

# Managing the unmanageable - views on the role airline companies can play

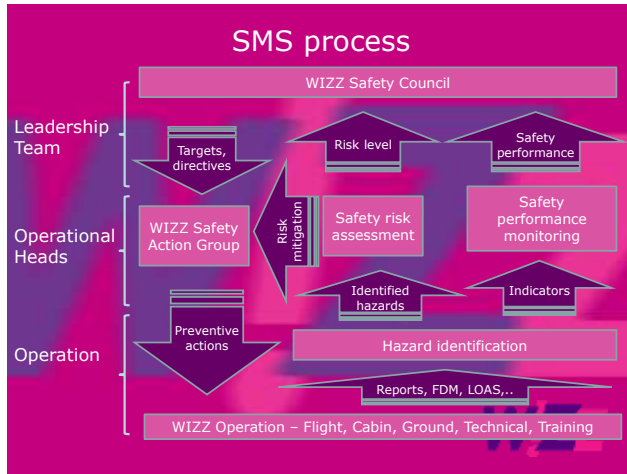
IBSC meeting, Stavanger,  
2012

## Introduction

- The bird strike rate rose above the tolerable level in 2009
- Top three airports targeted first
- Requests remained unanswered
- Further birdstrike rate increase measured in 2010
- Understood, we shall "THINK OUTSIDE THE BOX"

# The SMS approach

- The risk management cycle:
  - Hazard identification
  - Risk assessment
  - Risk mitigation plan
- The safety assurance cycle
  - Safety KPIs
  - Performance monitoring
  - Targets, Directives
- New in SMS:
  - Generate a MUST;
  - Business decision approach;



AP	Total Strikes 2009	Damag Strikes 2009	Total Strikes 2010	Damag Strikes 2010	2009	2010
1	19	3	14	4	3,5	2,1
2	10	0	17	1	1,5	2,2
3	10	1	10	2	1,1	1,1
4	4	0	10	0	0,9	1,9
5	6	0	9	1	0,6	0,7
6	11	0	7	1	3,5	1,5
7	6	0	9	1	1,0	1,3
8	6	0	7	0	0,9	0,9
9	3	0	4	0	0,9	0,9
10	0	0	5	0	0,0	2,4
11	2	0	5	0	0,6	1,4
12	2	0	3	0	1,0	1,1
13	0	0	7	0	0,0	10,7
14	4	1	4	0	1,5	1,4
15	4	0	4	0	1,1	1,0
16	1	0	2	0	0,8	0,8
17	1	0	4	0	1,2	2,1
18	0	0	3	0	0,0	0,6
19	0	0	6	1	0,0	2,4
20	1	0	3	0	0,5	1,1
21	1	0	2	0	0,5	0,9
22	0	0	0	0	0,0	0,0
23	1	0	3	1	0,8	1,2
24	2	0	1	0	0,9	0,4
25	0	0	2	1	0,0	6,1
26	2	1	2	0	1,5	1,5
27	0	0	0	0	0,0	0,0
28	0	0	3	0	0,0	2,7
29	0	0	0	0	0,0	0,0
30	0	0	0	0	0,0	0,0
31	0	0	1	0	0,0	0,9

Hazard identification- All airports having bird strike in 2009/2010 – measured in 1/1,000 movements

- 50% from 70 Airports were involved in strikes – the other 50 is NOT
- 30% of Airports have a rate over the ICAO recommended level of 1 strikes/ 1,000 movements
- 15% of the Airports involved in damaging strikes
- 62% at/over the airfield on low altitude
- 30% of the strikes occurred over the runway (0-100FT)
- Bird identification made in less then 5%
- 10% of the strikes caused damage
- 70% of damaging strikes occurred at low altitude;
- **15% of the airports responsible for 70% of damaging strikes**

