



ICAO, World Birdstrike Association and CARSAMPAF

Mexico City, 20-24th October 2014

National Databank Interactions

Strike Reporting and Brazilian Species Hazard Ranking

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Structure

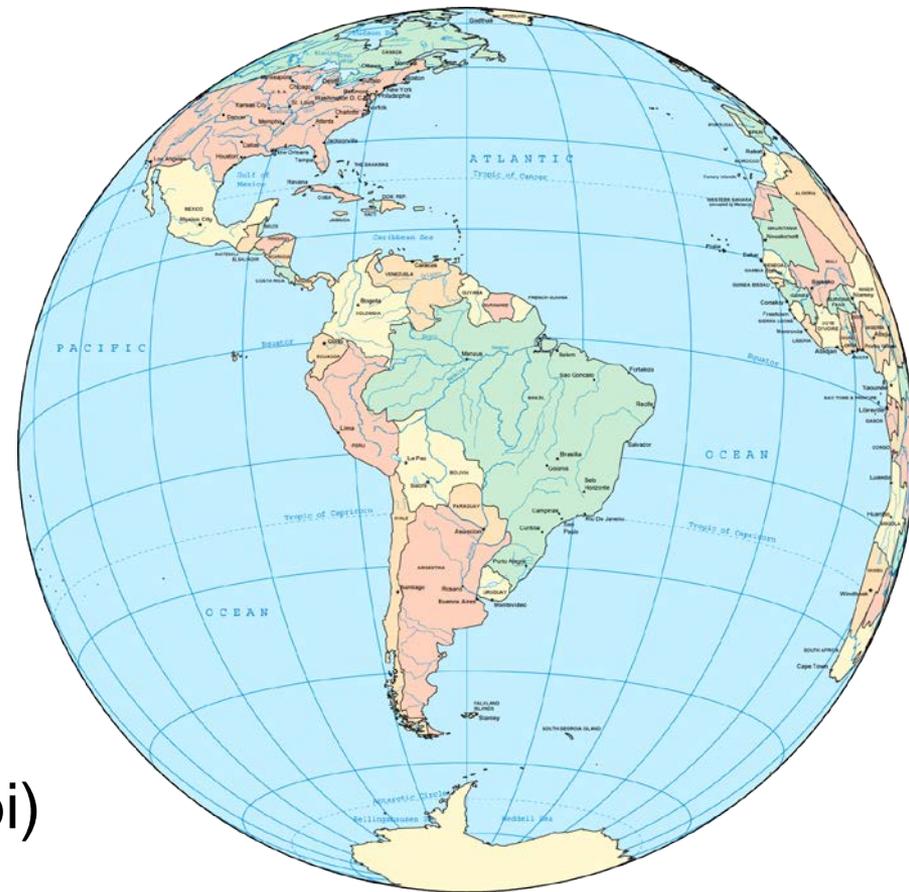
- Introduction
- Data and wildlife strike management
- Ranking the wildlife strike risk of Brazilian species to aviation
- Conclusions



Introduction

Brazil:

- 714 public aerodromes
- Regional airports (BRL 7,3 bi)
- Total RPT movements **2,042,726** (2013)
- International movements **159,706** (2013)



