



ICAO

SAFETY

NO COUNTRY LEFT BEHIND



# ICAO Remarks CARSAMPAF/15



Fabio Salvatierra De Luca

*Regional Officer (AGA). ICAO SAM Regional Office*

Montevideo, Uruguay

November 28, 2017



# Flight Plan

- ICAO Wildlife Strike Analysis
- Reporting
- National and Local Wildlife Committees
- Ongoing work at ICAO



ICAO

SAFETY

NO COUNTRY LEFT BEHIND



CARSAMPAF/15

# ICAO WILDLIFE STRIKE ANALYSIS



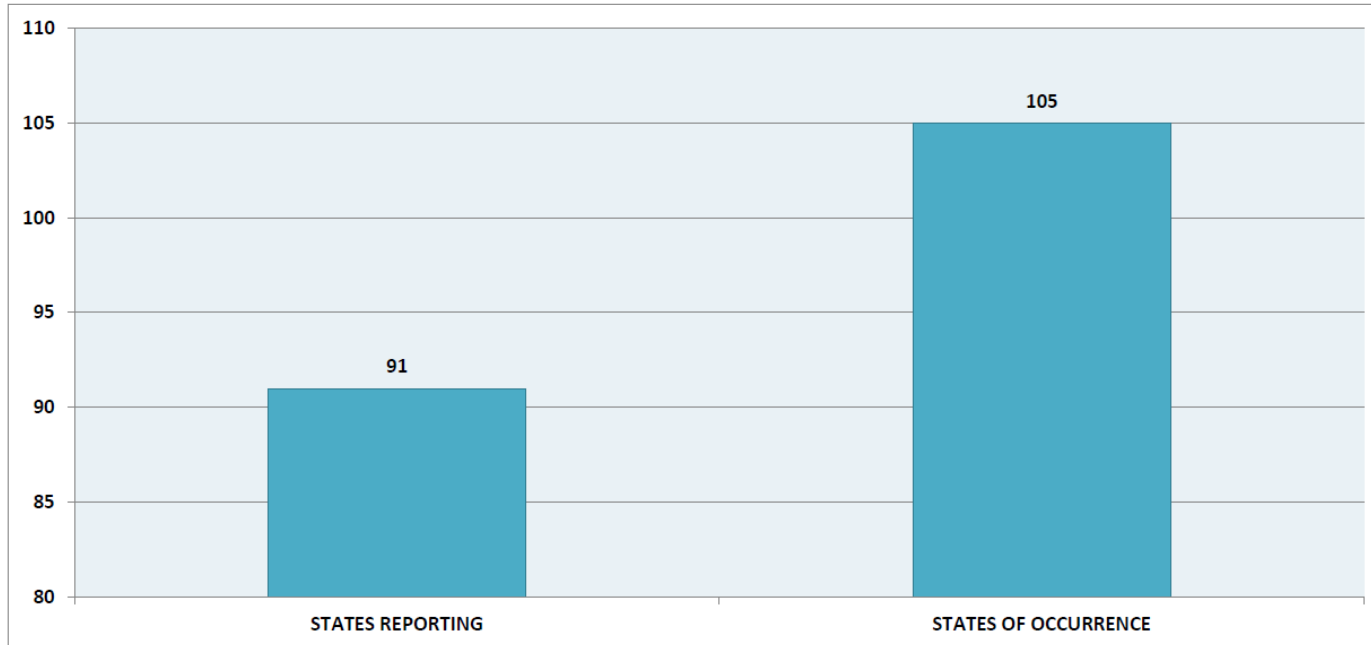


# Wildlife strikes hazards to aviation safety

- ICAO analysis shows that the number of **wildlife strikes is not decreasing**
- Wildlife strikes causes **accidents, serious incidents** and enormous **economic loss**
- **Long term efforts** have to be made to tackle the challenge of wildlife strikes globally

