

Wildlife & FOD Workshop

Assessing Risk

Session #5 Presentation #2





Salim Al-Harthy

**Muscat International Airport
Oman Airports Management Company**

OUTLINE

- 1. Introduction about Oman and Airports**
- 2. Overview from Muscat International Airport**
- 3. Why Wildlife and FOD**
- 4. Roles & Responsibilities**
- 5. Risk Assessment and Management Plan**
- 6. Management System**
- 7. Questions and Discussion**

Oman Airports



Muscat International Airport

Description	Existing Muscat International Airport	New Muscat International Airport
Terminal Building Capacity – Stage 1	Not Declared. 2011 handled approx 6.4 mppa	12m Passengers per annum (mppa)
Terminal Building Capacity – Stage 2 / 3 / 4	N/A	24 / 36 / 48 mppa
Car Parking Capacity	1674	8,000
Air Traffic Control Tower Height	25m	97m
Cargo Terminal Capacity	40000 tons per annum declared capacity. (currently handling approx 80000 tonnes per annum).	260,000 tons per annum

The new airport will be designed as an **ICAO category 4F airport** able to accommodate the Airbus A380. The design of the runway shall be planned for independent parallel operation.

The passenger terminal will be designed to the latest “**state of the art**” technology and in accordance with IATA **Standard A service levels**.

Salalah Airport

Description	Existing Muscat International Airport	New Muscat International Airport
Terminal Building Capacity – Stage 1	Not Declared. 2013 handled approx 747 000 ppa.	1m Passengers per annum (mppa)
Terminal Building Capacity – Stage 2 / 3 / 4	N/A	2m / 6 mppa
Car Parking Capacity	569	1957
Air Traffic Control Tower Height		57 M
Cargo Terminal Capacity	1000 tons per annum	100000 tonnes per annum



Regional Airports

AIRPORT/DESCRIPTION		DUQM	SOHAR	RAS AL HADD
Terminal Building Capacity (PPA)		500,000	500,000	500,000
Air Traffic Control Tower Height	37m	37m	37m	37m
runway Specifications	4,000 x 60m	4,000 x 60m	4,000 x 60m	4,000 x 60m
Cargo Terminal Capacity	50,000	50,000 T	-----	





OAMC - HSE - Wildlife & FOD - 2014.avi

Why & How



Wildlife and FOD

Critical Safety Zone of Aircrafts Operations

Management Plan



Wildlife Team

FOD Collection Team

Sr. Wildlife Specialist

AFDM & AFDO

Wildlife Specialist (4)

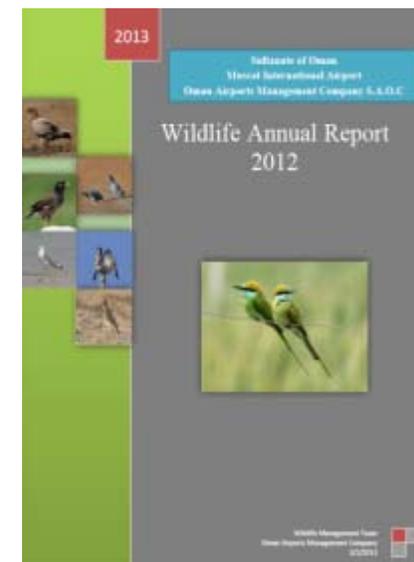
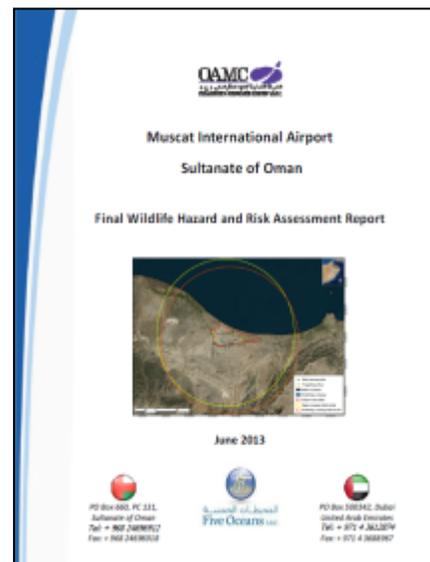
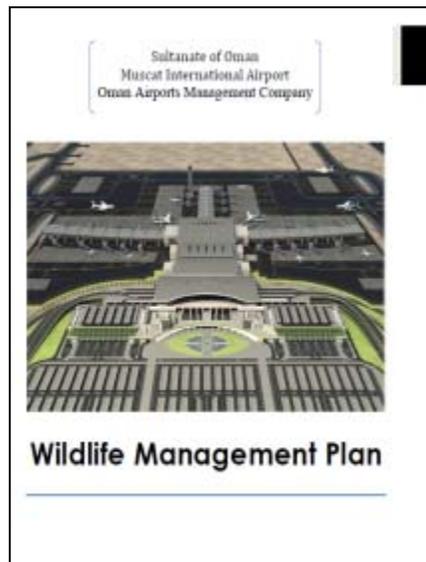
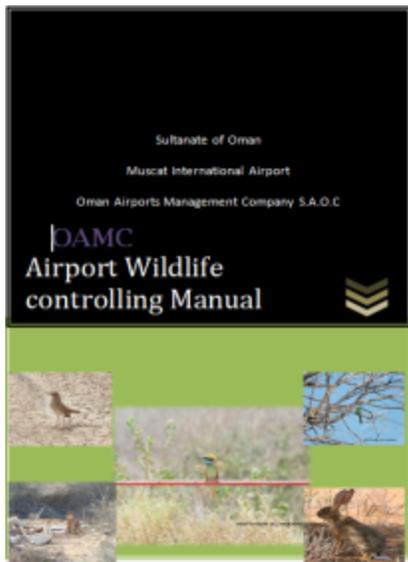
FOD Collector (2/Day)



