



الهيئة العامة للطيران المدني  
GENERAL CIVIL AVIATION AUTHORITY

# Wildlife Management from a Regulatory Perspective



رؤيتنا: منظومة طيران مدني آمنة ورائدة ومستدامة  
OUR VISION: A LEADING, SAFE, SECURE AND SUSTAINABLE CIVIL AVIATION SYSTEM

# Bird/Wildlife Hazard

## Description

- Operators of aircraft have a reasonable expectation that any wildlife hazard which may exist at an airport they use will be managed to a level which eliminates exceptional risk
- Many States have detailed guidelines and compliance procedures to ensure their airports achieve this but, despite the existence of related ICAO SARPs, there is no uniformity of achieved standards

This presentation summarises the UAE regulatory requirements and the main principles of an appropriate management approach for **Aerodrome Operators**

# Wildlife Management from a Regulatory Perspective

## Why Aerodrome Operators?

- Since aircraft bird strike hazard is greatest at:

Low  
Altitudes

- Because that is where bird activity is heavily concentrated

Airports

- Because that is where the greatest concentration of aircraft is found

Much of the focus  
on bird wildlife  
hazard management  
is on airports



Therefore the Aerodrome Operator is the focal point for UAE GCAA regulatory requirements

# Bird/Wildlife Hazard

## Effects

The nature of aircraft damage from bird strikes, which is significant enough to create a high risk to continued safe flight, differs according to the **size of aircraft**

- Small propeller-driven aircraft are most likely to experience hazardous effects of strikes as structural damage, such as the penetration of flight deck windscreens and damage to control surfaces



# Bird/Wildlife Hazard

## Effects Cont.

- Larger jet-engined aircraft are most likely to experience hazardous effects of strikes as the consequences of engine ingestion
- Partial or complete loss of control may be the secondary result of either small aircraft structural impact or large aircraft jet engine ingestion



# Bird/Wildlife Hazard

## Effects Cont.

- In the case of bird ingestion into more than one engine, all aircraft are vulnerable to loss of control. Such hazardous ingestion is infrequent but may result from the penetration of a large flock of medium sized birds or an encounter with a smaller number of very large ones





# Bird/Wildlife Hazard

## Defenses

- The opportunities to mitigate the risk of hazardous bird strikes in the first place are centred on **airports**, because this is where the greatest overall volume of conflict occurs, and because this is where management of the hazard is most easily achieved
  - However, there are two problems with this approach:
    1. The airport-centred bird strike risk is rarely confined to the perimeter of any particular airport
    2. Many of the most hazardous strike encounters – those with large flocking birds - take place so far from the airport that the airport operating authority will often have little real influence over the circumstances
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# Bird/Wildlife Hazard

## Defenses Cont.

- Guidance on effective measures for establishing and monitoring levels of bird activity is provided in the ICAO Airport Services Manual, Part 3 and an important part of this is the recording of bird strikes at local level and the opportunity this then presents to build up larger databases and share the information
- It is **MANDATORY** that all bird strikes are reported to the GCAA in the UAE





# Bird/Wildlife Hazard

## UAE Regulation

- The basis for managing bird strike hazard at and around airports is therefore the responsibility of the **Aerodrome Operator**. UAE GCAA Civil Aviation Regulations Part IX requires all certified aerodromes to have an airport '**Wildlife Hazard Management Plan**' (WHMP)

The **WHMP** should include the following considerations and assessments detailed in the following slides:



# Bird/Wildlife Hazard

## Attractants

- Assess the habitat features including open areas of grass and water as well as shrubs and trees which provide food and roosting sites for birds



- Assess landfill and other waste disposal sites close to an airport to determine if they attract large numbers of birds/wildlife and if they are carefully managed
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# Bird/Wildlife Hazard

## Attractants

- Consider types of agricultural activity on or in the vicinity of an airport that may attract birds



- Airports in coastal locations often have a much higher level of un-managed bird activity than inland airports
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# Bird Hazard Control

## Principles of Effective Risk Management

- The extent of a bird hazard at a particular airport locations is widely variable. Many solutions are available but none are likely to be useful at any one airport



# Bird/Wildlife Hazard

## Principles of Effective Risk Management

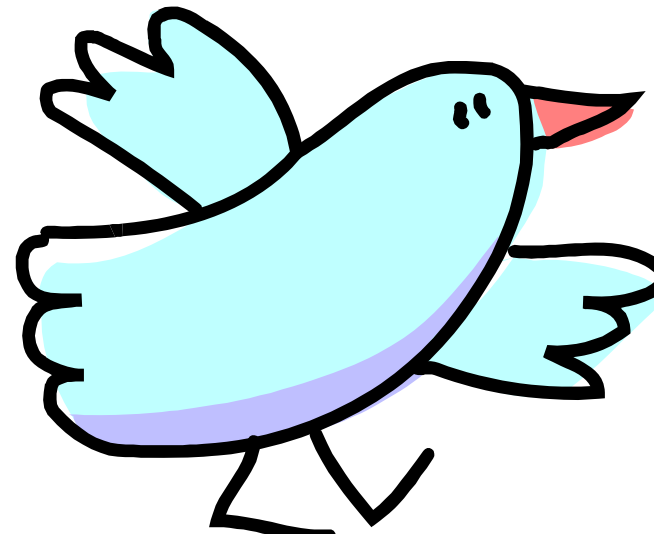
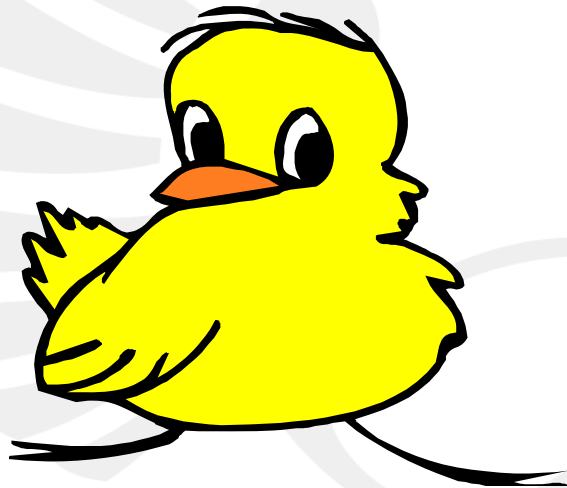