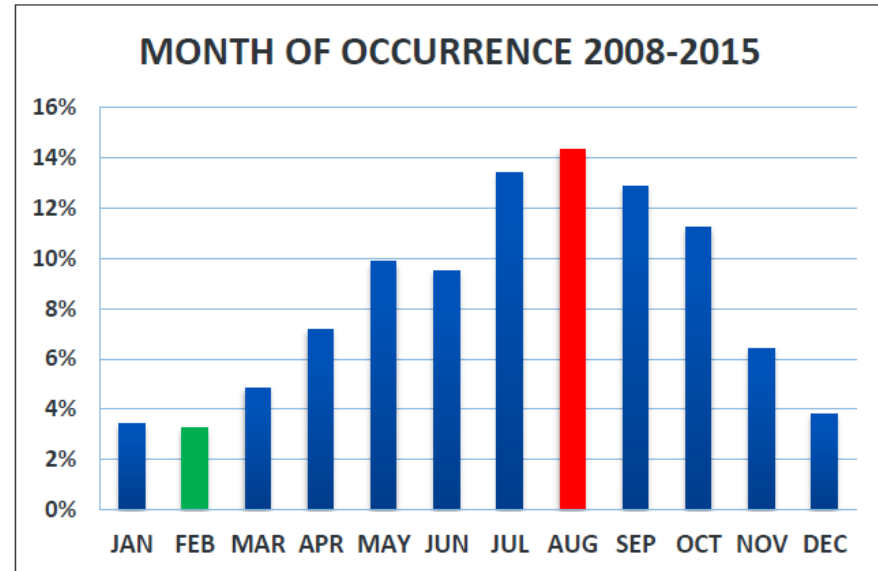
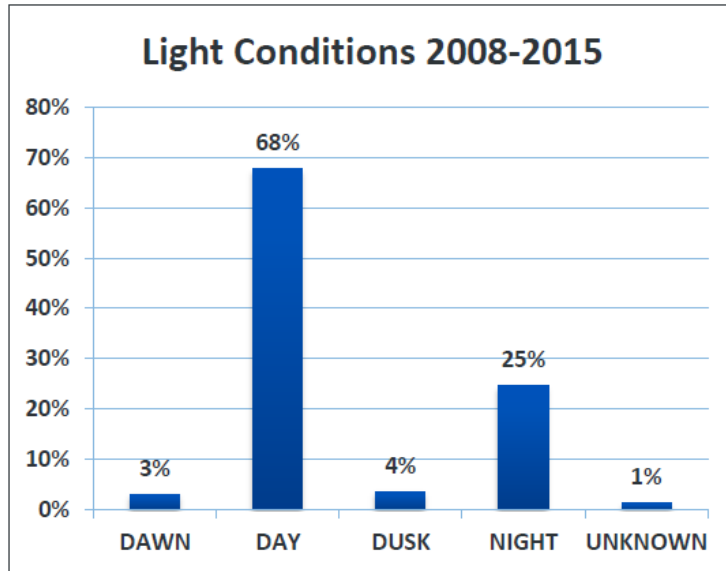


# ICAO Wildlife Strike Analysis (IBIS)





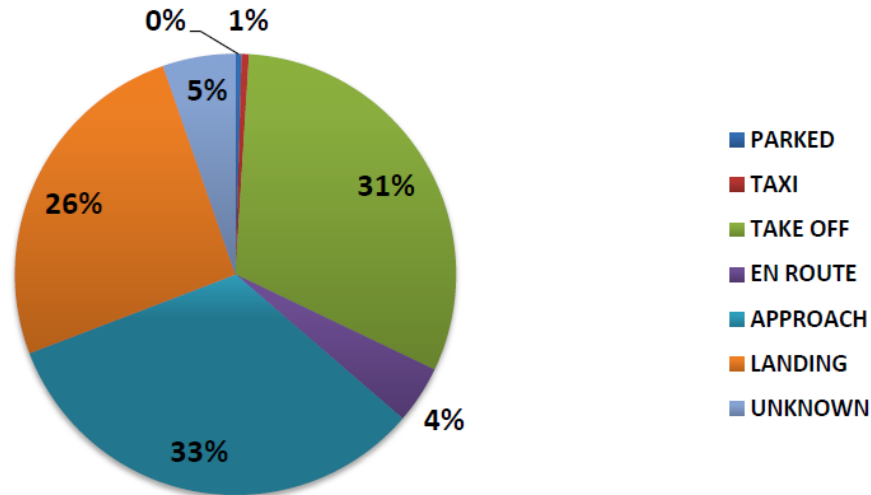
# When it occurs?





