



Brazil: Two Aviation Authorities to Reach One Goal

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Background and Context



Area: + 8,5 million sq km (5th largest on Earth)

Population: + 206 million

Cities: 5,570

Aerodromes: 3,415 (2016)

Movements: + 3,3 million (2016)

Passengers: + 111,5 million (2016)





Background and Context

Pre-2005:

Command of Aeronautics



- Civil Aviation Regulation
- Air Traffic Control
- Accident Investigation

Post-2005:

COMAER



- Air Traffic Control
- Accident Investigation
- Civil Aviation Regulation



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Background and Context

Wildlife Risk

COMAER > Aeronautical Accidents Investigation and Prevention Centre (CENIPA)

- Brazilian Wildlife Strike Databank (BWSD)
 - Reporting function:

Strikes



Near Misses



Sightings

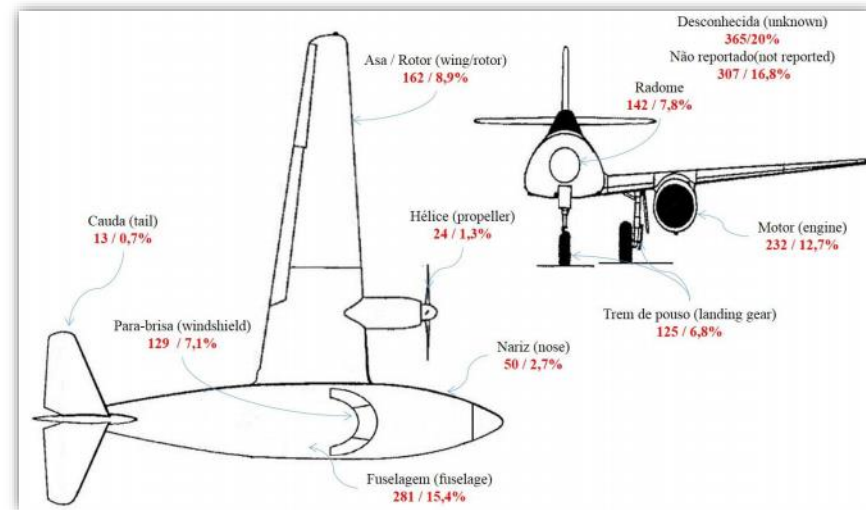
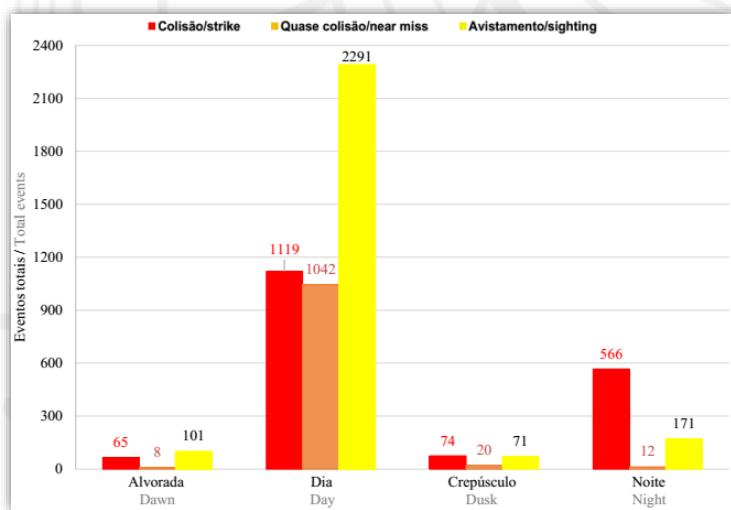
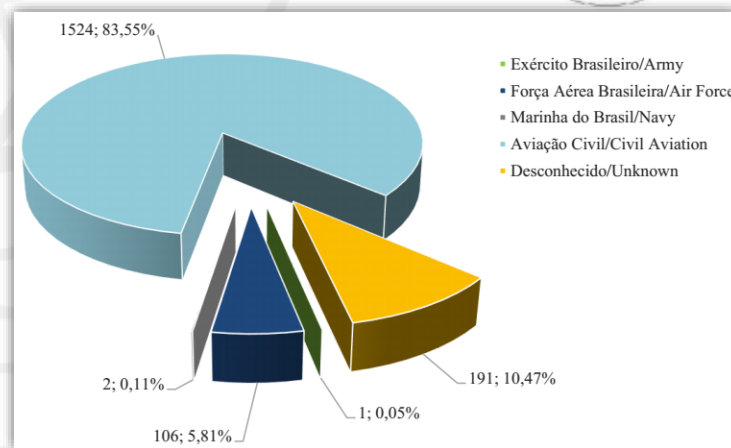




