8 feet above Mean Sea Level. In addition to year-round resident species, this

area is at the biological crossroads of north-south bird migration patterns. Furthermore, bird movements in wintering grounds are much less predictable. The following types of birds pose a hazard to aircraft: gulls (ring-billed and herring), cattle egrets, little blue herons, great blue herons, pelicans, coots, willets, yellow legs, killdeer, plover, black skimmers, osprey, and kestrel. Also, approximately 20,000 lesser scaup (bluebill) winter in the vicinity of PAFB on the Banana River.

(2) Cape Canaveral Air Force Station (CCAFS). Situated between two major bodies of water, the airfield rests between the Atlantic Ocean and Banana River without much vegetation along the approach ends separating the water from the runway. CCAFS is located approximately 20 miles north of PAFB. Resident waterfowl are the greatest hazard to CCAFS Skid Strip (XMR) flight operations. Gulls and terns are common in all areas and present exceptionally heavy activity on the ramp and runway after rain showers. Long-legged wading birds are most common along the Banana River and on the final approach course to runway 13. Raptors are common in all areas, especially north of the runway. Pelicans and shorebirds present heavy concentrations along the coast and are extremely hazardous along the final approach course to both runways. Deer, wild pigs and coyotes are occasionally present near the runway at night. Finally, small species and migratory birds are common in all brushy areas. Due to the limited air traffic flow into the Skid Strip, there have been few recorded BASH incidents.

(3) Melbourne International Airport (MIA). While not a part of the 45 SW BASH program, MIA is occasionally used by 45 SW mission partners as an alternate operating location and is home to a Northrop-Grumman depot-level maintenance facility for E-8C Joint Surveillance and Target Attack Radar System (JSTARS) aircraft. The Banana River lies east of the airfield. Residential/Commercial areas bound the airfield to the north, south and west. Bird activity at MIA is similar to that of PAFB.

2. MISSION.

This plan is designed to:

a. Establish a Bird Hazard Working Group (BHWG) and designate responsibilities to its members.

b. Establish guidelines to alter the airfield environment to decrease its attractiveness to birds in accordance with (IAW) AFPD 32-70.

c. Establish procedures for identification and communication of high-hazard situations to aid supervisors and aircrews in altering/discontinuing flying operations if required.

d. Establish aircraft and airfield operating procedures to avoid high-hazard situations.

e. Inform all assigned and transient aircrews on specific bird hazards and procedures for bird avoidance.

f. Provide guidelines for harassment and dispersal of birds as they threaten aircraft operations on 45 SW airfields.

3. EXECUTION.

a. Concept of Operations.

(1) Reducing the bird/wildlife strike hazard at 45 SW airfields requires a cooperative effort among many wing and tenant organizations. The overall OPR and monitor for implementation of this plan is 45 SW/SEF.

(2) Bird Hazard Working Group (BHWG):

(a) 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. Serves as point of contact for off-base BASH issues.

(b) Authority. The BHWG submits all efforts to the 45 SW Commander or Vice Commander for approval. Implementation is through the normal chain of command.

(c) Composition. The chairman of the Wing BHWG will be the 45 SW Vice Commander or representative. As a minimum, the group will consist of the Airfield Operations Flight Commander (AOF/CC); the Airfield Manager or designated representative (for both PAFB and CCAFS); representatives from Flight Safety, Air Traffic Control, 45th Weather Squadron (45 WS) and 45th Civil Engineering Squadron (45 CES); and all tenant Flight Safety Officers. Appropriate representatives from the 45th Force Support Squadron (45 FSS) will attend when undesirable BASH trends are identified at the golf course, marina or additional facilities

(d) Meeting Schedule. Semi-annually, or more frequently when appropriate. When feasible, the BHWG may be combined with the semi-annual Environmental Safety and Occupational Health Council.

b. Tasks. Annex C lists specific hazard reduction techniques for varying bird hazard conditions. These will remain in effect as long as the hazard is present, as determined by the working group.

(1) 45 SW Vice Commander (45 SW/CV). Chairs 45 SW BHWG meetings.

(2) 45 SW, Flight Safety (45 SW/SEF).

(a) As OPR for the Bird Hazard Reduction Plan, ensures wing-wide compliance with AFI 91-202 and reports all bird-aircraft strikes and hazards IAW AFI 91-202, AFI 91-204 and Annex Y of this plan.

(b) Prepares and distributes BHWG minutes documenting BASH trends, BHWG recommendations and action items.

(c) Monitors all tasked organizations for compliance with this plan and AFI 91-202.

(d) Creates and develops trend data reports. Disseminates BASH data to BHWG and flying units. The trend data will include number of strikes, time, damage amounts, location, etc. (AF Form 853 data).

(e) Provides the BHWG with current BASH guidance from Headquarters Air Force Safety Center (HQ AFSEC/SEWF) the BASH team, 45 CES/CEIE (Environmental) and other agencies.

(f) Maintains a current bird activity map for PAFB and CCAFS Skid Strip using recorded strike data and observations. Advises the chairman of the BHWG if an out-of-cycle meeting is deemed necessary.

(g) Provides any additional information on migratory, local and seasonal bird activities through contact with 45 CES/CEIE, the Audubon Society, local ornithologists and other agencies.

(h) Coordinates with aircrews, maintenance or Airfield Management Operations (AMOPS) personnel to collect unknown non-fleshy remains (i.e., feathers)

after strikes. Sends any salvaged remains to the Smithsonian National Museum of Natural History. Forwards copies of any photographs of the strike to the BASH Team at HQ AFSEC/SEFW. Forwards strike report copies to 45 CES/CEIE for bird population monitoring.

(i) Maintains current BASH data and forms in the Flight Safety Officer's continuity book to facilitate personnel turnover.

(j) Establishes a bird hazard awareness program with tenant unit Flying Safety Officers.

(3) 45 SW Command Post (45 SW/CP). Relays reports of bird activity received from aircraft who have submitted an AF Form 853 (Air Force Wildlife Strike Report) to AMOPS and 45 SW/SEF.

(4) 45th Operations Support Squadron, Airfield Management Operations (45 OSS/OSAB).

