Ministry of Blue Economy & Civil Aviation

Belize Department of Civil Aviation

ADVISORY CIRCULAR

Subject: Wildlife Hazard Management and Reporting

Date: 16-11-2022	AC No. BDCA AGA-006-2022
Initiated by: HWP	Revision: 002

1. SUBJECT

The Belize Department of Civil Aviation (BDCA) is providing aerodrome operators methods acceptable to ensure compliance with the Wildlife Hazard Management Reduction requirements contained in the Belize Civil Aviation Regulations BCAR 139.

2. WHAT CANCELS THIS AC.?

This Advisory Circular cancels CA BDCA-AGA-006-2018.

3. WHO DOES THE AC AFFECT?

Public-use aerodrome operators, and aviation industry personnel (e.g., Air Traffic Control, Pilots and Airline personnel, Mechanics, Fixed Base Operators (FBO), General Airport Workers and Contractors.), and others who possess strike information. The BDCA strongly recommends that the above aviation representatives and others possessing strike information participate in reporting efforts.

4. APPROVAL:

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1. SECTION: GENERAL

Definitions

Anthraquinone: also called anthracenedione or dioxoanthracene, is an aromatic organic compound with formula C 14H 8O 2. Several isomers are possible

Avitrol Amino pyridine: A commonly used abbreviation is "4-AP." 4-AP is an extremely poisonous bird poison or avicide.

Damp. The surface shows a change of colour due to moisture Wet. The surface is soaked but there is no standing water.

Ecological Assessment: Ecological studies are studies of risk-modifying factors on health or other outcomes based on populations defined either geographically or temporally. Both risk-modifying factors and outcomes are averaged for the populations in each geographical or temporal unit and then compared using standard statistical methods.

Methyl anthranilate: It is a clear to pale yellow liquid with melting point 24 °C and boiling point 256 °C. It shows a light blue fluorescence colour. It is very slightly soluble in water, and soluble in ethanol and propylene glycol. It is insoluble in paraffin oil. It is combustible, with flash point at 104 °C. At full concentration, it has a fruity grape smell; at 25 ppm it has a sweet, fruity, Concord grape-like smell with a musty and berry nuance.

Minister: means the cabinet minister responsible for civil aviation.

Mitigation: The reduction of damages doctrine is sometimes called minimization of damages or the doctrine of avoidable consequences.

Risk Assessment: The process of identifying potential hazards an organization may face and analysing methods of response.

Standing Water: for aeroplane performance purposes, a runway where more than 25 per cent of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by water more than 3 mm deep

Terrestrial: The term terrestrial is typically applied for species that live primarily on the ground, in contrast to arboreal species, which live primarily in trees. Or as compared with aquatic animals, which live predominantly or entirely in the water (e.g., fish, lobsters, octopuses), or amphibians, which rely on a combination of aquatic and terrestrial habitats (e.g., frogs).

Wildlife Hazard: A potential or damage to aircraft through collision with birds or animals on or near an aerodrome.

2. ACRONYMS & ABBREVIATIONS

AIC=Aeronautical Information Circular AIS=Aeronautical

Information Services
AC=Aircraft ATC=Air Traffic Control
AIPM=Aerodrome Inspector Procedures Manual Department BDCA=Belize Department of Civil Aviation
ECCAIRS=European Coordination Centre for Accident/Incidents Reporting System
EA=Ecological Assessment
FAA=Federal Aviation Administration FIP=Feather Identification Program FBO=Fixed Based Operation
IBIS=ICAO Bird Strike Information System ICAO=International Civil Aviation Organization
WSD=Wildlife Strike Database
WSC=Wildlife Strike Coordinator NWHPP=National Wildlife Hazard Prevention plan
WHMP=Wildlife Hazard Management Plan
SARP=Standard and Recommended Practices
SOP=Standards Operations Procedure
SPI=Safety Performance Indicators
SMS=Safety Management System

3. FUNCTION AND STRUCTURE OF A WILDLIFE HAZARD STRIKE REDUCTION

This Advisory Circular (AC) explains the importance of reporting collisions between aircraft and wildlife, more commonly referred to as wildlife strikes. It also explains recent improvements in the Belize Department of Civil Aviation (BDCA's) Bird/Mammal wildlife strike reporting system, how to report a wildlife strike, what happens to the wildlife strike report data, how to access the BDCA Wildlife Strike Database (WSD), and the BDCA's *Feather Identification program (FIP)*. * to be implemented.

4. MINIMUM CONTENT OF A WILDLIFE STUDY

Every wildlife study shall be conducted by professionals with expertise in biology and aerodrome operations. The study shall include at least the following:

(1) Identification of species, number, daily and seasonal local movements and information on the presence of animals.

(2) Identification and location of characteristics of the aerodrome, or its vicinity, which may attract birds or wild animals.

(3) Description of any wildlife hazard to air operations.

(4) Periodical update mechanism.

(5) Criteria of public and private entities affected.

5. BACKGROUND

In Belize most species of birds are protected by **Law** like "White Crown Pigeons, Laughing Gulls, Smooth Billed Ani or (black bird), Kill Deer, the raptors family of Common Night Hawks, Kestrels, Ospreys, the Great Heron, Egrets, and Night Herons, nevertheless these species were all at some time or some ware involved in aircraft incidents within Belize. To date none of these birds has brought down or caused major damaged to any aircraft on record.

It is assumed! That strike has steadily increased over the past two decades; however,

strike reporting is not consistent across all stakeholders (pilots, air carriers, airport operators, air traffic control personnel, etc.) This circular service as the first addition of a national implementation and awareness program for wildlife reporting.

It will be encouraged throughout Belize that operators maintain a well-established wildlife program which will give priority to improving strike reporting.

The known strike reports to BDCA comes from the Philip Goldson International Airport (PGIA)

Wildlife activity is many times higher on average as compared to what is known. The pattern of disparity in strike reporting rates for commercial air carriers into the country is minimal. However, the BDCA believes the current proposed voluntary reporting program to be established will increase the rate or reporting adequately to track national trends in wildlife strikes; to determine the hazard level of wildlife species that are being strucked. This will provide a scientific foundation for BDCA policies and guidance to draft effective mitigation and risk assessment analyst with in Belize.

The BDCA is initiating several programs to address this important safety issue, including the collection, analysis, and dissemination of wildlife strike data. The effectiveness of a Wildlife Hazard Management Plan (WHMP) by Aerodrome Operators is to reduce wildlife hazards both on and near an aerodrome. The re-evaluation of all facets of damaging or non-damaging strikes from year to year requires accurate and consistent reporting.

MEMORANDUM OF UNDERSTANDING WITH OTHER AGENCIES

Belize government agencies and other cooperation's are partners in the national committee addressing the outstanding and pending issues relating to wildlife management; with a view to establishing any needed (MOU's) in support of aviation related concerns.

Golf course with in the vicinity of the aerodromes and any open space were standing water can attract birds and Memorandum of understanding (MOU) will have to be established to manage these areas.

