

ICAO Document 9137 New and Improved



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Birdstrike Control Program
IBSC, CARSAMPAF

Doc 9137 - AN/901
Part 3



**Airport Services Manual
Part 3
Wildlife Control and Reduction
Fourth Edition - 2011**

Notice to Users

This document is an unedited advance version of an ICAO publication as approved, in principle, by the Secretary General, which is made available for convenience. The final edited version may still undergo alterations in the process of editing. Consequently, ICAO accepts no responsibility or liability of any kind should the final text of this publication be at variance with that appearing here.

1st edition – 1975

2nd edition – 1978



1st edition – 1975

2nd edition – 1978

3rd edition - 1991





20 years ago...







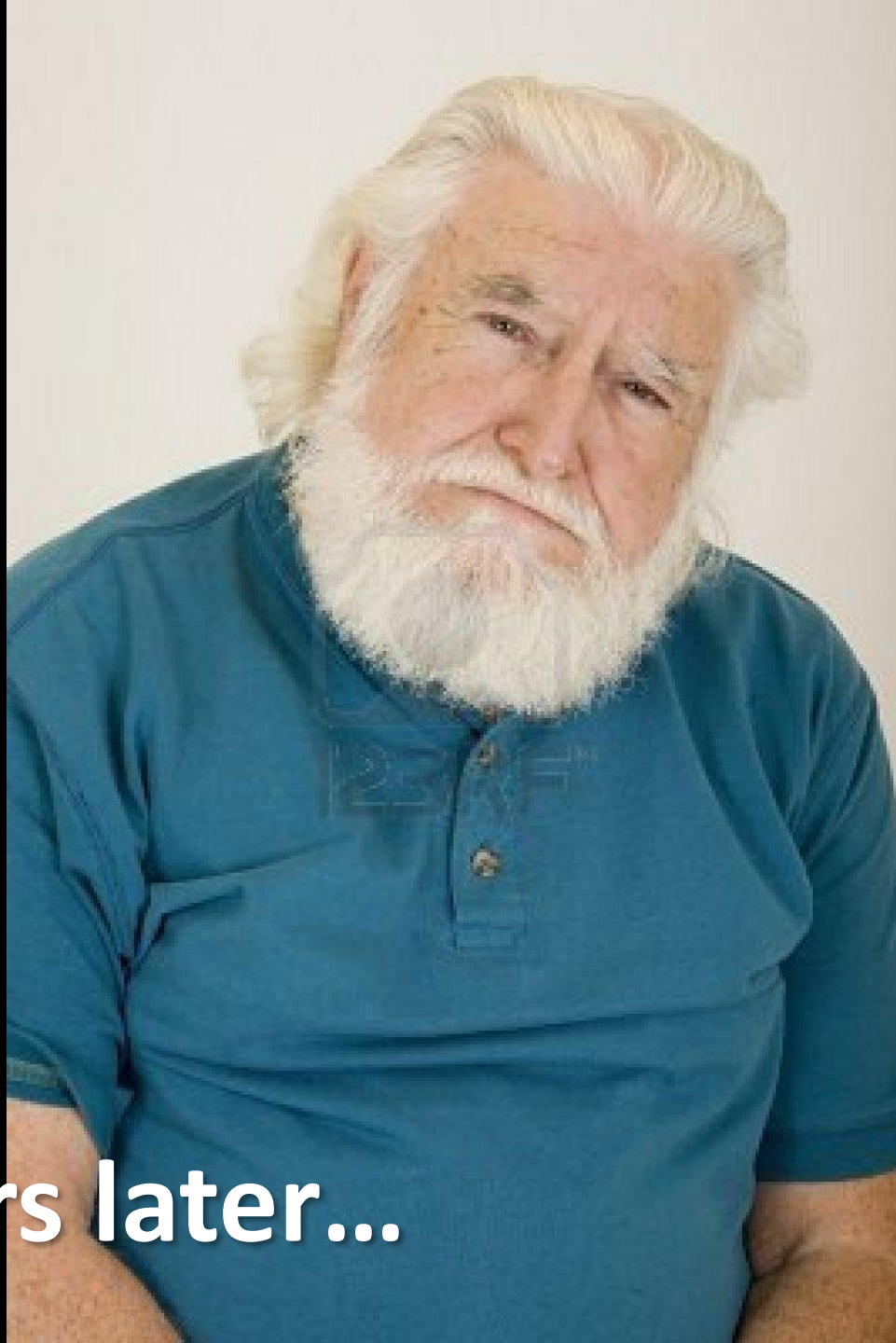




THIS machine has
DO NOT POWER
DOWN!







20 years later...

Overview

**Reviewed by 10 birdstrike
experts from all parts of the
world**

(expanded to 16 for final draft)