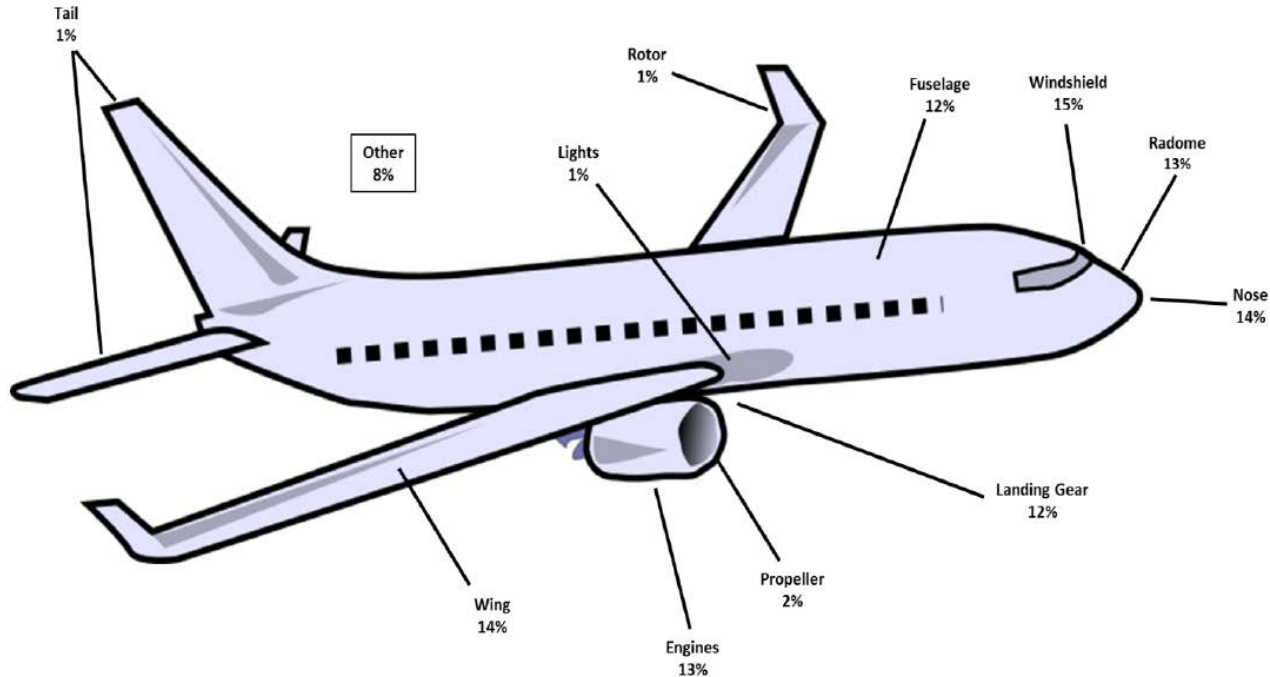
# Phase of flight

FLIGHT PHASE 2008-2015



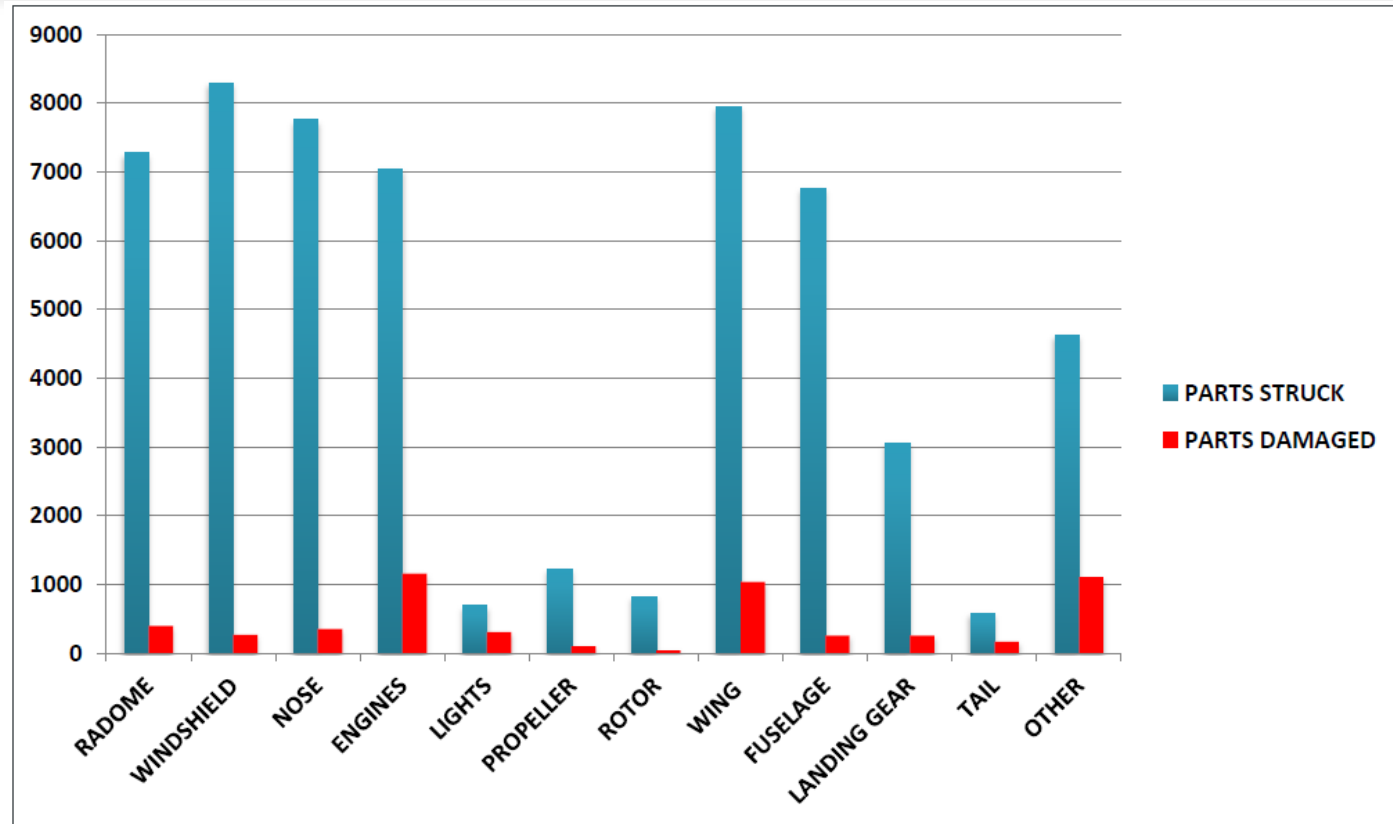


# Where in the aircraft?





# Comparison Between the Parts struck and the Parts Damaged





ICAO

SAFETY

NO COUNTRY LEFT BEHIND



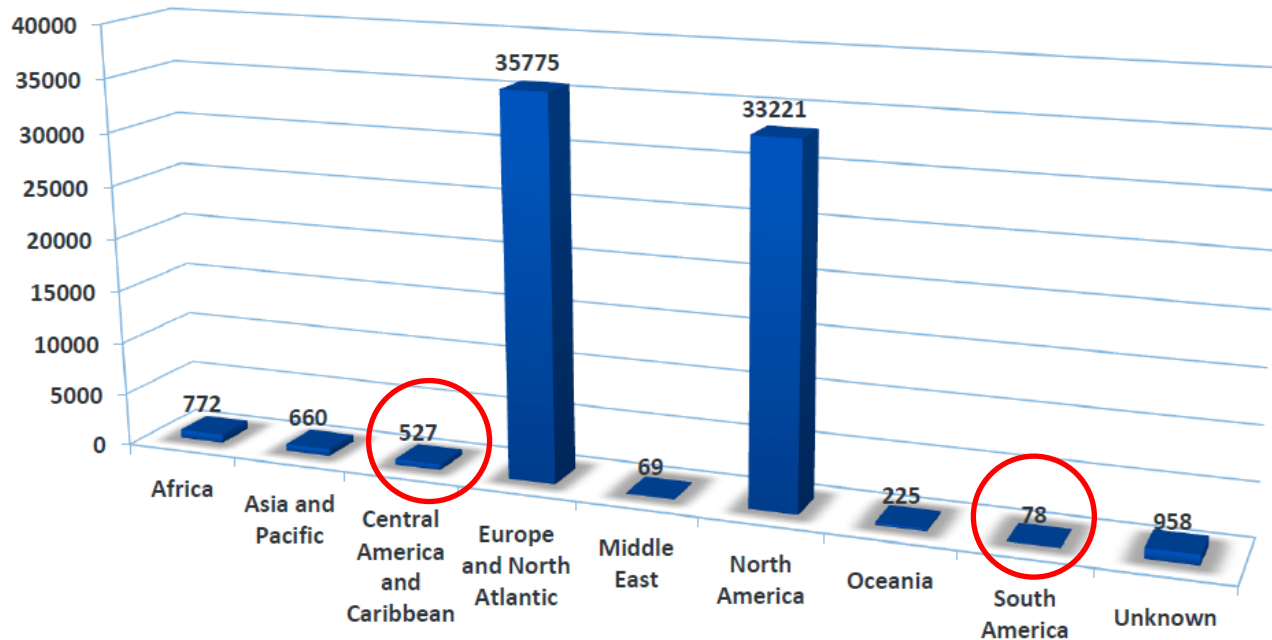
CARSAMPAF/15

# REPORTING





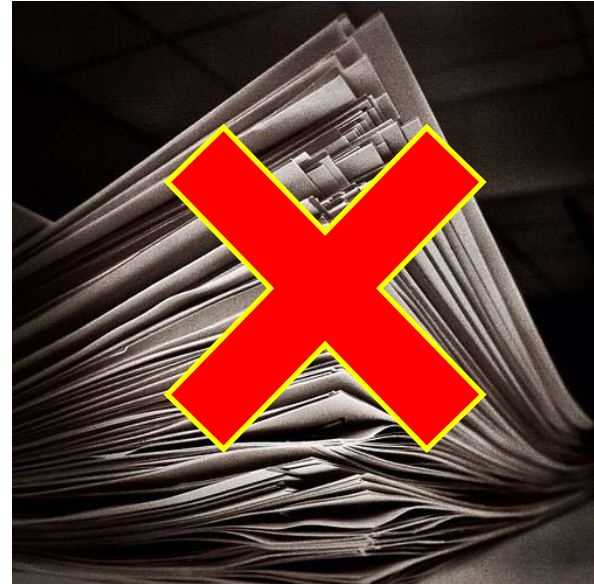
# Reported Strikes by Region





# What's going on? Why so low?

- Reports to ICAO
  - ICAO cannot handle the volume of paper reports
  - Inefficient use of resources
  - Introduction of errors