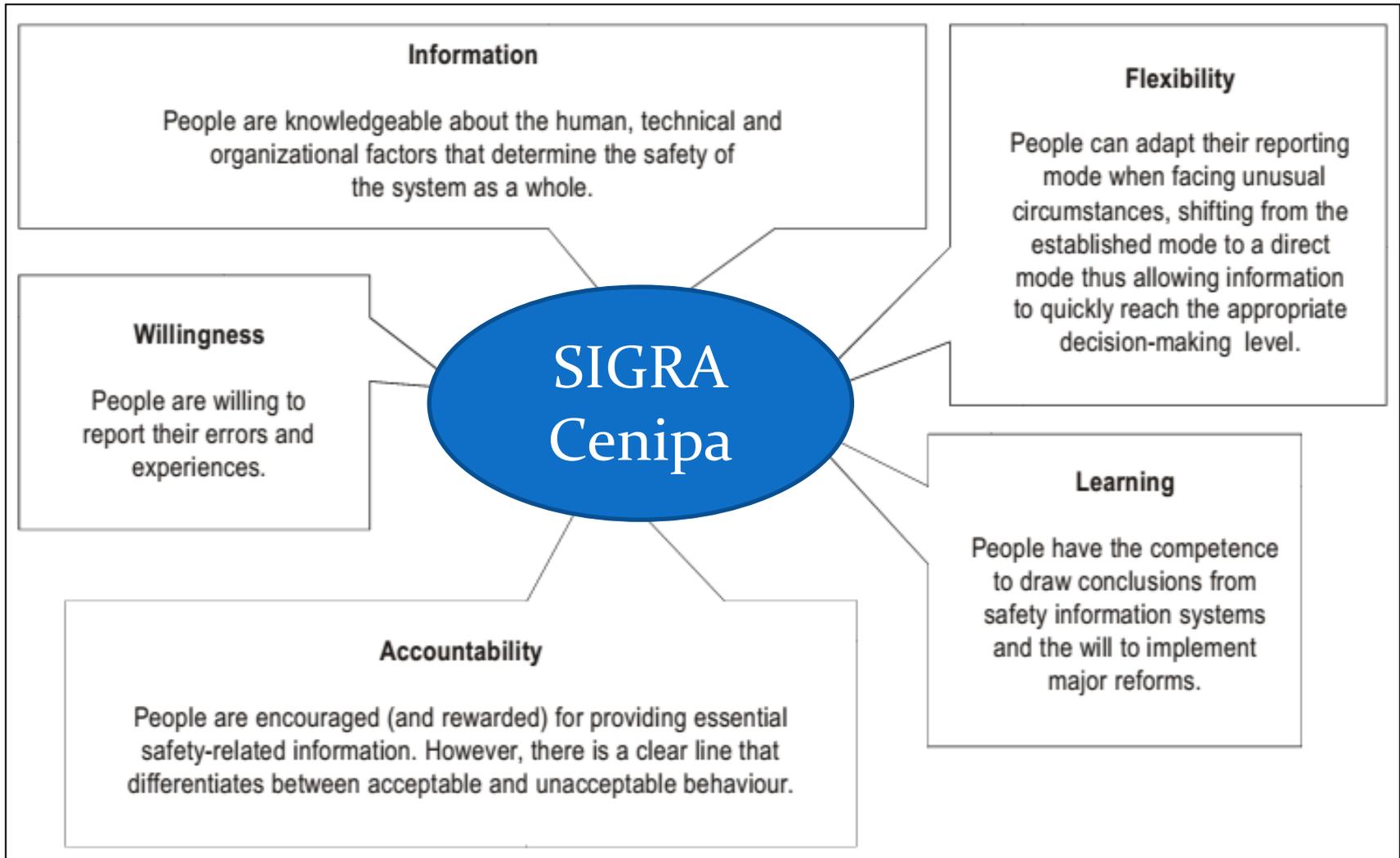
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Data and Wildlife Strike Management

- Doc 9859 ICAO Safety Management Manual
- Doc 9332 ICAO Bird Information System
- Doc 9137 ICAO Wildlife Control and Reduction

Doc 9859 SMM



Reporting Culture

(Reason 1997)

Informants not always see the value of reporting, especially if they are sceptical about the acting upon the information.

Important factors for both quantity and quality of incident reports:

- Rapid, useful, accessible and intelligible feedback to the reporting community (*beyond borders*)
- Ease of making the report

- 1) Reports from Brazilian airliners operating abroad
- 2) Reports from foreign airliners operating in Brazil

Doc 9332 IBIS

- State Letter AN4/9.1-79/179 Nov 23rd 79:
 - Report all bird strikes to ICAO
- ACF OPR usually send strike reports to their State for onward transmission to ICAO, and to the State of occurrence
- It is essential that the State of the occurrence be advised **ASAP** to ensure that the appropriate ARP authorities are aware of the bird strike and can take action

Effective communication is paramount.

Time is an important issue.

Doc 9332 IBIS

- Postal addresses for States' civil aviation authorities can be found in the State Designators for Operating Agencies and Authorities Services (Doc 8585)
- States are requested to complete as many of the data items on the report

Effective communication is paramount.

Time is an important issue.

Doc 9137 WCR

- The importance of reporting:
 - An effective bird/wildlife control programme depends upon accurate and reliable reporting
 - Reviewing and analyzing this data will help identify problems at the airport and indicate the effectiveness of current WHMP
 - Annex 14, Volume I, requires States to assess the hazard on, and in the vicinity of, an aerodrome through the establishment of a national procedures for recording and reporting strikes

What is the problem?

- 1) Effective communication is paramount and time is an important issue
- 2) Reports from Brazilian airliners operating abroad, and foreigner airliners operating in Brazil, shall arrive at the appropriate databank
- 3) Online reporting systems facilitate data gathering

SIGRA

Brazilian National Databank available in English at:

<http://www.cenipa.aer.mil.br/cenipa/sigra/perigoAviarioExt?idioma=en>





Sistema de Gerenciamento de Risco Aviário - Sigra

WILDLIFE EVENT REPORT FORM - (Ficha CENIPA 15)



Type of Event Strike Near-miss Sighting



Mandatory information

Warning!

All information herein contained has the solely purpose of wildlife strike accident prevention. Inappropriate use of the system should be avoided since data is the milestone of Safety Management System and its misuse impairs reporting by aviation stakeholders. The annual data summary feeds International Civil Aviation Organization databank in order to support the development of strategies to mitigate wildlife strike risk.