**Took about two years to
complete review**

Overview

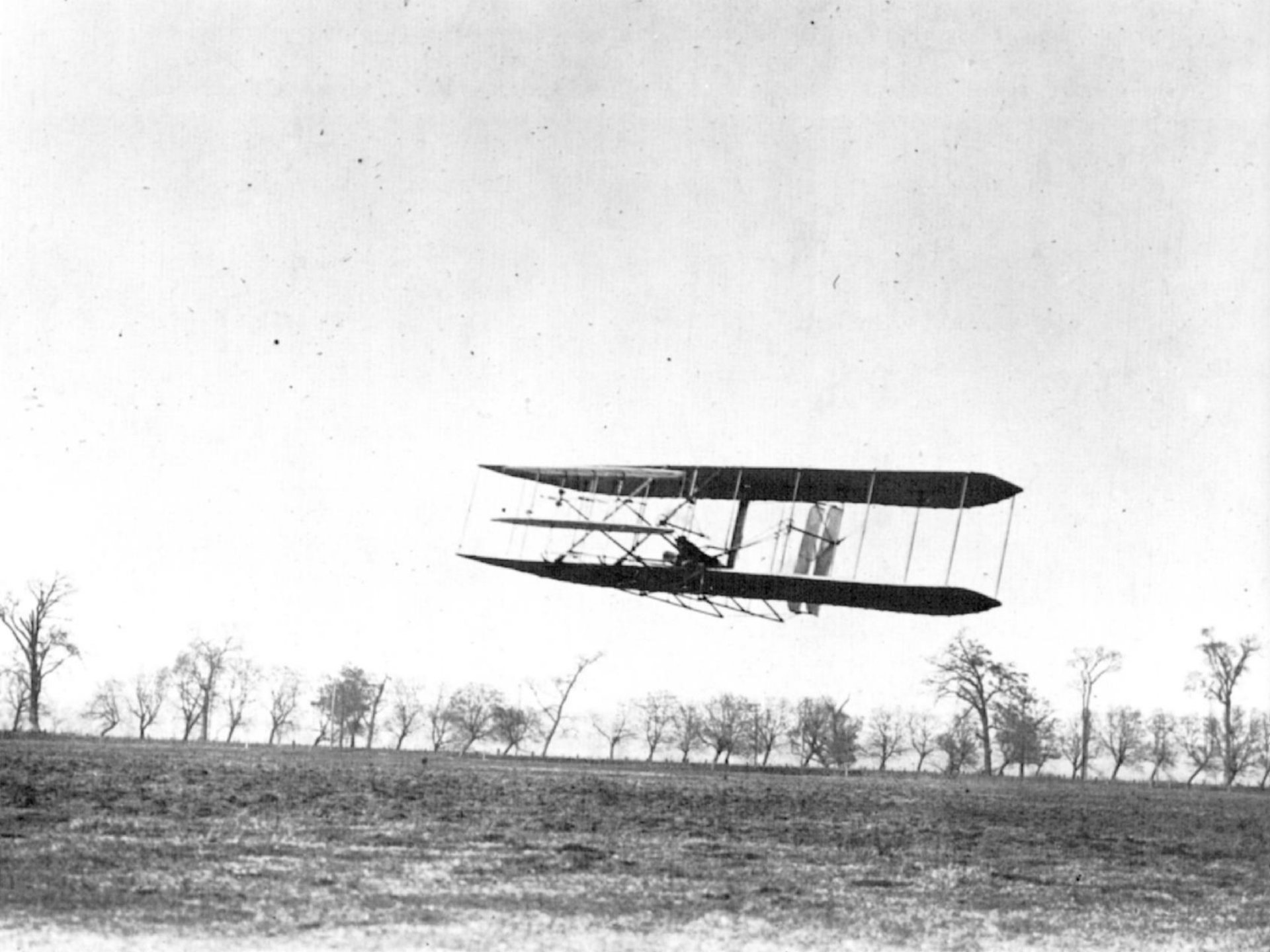
Contains 39 pages

FAA manual – 362 pages

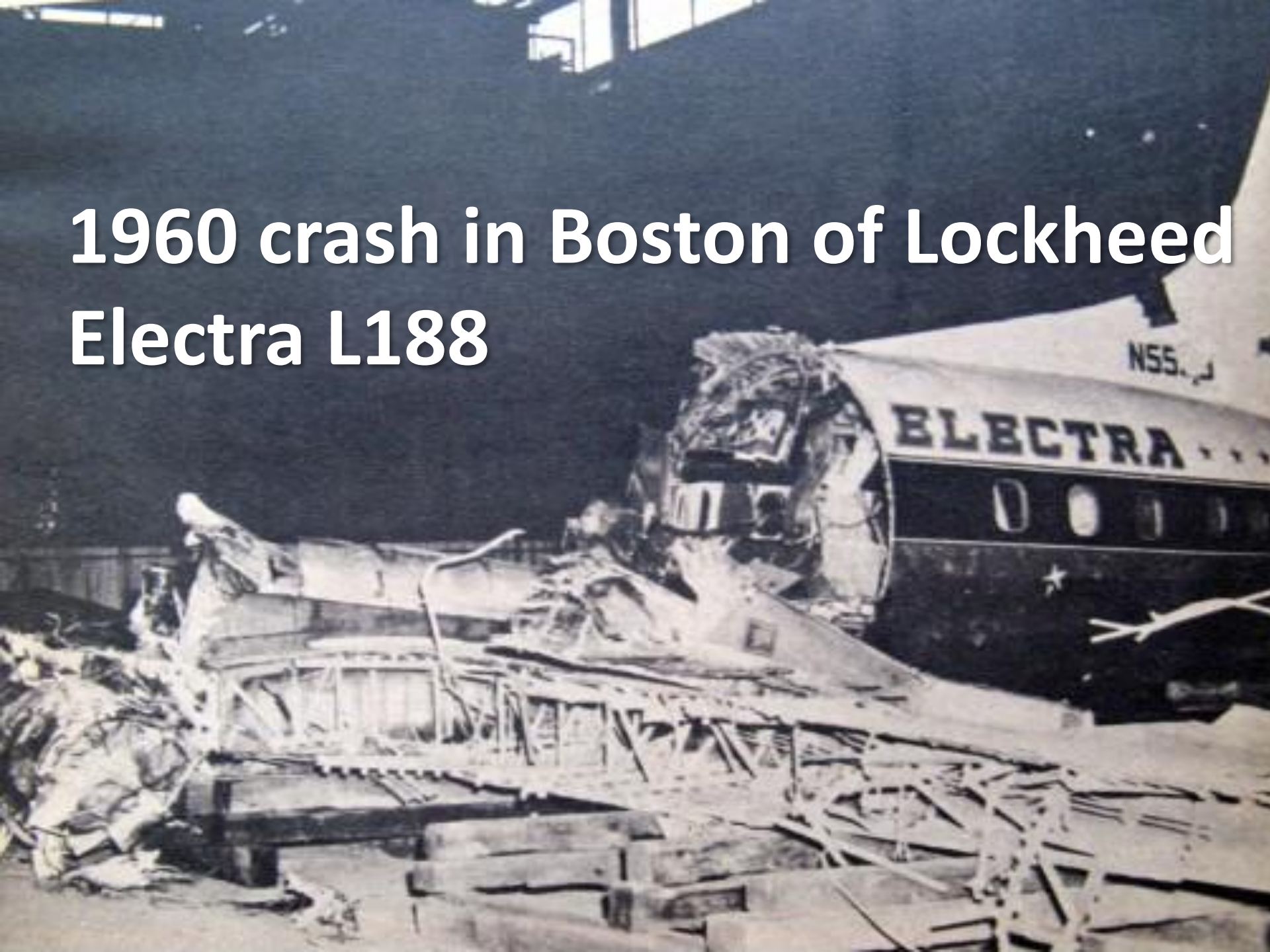
Transport Canada – 270 pages



Contents



1960 crash in Boston of Lockheed Electra L188





National Committees

Composition

Roles/Responsibilities

Airport Committee



Birdstrike Reporting

Importance

Mandatory Risk Assessment

Mandatory Forwarding to IBIS

But No Mandatory Reporting



BIRD STRIKE REPORTING FORM

Send to: _____

Operator..... 01/02

Aircraft Make/Model 03/04

Engine Make/Model..... 05/06

Aircraft Registration 07

Date day month year 08

Local time..... 09