Figure 1. FOD collection Routes.

COMPLIANCE

Wildlife Documents



Doc 9137 - AN/901

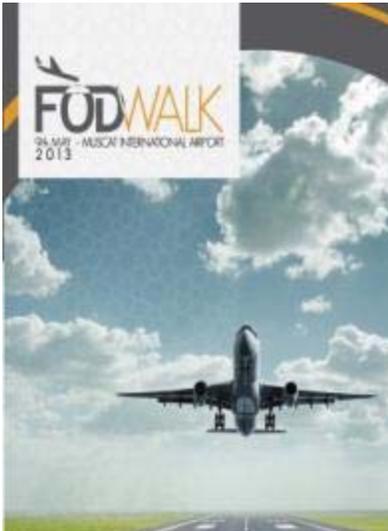
Birds Species found at Muscat Int Airport



Done by Wildlife Team at Muscat Int Airport

RAISING CONCERN AND AWARENESS

FOD Awareness



ROLES & RESPONSIBILITIES

Senior Management

Should identify the overall responsible person for wildlife & FOD controlling.

Ensure that the Management Plan is developed.

Ensure that sufficient financial and human resources are available to implement the Management Plan.

Working with outside parties such as the governmental agents.



ROLES & RESPONSIBILITIES

Wildlife Controller

Coordinate with other responsible agencies involved for any wildlife issues

Provide proper recommendations and solutions

Review strike report, daily activity records and maintenance reports

Advise the senior management in all matters that related to the wildlife hazard prevention

Assist on developing the Wildlife Management Plan



ROLES & RESPONSIBILITIES



FOD controlling and hazard reduction is the responsibility of everyone in the aerodrome of the airport

Apron Inspection and Level 1 Inspections are under the airfield controllers responsibility as tools used for FOD reduction

Creative ideas are important to keep the responsibility much easy and interesting



RISK ASSESSMENT AND MANAGEMENT PLAN

Typical risk assessment process involves

- 1** Detailed hazard description
- 2** Associated environment/habitats
- 3** Assessment of the probability
- 4** Consideration of the species involved
- 5** Assessment of the frequency of serious multiple hazards
- 6** Determination of the acceptability of the level of risk



The Ecological survey

The Operational survey

RISK ASSESSMENT AND MANAGEMENT PLAN

The Ecological survey

How many birds/animals or FOD?

Which species or objects are involved?

How they aggregates and behave?

Why they are there?

What kind of behavior causing the availability of both birds or FOD?

Habitat Identification

Attractants Identification



RISK ASSESSMENT AND MANAGEMENT PLAN

HAZARD RISK ASSESSMENT MATRIX

Frequency of Occurrence	Hazard Categories			
	1 Catastrophic	2 Critical	3 Serious	4 Minor
(A) Frequent	1A	2A	3A	4A
(B) Probable	1B	2B	3B	4B
(C) Occasional	1C	2C	3C	4C
(D) Remote	1D	2D	3D	4D
(E) Improbable	1E	2E	3E	4E



Unacceptable



High



Medium



Low

RISK ASSESSMENT AND MANAGEMENT PLAN

The Operational survey

How many A/C movement per day?

How many strikes/ accidents per month?

What kind of damage caused?

What are the most critical locations of strikes/accidents?

Probability & Severity

Proper Mitigation and Management



RISK ASSESSMENT AND MANAGEMENT PLAN

			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)

MANAGEMENT SYSTEM

Standard Operation Procedures on how to implement the elements of the monitoring program are important.