Registration ANV: AIRCRAFT Date: 00/00/0000

AIRCRAFT

Operator: -- Choose an option --

Manufacturer: -- Choose an option --

Model: -- Choose an option --

TYPE OF AVIATION -- Choose an option --

EFFECT ON FLIGHT

- None
- Aborted take-off
- Destabilization in the approach path
- Other
- Not reported
- Precautionary landing
- Engine shut down / flame-out

Engine was shut down by pilot or stopped running because of strike.

SKY CONDITION -- Choose an option --

Precipitation: -- Choose an option --

Engine was shut down by pilot or stopped running because of strike

AERODROME ?

ICAO indicator or name:

Runway used(direction of use): Ex: 12R

OUT OF AERODROME / EN ROUTE

Aerodrome Safety Area (ASA): ?

Coordinates /Radial & Distance: ?

HEIGHT (AGL): ft ? SPEED (IAS): kt ?

PHASE OF FLIGHT ?

Taxi
 Take-off
 Climb
 Cruise(en route)
 Descent
 Approach
 Landing
 Runway review
 Low Level Nav
 In-Transit Inspection
 Parking

PART(S) OF AIRCRAFT ?

Struck Radome Damaged

DAMAGE / COST INFORMATION ?

Aircraft time out of service: Hours

Direct cost (inspection/repairs/replacement of items): ? US\$ US\$

Indirect cost - Estimated (lodging/profit losses): ? US\$ US\$

PILOT WARNED OF ANIMALS? ?

ATIS, APP, TWR, NOTAM ?

ADDITIONAL REMARKS

Describe personal injuries, aircraft damage, significant bird concentrations, attractants on the ground, estimated loss of thrust engine vibration, fire or any other valuable information.



From 200ft AGL up to the end of landing run, or, in other words, up until the aircraft reaches the taxiing speed and vacates the RWY. For helicopters until hovering close to the ground or wheels on ground for taxiing or the end of the landing run

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Ranking the wildlife strike risk of Brazilian species

Optimizing fauna management at airports

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Ranking the wildlife strike risk of Brazilian species

- 11,026 wildlife strikes (2000-2013)
- 53% were identified to species or group level
- The ranking was based on three severity criteria:
 - 1) Percentage of damaging strikes,
 - 2) Percentage of strikes with negative effects on flight (EOF),
 - 3) Percentage of strikes that resulted in substantial damage.
- 74 wildlife species or groups were ranked (> 3 reports)

Ranking the wildlife strike risk of Brazilian species

Very High Risk Species

Rank	Severity	Species or Group	Damage %	EOF %	Substantial Damage %	Severity Score
1	very high	Frigatebirds	20,0%	55,0%	5,0%	10
2	very high	Cattle Egret	14,3%	14,3%	7,1%	19
2	very high	Other vultures	11,6%	40,9%	2,1%	19
2	very high	Lesser Yellow-headed Vulture	14,3%	14,3%	7,1%	19
5	very high	Black Vulture	25,6%	56,4%	-	20
6	very high	Turkey Vulture	14,3%	19,0%	4,8%	22
7	very high	Greater Yellow-headed Vulture	28,6%	28,6%	-	23