dawn day dusk night 10

Aerodrome Name 11/12

Runway Used 13

Location if En Route 14

Height AGL ft ¹⁵

Speed (IAS) kt ¹⁶

Phase of Flight ¹⁷

parked *en route*

taxi *descent*

take-off run *approach*

climb *landing roll*

Part(s) of Aircraft

Struck *Damaged*

radome 18

windshield 19

nose (excluding above) 20

engine no. 1 21

2 22

3 23

4 24

propeller 25

wing/rotor 26

Effect on Flight

none 2

aborted take-off 3

precautionary landing 4

engines shut down 5

other (specify) 6

Sky Condition ³⁷

no cloud A

some cloud B

overcast C

Precipitation

fog 8

rain 9

snow 40

Bird Species* 41

Number of Birds

Seen ⁴² *Struck* ⁴³

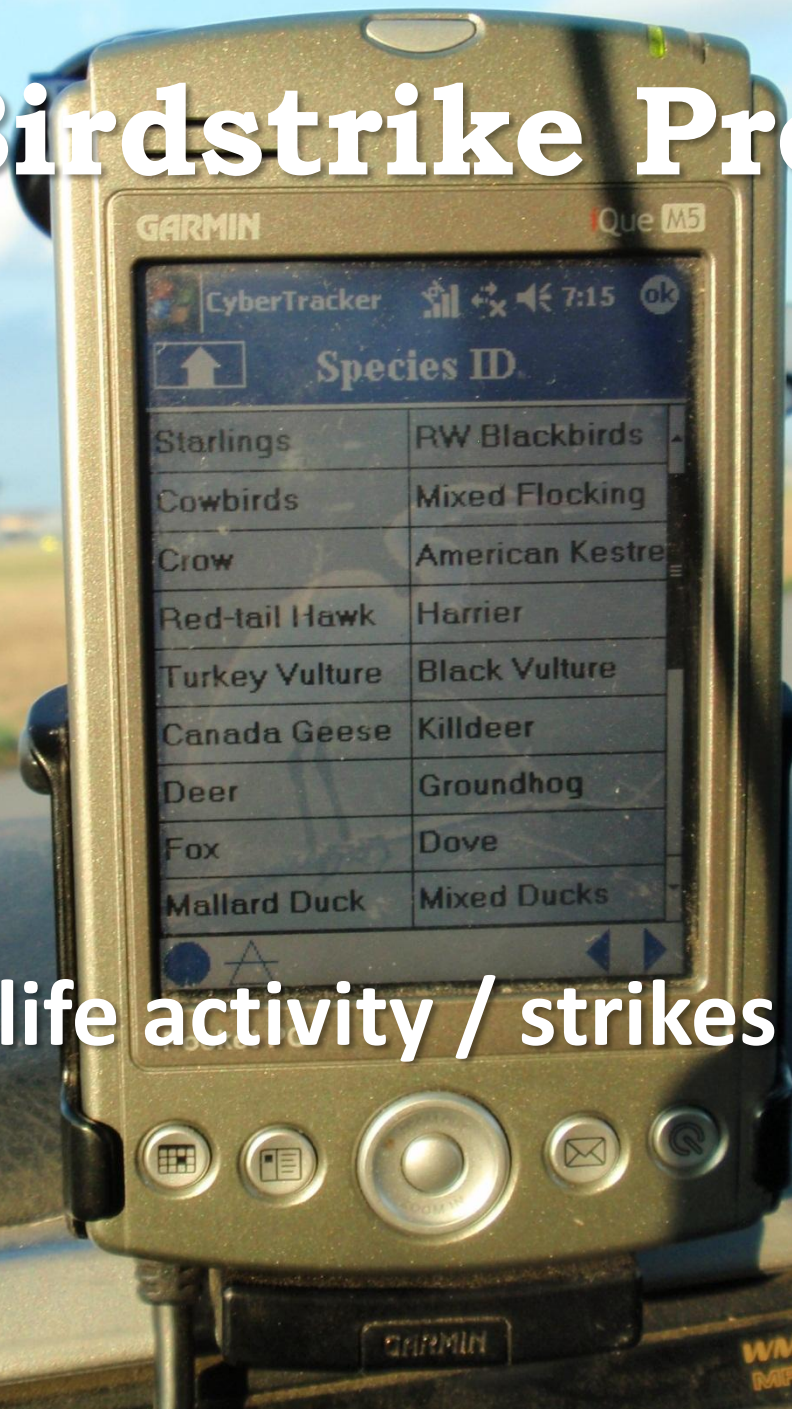
1 A A

2-10 B B

11-100 C C

more D D

Airport Birdstrike Program



Personnel

Logging of wildlife activity / strikes (DNA)

Risk Assessment

| Species Group | Overall Risk Ranking | Relative Hazard Percentage |
|------------------------|----------------------|----------------------------|
| Canada Geese | 1 | 100 |
| Snow Geese | 2 | 94 |
| Seagulls (all species) | 3 | 8 |
| Ducks | 4 | 6 |
| Vultures | 5 | 5 |
| Flocking Birds* | 6 | 4 |
| Raptors | 7 | 1 |
| Egrets/Herons | 8 | 1 |
| Crows | 9 | <1 |
| Songbirds | 10 | <1 |
| Shorebirds | 11 | <1 |
| Kestrels | 12 | <1 |
| Owls | 13 | <1 |
| Swallows | 14 | <1 |
| Groundhogs | 15 | <1 |
| Deer | 16 | <1 |
| Foxes | 17 | <1 |
| Rabbits | 18 | <1 |

* Flocking birds consists of species such as red-winged blackbirds, starlings, grackles, etc.

Staff Training



Aircraft Operator Duties



Vegetation Management

Brief overview



Vegetation Management

Brief overview

Difficult with worldwide environments



Vegetation Management

An aerial photograph showing a two-lane asphalt road with a white dashed center line, stretching straight through a dense, lush green forest. The road is flanked by grassy shoulders and is surrounded by thick tropical-looking vegetation. The perspective is from a high angle, looking down the length of the road.