Operational Practices

Habitat Management

Routine Inspection

On & Off Airport controlling

Deterrent & Monitoring
Equipment

Recoding & Reporting
(Database)

Training

Theoretical

Practical

On-job

Researches

Auditing and Evaluation

Process of Management

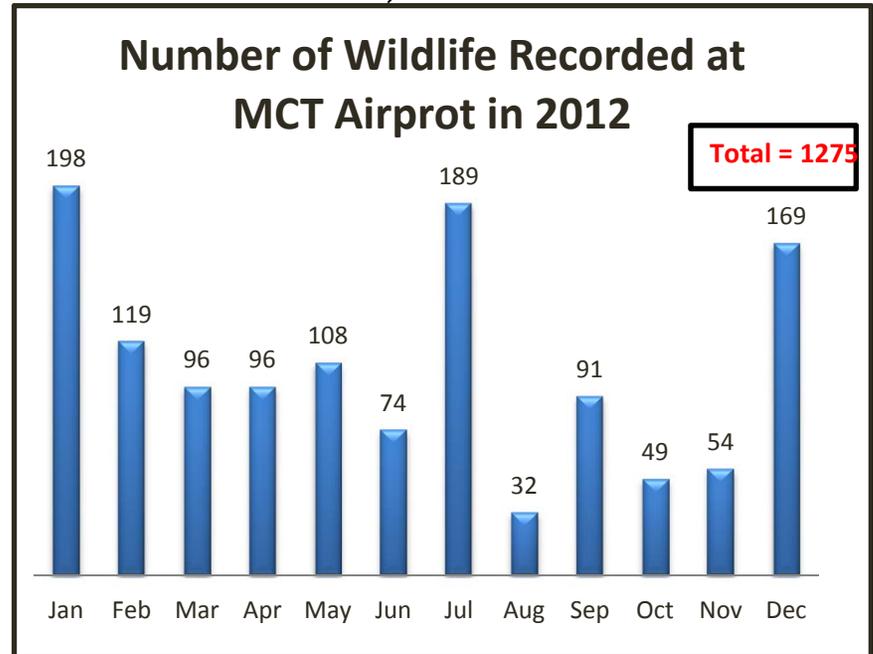
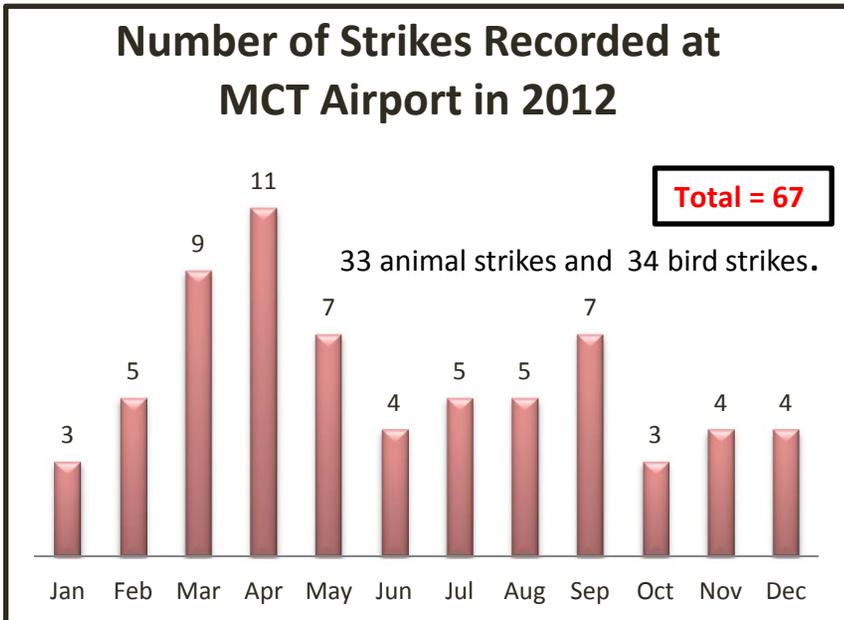
Reporting Plan