[NOTES: 1) Cape Canaveral Skid Strip personnel can tailor procedures to meet their mission requirements with approval from 45 OSS/CC. 2) Changes in bird watch conditions will be coordinated between the tower and Airfield Management (AM) personnel (see Annex C, para 3e(1)].

(a) Ensures AM personnel incorporate evaluating bird activity into daily inspections. If dead birds are noted, they should be removed and identified, if possible. If not possible, a sample of feathers/remains must be forwarded to 45 SW/SEF for identification. After the first inspection of the day, AM personnel will establish and coordinate the initial bird watch condition for the airfield. He/she will change bird watch condition codes according to the following:

1 Observations relayed by airborne or taxiing aircraft.

2 Observations made by and relayed to AMOPS by Tower, 45 WS, 45 CES, Aircraft Maintenance, 45th Security Forces Squadron (45 SFS), Transient Alert, 45 SW/SE, or tenant flying units.

3 Observations made by AM personnel.

(b) Disseminates bird-watch conditions IAW Annex C.

(c) Ensures AM personnel have immediate access to bird dispersal equipment. Actions will be taken to disperse flocks of birds found on runways, overruns, taxiways and ramps. The effects of dispersing birds from an isolated area to one of higher use will be kept in mind as dispersal techniques are employed. Coordinate with control tower prior to employing all dispersal techniques to ensure deconfliction with aircraft operations. Non-lethal techniques will be used with depredation as a last resort. The following methods will be used:

1 Bioacoustics. These are recorded distress or alarm calls of actual birds. If determined to be effective, AM personnel will have bioacoustics equipment readily available to disperse birds. The equipment required to project these calls includes a portable roof-mounted transmitter and is available from 45 SW/SEF. Special care must be taken to play the distress calls in 20-30 second intervals to prevent habituation by the birds. Repeat the short-interval procedure several times if necessary. The birds should respond by taking flight or becoming alert/wary.

2 Pyrotechnics. The Airfield Manager or designated representative will determine if the use of pyrotechnics (M-8 Very pistols, 12-gauge shotgun scare cartridges) is applicable. If so, use must be coordinated with the 45 SFS Control Center, Tower, and Fire Department.

NOTE: The USAF Nonnuclear Munitions Safety Board issued a USAF operational use certificate for the Cartouche Anti Peril Aviaire (CAPA) (a High-Altitude Pyrotechnic System) bird scare cartridge. AFSEC/SEFW developed the concept of operations and CAPA is now authorized for use by Air Force personnel conducting BASH-related airfield operations. The system is an optional tool intended to harass high-flying birds (~1000' Above Ground Level (AGL)), which pose a strike risk to aircraft in the vicinity of airfield runways and associated flight corridors/patterns. CAPA cartridges are expensive per use (~$20), but economical when considering the possibility of significant damage to or loss of equipment, personnel and mission capability.

3 Depredation. Wildlife tends to become accustomed to harassment techniques that are used over a period of time; therefore, birds may be killed as necessary when these harassment techniques have failed. Air Force installations may take migratory birds only with a permit from the U.S. Fish and Wildlife Service, and only when absolutely necessary for BASH implementation. 45 CES/CEIE maintains the required permit for the 45 SW. 45 OSS/OSA will provide to 45 CES/CEIE the date, species and number of birds taken for depredation permit requirements. No listed threatened or endangered species can be taken at any time. The Airfield Manager, in close coordination with the installation natural resource manager, is the approving

authority for shooting birds on the airfield. This approving authority cannot be delegated lower or laterally.

4 Radio-Controlled Gas Cannons. AM personnel will activate propane gas cannons with a handheld transmitter or the master controller in AMOPS. Tower personnel can also activate cannons with a handheld transmitter. Cannons are used to complement, but not replace, active bird dispersal operations. To minimize the potential for bird habituation and maximize the element of surprise, cannons are not set to go off at regular intervals. Certain gas cannons also have integrated bioacoustics.

5 Other Devices. Ingenuity is encouraged in the bird scare program. Additional methods include installing bird spikes and wires as impediment to perching and nesting on airfield equipment, lighting and signage. When responding for bird dispersal, the AM representative will make an on-scene assessment of the situation and use whatever tactics are necessary to alleviate the condition.

(d) Ensures airfield mowing is scheduled as required to maintain appropriate grass height non-conducive for bird activity. Coordinates with 45 CES so that mowing-induced bird activity does not interfere with flight operations. The Base Civil Engineer is responsible for developing procedures for removal or control of bird attractants that may impact the airfield area.

(e) Solicits and accepts BASH reports from locally based and transient aircrews and ensures remains (i.e., feathers) and reports are provided to 45 SW/SEF.

(f) Ensures bird-hazard information received from local flying units is available to transient aircrews for flight planning. Updates low-level map in flight planning room with bird-strike locations and time.

(g) Ensures storage and use of pyrotechnic devices comply with USAF explosives safety requirements. Cleans up areas in which pyrotechnics and/or depredation methods have been used to prevent the possibility of foreign object damage.

(h) Includes bird hazards in-Flight Information Publications (IFR Supplement, General Planning), to include time of year for Phase 1 & 2 and aircraft operation restrictions based on bird-watch conditions.

(i) Attends BHWG meetings.

(5) Air Traffic Control (45 OSS/OSAT).

(a) Reports observed bird activity to AM and posts current bird-watch condition to the Automated Terminal Information System (ATIS).

(b) Issues bird activity information to all aircraft on initial contact IAW FAAO JO 7110.65, 45 SWI 13-203, 45 SWI 13-205, and 45 SW OPLAN 91-212.1. For example: “PAFB is currently bird-watch condition **SEVERE,** birds on the approach end of runway 02.”

(c) Provides AM access to the runway as required.

(d) Ensures representative attends BHWG meetings.

(6) 45th Weather Squadron (45 WS/DOR).

(a) If the display unit in AM is inoperative, AM personnel will advise 45 WS of the current bird-watch condition. 45 WS will advise aircrews of the current bird-watch condition during the pre-departure weather briefing.

(b) When aircrews call 45 WS for a briefing via telephone or airborne, the forecaster will provide the current bird-watch condition.