# Options for reporting

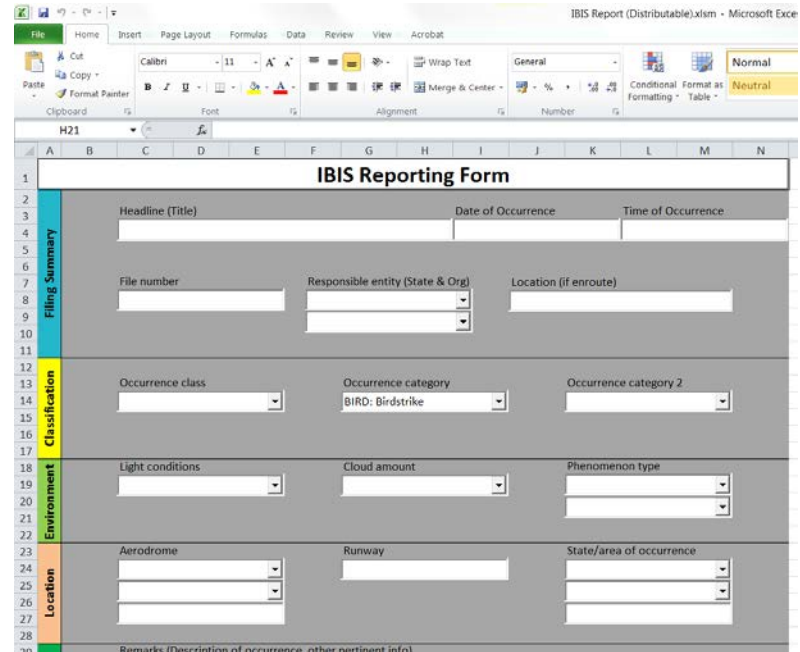
- ECCAIRS file exchange is preferred
- .E5F files are easily exchanged & uploaded
- “No loss” data transfer





# Options for Reporting

- ECCAIRS-designed Excel form
  - Available at <https://www.icao.int/safety/IBIS/Forms/AllItems.aspx>
- Carries all value lists from ECCAIRS taxonomy
- Send via email
- Easily converts to ECCAIRS file (1 click)



The screenshot shows the Microsoft Excel interface with the 'IBIS Reporting Form' open. The form is structured as follows:

IBIS Reporting Form									
Headline (Title)			Date of Occurrence			Time of Occurrence			
File number			Responsible entity (State & Org)			Location (if enroute)			
Occurrence class			Occurrence category			Occurrence category 2			
Light conditions			Cloud amount			Phenomenon type			
Aerodrome			Runway			State/area of occurrence			
Remarks (Description of occurrence, other pertinent info)									

The form includes a sidebar with categories: Filing Summary, Classification, Environment, and Location. The Excel ribbon shows the 'Home' tab with various formatting options.