Brief overview

Difficult with worldwide environments

Vegetation Management

Brief overview

Difficult with worldwide environments



Typical Attractants

Food

Water

Shelter



Active Management

Brief overview – introduction to various techniques



Chemical Repellants



Auditory Devices

Gas Cannons



Auditory Devices

Gas Cannons
Distress Calls



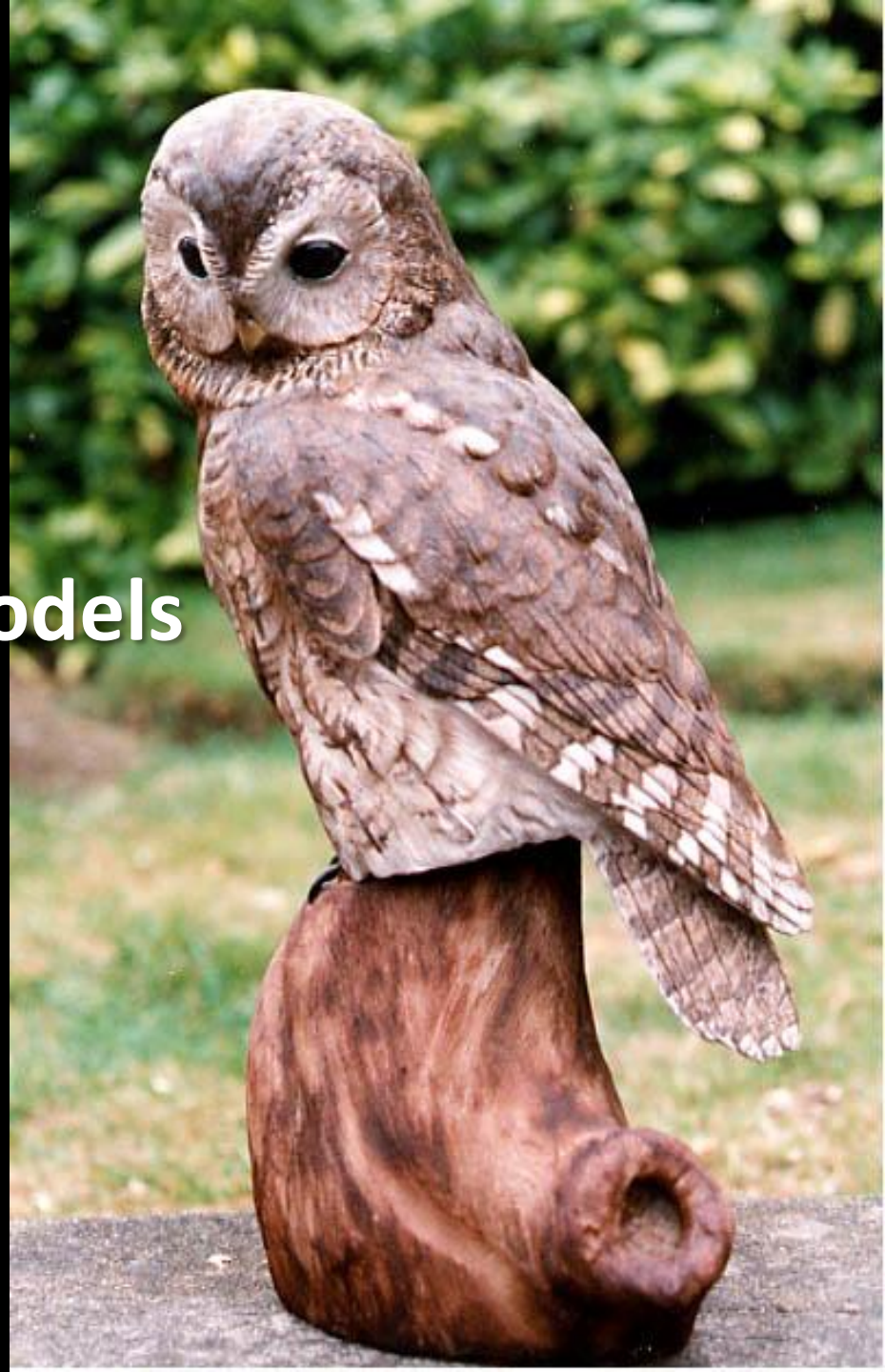
Auditory Devices

Gas Cannons
Distress Calls
Pyrotechnics



Visual Repellants

Ineffective nature of models



Visual Repellants

Vulture Effigies



Visual Repellants

Lasers



Real Predators



Border Collies Keys to Successful Program



Real Predators

Falconry



Remote-control Vehicles



Non-lethal Projectiles



Best Practices



International Birdstrike Committee

Recommended Practices No. 1

**Standards For Aerodrome
Bird/Wildlife Control**

Incompatible Land Use

ICAO Doc 9184 (Part 2)