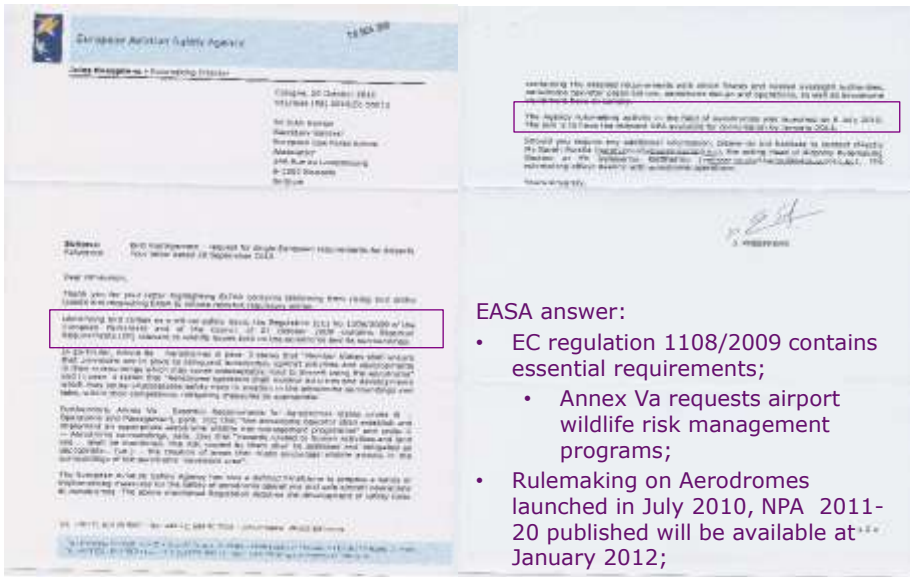
## Risk / cost assessment

- 10% of the strikes causes damage to the aircraft
- 40% of the strikes effects the engine
- 2% of engine strikes (0,8% of the total strikes) cause IFSD
- 0,8-2% of accidents caused by bird strikes
- Non-damaging strikes cost 15,000EUR average
- Damaging strikes cost 150,000EUR average
- Yearly cost by airports varies between 15,000 – 500,000EUR
- Business case developed and decision made to invest into risk mitigation

## Risk mitigation – Wizz action plan

1. Lobby EASA for comprehensive bird management requirements
2. Make the IBSC Standards legal obligation
3. Promote IBSC standards;
4. Check compliance to IBSC standards
5. Follow-up compliance to IBSC standards
6. New pilot procedures
7. Active post-strike procedures

# Lobbying at EASA



## EASA answer:

- EC regulation 1108/2009 contains essential requirements;
  - Annex Va requests airport wildlife risk management programs;
- Rulemaking on Aerodromes launched in July 2010, NPA 2011-20 published will be available at January 2012;

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7

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## New EASA Requirements for Aerodromes

### ADR-OPS.B.020 — Wildlife strike hazard reduction

(a) The aerodrome operator shall:

- (1) assess the wildlife hazard on, and in the surrounding, of the aerodrome;
- (2) establish means and procedures to minimize the risk of collisions between wildlife and aircraft;
- (3) notify the competent authority if a wildlife assessment indicates conditions in the surroundings of the aerodrome conducive to a wildlife hazard problem.

### AMC-ADR-OPS.B.020 — Wildlife Strike Hazard Reduction

(a) The aerodrome operator should:

- (1) participate in the national wildlife strike hazard reduction programme;
- (2) record and report to the competent authority wildlife strikes to aircraft;
- (3) ensure that wildlife hazard assessments are made by competent personnel;
- (4) establish, implement and maintain a wildlife risk management programme.
  - GM1-ADR-OPS.B.020 — Wildlife Risk Assessment
  - GM2-ADR-OPS.B.020 — Wildlife Risk Management Program
  - GM3-ADR-OPS.B.020 — Wildlife training
  - GM4-ADR-OPS.B.020 — Recording and reporting of wildlife strikes and observed wildlife

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8

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# IBSC standards in WZZ Ground Ops Manual

<b>WZZ</b> GROUND OPERATIONS MANUAL	AIRPORT RESPONSIBILITIES	Page: 05-2 DRAFT 01 OCT 2010
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## 15.2 BIRD AND WILDLIFE MANAGEMENT

15.2.1 Proper Birds and Wildlife Management is extremely important to ensure safe take off and landing of all aircraft at WZZ. All bird strikes are safety emergencies. While the small ones are during the climb the large ones can result in a significant damage to an aircraft or even lead to a disaster like an air crash (seeable: US Air Traffic & a double engine loss and was forced to perform an emergency landing in the Hudson river in New York - lack of passengers and crew survived).