6. TYPES OF ANIMALS TO REPORT IF INVOLVED IN A STRIKE WITH AN AIRCRAFT

a. All birds.
b. All bats.
c. All terrestrial mammals larger than 1 kg (2.2 lbs.) (e.g., raccoons, domestic dogs and cats, feral dogs and cats, livestock, snakes, frogs also rats and mice which attract owls, etc.). If in doubt, report the incident with a note in the comment section, and the Database Manager will determine whether to include the report into the WSC based on body mass.
d. Reptiles larger than 1 kg (2.2 lbs.).

7. WHEN TO REPORT A WILDLIFE AIRCRAFT STRIKE OR NEAR MISS

A wildlife strike has occurred when:
a. A strike between wildlife and an aircraft has been witnessed.
b. Evidence or damage from a strike has been identified to an aircraft.
c. Bird or other wildlife remains, whether in whole or in part, are found,

d. Bird/wildlife incidents should be defined in 3 categories:

- Confirmed strikes
- Unconfirmed strikes
- Serious incidents

e. Near miss which is an occurrence when a bird/animal crosses path of an aircraft on approach or landing.

f. Incursion: a bird/animal enters the manoeuvring area and is spotted by pilot or control tower on the runway before take-off or on landing and either tower or pilot initiates ago around or delays take-off.

(1) It is recommended that any signs of dead birds or animal within 250 feet of a runway centreline or within 1,000 feet of a runway end, unless another reason for the animal's death is identified or suspected.

(2) On a taxiway, apron or anywhere else on or off the airport that one has reason to believe was the result of a strike with an aircraft. Examples might be:

(i) A bird found in pieces from a prop strike on a taxiway or apron.

(ii) A carcass retrieved within 1 mile of an airport on the final approach or departure path after someone reported the bird falling out of the sky or a probable wildlife strike.

8. HOW TO REPORT A BIRD/WILDLIFE STRIKE

The BDCA strongly encourages Pilots, Air Operator Certificate (AOC) holders, Aircraft Maintenance Personnel, Air Traffic Control personnel, Mechanics, or anyone else who has knowledge of a strike to report it to the Wildlife Strike Coordinator (WSC). The BDCA makes available an online reporting system at the Wildlife Hazard website (WHW) web site (https://www.BDCA.gov.bs/wildlife), or via telephone.

Other sources of reporting can be done directly on the BDCA website https://civilaviation.gov.bz/reporting-scheme-forms/bird-strike-reporting/ anyone reporting a strike can also send an email on the contact tab in the BCDCA website or here https://civilaviation.gov.bz/index.php .

9. THE NATIONAL PROCEDURE FOR RECORDING WILDLIFE STRIKES AND DATA ANALYSIS

This procedure is applicable for all operators receiving aircrafts up to 20,000kg or greater as is stated in BCAR 139.337. Requires the operators or personnel responsible to collect wildlife data pertaining to wildlife hazards to have data available for analysis.

The BDCA has a wildlife Coordinator on staff to collect and analysis these data. To determine mitigating factors that may be employed to help assist the operator in

reducing wildlife strikes and report to ICAO.

Strike form for completing strike information is found in https://civilaviation.gov.bz/reporting-scheme-forms/bird-strike-reporting/.

PROCEDURE FOR REPORTING AND SIGHTING OF BIRDS

a) The operator is responsible for sighting of birds' activity within the aerodrome which must be logged, along with their species, the location, numbers and activity shall be included in the report.
b) The logging of birds must be identified by the aerodrome personnel responsible for wildlife or the airport manager for smaller aerodromes..
c) All log reports must be sent to the BDCA every quarter for analysing data uploading by way of email attachment or co-mail pouch.
d) Bird strikes which are more comprehensive shall include a strike report and must be filled either by the Pilot-in-Command or the Air Traffic Controller or the Aerodrome Operator.
e) Sighting of birds in and around the aerodrome must also be reported, it's the responsibility of the aerodrome operator to report sightings or make available sighting form for the aviation public to report such sightings.
f) The form is self-explanatory and can be obtain from the aerodrome operators' website, office or their social media site. Additionally, the Belize Department of Civil Aviation has promulgated this document on its website in the wildlife circular AC BDCA AGA-006.

INCIDENT STRIKE REPORTING

a) Once a bird strikes occurs and not preventing the continuing of flight, it's the responsibility of the Pilot-In-Command to report the incident to the Air traffic controller giving all relevant information.
b) The Air traffic controller must call the aerodrome operator out to the runway to remove any debris or remains left from the strike if found.
c) The Air Traffic controller is responsible for collecting the information from the pilot and completing a strike form.
d) The completed strike form copy, must be sent to the aerodrome operator
e) The aerodrome operator must collect the form and carry out and investigation as necessary.
f) The operator is responsible to send the completed form and the completed investigation report to the BDCA for filing and analysis.
g) The BDCA will produce quarterly data analysis base on this data and report such findings to the industry.

ACCIDENT REPORTING

a) If the bird strike is catastrophic or major that runway is closed and a formal investigation is required.
b) The aircraft is to remain at accident location or the resting position of the wreckage.
c) If the carrier struck is a foreign, it would be the jurisdiction or either the National Transportation Safety Board (NTSB) or any other foreign investigating unit.
d) The airport operator must activate the Emergency Operation Centre EOC and contact Aircraft Accident Investigation Unit firstly and secondly The Belize Department of Civil Aviation.
e) The accident investigation unit will have jurisdiction over the investigation and security and police activity will only be to safe guard property.
f) All of the protocols for a major accident or incident must follow as per the Airport Emergency Plan activating all necessary government agencies.
g) After which, a completed form must be sent by the pilot-in-command or Air Traffic controller to the aerodrome operator and the aerodrome operator must then contact the wildlife coordinator advising him/her of the incident and to expect a complete review of the occurrence and the completed forms.
h) The incident or accident must be logged by the operator if made aware by at the time of the occurrence.
i) Once this occurs the operator must carry out a formal investigation and gather the details of any damage to the aircraft, the location of the strike, witnesses and if possible, determine what could be the attractant or reason the bird/s were in the vicinity.
j) Once the aerodrome operator has contacted the wildlife coordinator and notify the Aircraft Accident Investigation Unit by way of phone call or sending in the completed strike form.
k) The data will be uploaded into the European Coordination Centre for Accident and Incidents Reporting System ECCAIRS system hosted at the Aircraft Accident Investigation unit in conjunction with the BDCA.
l) The BDCA coordinator ensure all strike reports consistent of error-free data before entering a single, consolidated report into the database. This information is supplemented with non- duplicated strike report forms or other sources.
m) About every quarterly, the BDCA will posts an updated version of the database on the web site. Quarterly, the BDCA will send a current version of the database to the International Civil Aviation Organization (ICAO) for incorporation into ICAO via European Coordination Centre for Accident and Incidents Reporting System (ECCAIRS) Database. Also, the BDCA will prepare and make available report summarizing wildlife strike results.