- The most important action, upon which any risk management strategy must be founded, is knowing the nature of the hazard; this may vary by time of day and seasonally and must be related to the likely pattern of aircraft movements
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# Bird/Wildlife Hazard

## Principles of Effective Risk Management

- It has to be recognised that, once a Wildlife Hazard Management Plan is developed and established, it is still necessary to monitor proactively for any detectable change in the assumptions upon which it was based



# Bird/Wildlife Hazard

## Principles of Effective Risk Management

- As with all risk management, an SMS approach to risk management is essential



- The activity must be founded on accountability, co-operation between stakeholders, proper documentation and an effective review procedure. All this needs to be facilitated by human and financial resources compatible with the task
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# Bird/Wildlife Hazard

## Components of Risk Management


- Many of the 'tools' at the disposal of airport operators will find a place in any Wildlife Hazard Management Plan but not necessarily to the same degree
- **These are essentially considered in three categories:**
  - A. Airport Habitat Management –** shrubs and surface water (including transient accumulations) management, exclusion of roosting opportunities in buildings and trees within the airport perimeter





# Bird/Wildlife Hazard

## Components of Risk Management

**B. Airport Locality Habitat Review** (i.e. that area beyond the airport perimeter where bird attractants or related bird activity has the potential to directly affect the operational safety of aircraft using the airport) **what size area** 

The **GCAA** defines a **13km radius circle** around the airport. This bird circle map should be included in the **WHMP**



# Bird/Wildlife Hazard

## Solutions To Mitigate The Risk

**C. Active on-airport control systems** – trained personnel in bird activity monitoring, bird deterrence methods, ATC alerting channels and bird strike review including the following:

- Habitat management, for the reduction or elimination of trees, shrubs and other plants which provide food, shelter or roosting sites for birds
- Netting or draining of streams, areas of standing water and the prevention of transient formation of such areas after heavy rainfall

**DO NOT  
ATTRACT  
WILDLIFE  
BY FEEDING  
THEM OR LITTERING.**



**WILDLIFE  
CAUSES  
DELAY AND  
DAMAGE TO  
AIRCRAFT.**

# Bird/Wildlife Hazard

## Solutions To Mitigate The Risk

- Liaison with local municipalities to ensure that landfill waste disposal sites are not operated so as to create an aircraft hazard and Liaison with local farmers to limit the attraction of birds/wildlife to farm land
- Use of bird scaring techniques such as:
  1. The broadcast of bird distress signals
  2. The use of lure's and other effective technical bird scaring equipments
  3. Firing of pyrotechnic bird scaring cartridges, if permitted



# Bird/Wildlife Hazard

## UAE Regulation

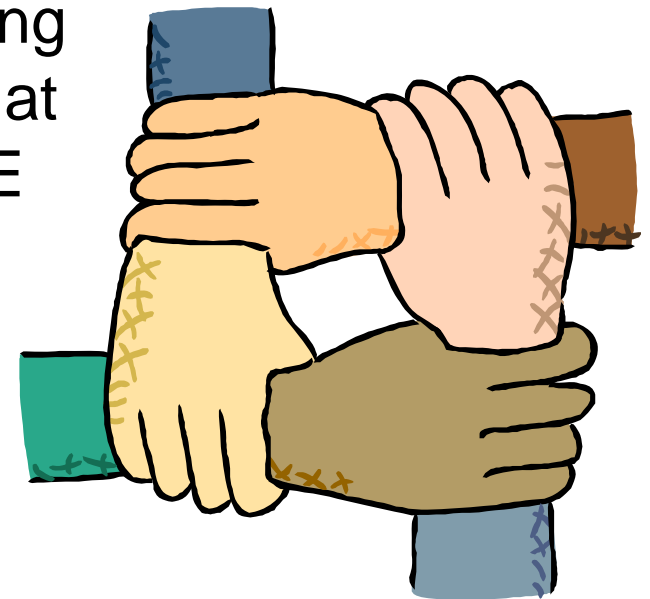
- It is a mandatory instruction for all wildlife strikes to be reported to the GCAA in accordance with ICAO requirements
- These reports are monitored by the GCAA Inspectors and analysed to identify trends. This information is then depersonalised and feedback is provided to the industry through the Aerodrome Operators Technical Committee and other published safety awareness information
- Bird Strike Reports are collected through our Reporting of Safety Incidents (ROSI) System, relevant bird strikes are automatically forwarded to ICAO



# Bird/Wildlife Hazard

## UAE Regulation

- All these components of the **Wildlife Hazard Control Plan** are assessed during the annual surveillance audit conducted at every certified aerodrome within the UAE
- The GCAA Aerodrome Inspectors **work closely** with the aerodrome operators, continually researching global best practice, with a common aim to ensure a safe environment for aviation within the UAE



# Bird/Wildlife Hazard

Solutions To Mitigate The Risk

**And if all that does not work – ask the airlines to try this!!!!!!**



# Bird/Wildlife Hazard

Because we want to prevent this whenever possible!!



THANK YOU