15.2.2 Reports should have to prove a bird and wildlife management programme, objectives for management and execution that will be implemented with best practice by effective use of best working and habitat management normally which are appropriate to the report environment. It is recommended that reports need, as a minimum, identify the guidelines agreed and published as "Industry best practice" by the International Bird Strike Committee (IBSC). Website: [www.ibsc.org.uk/](http://www.ibsc.org.uk/)

15.2.3 The following minimum standards, as published by the IBSC, are considered to be essential for an effective control of the bird / wildlife risk:

- 1) A regularly updated and WZZ approved bird/wildlife control plan for present in the airport for at least 15 minutes prior to any aircraft departure or arrival. Thus, if aircraft are landing or taking off at intervals of less than 15 minutes there should be a continuous presence on the airfield throughout daylight hours. The controller should have no duties other than bird control during this time.
- 2) All birds, waterfowl and mammals should be avoided in the presence of birds/wildlife at night. (Nights) and the dispersal when taken or banded.
- 3) Bird control staff should be equipped with bird strike devices appropriate to the bird species encountered, the numbers of birds present, and to the area that they need to control. All staff should receive proper training in the use of bird control devices.
- 4) As a minimum, airport bird and wildlife controllers should record the following at least every 30 minutes:
  - i) areas of the airport searched;
  - ii) numbers, location and species of birds/wildlife seen;
  - iii) action taken to eliminate the bird/wildlife;
  - iv) results of the action.
- 5) A named member of the airport management team should be responsible for the implementation of necessary habitat management programmes.
- 6) An airport should undertake a review of the balance on the grounds that attract hazardous birds/wildlife and develop a plan to eliminate them or deny their access to them as far as possible.

<b>WZZ</b> GROUND OPERATIONS MANUAL	AIRPORT RESPONSIBILITIES	Page: 15-3 DRAFT 01 OCT 2010
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- i) Professional consent from a bird/wildlife or the prevention specialist should be sought. Documentation evidence of this process, the implementation and outcomes should be kept.
- ii) Airports should establish a mechanism to ensure that they are informed of all bird/wildlife strikes reported on or near their property. Airports should record all bird/wildlife incidents, as far as they are able, the data required by the standard (see reporting form).
- iii) Airports should ensure that the identification of the species involved in bird strikes is as complete as possible. Reports should contain a formal risk assessment of their bird/wildlife situation at least annually, and use the results to help to set their bird/wildlife management measures and to monitor their effectiveness.
- iv) Airports should conduct an inventory of bird attracting sites within the WZZ defined 15km bird circle, at risk assessment each if necessary, risk management action should be carried out. Where major or high priority, airport authorities should seek to have an impact into planning decisions and land use practices within the 25km bird circle.

## 15.3 CONTAMINATED SURFACES

15.3.1 It is essential for the airports to take all necessary actions to remove contaminants from the movement area as rapidly and completely as possible so as to minimise their accumulation and, thus, to provide good friction characteristics and low rolling resistance. Equipment surfaces must be kept clear of any loose debris or other things that might cause damage to aircrafts or engines or might impair the operation of navigation facilities. It is mandatory to assess the opportunity of the government whenever it has not been possible to fully check the contamination and to make the information available to the appropriate units of the airport. It is also mandatory to measure periodically the friction characteristics of the runway and take appropriate actions whenever the friction characteristics are below certain levels.



## Bird Management Conference & Workshop 4th FEB 2011 - LTN

- 15 Airports (representing over 50% of airport strikes) attended;
- 56 attendees, Airports, UK FERA, Insurer Broker, Grass Engineering, Easyjet, Wizzair;
- 10 presentations delivered during the day by Wizz, UK FERA, Insurer Broker and Grass Engineering; All aspects of an effective bird management covered by presenters;

- Airports received practical solutions, and showed cooperative approach in reducing bird strike risk at their airports;
- Wizz Ground Operations Team received comprehensive information on what and how to check at their stations during follow-up visits and after bird occurrences;
- Wizz Management Pilots gained relevant knowledge about bird strike risk and effective bird control, helping them optimizing pilot procedures on this field;
- Insurer Broker took a very positive message about Wizz active approach;



## UK FERA Bird Management airport checks

The safety manager's experience after 30 checks:

- Lack of basic understanding of IBSC standards
- Full reliance on static/automatic equipment and/or falconry
- Inadequate use of active bird control
- Very low reporting and identification rate
- No safety measure and target



The professional ornithologist's experience will be delivered Tomorrow

## Follow-up compliance to IBSC standards

- Documented distribution of report with recommendations
- Request for written response on status of recommendations
- Follow-up of the status by the local airline representative
- Follow-up visit

**Recommendation 2**  
**To ensure that Airport provide effective bird control a properly trained and equipped bird/wildlife controller should be present on the airfield for at least 15 minutes prior to any aircraft departure or arrival. Thus, if aircraft are landing or taking off at intervals of less than 15 minutes there should be a continuous presence on the airfield throughout daylight hours. The controller should not be required to undertake any duties other than bird control during this time.**

## Bird clearance request before movements

Before departure: The "Bird Clearance" request shall be transmitted together with ATC Clearance Request which is usually within the suggested 15 minutes.