10. RISK ASSESSMENT OF WILDLIFE HAZARD

The first step of managing wildlife hazard is to assess the level of risk that each species of animal presents to aircraft operations at the aerodrome. This risk assessment is more than simply surveying the species found in and around the aerodrome; it involves assessing the likelihood of each species striking an aircraft and the probability and extent of damage that may result. This allows managers to prioritize their management actions to target the highest risk species. The Risk Assessment should also identify the biological factors that cause different wildlife species to present a risk to aviation safety. Identification of these factors will greatly aid in the formulation of a Wildlife Hazard Management Plan.

There are several methods of conducting a risk assessment of wildlife hazards. This advisory circular will outline a simple, qualitative method that can be used as a starting point for a more detailed risk assessment. In its most basic form, a risk assessment determines the level of risk that each species of wildlife presents based on the combination of the probability that it will be struck by an aircraft and the severity of the outcome.

DEFINE THE AREA OF RISK ASSESSMENT

The first step in a risk assessment of wildlife hazards is to define the area that will be assessed. This generally includes the entire aerodrome. The area of the risk assessment should include the take-off routes and landing approaches when significant wildlife hazards are present in these zones.

RANKING THE PROBABILITY OF A STRIKE

The next step of a risk assessment is to rate the probability that species will be involved in a strike. The example below uses a scale with 5 levels but fewer or more levels could be used.

The probability can be assessed qualitatively on a scale, for example, from very low to very high. Species that shy away from aircraft noise or that learn to avoid aircraft could be rated as low or very low. Birds that flock in large numbers to certain habitats in the flight path could be rated a high or very high. Solitary animals might be rated as medium but other behavioural factors might have to be taken into account. This probability might also vary with the season or other conditions such as grass length or rain and weather conditions.

A quantitative approach could use historical strike records at the aerodrome expressed as the number of strikes (by species) per 10,000 aircraft movements. As a guide, 5 or more strikes per 10,000 movements would constitute a very high probability of a strike, whereas less than 1 strike per 10,000 movements constitutes a very low probability.

RANKING THE SEVERITY OF A STRIKE

The next step is to rank the expected severity of the impact or damage resulting from a strike event. Sometimes called the Hazard Level Ranking, this can use a scale similar to strike probability scale. This ranking will depend on the size of the animal and its tendency to flock or congregate.

Table 1.0

			Severity of Strikes				
			Catastrophic	Critical	Moderate	Minor	Negligible
Probability of Strikes			A/C Crash & Severe	A/C Crash & Light Casualty	A/C Severe Damage & No Crash	A/C light Damage	Near miss
Definition	Meaning	Value	A	B	C	D	E
Frequent	5/10,000 movements	5	5A(Unacceptable)	5B(Unacceptable)	5C(Unacceptable)	5D(High)	5E(Moderate)
Likely	4/10,000 movements	4	4A(Unacceptable)	4B(Unacceptable)	4C(Unacceptable)	4D(Moderate)	4E(Moderate)
Occasional	3/10,000 movements	3	3A(Unacceptable)	3B(High)	3C(High)	3D(moderate)	3E(Low)
Seldom	2/10,000 movements	2	2A(Unacceptable)	2B(High)	2C(Moderate)	2D(Low)	2E(Very Low)
Improbable	1/10,000 movements	1	1A(Unacceptable)	1B(High)	1C(Low)	1D(Very Low)	1E(Very Low)

9. REQUIREMENTS FOR WILDLIFE HAZARD ASSESSMENT

These requirements are established by the authority for each certificate holder to ensure that an Assessment is conducted when any of the following events occurs on or near the airport:

1. An air carrier aircraft experiences multiple wildlife strike

2. An air carrier aircraft experiences substantial damage from striking wildlife

3. An air carrier aircraft experiences an engine ingestion of wildlife

4. Wildlife of a size, or in numbers, capable of causing an event such as major damage, injury incursion or death is observed to have access to any airport flight pattern or aircraft movement area.

Table 1.1

Schedule 21 and IS-21: 21.415 / 21.583	Guidance
In a manner authorized by the BDCA, each certificate holder shall ensure that a Wildlife Hazard Assessment is conducted when any of the following events occurs on or near the airport.	
(b)(1) An air carrier aircraft experiences a multiple wildlife strike	Aircraft strikes multiple animals during a single incident (i.e., flock of birds).
(b)(2) An air carrier aircraft experiences substantial damage from striking wildlife. As used in this paragraph, substantial damage means damage or structural failure incurred by an aircraft that adversely affects the structural strength, performance, or flight characteristics of the aircraft and that would normally require major repair or replacement of the affected component	
(b) (3) An air carrier aircraft experiences an engine ingestion of wildlife; or	Engine damage does not have to result from the ingestion.
(b) (4) Wildlife of a size, or in numbers, capable of causing an event described in paragraph (b)(1), (2), or (3) of this section is observed to have access to any airport flight pattern or aircraft movement area.	Airports with a standing Notice to Airmen (NOTAM), announcements on their Automatic Terminal Information Service (ATIS). Permanent or blanket generic advisories should not be issued without the airport conducting actionable mitigation measures.
Elements of a Wildlife Hazard Assessment.	
(c) The Wildlife Hazard Assessment … shall be conducted by a wildlife damage management biologist… having training or experience in wildlife hazard management at airports or an individual working under the direct supervision of such an individual.	It is required that the aerodrome operator establish the qualifications for Wildlife Biologist Conducting Wildlife Hazard Assessments and Training Curriculums for Airport Personnel Involved in controlling wildlife hazards on Airports.
(c) (cont.) … the Wildlife Hazard Assessment shall contain:	
c) (1) Analysis of the event or circumstances that prompted the assessment. (c)(2) Identification of the wildlife species observed and their numbers, locations, local movements, and daily and seasonal occurrences.	Who, what, when, where, and why of the situation prompting the assessment? What wildlife species have access to the airport? What are their movement and seasonal patterns? Data shall cover 12 consecutive months. What is the National and State protective status of notable wildlife?

(c)(3) Identification and location of features on and near the airport that attract wildlife.	Wildlife are attracted to an airport because something exists on or near the airport that they desire. Wood lots near the AOA and large open areas provide relatively safe loafing, nesting and feeding locations. Food and water sources can vary seasonally or temporarily. These attractants and others, such as easily accessible travel corridors, should be analysed.
(c)(4) A description of wildlife hazards to air carrier operations.	Consider the types of wildlife observed. Also consider wildlife documented in the strike database and the severity of damage they caused.
(c)(5) Recommended actions for reducing identified wildlife hazards to air carrier operations	Prioritize recommendations for mitigating hazardous wildlife and their attractants. Also recommend operational and maintenance changes in response to wildlife hazards (e.g., airport operations personnel, Air Traffic Control (ATC), air carriers, and pilots).

Heavier animals have a greater capacity to damage an aircraft and impact its flight performance. As a guide, birds that tend to flock and weigh more than 1.8 kg can cause the most severe damage to aircraft. The birds (or bats) that are solitary and weigh less than 50 g might be expected to cause the least severe damage. Flocking behaviour might mean that a strike event could include multiple impacts or it could increase the probability of a strike.