(c) Representative observation site personnel will report bird activity to AM as workload permits.

(d) Ensures representative attends BHWG meetings.

(7) 45th Security Forces Squadron (45 SFS/S3). Flight-line patrols will report large bird concentrations or evidence of bird strikes on airfield to AM as observed.

(8) 45th Civil Engineering Squadron (45 CES).

(a) Assigns a person from 45 CES/CEIE to the BHWG to monitor and advise the group on environmental modification. The Base Civil Engineer is responsible for developing procedures for removal or control of bird attractants.

(b) Maintains a long-range program to make the airfield area as unattractive to birds as possible.

(c) Maintains the PAFB and CCAFS Habitat Maps.

(d) Initiates surveys and writes environmental assessments and impact statements as required.

(e) Conducts BASH surveys. See Annex M, paragraph 2, for requirements.

(f) Corrects environmental conditions that increase BASH potential.

(g) Works with Flight Safety and Airfield Operations to define land management strategies specific to the airfield to control bird species that are high threat for aircraft strikes and reduce BASH potential.

(h) Modifies airfield habitat consistent with runway lateral and approach zone management criteria. Habitat reduction to reduce BASH beyond the 1,000 ft distance criterion is desired and will further reduce BASH potential.

(i) Consolidates depredation data, and submits required depredation report to the U.S. Fish and Wildlife Service on the numbers and types of birds taken. Maintains and renews depredation data through coordination with Airfield Operations.

(j) Ensures prohibitions for feeding birds/wildlife in installation housing areas are included within their instructions.

(k) The following general civil engineering considerations are included in the long-range program and must be incorporated into the Integrated Natural Resources Management Plan:

1 Grass Height Management. Per AFI 91-202, paragraph 7.3.1.5.9., mowing operations shall maintain a uniform grass height between 7 and 14 inches. Mowing frequency will be as needed to maintain height requirements and will be conducted when the average height reaches 14 inches. Grass must be cut before it goes to seed to discourage seed-eating birds from utilizing the airfield. Grass height closer to 14 inches is desirable as long grass discourages flocking species from entering the airfield because reduced visibility disrupts interflock communication and flock integrity and prevents detection of their predators. Grass height above 14 inches is a hazard due to seedheads and creating edge effect. Obtain assistance for appropriate grass seed selection and fertilization from the U.S. Natural Resources Conservation Service or the Agricultural Extension Service. Coordinate mowing times with AMOPS to ensure the additional egret activity induced by mowing does not interfere with flight operations.

2 Broad-Leafed Weed Control. Broad-leafed weeds will be kept to a minimum on the airfield. Application of herbicides will be accomplished as necessary to achieve this. Broad-leafed weeds attract a variety of birds, produce seeds or berries that are attractive to birds and limit growth of desirable turf cover.

3 Planting Bare Areas. Bare areas are frequently used by birds as resting sites and should be eliminated on the airfield. Grass will be planted as necessary. Where possible, avoid using plants for erosion control on the airfield that produce seeds at heights below 14 inches.

4 Leveling of Airfield. High and low spots on the field will be leveled or filled to reduce attractiveness to birds and prevent standing water. NOTE: Obtain proper permitting if wetland designated areas must be filled to prevent bird foraging habitat.

5 Fertilizing. Selectively stimulate grasses to promote a uniform cover. Irrigation may be required to support turf growth. Control watering to enhance root production and decrease seed head production.

6 Reducing Edge Effect. Edge effect refers to the highly attractive transition zone between two distinct habitat types (i.e., brush to grassland). Maintain the airfield as uniformly as possible to reduce this effect.

7 Dead vegetation such as trees or brush piles that are located near the flightline or in areas on base within airfield flight zones will be removed as soon as possible.

8 Dead birds or other animals will be removed from the field to avoid attracting vultures or other birds. Notify AM personnel of remains resulting from collision with aircraft.

9 Drainage Ditches. Airfield drainage ditches will be as deep as possible to limit the surface area of the water and still allow proper drainage according to civil engineering requirements (i.e., UFC 3-260-01). Wading birds, such as herons, egrets and shorebirds, are less likely to use deep drainage ditches. Grade the banks of the drainage ditches to allow mowing up to the edge of the ditch. Keep drainpipes, culverts and screens clear of debris so drainage is not impeded.

10 Bird-Proof Buildings and Hangars. Pigeons, sparrows and starlings frequently roost in buildings and hangars and must be removed. Denying access by screening windows, closing doors and blocking entry holes is most effective. When necessary, other methods should be considered:

a Trapping/Removal. Base Pest Management will use trapping measures that are approved for removal of non-protected pest birds (pigeons, European starlings, etc.). Birds can either be released away from the hangar or killed. A permit from the U.S. Fish and Wildlife Service agency is required to kill migratory birds. No threatened or endangered species may be killed at any time.

b Night Harassment. Use high-pressure air or water to make hangars an undesirable roosting site. Persistence is the key.

c Door Coverings. Use netting or plastic strips suspended over the doors to exclude birds. Ensure no tears or holes are present that would allow birds access to the hangar.

d Pest Control. Invertebrates and rodents provide important food sources for many birds. The Civil Engineering Entomology section should periodically survey and reduce these pests when required. Control of insects, earthworms, rodents, etc., through use of insecticides and rodenticides will be accomplished under the supervision of the base entomologist with EPA-approved methods.

e Erosion Control Vegetation. Vegetation used should be appropriate for the region and support BASH-reduction philosophy.

f Eliminate Roosting Sites. Roosting sites will be controlled by removal, where possible. Trees will be pruned to reduce the number of perches available and entire trees, or stands, removed if necessary. Refer to the Land Management Plan and AFMs 126-2 or 85-6.

g Coordinate with 45 OSS/OSA and 45 SW/SEF to update and maintain a list of acceptable landscaping plantings.

11 Report evidence of bird strikes on airfield to AM personnel.

(9) Tenant Flying Units. Tenant flying units will provide a representative on the BHWG and support the wing BASH program as appropriate.

(a) Operations Officer.