Review Procedures

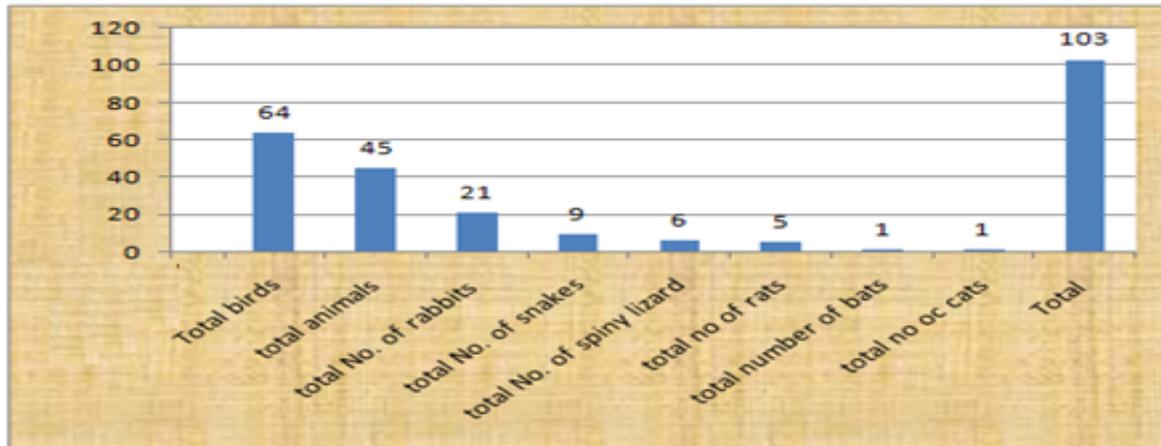
Statistical Comparisons

Equipment Serviceability

Wildlife Annual Report (Statistics & Facts) ????????



Wildlife Strike 2013



Why?

Environment disruption due to construction

1. Raptors



2. Resident Bird



3. Almouj Golf Course



4. Al Ansab Wetland



5. Local Fisheries



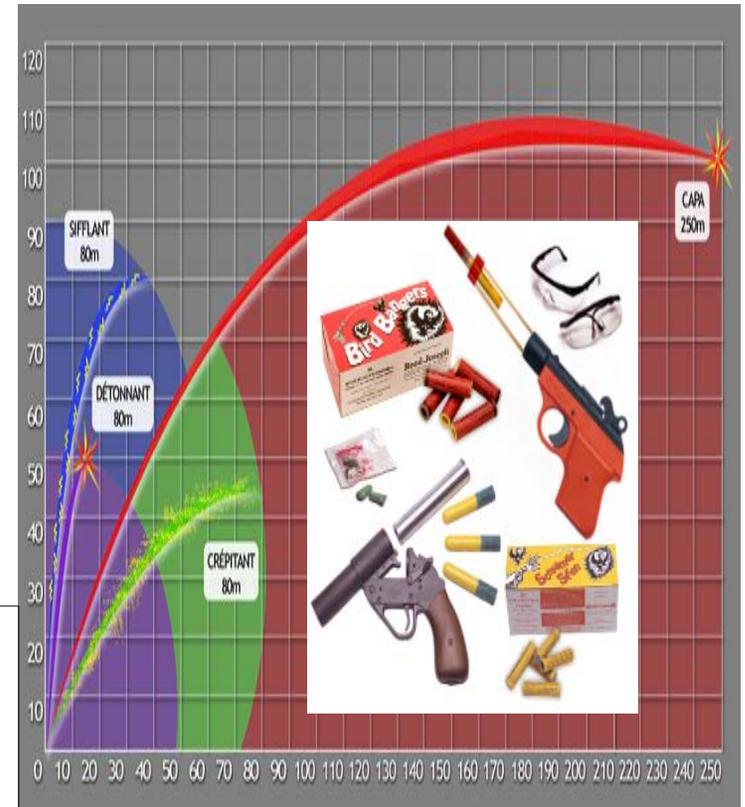
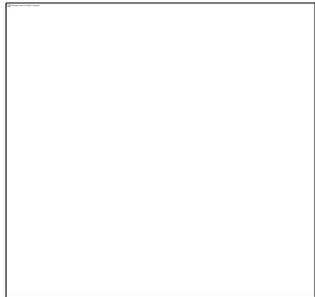
6. The Sewage Treatment Plant



7. New airport development



Wildlife Management at MCT



- Help in scaring big birds and big flock of birds.
- We need to get the approval to hold CAPA Launcher.

الطيور في عمان BIRDS IN OMAN



Indian Roller
الطائر الزيتوني الهندي



الببيل
Bulbul



البوربور

Bee-eater



السنونو

Swallow



بيها

Myna



اللامينجو

Flamingo



القطاير



الذئب

Vulture



الصرار

Eagle



القطاي

Osprey



الثورس

Gull



البومة

Owl



السنار

Falcon



البنشون

Heron



الثورس

Tern



Hoopoe
الهدهد

We Love them , we must protect them **but** we must also protect our lives

Thank You



Do You Have Any Comments - Questions