Severity can be rated in terms of aircraft damage and human casualty. Negligible could mean near miss and aircraft damage. Minor could mean light aircraft damage. Moderate could mean severe aircraft damage. Critical might mean that the aircraft could crash with no human death, just wounded, and Catastrophic might mean an emergency situation with aircraft crash and severe wounds or death casualty. Each airport should determine its own scale. The range of aircraft sizes operating at an airport will also need to be taken into consideration, so clearly the views of the aircraft operators should be considered.

RISK ASSESSMENT MATRIX

An example of a Risk Assessment Matrix is provided in Table 1.0 The level of Risk for each species of bird, bat and terrestrial animal is determined as a combination of the Probability of a Strike and the Severity of the Outcome. In the example the Risk is also rated on a scale of 5 – Very Low, Low, Medium, High and Unacceptable. Alternatives might use a scale of 3 and the traffic light colours (Green, Amber, Red) to highlight the high priority species.

The Risk Assessment will rank the risk of each species and highlight those species that should be prioritized for risk; consider a greater set of variables, and therefore, assess risk more accurately. For example, the type of aircraft using the aerodrome will influence the level of risk; larger, faster aircraft will increase the risk of a damaging wildlife strike.

When considering the probability of a wildlife strike, components of each species behaviour can also be considered. This is especially valuable when detailed records of historical wildlife strikes are not available. Such factors as variations in a species annual abundance around the aerodrome, the animal's propensity to engage in "hazardous" behaviour, and its relative ability to avoid aircraft can be considered.

SAFETY PERFORMANCE INDICATORS

The analysing of data from the various aerodrome operators to determine the Safety Performance Indicator) (SPI) status; this will be via BDCA to ensure the best means of mitigation is available to give invaluable information in determining the nature of the severity and risk of an aviation wildlife strike hazards. The safety performance indicator is applicable for 10,000 movements and above for certified aerodromes and for non-certified aerodrome it shall be 5,000 or less.

The database provides a scientific basis for identifying risk for mitigation. These facts will justify; implementing corrective actions at airports, and judging the effectiveness of those corrective actions. Each wildlife strike or lack thereof contributes to the accuracy and effectiveness of the database. Moreover, each report contributes to the common goal of increasing aviation safety and reducing the cost of wildlife strikes.

11. BIRD/WILDLIFE IDENTIFICATION

Accurate species identification is critical for wildlife aircraft strike reduction programs. The identification of the exact species of bird struck (e.g., White Crown Pigeons, Laughing Gulls, Smooth Bill Annie's, Night Hawks, Kill Deers, Kestrels, Ospreys other birds unnamed); mammals of concern are feral dogs/cats, raccoons, farm animals, donkeys, reptiles will include alligators, snakes and iguanas and amphibious crabs are particularly important, because they move in mass and at nights. These species information is critical for airports biologists or Wildlife control units, the Wildlife strike

Coordinator (WSC),) will assist in developing and implementing wildlife hazard management programs at airports, because a problem that cannot be measured or defined cannot be solved.

11. THE STATE SAFETY PROGRAM (SSP)

The State Safety Program is the governing safety program overseeing all safety issues relating to Civil Aviation Operation within Belize and any related Safety Management System (SMS) Procedure for wildlife

12. WILDLIFE REPORTING GUIDELINES FOR AERODROME CERTIFICATION

An effective bird/wildlife control programme depends upon accurate and reliable reporting. Data may come from, sightings, maintenance reports, strike reports and control activities. Reporting must involve pilots and aircraft operators primarily, plus airport ground operations staff ATC and other aviation stakeholders (i.e. aircraft maintenance organizations). Reviewing and analysing this data will help identify problems at the airport and indicates the effectiveness of current bird/wildlife strike prevention methods.

It is recommended that the bird/wildlife strike reporting procedure should ideally be coordinated by a single office in order to ensure an appropriate and meaningful review

taking into consideration all circumstances. This procedure should be familiar to all airport personnel and be described in the aerodrome manual or associated airport wildlife hazard policy document. All strike reports should be directed to the bird/wildlife strike control coordinator who should forward them to the appropriate regulatory authority, but local operating procedures may differ and such procedures should be clearly set out in the local Bird/Wildlife Management documents and working instructions as appropriate.

Accurate and reliable record keeping and a reporting procedure contained within an effective Bird/Wildlife Management Manual may assist the airport with claims of liability in the event of an aircraft incident resulting from a bird/wildlife strike. Accurate, reliable and internally audited record keeping and reporting can be used to demonstrate that an effective bird/wildlife control programme is in place and that airport management is aware and takes action to reduce the number of strikes at, and where practicable, in the vicinity of the airport.
The reporting of bird/wildlife strikes is best facilitated by utilizing a form such as the one shown in Figure 3-1. However, local variations in the contents of this form maybe necessary in order to facilitate online and electronic airline flight safety recording, but the basis of these systems should encompass at the very least, the data fields shown in the example form.

The Wildlife strike Coordinator WSC will be reporting office in the national administration of the State charged with the responsibility of distributing the reporting forms and collecting and editing the completed forms before forwarding them to ICAO.

13. OPERATORS RESPONSIBILITIES

Those directly responsible for the implementation and management of wildlife control procedures at the airport are as follows:

The Aerodrome Operator
The aerodrome operator is the Chief Custodian of safety for aerodrome operations, with this in mine, all wildlife data as pertaining to strikes, with an incident or accident must collect and analysis. This data is to be readily available to see trends and establish mitigation programs to maintain safety targets set by the state with in the aerodrome safety performance indicators.

Safety Manger

The safety manager shall:
- Facilitate the development and implementation of a wildlife control measures;
- Oversee the management and mitigation of wildlife at the airport;
- Provides for the necessary expenditures to acquire and maintain equipment to support the program;
- Ensure deficiencies are corrected when discovered; and
- Oversee the airport users and operators committee to which the wildlife control subcommittee is attached.

Safety Coordinator

The safety coordinator shall**:**

- Ensure all supporting equipment is used and maintained properly; and
- Assist in the assessment of hazards and the provision of control techniques.

Wildlife Control Officer

- The Airport Wildlife Control Officer is responsible for implementing wildlife control measures. It is the wildlife control Officer's/Safety coordinator duty to ensure that the airfield is cleared of wildlife and to implement the control techniques for any species of wildlife that has been identified as problem.
- The wildlife control officer reviews strike reports to determine the need for modification of control techniques. The officer is also a member of the Airport Wildlife Control Sub-Committee.
- Under direction of the Safety Manager, the Officer assists in the operations function and promotes a safe, friendly, clean and attractive environment.
- Daily responsibilities include:
- Inspects airport facilities including ramp, perimeter barrier and buildings for foreign object debris, unsafe or unsanitary conditions and for wildlife hazard; completes reports on these issues, recording discrepancies and arranging for corrective action when warranted.
- Assist in the monitoring and control of wildlife, ensuring that the airports are cleared of wildlife and attractants; implements and maintains control techniques for canine, bird and any species of wildlife that has been identified as a problem.
- Observes and reports on environmental issues and hazards which could affect the physical health of passengers and workers and advises airport management on those issues.