1 Issues specific guidance for aircrews to follow under the various bird-watch conditions (Annex C).

2 Obtains a copy of the Bird Avoidance Model/Avian Hazard Advisory System (BAM/AHAS) from the HQ AFSEC/SEFW web page. AHAS is the dynamic version of the BAM and is available online at www.usahas.com.

3 Makes operational changes to avoid areas and times of known hazardous bird concentrations, mission permitting. Consideration shall be given to the following during periods of increased bird activity:

a Avoid takeoffs/landings at dawn/dusk ± 1 hour.

b Limit or prohibit formation takeoffs and landings.

c Depart pattern in trail; rejoin 3000' AGL.

d Reschedule local training or transition, or conduct it elsewhere.

e Split formation during recovery.

f Discontinue formation instrument approaches.

g Make full-stop landings.

4 Establishes procedures for aircrews noting hazardous bird conditions on routes, ranges or operating areas to immediately notify unit operations and the controlling Air Traffic Control agency or appropriate Flight Service Station. Ensures these reports are available to aircrews in the unit for flight planning. Passes information to AMOPS.

(b) Standardization/Evaluation (OGV).

1 Reviews with the Operations and Flight Safety Officer all proposed new low-level routes and training areas or changes to existing routes/areas for BASH potential.

2 Monitors aircrew preflight briefings on a regular basis to ensure they brief existing bird-watch conditions, evasive tactics and post-strike procedures.

(c) Unit Flight Safety Officer(s).

1 Ensures aircrews participate in the BASH reduction program by reporting all bird strikes within 3 workdays and hazardous conditions IAW this plan and AFI 91-204. Establishes a procedure for the unit to ensure reports are forwarded to 45 SW/SEF.

2 Ensures that the current bird-watch condition code is available and briefed for each planned phase of flight. Base 45 WS personnel will advise each unit of the daily bird condition on the Airfield Automation System (AFAS). Each unit will post the bird condition on a status board and inform all aircrews of any change in status.

3 Ensures current bird conditions affecting unit operations on routes, ranges or operating areas are available to and used by aircrews for flight planning. Updates low-level flight planning maps with bird-strike locations and times.

4 Ensures that an adequate supply of BASH report forms is readily available for aircrews.

5 Briefs aircrews on seasonal bird hazards and strike areas. Movies, articles and other information will be used as appropriate to maintain awareness. Educate pilots on bird-watch condition codes. Aircrews are encouraged to use the AHAS at www.usahas.com for mission planning.

(10) Aircraft Maintenance.

(a) Issues specific guidance to maintenance personnel for the reporting of all discovered bird strikes on aircraft to Quality Control and Safety.

(b) Establishes procedures for the recovery of non-fleshy bird remains (i.e., feathers) if discovered on aircraft. Even the smallest feather (down) should be forwarded along with the BASH report for identification.

(11) Transient Alert.

(a) Reports bird activity to AM as workload permits.

(b) Reports evidence of bird strikes on airfield or aircraft to AM personnel.

(12) 45 FSS.

(a) General.

1 Provides a representative to the BHWG and supports the wing BASH program as appropriate.

2 Ensures agencies selling food or maintaining picnic areas: post signs to discourage feeding birds/wildlife; stop any feeding of wildlife when observed; and regularly inspect/clean outside eating areas and trash cans to ensure they are not an attractant.

(b) Golf Course (45 FSS/FSCG).

1 Reports large bird concentrations to Airfield Manager or designated representative.

2 Coordinates with Airfield Manager or designated representative and 45 SW/SEF to ensure golf course improvements are deconflicted with BASH program and do not increase bird hazard for flight operations.

3 Attends BHWG meetings when requested, or when deemed appropriate, by 45 SW/SEF or 45 FSS/CC.

(13) Defense Commissary Agency (DeCA/EAS-PAT). Ensures employees stop any feeding of birds/wildlife when observed. Regularly inspects, cleans receiving docks, outside eating areas and trash cans to ensure they are not an attractant.

(14) Army Air Force Exchange Service (AAFES). Ensures agencies selling food or maintaining picnic areas stop any feeding of birds/wildlife when observed. Regularly inspects, cleans outside eating areas and trash cans to ensure they are not an attractant.

(15) All remaining wing/tenant personnel. Feeding birds/wildlife is prohibited on PAFB and CCAFS. Regularly inspect, clean receiving docks, outside eating areas and trash cans to ensure they are not an attractant.

4. ADMINISTRATION AND LOGISTICS.

a. Concept of Logistics Support. See Annex M for guidance on mapping, charting and geodesy.

b. Concept of Administrative Support. Annex Y details the reports required to be IAW AFIs 91-202 and 204.

Headquarters 45th Space Wing (AFSPC)
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27 Oct 15

5. COMMAND AND SIGNAL. 45 SW/CP will submit any required OPREP-3 reports IAW AFI 10-206, *Operational Reporting*. Instructions for the Bird Hazard Warning System can be referenced in Annex C.

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SHAWN C. FAIRHURST
Colonel, USAF
Vice Commander

5 ANNEXES:
A - Tasked Organizations
C - Operations
M - Maps and Charts
Y - Reports and Forms
Z - Distribution

Headquarters 45th Space Wing (AFSPC)
Patrick AFB, FL 32925-3239
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ANNEX A TO 45 SW OPERATING PLAN 91-212.1
TASKED ORGANIZATIONS

ORGANIZATION	OFFICE SYMBOL
45th Space Wing	
Vice Commander	45 SW/CV
Command Post	45 SW/CP
Flight Safety	45 SW/SEF
45th Operations Group	45 OG/CC
45th Operations Support Squadron	45 OSS/CC
Airfield Operations	45 OSS/OSA
Transient Alert	45 OSS/OSM
Det 2 45 OG, Ascension AAF	45 OG, Det 2/CC
45th Weather Squadron	45 WS/DOR
45th Mission Support Group	45 MSG/CC
Det 1 45th Mission Support Group	45 MSG, Det 1/CC
45th Civil Engineering Squadron	45 CES/CC
Environmental	45 CES/CEIE
45th Maintenance Engineering & Operations	45 CES/CEO
45th Infrastructure Systems	45 CES/CEOI
45th Operations Engineering	45 CES/CEOE
Entomology	45 CES/CEOIE
45th Security Forces Squadron	45 SFS/CC
Security Forces Operations	45 SFS/S3
45th Force Support Squadron	45 FSS/CC
Golf Course	45 FSS/FSCG
920th Rescue Wing	920 RQW/CC
920th Chief of Safety	920 RQW/SE
920th Maintenance Group	920 MXG/MXQ
39th Rescue Squadron	39 RQS/DO/SE
301st Rescue Squadron	301 RQS/DO/SE
Aerial Ground Surveillance Joint Test Force	96 OG, Det 1/CC
Department of State/Air Wing	DOS/AW/CC
Defense Commissary Agency	DeCA/EAS-PAT
Army Air Force Exchange Service	AAFES