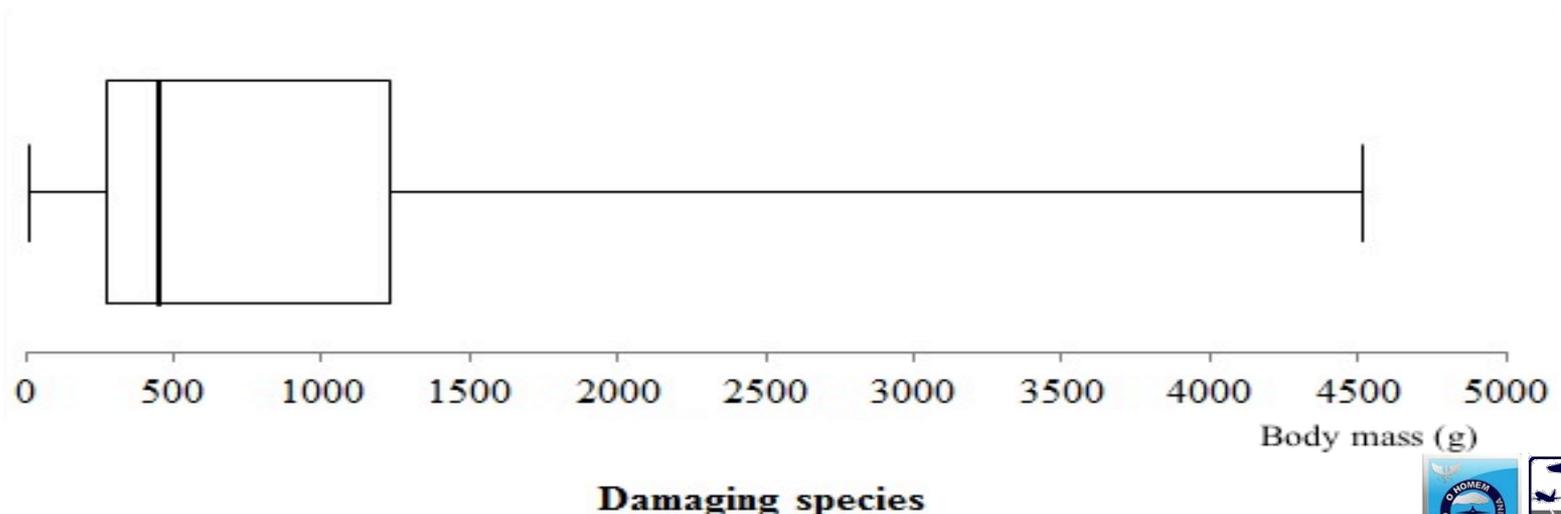
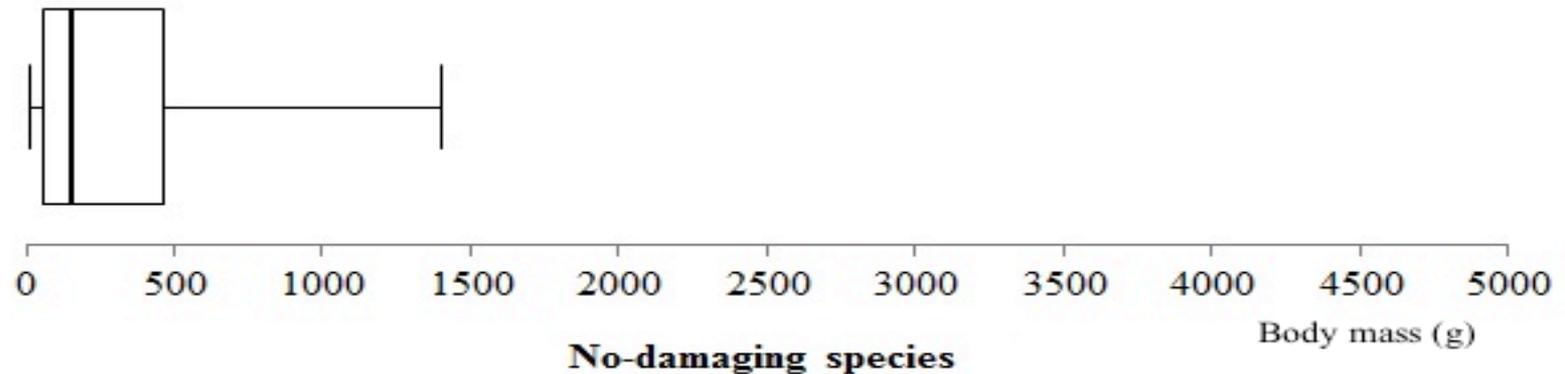
Ranking the wildlife strike risk of Brazilian species

High Risk Species

Rank	Severity	Species or Group	Damage %	EOF %	Substantial Damage %	Severity Score
8	high	Gulls	6,3%	32,6%	1,1%	33
8	high	Brown-chested Martin	11,1%	22,2%	-	33
10	high	Yellow-headed Caracara	10,0%	20,0%	-	37
11	high	Domestic dogs	5,3%	26,3%	-	43
12	high	Fork-tailed Flycatcher	9,1%	9,1%	-	45
13	high	Other ducks	5,9%	5,9%	5,9%	47
14	high	Southern Caracara	5,2%	6,8%	1,2%	51

Ranking the wildlife strike risk of Brazilian species

Frequency distribution of body masses for birds involved in strikes



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Conclusions

Findings

Brazilian hazardous species involved in damaging strikes are smaller but damaging collisions with passerines are rare

Brazilian hazard ranking will enhance risk management efficiency focusing on greatest risk species to aviation

Bird census through surveys will allow proactive management actions

Acknowledgments

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Conclusions

Findings

Brazilian hazard ranking will help airport managers to focus efforts in order to control & reduce the presence of bird species with the greatest risk to aviation on & off-aerodromes

Wildlife monitoring and site-specific surveys must identify species abundance, indicating management actions towards hazardous wildlife species

Conclusions

Recommendations

- 1) Reports shall arrive at the appropriate national databank
- 2) Each State shall point to ICAO the correct national databank electronic address to share strike reports ASAP
- 3) ICAO shall keep an updated list of national databank addresses because not all countries have an online system



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Thank you