Air Traffic Services

- Belize Air Navigation Services Department, Air traffic Service Controllers shall maintain communication between the airside workers, the Wildlife Control Officer/Safety Coordinator and the Pilots. If any bird activity occurs, ATC shall advise the pilots of these bird movements and when necessary Notice to Airmen (NOTAMS) shall be used to inform pilots of birds or wildlife activity.
- The ATC shall immediately advise the Wildlife Control Officer/Safety Coordinator of any birds or other animal activity that has been reported by pilots or airside workers, so that the control officer can respond to the situation.

All Employees

All airports staff, who has airside access, should report sightings of birds to Aerodrome Operator, or Air Traffic Control. Air Traffic Control should then report this information to the Wildlife Control Officer and Safety Coordinator and to pilots. Information such as the number/s, specie, and size of the bird or mammal, and the location and or altitude should be relayed to pilots to assist them in avoiding bird strikes.

Pilots

Pilots should report all birds or wildlife activity that they notice to the Air Traffic Control Tower. Pilots should report *all* bird strikes

Airport/Bird Wildlife Strike Committee

The airport bird/wildlife strike committee shall include those involved in bird/wildlife control, airport planning, maintenance and operations. This shall also include bird/wildlife control unit, airport maintenance, air traffic services, flight operators, rescue and firefighting services, security, duty managers, finance, etc. The committee should review strike data collected and review observations from birds/wildlife, and assess bird/wildlife risks and summarize trends to evaluate and determine what effective control measures should need to be implemented in order to manage the issues arising.

The airport bird/wildlife strike control coordinator (or equivalent) should coordinate the activities of the wildlife control programme with both Air Traffic Control (ATC) and other stakeholders. The coordinators responsibilities should allow for the time, as required to be involved with observations, control and reporting. The wildlife coordinator at the site should also review strike reports, monitor daily activity records and maintenance reports to determine the requirements for short- and long-term management programmes, and this information should be passed to safety accountable managers on a regular basis (recommended at least monthly).

14. WILDLIFE HAZARD MANAGEMENT AND PREVENTION PLAN

Authority for Implementing the Wildlife Plan

The Belize Department of Civil Aviation (BDCA) on the authority of the Minister of Blue Economy and Civil Aviation, in consultation with Belize Department of Civil Aviation is for the implementation of the National Wildlife Hazard and Prevention Plan (NWHPP) which monitoring and surveillance responsibility will lie with the National Wildlife Strike Protection Office at BDCA.

This national plan is monitored in the WSC and will provide over sight to the following:

- Responsible for incorporating reduction of wildlife attractants in the landscape layout by reducing the number of trees planted and selecting species least desirable to wildlife.
- Design of water retention ponds or storm drains that automatically pump or lead standing water off the airfield.
- Design of bridges to have enclosed under structure to prevent roosting and nesting areas.
- bridges that will not be an attractant for birds perching.
- Air condition drip water, roof water runoff and typical rain to be designed to run into storm drains.
- Trash compactors and other food receptacles to be fit with lids and ensure the operators of aerodromes make policy for the same.
- The implementation of wildlife assessment for all certified and licensed airports to include a Safety Management System (SMS) with Wildlife Hazard Management and Prevention Plan incorporated.

Airport Maintenance

- Responsible for the monitoring maintenance and surveillance of the airfield, this includes field mowing to keep the grass maintained at a length least desirable for wildlife.

- Tree removal of nesting and roosting habitat.
- Maintaining the airport's perimeter fence to keep mammals off the airfield and to prevent incursions.
- Small scale pesticide and herbicide spraying on the airport.
- Installation of netting to prevent roosting and nesting.
- Filling and grading of low areas that collect standing water.

Vehicle Maintenance

The responsibility for the repair and maintenance of vehicles state which will be used for wildlife control should include sirens, two-way radios, hazing equipment and a local wildlife hand book for proper identification for wildlife control and livery markings indicating "Wild Life Unit".

15. HABITAT MANAGEMENT

It shall be the policy of the Aerodrome Operator to minimize, to the extent practical, the development of new wildlife habitat, and eliminate existing habitat and land uses which attract birds and other wildlife to the aerodrome and its vicinity when determined to be a problem. The following actions shall be taken to eliminate habitat and land uses identified as contributing to wildlife hazards. These changes shall be made consistent with available resources and the airport's ability to influence land use decisions.

Needed for Habitat Modification and Land Use Planning:
Hazards attractants recognizing (description of wildlife habitats and resources): Habitat management is the heart of airport's Bird/Wildlife Hazard Management Program because it offers ecologically based, long-term measures for reducing the number of hazardous birds/wildlife at the airport. Before undertaking activities to manage the environment, it is important to first carry out an Ecological Survey (refer to item (3.1.2) of the airport and surrounding area to identify sources of food, water and shelter attractive to wildlife on and in the vicinity of the airport.

Categorized the hazard as the following:

- **1st Landscape Category**

Which is the airport itself, where habitats and the wildlife using them will be described in detail. This will rely on site-specific field work and standard techniques for describing vegetation communities (e.g., Ecological Land Classification) and wildlife communities, their use patterns and seasonal variations that have been observed or that might be expected.

- **2nd Landscape Category**

Which are the nearby lands those are not under direct control of the airport. The physical area included in this category generally includes lands up to 8 km from the airport reference point, which should include an area of sufficient size to provide an adequate picture of wildlife movements through the airspace identified later in this document.
This assessment is largely based on existing information and remotely sensed habitat analysis rather than site-specific field work. It will describe the location of moderately hazardous land use practices such as wastewater discharge plants and sewage lagoons, crop production, recreational sites and managed or created wildlife habitats. There is requirement under the Regulation IS-21 21.415 to manage these lands however it is important to be aware of potentially hazardous off airport land use, other governmental and private land use policies.

- **3rd Landscape Category**

Which is the determination of the presence of extremely hazardous land use practices that may be many kilometres from the airport. At a minimum, food waste disposal sites, outdoor composting and commercial fish plants will be mapped when they occur within 15 km of the airport reference point. Such features may be mapped at greater Page **20** of **35** distances where wildlife associated with them may become a hazard to aircraft using the airport.

Existing Wetlands on or Near Airport Property.

If wetlands are located on or near airport property, airport operators shall be alert to any wildlife use or habitat changes in these areas that could affect safe aircraft operations. At public-use airports, the BDCA recommends immediately correcting, in cooperation with a local, state, and regulatory agencies, any wildlife hazards arising from existing wetlands located on or near airports. Where required, a WHMP will outline appropriate wildlife hazard mitigation techniques. Accordingly, airport operators shall develop measures to minimize hazardous wildlife attraction in consultation with a wildlife damage management biologist at the B.N.T.

New Airport Development.

Whenever possible, the BDCA recommends locating new airports using the separations from Wetlands identified in sections above (wetlands). Where alternative sites are not practicable, or when airport operators are expanding an existing airport into or near wetlands, a wildlife damage management biologist, in consultation with the, and the Belize Department of Civil Aviation must evaluate the wildlife hazards and prepare a WHMP that indicates methods of minimizing the hazards Any significant bird/wildlife attractants within a defined radius of (10,000 meters) as per the Aerodrome Reference Point (ARP) should be assessed and a management plan developed to reduce their attractiveness to birds/wildlife. While it is understood by leading bird/wildlife experts that an ARP might not always be cantered exactly on the geographic centre of an aerodrome typically a 13km (or 6.2nm) circle is considered a large enough area for an effective wildlife management plan. However, as necessary, action should also be taken when the bird/wildlife attractants are outside the 13 km circle if the airport operator is able to have some influence on planning and development issues.