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ANNEX C TO 45 SW OPERATING PLAN 91-212.1
OPERATIONS

References. AFI 91-202, *The USAF Mishap Prevention Program*

1. GENERAL.

a. Purpose. This annex provides information on specific bird-strike hazards and recommendations for countering each hazard.

b. Mission. See basic plan.

2. CONCEPT OF OPERATIONS. Each 45 SW station has a unique set of bird hazards, operational constraints and regulatory requirements that must be considered in establishing a BASH reduction effort. PAFB has a well-documented historical database of bird strikes and bird activity on and around the airfield. The entire calendar year is separated into two phases. Phase II represents times of significant increases in local wildlife activity, normally associated with migratory movements and seasonal increases of local wildlife populations, and Phase I is considered normal wildlife activity. Phase II at PAFB and CCAFS is between 1 Oct and 31 Mar. The following discussion addresses PAFB and CCAFS bird hazards and presents recommendations for reducing the hazards. Each control measure will require action by one or more tasked organizations as described in the basic plan. It is very important to know what species of bird presents a given hazard before choosing control techniques; an appropriate field guide should be used to aid bird identification.

a. Local Hazards.

(1) Gulls. Historically, gull strikes represent over 50 percent of the BASH incidents at PAFB. Due to their omnivorous feeding habits and preference for flat, open areas to rest, significant concentrations may be found on the north overrun after heavy, prolonged rains during the Phase II season. Gulls are most active just after sunrise and before sunset as they move to and from feeding areas. Maintenance of grass height at between 7 and 14 inches is critical in making the airfield environment unattractive to gulls. Persistent harassment using pyrotechnics and bioacoustics is necessary to discourage these birds and has been effective at PAFB. Occasionally, lethal measures have been used with mixed results. Avitrol 200 was tested here with “very good” effectiveness during the late 1960s; however, shooting members of the resting flock is also effective. The key is to not permit the flock to establish a habit of using the airfield to feed, breed and rest. A coordinated grass height management, bioacoustic and pyrotechnic program appears most effective in minimizing the gull hazard at PAFB.

(2) Cattle Egrets. Although cattle egrets are the most obvious bird population at PAFB other than gulls, they historically represent only 14 percent of the reported bird strikes. However, due to their presence near the runway and their size, they present a threat of major aircraft damage. These birds are primarily insectivores; they prefer open fields especially where poor turf permits insects to be easily seen and are also frequently seen following mowers to forage for insects that are stirred up. Again, grass height management (7-14 inches) is most effective, along with the maintenance of a thick turf cover. Mowing must be coordinated between 45 CES and AM to ensure that additional egret activity does not present an additional hazard to flight operations. Periodic pesticide application may be necessary for insect control.

(3) Pigeons and Doves. These birds have been involved in approximately 11 percent of the strikes at PAFB. These birds are seed eaters and are therefore attracted to seed-producing weeds, grasses and shrubs. Open areas or bare spots in the turf are attractive as resting or feeding sites. Proper grass height management, especially mowing before the grass goes to seed, will limit the number of doves and pigeons on the field. Pyrotechnics can be used to frighten them. Organized hunts may be required; if so, extreme caution must be exercised to eliminate hazards to aircraft, hunters and non-participants. Pigeons frequently roost in structures such as hangars and warehouses; netting, trapping, shooting, poison baiting and toxic bird perches (i.e., Rid-a-Bird™) can drastically reduce their numbers in structures. A preferred roosting area appears to be the Pineda Causeway overpass at South Patrick Drive; bird control actions there have had dramatic effects on the pigeon population all over the base.

(4) Raptors. Approximately 10 percent of the reported bird strikes at PAFB involved vultures, ospreys and hawks; however, a small population of kestrels exists. Most of the vulture strikes occurred on low-level routes and ranges. They are often seen perching on the VOR checkpoint signs. Control of these birds is aided by prompt removal of dead animals on the airfield, rodent control and removal of dead trees and other perching sites. Osprey strikes occur because of their preference to catch fish and then bring them to the surfaces of the runway, overruns or hammerhead, to eat. Control of ospreys requires prompt removal of nesting material from manmade structures near the airfield (i.e., airfield lighting and communication towers).

(5) Miscellaneous Species. The above four categories account for over 85 percent of the bird strikes at PAFB. However, during BASH surveys, over 70 species of birds were noted on the field. Although they have not been involved in an inordinate number of bird strikes, it is important to point out the major types.

(a) Pelicans and Cormorants. Pelicans fly in large formations up and down the beach at 50 to 75 feet, all during the day. A large flock of cormorants is well-established on the west side of the golf course drainage canal, approximately one-half

mile south of the approach end of runway 02. The birds feed in the Banana River and use the golf course to dry their feathers; this pattern takes them directly through the flight path to that runway. Their great size makes any aircraft strike extremely dangerous. Pyrotechnics may be used to frighten the flock; however, this effort must be persistent and not present an additional hazard to aircraft in flight. Avoid flight at sunrise and sunset when the flock is flying to and from the feeding area. Reflective Mylar or plastic tape strung in a loose grid across the canal has been demonstrated to be an effective deterrent to these birds using the canal. However, since the tape deteriorates and breaks in the wind, frequent inspection and replacement is necessary.

(b) Shorebirds. Scattered strikes involving plover, killdeer, terns and turnstones have been reported. A large flock frequents the approach end of runway 11. Grass height management, pyrotechnics and bioacoustics are useful in minimizing the hazard.