Example: **WZZ xxxY; Stand number xx; ATIS Information Y; Ready for ATC Clearance and Request Bird Clearance for Departure.**

Remark: A few airports are ready to provide ATC Clearance just shortly before Take Off. At these airports the "Bird Clearance" request has to be transmitted separately within the suggested 15 minutes.

Take Off can be delayed with negative "Bird Clearance" or if the high bird strike risk is obvious for the Flight Crew.

During Arrival: The "Bird Clearance" request shall be transmitted at the first contact with the particular Approach ATC unit. Usually this first contact happens within 15 minutes before landing.

Example: **WZZ xxxY; Short Position report with ATIS Information Y (as required); Request Bird Clearance for Landing.**

Remark: A few airports do not have direct contact with the related Approach ATC unit. At these airports the "Bird Clearance" request has to be transmitted separately within the suggested 15 minutes contacting with the airport Tower before arriving.

Landing delay is not recommended even with negative "Bird Clearance" except if the high bird strike risk is obvious for the Flight Crew.

## Post-strike procedures

- Active post-strike procedures:
  - „Please find attached Wizz bird strike report and provide for evidence of bird clearance performed before this movement and also for the results of bird remains identification“
- Charge Airports for damage cost:
  - Invoices sent-out in four cases;
- Efficient aircraft recovery following bird strikes:
  - Maintenance arrangements covering all Airports on the bird strike hazard list and at all bases;

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1	19	3	14	4	12	2	3,5	2,1	1,3
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3	10	1	10	2	6	0	1,1	1,1	0,7
4	4	0	10	0	9	0	0,9	1,9	1,7
5	6	0	9	1	8	1	0,6	0,7	0,5
6	11	0	7	1	4	1	3,5	1,5	0,9
7	6	0	9	1	5	1	1,0	1,3	0,6
8	6	0	7	0	3	0	0,9	0,9	0,3
9	3	0	4	0	7	2	0,9	0,9	1,5
10	0	0	5	0	6	0	0,0	2,4	2,9
11	2	0	5	0	4	0	0,6	1,4	1,0
12	2	0	3	0	5	1	1,0	1,1	1,4
13	0	0	7	0	2	0	0,0	10,7	2,5
14	4	1	4	0	1	0	1,5	1,4	0,4
15	4	0	4	0	1	0	1,1	1,0	0,2
15	1	0	2	0	5	0	0,8	0,8	1,5
16	1	0	4	0	3	1	1,2	2,1	1,3
17	0	0	3	0	5	0	0,0	0,6	1,2
18	0	0	6	1	2	0	0,0	2,4	0,8
19	1	0	3	0	3	0	0,5	1,1	1,1
20	1	0	2	0	3	0	0,5	0,9	1,5
21	0	0	0	0	5	1	0,0	0,0	2,7
22	1	0	3	1	1	0	0,8	1,2	0,9
23	2	0	1	0	2	0	0,9	0,4	0,8
24	0	0	2	1	2	2	0,0	6,1	1,2
25	2	1	2	0	0	0	1,5	1,5	0,0
26	0	0	0	0	3	1	0,0	0,0	1,6
27	0	0	3	0	0	0	0,0	2,7	0,0
28	0	0	0	0	2	0	0,0	0,0	4,1
29	0	0	0	0	2	0	0,0	0,0	1,7
30	0	0	1	0	1	0	0,0	0,9	0,7

Hazard log - All airports having bird strike in 2009/2010/2011 – measured in 1/1,000 movements

- 90% of the airports visited show improvement;
- 12 airports reduced the rate below the ICO recommended level!
- Non-visited stations showed only increase (new comers)
- 10% reduction in damaging bird strike rate
- Over 20% reduction in company level bird strike rate
- 40% reduction in total delay time caused by bird strikes

So what an Airline can do?

A LOT

Taking an SMS approach is *essential*, it's not an option

Thank you for attention!