- Turf will be maintained in such a manner as possible that it will not constitute an attraction to wildlife.
- Areas of standing water that are identified as strong wildlife attractants that are frequented by shorebird and other waterfowl will be drained or filled. Another way for detracting birds from

  standing water or turf grass is either *(anthraquinone, methyl anthranilate)* both of these chemicals are a repellent in water, especially for grass feeding birds.
- Storm water detention basins or *swales* will be pumped out in a timely fashion to reduce the attraction to wildlife.
- Trees, brush, and vegetation along canals, and other areas that are found to provide food, shelter, or roosting facilities for wildlife will be cleared.
- Water in canals that are considered to be strong wildlife attractants will be drained, covered, or provides wire above the canal in a zigzag pattern to discourage wildlife use.
- Mandatory and directional signage at airports will be fitted with prongs or repellents to detract birds.
- Small mammal populations will be monitored, and direct control will be initiated if

necessary.

- Buildings will be made as uninhabitable as possible as nesting or roosting sites with netting, bird spikes, or other suitable materials and the blocking of eaves.
- Waste receptacles containing that may attract wildlife *shall* be fitted with lids as a policy, to eliminated or render inaccessible, and “no feeding” signs will be posted in areas where tenants or the public may provide food for wildlife.
- Construction debris that may provide cover for small mammals and perching sites for birds shall be removed before it becomes an attractant.
- Airside personnel will monitor insect populations, and insecticides should be applied when necessary.
- Agricultural practices and livestock grazing are not allowed on the airport in any area that may attract wildlife and affect aircraft operations. The cutting of grass will be done on a case-by-case basis after review.

12.SPECIES SPECIFIC POPULATION MANAGEMENT

American kestrel (Falco sparverius) sometimes colloquially known as the **sparrow hawk**, is a small falcon, and the only kestrel found in the Americas; they have migrated or been brought to Belize. These birds are predators and feed on other small birds, small lizard or hatchlings in nest. Removal of these attractants will reduce the population presence at airports.

White- Crowned pigeon (Patagioenas leucocephala) is indigenous to the Caribbean and is commonly found throughout Belize; the beginning of the season is March through September and they love berries, like Coco plum and Poison Ivy. White Crown Pigeons are also likely to cause damage due to their habit of low perching, low altitude flying, Aerodromes with surrounding trees of Coco plum and Poison Ivy shrubs are an attractant for these birds.

Laughing Gulls (Leucophaeus artricilla) are a species of serious concern and often congregate on the airport and surrounding wetlands or golf courses throughout the year, especially during the rainy season. May through September operators should be vigilant when these birds appear; strict control measures must be adhered to when hazing or culling this specie. Gulls are commonly involved in strikes during the rainy season; which is a serious threat and are likely to cause aircraft damage due to their size, low flight patterns, and the tendency to flock; they love clear standing water for drinking, bathing and roasting.

Smooth Billed Ani (Crotophaga ani) are locally known as (black birds), these birds and are low, slow flyers which are also shrub and brush perching and are seldom struck. They live in low trees and brush of which are plentiful at most of the aerodromes in Belize and are a cause of concern. Ani’s becomes a problem at the aerodrome when they are aware that the grass is cut frequently, because they love the insects especially soldier ants that are disturbed after mowing care must be taken when mowing is scheduled.

Much of the geographical area near the aerodrome is wetland marshes, ponds and lakes that contain many migratory and resident waterfowl, hat frequent the aerodrome; this habit promotes increase concern and hazing management must be a priority.

Killdeer (Charadrius vociferous) are smaller of the Shore bird’s family they love rocky surfaces and whites coloured stones, which are plentiful at our aerodromes, which is an attractant for nesting and they are common throughout our aerodromes. Patrolling, hazing and management of these open areas are a must, removal of attractant should be considered.

Double-Crested Cormorants (Phalacrocorax auritus) are attracted to open water and like lakes, pond and canals of which are plentiful throughout Belize and near many aerodromes. An extensive wetland monitoring and control MOU with the civil aviation authority and national agency and other government entities should be in hand.

White Cheeked Pintail (Anas bahamensis) Ducks are common near the aerodrome also because of the lakes, ponds and standing water after a rain storm.

Great Herons (Ardea Herodias) which are large birds and can stand about 4 feet tall have been struck by aircrafts; they love to feed in marshy areas and water holes searching for frogs and fish.

Egret's (genera Egretta) all herons are attracted by the same food sources but can flock in small numbers in mating season. Although these birds are very shy, they can pose a great treat to aircraft on approach and landing because the juveniles get jumpy at the approach of aircrafts. Herons are also attracted to damp grassy areas or standing water.

Limpkins (Aramus guarauna) are also large birds as big as the Great Herons and feed on snails, frogs, worms and other insects these birds are dusk and dawn feeders and are very shy.

Common Terns (Sterna hirundo) are sea birds which frequent the aerodromes in the migration period and love to nest in rocky surfaces and flock in small numbers.

The Night Heron (Nycticorax, Nyctanassa or Gorsachius) is a common nocturnal bird that is found at the aerodrome and has been struck by aircraft; this specie also feed on frogs and snails.

Eurasian Collared Dove (Streptopelia decaocto) and **Mourning Doves (Columdidae)** are common through the aerodromes in Belize, these species love to nest and perch on terminals, jet bridges and under the eaves of buildings, and they nest in the open because they are comfortable with human presence.

Old Barn Owls (Tyto Alba) is a nocturnal bird that is common at some of our aerodrome because of potential of rats and mice especially at nights. Where ever trash receptacles are rodents may have access, which will attract owls; controlling access to open waste will reduce rodent activity; destroying the eggs or oiling them can reduce these specie population and discourage nesting.

Antillean Nighthawk (Chordeiles gundlachii) is a nightjar the adults are dark with brown, grey and white patterning on the upper parts and breast; the long wings are black and show a white bar in flight. These birds appear in summer and they love mosquito's and termites, they nest in coloured rocky areas of the aerodromes and sleep on taxiways and runways at evenings after hunting; they are very aggressive when young ones are near; environmental health should be partnered with by Memorandum of Understanding (MOU) to increase mosquito spraying at aerodromes.

Belted King Fisher (Megaceryle alcyon) this specie is very common around aerodromes because of the open waters swales or ditches which is either a water source for RFFS or runoff for taxiways and runways; this attractant encourages fish and other crustaceans to start hatcheries which is a food source for these birds. Covering or Draining or Monitoring of these waters will discourage feeding for these species.