(c) Herons, Egrets and Storks. These birds are frequently seen in the drainage ditches around the airfield. They feed on fish, amphibians, reptiles and arthropods. Control is best accomplished by eliminating the food sources. Deep ditches (complying with UFC 3-260-01), graded to allow mowing up to the edge, and prompt removal of submergent and emergent vegetation in the ditches and culverts will drastically reduce accessibility to food sources. Pyrotechnics may be used to disperse flocks, which occur after habitat modification.

(d) Owls. Active owl nests have been noted in the tree line west of runway 02-20. Owls are nocturnal and attracted to rodents as a food source. Rodent control is necessary (indeed, the owls themselves provide a degree of this) and proper grass height management aids this. Immediate removal of dead trees is necessary to minimize potential roosting sites.

(6) Summary. Maintenance of a “clean” airfield is the key to an effective bird control program. Proper grass height management, removal of extraneous vegetation, pest control, and removal of stumps, posts and dead trees are effective against all types of birds, minimizes flight hazards and improves the overall appearance of the airfield.

b. En route Hazards. During cross-country, operational or down-range flights, locally based aircraft and crews are exposed to a variety of other bird hazards while outside the immediate local area. When flying to other Air Force bases, each Air Force base is required to have a BASH plan outlining the hazards in its area that may be referenced. Additionally, the following basic principles can be incorporated into mission planning and execution to minimize potential bird strikes:

(1) Through the US Avian Hazard Advisory System, obtain the Bird Avoidance Model prior to establishing/using new low-level routes or operations areas. Be sure crews know the information for their areas of operations. The web address is www.usahas.com/.

(2) Establish procedures for informing unit operations and the applicable Air Traffic Control facility and/or Federal Aviation Administration (FAA) Flight Service Stations when significant bird hazards are noted. FAA Flight Service Stations also track bird hazards, so crews must notify them.

(3) Avoid known concentrations of birds, such as wildlife refuges, grain fields, ponds, lakes, rivers and known roosting areas. Caution must be exercised near ridgelines and rolling hills since raptors use the associated thermals for flight. Landfills are extremely dangerous as large concentrations of numerous species of birds can be found in the vicinity.

(4) If possible, plan missions to avoid flight during dawn and dusk since many bird species are most active moving from roosting to feeding areas and back during these times.

(5) Report bird-strike incidents to the nearest Air Force base or to 45 SW/SEF upon return.

c. Mammalian Hazards. All airfield users should watch for animals on the field and report sightings, including the development of game trails, to 45 SW/SEF or AMOPS. Rabbits, hares and other rodents provide food for raptors. Carcasses noted on runways, taxiways or their immediate vicinity must be removed immediately to avoid attracting birds. Rodent control is also aided by maintaining a thick turf cover at the recommended 7-14 inch height. Other control actions will be accomplished by standard animal control measures after coordination with AMOPS.

d. Reptile Hazards. Alligators are occasionally a problem on runways and taxiways at PAFB and CCAFS. Notify AM if alligators are sighted in the vicinity of taxiways and runways. Report alligators to 45 CES/CEIE, Natural Resources Manager.

3. BIRD HAZARD WARNING SYSTEM: OPERATION BIRD WATCH

a. General. This operation establishes procedures to be used for the immediate exchange of information between ground agencies and aircrews concerning the existence and location of birds, which could pose a hazard to flight safety

b. Bird Watch Conditions. The following terminology will be used for rapid communications to disseminate bird activity information and implement unit operational procedures. Bird locations should be given with the condition code. Location should include relation to traffic pattern and altitude if available.

(1) Bird Watch Condition **SEVERE**. Bird activity on or immediately above the active runway or other specific location representing high potential for strikes. Supervisors and aircrews must thoroughly evaluate mission need before conducting operations in areas under condition SEVERE. Airfield flying operations will be suspended until AM personnel disperse the birds and downgrade the condition. Emergency aircraft and aircraft in critical phase of flight (during initial declaration of "Severe") may land at pilot discretion if that is the safer option.

(2) Bird Watch Condition **MODERATE.** Bird activity near the active runway or other specific location representing increased potential for strikes. Requires increased vigilance by all agencies and supervisors, and caution by aircrews.

(3) Bird Watch Condition **LOW.** Bird activity on and around the airfield representing low potential for strikes.

c. Bird Watch Alert. In addition to the above bird watch conditions, a Bird Watch Alert may be declared by tower or AM personnel for weather, time of day and seasonal conditions which make an influx of birds onto the airfield likely (i.e., during or after rain storms and especially when water pools around the airfield). All personnel supporting or involved in aircraft operations should be aware of the increased likelihood of bird hazards to flight safety and report bird activity to AMOPS personnel.

d. Authority. AM personnel will establish the initial bird-watch condition during the morning inspection. The tower or AM will make subsequent changes in the bird-watch condition. In the event of non-concurrence, the tower watch supervisor controller in charge will coordinate with the Airfield Manager or designated representative before making a final decision.

e. Communications. Bird-watch condition codes will be disseminated by the following means:

(1) During airfield operating hours, bird-watch conditions other than **LOW** at PAFB will be transmitted on the ATIS and via a Notice to Airmen. When AMOPS personnel declare a bird-watch condition, they will notify 45 WS, 45 SW/CP,

45 SW Flight Safety and all tenant flying units. AMOPS will post the bird-watch condition in the flight planning room for transient aircrew personnel and will ensure transient aircrews are briefed on moderate or severe bird hazard conditions. The bird-watch condition will be transmitted over the AFAS.

(2) Note that primary means of transmitting bird-watch conditions to pilots will be via the ATIS and the AFAS. However, under bird-watch condition **SEVERE**, Patrick Air Traffic Control personnel will ensure that pilots have received and understand the condition and are provided the option to delay, or divert until the hazard has been reduced to at least bird-watch condition **MODERATE**.

(3) During bird-watch condition **MODERATE**, a re-evaluation will be at a minimum every hour. The re-evaluations will be made by AM and use inputs from the various agencies available. Under bird-watch condition **SEVERE**, AM personnel will employ all available means in an attempt to decrease the bird-watch condition to **MODERATE**.

f. Aircrew Responsibilities and Procedures.