# Options for Reporting

- For States with proprietary DBs
- Large volume of data
- ECCAIRS offers XML-based bridge tool
- Initial investment in time and resources
- XML expertise needed on both sides





# What's next on Reporting?

- Web-based data entry
- Continuous access to data
  - Via web
  - Via apps such as iStars/Space
  - Excel
- To be discussed...





# Why its important reporting? DATA

- Support solid analysis and lead to better solutions;
  - Technology
  - SARPS
  - Training
- Data could be used by the industry to develop bird resistant aircraft;
- It can also possibly help understand the effects of environmental changes;
- Better flight planning can also be achieved





CARSAMPAF/15

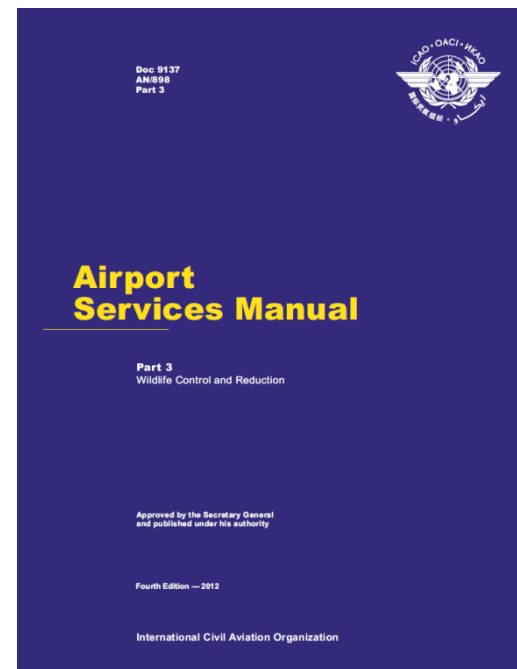
# NATIONAL AND LOCAL WILDLIFE COMMITTEES





## States: National Committees

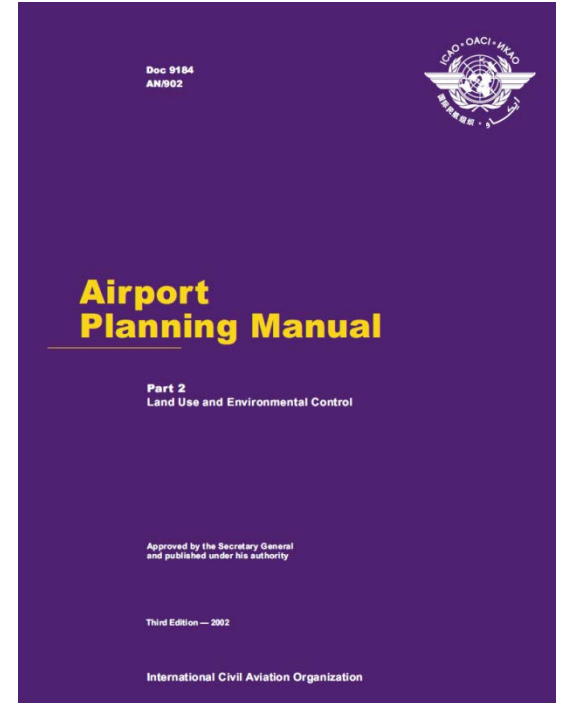
- Annex 14, Volume I, requires the wildlife strike hazard on, or in the vicinity of, an aerodrome to be assessed through, among other things, the establishment of **national procedures** and an **ongoing evaluation** of wildlife hazards by competent personnel.
- The establishment of a **national committee** is ideally suited to addressing this task.





## States: Law & Regulations

- States need to have appropriate *legislation* and *regulation* to address the safety concerns, including those related to land use around an aerodrome
- Working with **local communities**, including land use planning is critically important.