The Gray King, is also passerine bird (Tyrannus dominicensis) this species is also a summer bird and love to eat Cicadidae or common known as “singers” they are common at aerodromes for the trees near the terminal buildings and occasionally will be seen crossing runway and taxiways searching for food or after hunting, they are very aggressive when young are near. Controlling insects at the aerodrome is methods prescribed for this specie.

Farm Animals: which are inclusive of pigs, cows, sheep, goats, horses, chicken, ducks are a high potential threat to the safety of aircrafts because of the proximity of these farms, vigilant surveillance and monitoring should be adopted when it is know that these facilities are nearby. Perimeter fencing must be installed and enforced if necessary, to prevent breaches from livestock especially because of their size.

Coots and Mo0rhens (Rallidae) are medium-sized water birds that are members of the Rallidae (rail) family. They constitute the genus **Fulica**. Coots have predominantly black plumage, and—unlike many rails—they are usually easy to see, often swimming in open water. They are close relatives of the moorhen. Many of our aerodromes are near open water and with this specie is often seen swimming in these waters.

Donkeys (Equus africanus asinus) which are sometimes on farms but most are located in southern Bahamas are very manoeuvrable and gain access to the aerodromes frequently, this is a serious concern and pilots are to be vigilant when flying to these aerodromes.

Osprey (Pandion haliaetus), sometimes known as the fish eagle, sea hawk, river hawk, or fish hawk, is a diurnal, fish-eating bird of prey. It is a large raptor, reaching more than 60 cm (24 in) in length and 180 cm (71 in) across the wings. It is brown on the upper parts and predominantly grayish on the head and under parts.

Stilts (Himantopus) these shore birds are common at our aerodromes also because it loves the brackish marshy and swampy areas where it can use its long beck to search for crustaceans, snails and small fishes.

Passerines Species: A Passerine is any bird of the order Passeriformes, which includes more than half of all bird species. A notable feature of passerines is the arrangement of their toes (three pointing forward and one back) which facilitates perching. Sometimes known as perching birds or, less accurately, as songbirds, the passerines form one of the most diverse terrestrial vertebrate orders, with over 5,000 identified species. The warbler of this species is common along the fence line and shrubs throughout the aerodromes. Controlling of shrubs, brushy areas and trees is a detractant for these birds.

Domestic and Feral Dogs (**Canis lupus familiaris**) dogs occasionally breach the perimeter of our aerodromes and can become a serious hazard risk or incursion to aircraft safety. Once a dog is spotted near us within the perimeter, immediate steps needs to be taken to capture or control them and care must be taken when trying to capture them within the perimeter because they like to run towards or cross the runways to avoid capture.

Domestic and Feral Cats (**Felis Catus or Felis Silvestris Catus**) is a small, usually furry, domesticated, and carnivorous mammal. They are often called a housecat when kept as an indoor pet, but they stray at times and become feral and sometimes breach the perimeter of the aerodrome, hunting for birds; trapping is a means of control placed around the aerodrome.

Raccoons (Procyon lotor) are also among the species of mammals that can be found at our aerodromes, these indigenous American animals are very active at nights and are very protective of young and they can venture near or on runways/taxiways. Trapping, Culling or removing food sources is the best form of control these animals.

Please see Appendix 1-Table 1.1 for pictures to these species in their habitat.

13. Management Techniques

Propane cannons are utilized to assist in hazing gulls and pigeons from the aerodrome. The cannons can be placed on the airfield and moved as conditions warrant. The cannons are numbered and can be activated by Wildlife Control Unit personnel through the Airport Control Centre via radio system.

- Other Audio repellents are Distress-call and electronic noise-generating systems and Ultrasonic devices.

- Kennels and traps can be used to control animals on or near the aerodromes.

- Twelve-gauge shotguns are utilized to launch pyrotechnic cracker shells to haze birds from the area, and live ammunition or pellets are used if lethal control is necessary. The use of these weapons will require a gun license.

- General area (fogging with methyl anthranilate) Methyl anthranilate is also available for use in fogging machines (thermal or mechanical) to disperse birds from hangers, lawns and other areas.

- Pyrotechnic is another form of controlling birds at the aerodrome along with fake screeching owls or the placing of traps

- Frightening agent (Avitrol [4-Aminopyridine]) Avitrol is used to repel pigeons, house sparrows, black-birds, grackles, cowbirds, starlings, crows and gulls from feeding, nesting, loafing, and roosting sites. Birds eating Avitrol-treated baits react with distress symptoms and calls, behaviours that frighten away other birds in the flock. Although registered as a —frightening agent Avitrol is toxic to the birds that eat treated baits. Avitrol-treated bait should be applied in small amounts with untreated bait so most birds in the flock do not eat treated bait. The primary use of Avitrol at airports has been for pigeon control around buildings. The safe use of Avitrol requires: knowledge of the bird ‘s feeding patterns;
- Proper pre-baiting procedures to ensure bait acceptance and avoidance of non-target species; and
- Removal of dead birds after treatment. A paint ball gun is used as a non-lethal deterrent.

Visual repellents

Scarecrow, Taxidermy
Displaying dead birds in a “death pose”
Handheld laser
projectors Flags
and Effigies

Population control can be mitigated by oiling nest, addling methods, culling or relocation of specie but these methods have to be cautioned because currently the Wild Birds

Protection Act 249 and Wild Animal Act 248 of Belize protects most of these species. Belize National Trust (BNT) is the custodian of all protected animals, plants, trees, shrubs, fishery reserves and national parks in Belize. They require consultation on behalf of the government when species are to be controlled, culled or displaced from their natural habitat for any reason.

16. National laws and Protections

Wildlife Protection Act 1981 (Act No. 4 of 1981)

It shall be lawful for the Minister by Order to exempt any portion of Belize from the operation of this Wild Birds Protection.

Hunting licenses

The Minister may by regulations made under this section provide for the grant of hunting licenses and the charging of fees therefore; and any such regulations may make such different provision for different categories of wild birds, for different categories of persons and for different parts of Belize as the Minister may think fit.

Appendix 1 [Bird and Animal Species]

Table 2.0				
Common Name	**Scientific Name**	**Seasonal Occurrence**	**Locations**	**Specie in Nature**
Antillean Nighthawk	**(Chordeiles gundlachii)**	**Summer**	**whole airport**	
Barn Owl	**Tyto alba**	**Year-round**	**whole airport**	
Belted Kingfisher	**(Ceryle alcyon)**	**Autumn/Winter**	**whole airport**	
Domestic/Feral Dogs	**(Canis lupus familiaris)**	**Occasionally**	**breaches through fencing and access points**	
Domestic/Feral Cats	**(Felis Catus)**	**Occasionally**	**breaches through fencing and access points**	
Gray Kingbird	**(Tyrannus dominicensis)**	**Summer**	**whole airport**	
Herons & Egrets	**(Ardea alba modesta. & Andrea purpurea)**	**Year-round**	**whole airport**	
Horses	**(Equus ferus caballus)**	**Occasionally**	**Whole part**	
Laughing Gulls	**(Leucophaeus artricilla)**	**Summer**	**Apron/Taxiways/ Runways**	
Moorhens & Coots	**(Gallinula us & Fulica Americana)**	**Year-round**	**Surrounding waters of airport**	
Pigeons & Doves	**(Columbidae)**	**Year-round**	**airport buildings Jet bridges**	
Other Passerines	**(Passeriformes)**	**Year-round**	**whole airport Jet bridges**	
Osprey	**(Pandion haliaetus)**	**Occasionally**	**Surrounding water of airport**	
Smooth-Billed Ani	**(Crotophaga ani)**	**Year-round**	**whole airport**	
Killdeer	**(Charadrius vociferous & Himantopus)**	**Year-round**	**Runway/Taxiway roads/wetlands**	
White-Cheeked Pintail	**(Anas bahamensis)**	**Year-round**	**Ponds, Marsh, Lakes**	
Swallows	**(Hirundinidae)**	**Year-round**	**whole airport**	