Airport Planning Manual

Part 2
Land Use and Environmental Control

Approved by the Secretary General
and published under his authority

Third Edition — 2002

International Civil Aviation Organization

Evaluating Wildlife Program



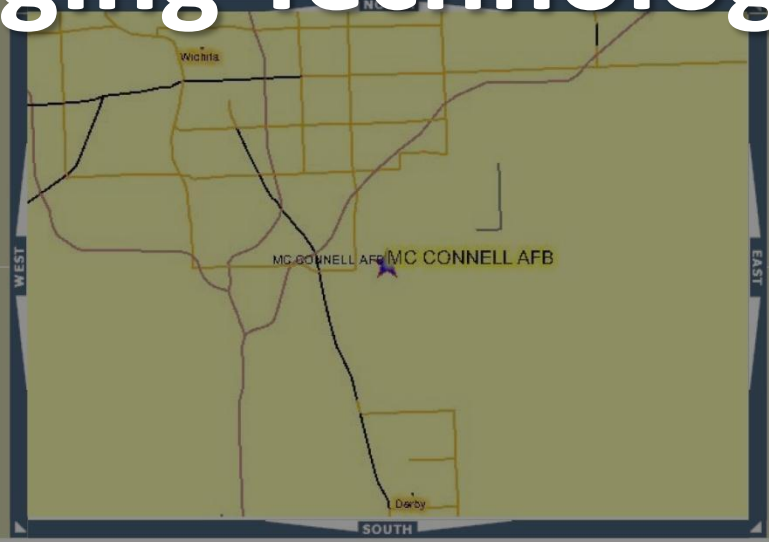
14 Basic Questions

- 1. Is there a wildlife control officer responsible for the management of wildlife on the airport?**
- 2. Has a land use plan been established with regard to effective land use on and off airport as it pertains to the wildlife control programme?**
- 3. What ecological measures are implemented to reduce wildlife attractiveness at the airport and in the vicinity?**
- 4. Is there a habitat management programme on the airport?**
- 5. Are garbage dumps forbidden around the airport? At what distance?**
- 6. Is the airport fence suitable to prevent hazardous animal incursions?**
- 7. Which scaring methods are implemented at the airport?**

United States Bird Avoidance Model



Emerging Technologies



Run the Bird Avoidance Model

Select Biweekly Period: September 24 - October 7

Select Time Period: Dawn

Select Search Criteria:

VR Route Military Airfields

IR Route MOA

SR Route Range

Cities

Select a flying area: (Select button above to change)

MC CONNELL AFB

Refresh Map

Advance Time Period

By Biweek: [Left] [Right]

By Time Period: [Left] [Right]

- Legend
- September 24 - October 7 DAWN
 - Low (0 - 169 ounces/km²)
 - Moderate (170 - 7272)
 - Severe (7273 - 409796)
 - Instrument Routes
 - Slow Routes
 - Visual Routes
 - Military Airfields

Click Refresh Map after selecting Radio button to use Identify tool!

Warning: The US Bird Avoidance Model (USBAM) was constructed with the best available geospatial bird data to reduce the risk of bird collisions with aircraft. Its use for flight planning can reduce the likelihood of a bird collision but will not eliminate the risk. The USBAM organizations are not liable for losses incurred as a result of bird strikes.



ng the day to ensure that evening requests can be

airfield, but the strike risk

ay and Hour for which you

Zulu
Zulu

| Trend # | Data |
|---------|------|
| N/A | Y |

abase

Emerging Technologies



Communications



USA/Canada Birdstrike Conference 2011



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