# Aerodrome Operators: WHM Programme

- Wildlife control programme at each airport will be different (included in AD Manual)
- It is essential to apply **SMS** thinking (*Severity vs Freq*)
- Control measures must be weighed and evaluated against requirements
- Should lead to the production of a Wildlife Hazard Management Programme (and Plan) for the airport
- **Training** of personnel to manage an effective wildlife control programme, including SMS approach.





# Aircraft Operators: Communication, Procedures, reporting

- Get info on time to adapt. Report to ATC observed wildlife and file birdstrike report
- Other measures: Procedures
  - Because 95 per cent of bird strikes occur below 3 000 feet, the aircraft operator may establish procedures that would ensure that aircraft climb above 3 000 feet as rapidly as possible, while maintaining a relatively slow airspeed, which may decrease the damage in the event of a bird strike.
  - Arriving aircraft should remain above 3 000 feet until necessary to descend directly for landing. This may require coordination with air traffic control and modification of local air traffic procedures.
  - Others...
- Actively participate in Wildlife Committees and RST

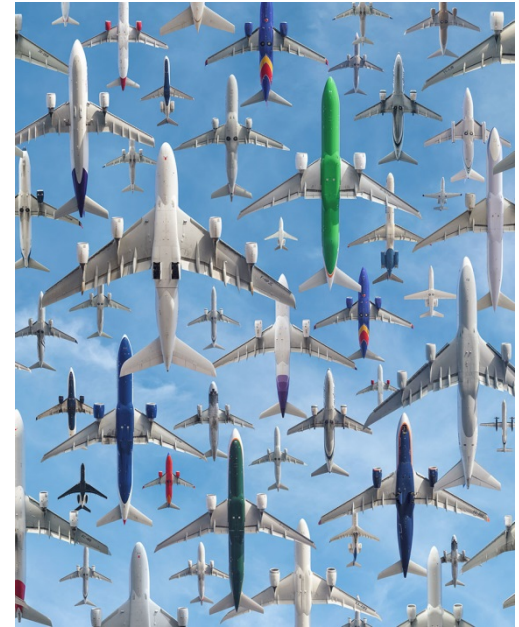


Photo: Mike Kelley



# Ongoing work in ICAO

- PANS-Aerodromes (Doc 9981)
  - Dedicated chapter on wildlife hazard management
- Update guidance in Doc 9137 ASM Part 3





# Summary



ICAO



WSHRS2017

ICAO / ACI Wildlife Strike  
Hazard Reduction Symposium

ICAO Headquarters, Montréal, 16-18 May 2017



- There is a need for reporting in order to base decisions on data
- Training, Training, Training before tech
- States to strengthen coordination with local authorities for land use (water bodies, waste dumps, agriculture). **National Committees**
- Coordination on the **Airport Committee** between ADR-ATC-CAA-Airlines-Community and their input to/from **RST's**.
- **Collaborative approach to the problem is needed**



# Resources

- ICAO/ACI Wildlife Strike Hazard Reduction Symposium (2017):  
<https://www.icao.int/Meetings/wildlife/Pages/Presentations.aspx>
- ICAO Wildlife Strike Analysis and IBIS Report (.xls file):  
<https://www.icao.int/safety/Pages/IBIS.aspx>
- <https://www.icao.int/safety/iStars/Pages/Accident-Statistics.aspx>
- <https://www.icao.int/safety/Pages/default.aspx>
- [https://www.skybrary.aero/index.php/Bird\\_Strike](https://www.skybrary.aero/index.php/Bird_Strike)
- [https://www.skybrary.aero/index.php/Non\\_Avian\\_Wildlife\\_Hazards\\_to\\_Aircraft](https://www.skybrary.aero/index.php/Non_Avian_Wildlife_Hazards_to_Aircraft)
- <http://www.intlaviationstandards.org/>
- <https://www.icao.int/safety/airnavigation/AIG/Pages/ADREP-Taxonomies.aspx>
- [https://www.icao.int/SAM/SSP/Pages/ECCAIRS\\_Implementation.aspx](https://www.icao.int/SAM/SSP/Pages/ECCAIRS_Implementation.aspx)
- <https://www.icao.int/safety/RunwaySafety/Pages/default.aspx>



**THANK YOU!**

**Fabio Salvatierra De Luca**

[fsalvatierra@icao.int](mailto:fsalvatierra@icao.int)

+51 1 6118686 ext. 105