Raccoons	**(Procyon lotor)**	**Occasionally**	**airport forestry and perimeter**	
Wild Donkey	**(Equus africanus asinus)**	**Frequently**	**Runway/Taxiway**	
Goats	**(Capra aegagrus hircus)**	**Occasionally**	**Runway/Taxiway**	
Pigs/Wild Bore	**Sus domesticus (Sus scrofa)**	**Occasionally**	**airport general**	

Cows	Aberdeen Angus *Braunvieh*	Occasionally	airport perimeter	
White Crown Pigeon	(*Patagioenas leucocephala)*	Frequently	Runway/Taxiway	

14.Appendix 2 [Weight and Class Matrix]

Table 3.0					
Damage Level	**Characteristics**	**Illustrative Species**	**Qualitive Definition**	**Value**	**Risk**
Level 1	Extremely Large (5kg-500kg)	Farm Animals/Feral Animals sheep, goats, cows, pigs, horses, donkeys, dogs, cats, raccoon	Remote	3	A
Level 2	Extra-large(>2.8kg-5kg), flocking	Greater Flamingo, Turkey Vulture, Condor, Eagle	Remote	3	C
Level 3	Very large(>1.8kg), solitary, Large(1.8kg), flocking	West Indian Whistling Duck White Cheek Pintail	Occasional	4	C
	(1.8 to 3kg)	Great Heron, Blue Heron, Osprey	Occasional	4	B
Level 4	Large(1–1.8kg), Solitary or Medium (300–1000gm), flocking	American Coot, Ruddy Duck, Common Moorhen, Rock Pigeon	Occasional	4	C
		Herring Gull, Laughing Gull	Frequently (rainy seasons)	5	B
Level 5	Medium(300–1000gm), solitary or Small(50–300gm), flocking	Eurasian Collared Dove, Northern Bobwhite, Mourning Dove	Occasional	4	C
		Smooth-Billed Ani.	Frequently year round	5	C
		Antillean Nighthawk (Summer)	Occasional	4	B
Level 6	Small(50–300gm), solitary ,or Very small(<50gm), flocking	Green Heron, Common Ground Dove, Palm Warbler	Occasional	3	B
Level 7	Very small(<50gm), solitary	Banana Quit, Common Yellowthroat	Frequent	2	A
		Gray kingbird (Summer)			

15.Appendix 3 [Bird/Mammal Wildlife Form]

Ministry of Blue Economy & Civil Aviation

BELIZE DEPARTMENT OF CIVIL AVIATION

PHILIP S. W. GOLDSON INTERNATIONAL, LADYVILLE

P.O. BOX 367, BELIZE CITY, BELIZE

OCCURRENCE REPORT FORM

Please complete and submit this form.

Are you concerned about the confidentiality of this report and wish to be contacted? If so, please ensure you provide us with yourcontact details.
Confidential? ○ Yes ◉ No

OCCURRENCE REPORT FORM

BDCA Occurrence Number:

AIRCRAFT TYPE & SERIES * | **REGISTRATION *** | **DATE (dd/mm/yyyy) *** | **TIME OF EVENT UTC (HH:MM) *** ○ DAY * ○ NIGHT ○ TWILIGHT

OPERATOR * | **LOCATION / POSITION / RW ***

ENVIRONMENTAL DETAILS

FLIGHT NO. * | **ROUTE FROM * ROUTE TO *** | ○ **FL** ○ **ALT/HT (FT) * IAS (KT) *** | ○ **IFR *** ○ **VFR** | **TCAS *** ○ Yes ○ No | **ETOPS *** ○ Yes ○ No

WIND | **CLOUD** | **PRECIPITATION**

DIRN. | **SPEED** | **TYPE** | **HT (ft)**

NATURE OF FLIGHT * Select... | **FLIGHT PHASE *** Select... | Select... | Select...

OTHER METEOROLOGICAL CONDITIONS | **RUNWAY STATE**

VISIBILITY ○ KM ○ NM | **ICING** Select... | **TURBULENCE** Select... | **OAT(°C)** | Select... | **CATEGORY** Select...

BRIEF TITLE

DESCRIPTION OF OCCURRENCE

Any procedures, manuals, pubs. (AIC, AD, SB etc.) directly relevant to occurrence and (where appropriate) compliance state of aircraft, equipment or documentation

GROUND STAFF / MAINTENANCE ORGANISATIONREPORT

ENGINE SERIAL NO. | **ENGINE TYPE/SERIES** | **ETOPS APPROVED** ○ Yes ○ No | **GROUND PHASE** ○ MAINTENANCE ○ GROUND HANDLING ○ UNATTENTED

MAINTENANCE ORGANISATION | **TEL.**

COMPONENT/PART | **MANUFACTURER** | **PART NO.** | **SERIAL NO.**

REFERENCES:- MANUAL/ATA/IPC | **COMPONENT OH/REPAIR ORGANISATION**

ORGANISATION AND APPROVAL REFERENCE | **NAME** | **POSITION**

DATE (dd/mm/yyyy) | **Address (if reporter wishes to be contacted privately).** | **Tel.no.**

NOTE 1: If additional information, as below, is available, please provide.
NOTE 2: If the occurrence is related to a design or manufacturing deficiency, the manufacturer should also be advised promptly.
NOTE 3: Where applicable, a report of this incident should be forwarded directly to other agencies involved, e.g. Aerodrome Authority, ATC agency.

REPORTING ORGANISATION REPORT

ORGANISATION COMMENTS - ASSESSMENT / ACTION TAKEN / SUGGESTIONS TO PREVENT

	UTILISATION - AIRCRAFT			UTILISATION - ENGINE / COMPONENT			MANUFACTURER ADVISED
	TOTAL	SINCE OH/REPAIR	SINCE INSPECTION	TOTAL	SINCE OH/REPAIR	SINCE INSPECTION	
HOURS							○ Yes ○ No
CYCLES							
LANDINGS							

REPORTING ORGANISATION * | **TEL. *** | **FAX *** | **E-MAIL *** | **REPORTER'S REF *** | **REPORT *** ○ NEW ○ SUPPLIED | **REPORTER'S INVESTIGATION *** ○ NIL OPEN ○ CLOSED | **FDR DATA RETAINED *** ○ NEW ○ SUPPLIED

NAME * | **POSITION *** | **TEL ***

E-MAIL * | **DATE ***