Background and Context

BWSD numbers 2011 to 2016:

- > 27,500 reports
 - 11,000 strikes
 - Direct costs = US\$65 million per year
 - Indirect costs = US\$10 million per year
- = 30% reporting rate (as per Allan 2001)





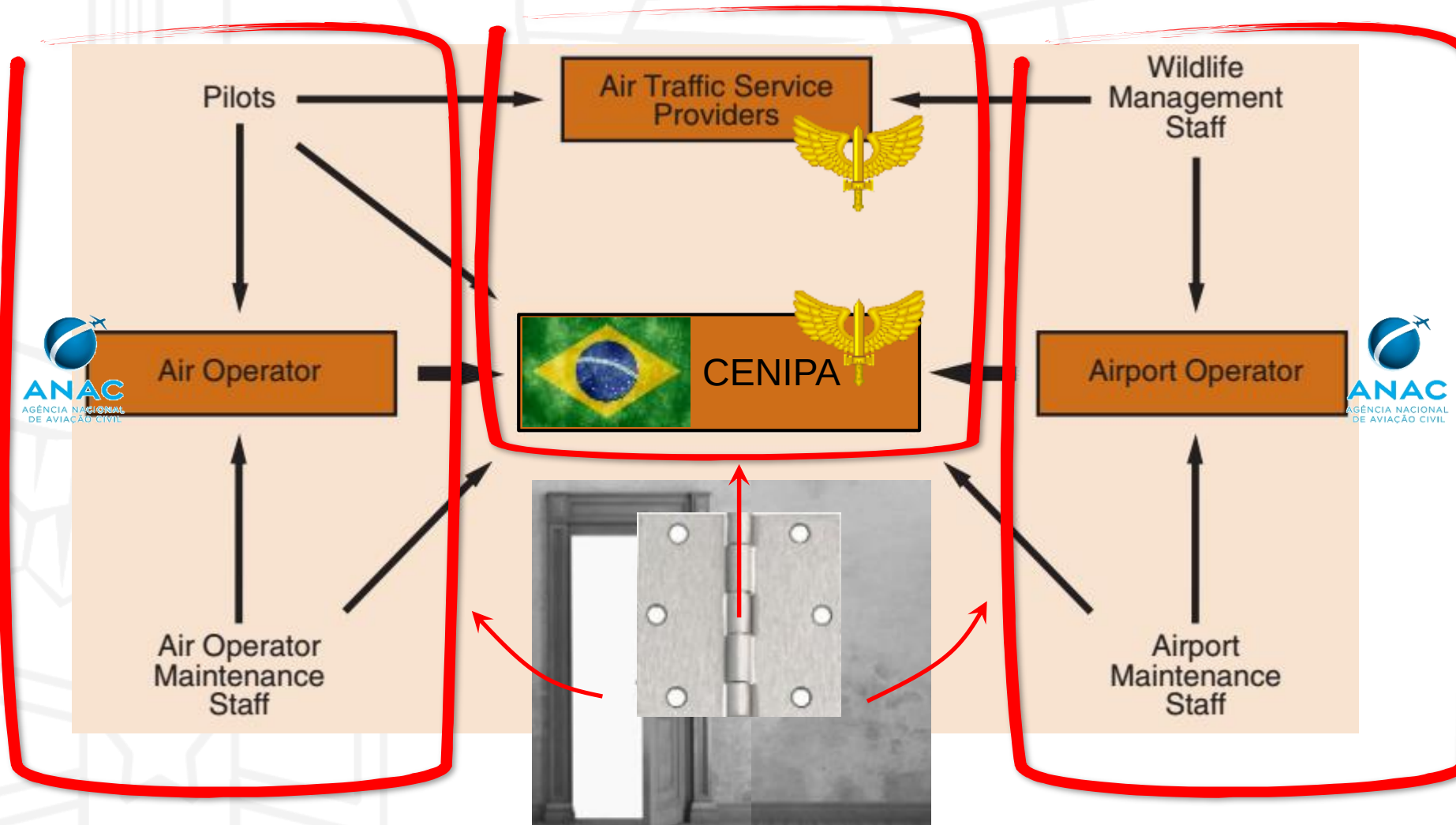
Background and Context

Wildlife Risk

COMAER > Aeronautical Accidents Investigation and Prevention Centre (CENIPA)

- Brazilian Wildlife Strike Databank (BWSD)
 - Search function:
 - Aerodrome operators for safety purposes and environmental authorisations
 - Environment authorities for issuing authorizations for trapping, relocation and culling
 - Identification/monitoring of off-aerodrome attractants (Airport Safety Area – ASA)