(1) If an aircrew observes or encounters any bird activity while in flight which would constitute a hazard, they should contact the appropriate Air Traffic Control Agency or notify the 45 SW Command Post of a bird strike using AF Form 853.

(2) Supervisors will impose these restrictions based upon the bird-watch conditions and the location.

(a) Condition **SEVERE**: Airfield flying operations will be suspended until birds are dispersed and the condition is downgraded to moderate or low.

(b) Condition **MODERATE**: Touch and go landings and low approaches will be limited to the minimum required for training. Pilots will be particularly aware of bird activity when operating in the airport traffic pattern and will take appropriate precautions while maneuvering their aircraft to mitigate the potential of a bird strike.

(c) Condition **LOW**: Continue with normal operating procedures.

(3) Report all bird strikes on a BASH (AF Form 853) report within 3 working days of occurrence.

g. Procedures for 45 SW/CP. If a bird activity report is received from an airborne aircraft, Command Post controllers will record the information on AF Form 853 and fax completed forms to Airfield Management Operations (DSN 854-6442) and 45 SW Flight Safety (DSN 854-7139). For strikes outside normal airfield operating hours, controllers shall follow-up via telephone the next duty day to verify receipt of the AF Form 853.

h. Downgrading. Once a bird-watch condition or bird-watch alert has been declared, it will remain in effect until revalidated and downgraded by appropriate personnel.

I. Airfield Management (AM) Procedures.

(1) AM will maintain and use bioacoustic devices and/or pyrotechnics to keep birds from loafing in the vicinity of the airfield to include runways, overruns, taxiways and ramps. An AM representative will respond immediately to disperse birds when bird-watch condition **MODERATE** or **SEVERE** is declared. Extreme care must be taken to drive birds away from the path of oncoming aircraft rather than toward them.

(2) During normal airfield surveillance, AM will monitor bird populations, grass height, drainage ditches, etc., and report problems to the appropriate OPRs for modifying or eliminating the problem.

j. Depredation. Properly trained AM personnel are authorized to use lethal depredation methods in the event of a **MODERATE** or **SEVERE** bird-watch condition. Prior to the use of a shotgun to facilitate bird depredation, notify 45 SFS Control Center, 45 SW/CP, Control Tower, Fire Department and 45 CES/CEIE. Listed threatened or endangered species may not be killed at any time. Personnel will be trained in threatened and endangered bird species identification prior to using lethal methods. Consult 45 CES/CEIE for assistance. All personnel performing harassment or depredation activities must carry a current copy of the USFWS depredation permit as well as the delegation letter from 45 CES/CEIE. Extreme care must be used to ensure the shotgun is discharged in a direction away from personnel and equipment of any type. Record date, type and number of birds killed, report findings to 45 CES/CEIE and 45 SW/SEF. After discharging weapons or using pyrotechnics, ensure all residue (i.e., spent shells) is removed from the area to minimize the potential for Foreign Object Damage. An end of year document shall include above report findings and be prepared during the first week of new calendar year and provided to 45 CES/CEIE.

Headquarters 45th Space Wing (AFSPC)
Patrick AFB, FL 32925-3239
27 Oct 15

ANNEX M TO PAFB OPLAN 91-212.1
MAPS AND CHARTS

1. GENERAL. This annex outlines the use and requirements for the maps and charts required to implement the BASH program. Much of this information is available in the *Patrick Air Force Base General Plan 2011* maintained by 45 CES/CEN.

2. PATRICK AIR FORCE BASE (PAFB) HABITAT MAP.

a. 45 CES/CEIE will conduct a survey to identify major habitat types available to birds and maintain a map based on this survey.

b. When a specific bird hazard is identified and the location of the activity isolated, the habitat map should be consulted to determine if a specific attractant exists which can be altered within the scope of this plan to minimize BASH potential.

c. The habitat map will be used as a guide for the long-range Civil Engineering program to reduce actual and potential hazardous environmental factors on PAFB.

d. 45 CES/CEIE and Flight Safety will develop and maintain a list of acceptable trees and shrubs for use in construction compatible with the PAFB Habitat map. Vegetation will be designated Preferred, Acceptable and Limited-use Only.

e. The list in conjunction with the habitat map will be used as a guide to reduce hazardous environmental factors close to the airfield while permitting maximum flexibility with minimal impact in aesthetics further from the airfield.

3. PATRICK AIR FORCE BASE (PAFB) BIRD ACTIVITY AND STRIKE MAP. This map shows historical bird activity on the airfield, highlighting areas where bird-watch conditions **MODERATE** and **SEVERE** are often declared, and showing areas where bird strikes have occurred. The Flight Safety Officer, 45 SW/SEF, will update this map with the data from the Bird Activity Survey logbook and BASH reports.

4. PATRICK AIR FORCE BASE (PAFB) BASH EFFORT ZONE MAP. PAFB has a high concentration of avian activity on or near the airfield during the Phase II migratory season. This map was developed by 45 CES/CEIE to help Flight Safety and AM delineate bird activity. Flight Safety and AM will maintain and utilize this map to identify the areas of the airfield where active efforts will generally be expected and prioritizes them to allow for effective use of manpower.

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5. LOW-LEVEL ROUTE/TRAINING AREA/RANGE MAPS.

a. Maps depicting all low-level routes/training areas/ranges will be maintained at all flying units.

b. All reported bird strikes will be plotted on these maps.

c. This data will be analyzed and disseminated to the aircrews IAW procedures outlined in paragraph 3.b.(2)(j).

d. This data will be used to determine if the use of certain routes/areas should be discontinued or altered.

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ANNEX Y TO 45 SW OPERATING PLAN 91-212.1
REPORTS AND FORMS

1. GENERAL. This annex outlines the procedures and forms required to report bird strikes IAW AFIs 91-202 and 204, and to enhance the BASH program at 45 SW stations.

2. AFPAM 91-212 AIR FORCE BIRD STRIKE REPORT.

a. For strikes occurring to non-USAF aircraft, or where the aircraft is unknown (or if assistance is requested), the 45 SW/SEF will compile all reported bird strike data using completed AF Forms 853 and submit via the web-based Air Force Safety Automated System (AFSAS) to the BASH Team IAW AFI 91-202.

b. All tenant flying units and AM personnel will maintain either blank or fillable AF Form 853, *Air Force Wildlife Strike*. This form is located at http://www.e-publishing.af.mil/index.asp?txtSearchWord=af853&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie-UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs.

c. Flying units experiencing bird strikes will ensure an AF Form 853 is prepared. AF units with assigned Flight Safety personnel will submit via AFSAS with an info copy sent to 45 SW/SEF and AMOPS for each incident. All other units, in addition to unit reporting requirements, will provide a completed AF Form 853 (for each incident) to Airfield Management Operations and 45 SW/SEF for reporting via AFSAS. Particular care in describing flight conditions, what bird-watch condition was in effect and providing actual damage costs should be taken while completing the form. If any information is unknown, or even if a BASH incident is only suspected, an AF Form 853 should be completed giving the information available.

3. AFI 91-204 BIRD STRIKE REPORT. 45 SW/SEF will enter bird strike reports in AFSAS for all strikes affecting non-Air Force aircraft at 45 SW airfields, and for those where the aircraft struck cannot be determined. Air Force flying units are responsible for entering bird strikes affecting their aircraft.

4. OPERATIONAL REPORTS. The Command Post will submit OPREP-3 reports, if required, IAW AFI 10-206 and appropriate supplements.

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5. BIRD REMAINS IDENTIFICATION.

a. Remains of unidentifiable birds taken from aircraft or airfield following all bird strikes will be forwarded to 45 SW/SEF. Small remains such as down feathers or feather fragments can be used for positive identification and are not to be discarded.

b. The 45 SW Flight Safety Officer will forward the remains to the Smithsonian National Museum of Natural History, if local identification is not possible. Include as a minimum:

(1) Base and state where remains are shipped from.

(2) AFI 91-204 mishap number (damaging) or aircraft tail number (non-damaging).

(3) Date and local time of strike.

(4) Type of aircraft involved in strike.

(5) Damage amount.

(6) Geographic location and altitude at time of strike.

3 APPENDICES:
1. Bird Activity Survey
2. AF Form 853, *Air Force Wildlife Strike Report*
3. Bird Identification Aid

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APPENDIX 1, ANNEX Y TO 45 SW OPERATING PLAN 91-212.1
BIRD ACTIVITY SURVEY

BIRD ACTIVITY SURVEY

SIGHTING NUMBER	BIRD TYPE AND QUANTITY	COMMON ACTIVITIES	SCARE TACTICS	DATE & TIME	LOCATION (Description/crash grid coordinates)
1					
2					
3					
4					
5					

1. Make an entry in the log on any significant bird sightings. Refer to base/airfield/low-level route maps for locations.

2. Use the terms below to help in filling out this report.

COMMON BIRD TYPES:

A. Osprey
B. Blue Heron
C. Coot
D. Dove
E. Egret
F. Sparrow
G. Gull
H. Hawk
I. Tern
J. Blackbird
K. Starling
L. Other (identify if possible)

COMMON ACTIVITIES:

1. Flying: (specify approximate altitude, altitude, direction, etc.)

2. Soaring: (circling in one general area)

3. Loafing: (resting or sitting in one place)

4. Feeding: (identify food source)

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TYPE OF SCARE TACTICS:

1. Pyrotechnics Shell Crackers
2. Distress Tape
3. Siren
4. Horn
5. Depredation
6. Other (identify)
7. None

(Enter all attempted and results)

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APPENDIX 2, ANNEX Y TO 45 SW OPERATING PLAN 91-212.1
AIR FORCE BIRD STRIKE REPORT

This fillable XML form can be uploaded onto your computer by clicking on the link below.

http://www.e-publishing.af.mil/index.asp?txtSearchWord=af853&client=AFPW_EPubs&proxystylesheet=AFPW_EPubs&ie-UTF-8&oe=UTF-8&output=xml_no_dtd&site=AFPW_EPubs.

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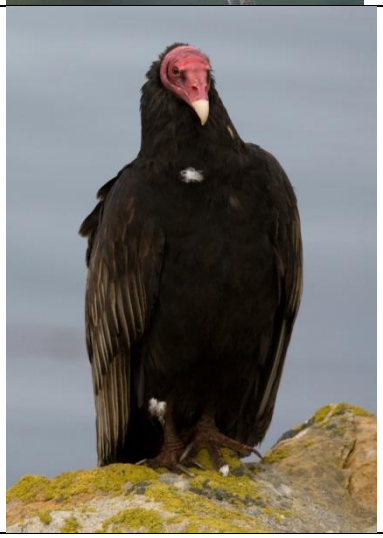
APPENDIX 3, ANNEX Y TO 45 SW OPERATING PLAN 91-212.1
BIRD IDENTIFICATION AID

American Kestrel		**Brown Pelican**	
Cattle Egret		**Great Blue Heron**	
Killdeer		**Lesser Scaup**	

Mourning Dove		**Osprey**	
Plover		**Ring-billed Gull**	
Scrub Jay		**Sooty Tern**	
Turkey Vulture			

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ANNEX Z TO 45 SW OPERATING PLAN 91-212.1
DISTRIBUTION

ADDRESSES

45 SW/CV
45 SW/CP
45 SW/XP
45 CES/CC
45 CES/CEIE
45 CES/CEO
45 CES/CEOI
45 CES/CEOE
45 CES/CEOIE
45 OG/CC
Det 2, 45 OG/CC
45 OSS/CC
45 OSS/OSA
45 OSS/OSAB
45 OSS/OSAM
45 OSS/OSAT
1 ROPS/CC
1 ROPS/DO
45 SFS/S3
45 MSG/CC
Det 1 45 MSG/CC
45 FSS/CC
45 WS/DOR
920 RQW/CC
920 RQW/XP
920 RQW/SE
920 MXG/MXQ
39 RQS/CC
301 RQS/CC
Det 1, 96 OG/CC
DOS/AW/CC
CCAFS AMOPS
DeCA/ESC-PAT
AAFES
HQ AFSPC/SEF