 - ANAC for regulation improvements (ICAO SARPs): guidance materials and standard procedures

Integration



Fonte: Bom Dia Brasil (Globo) 24/07/2015



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Fonte: Cehipa



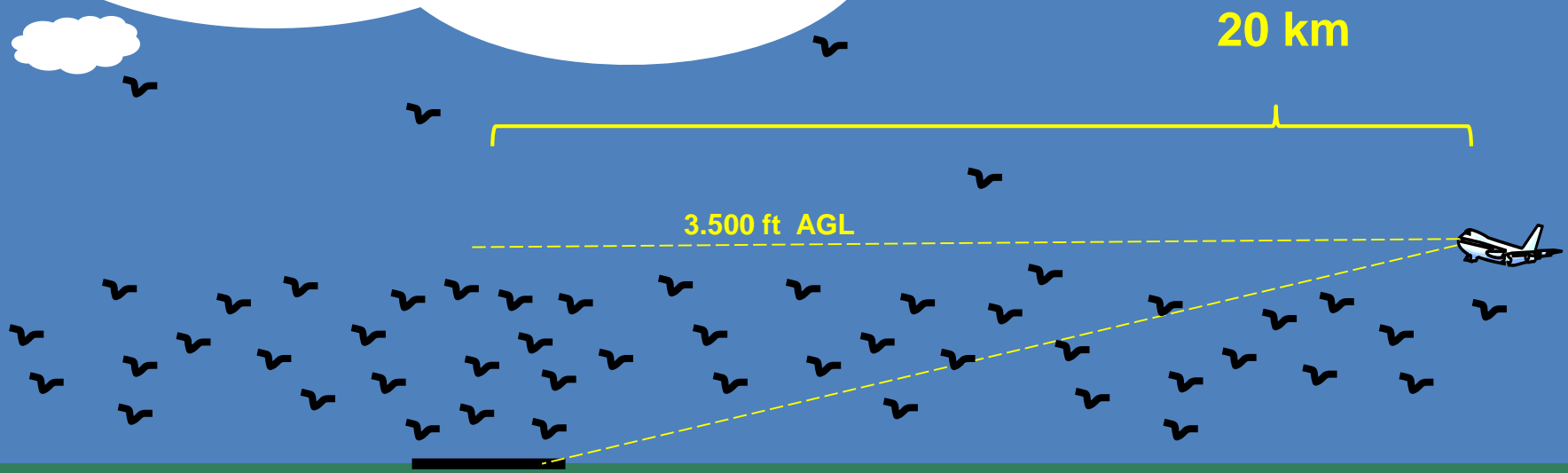
Fonte: INFRAERO



Wildlife Strikes to Civil Aircraft in the United States, 1990–2015

Height of strike (feet AGL)	All reported strikes			Strikes with damage		
	26-year total	% of total known	% cumulative total ⁴	26-year total	% of total known	% cumulative total ⁴
0	33,100	41	41	1,831	29	29
1-500	24,611	30	71	1,769	28	56
501-1500	8,810	11	82	947	15	71
1501-2500	4,607	6	88	571	9	80
2501-3500	3,361	4	92	375	6	86

ASA
20 km



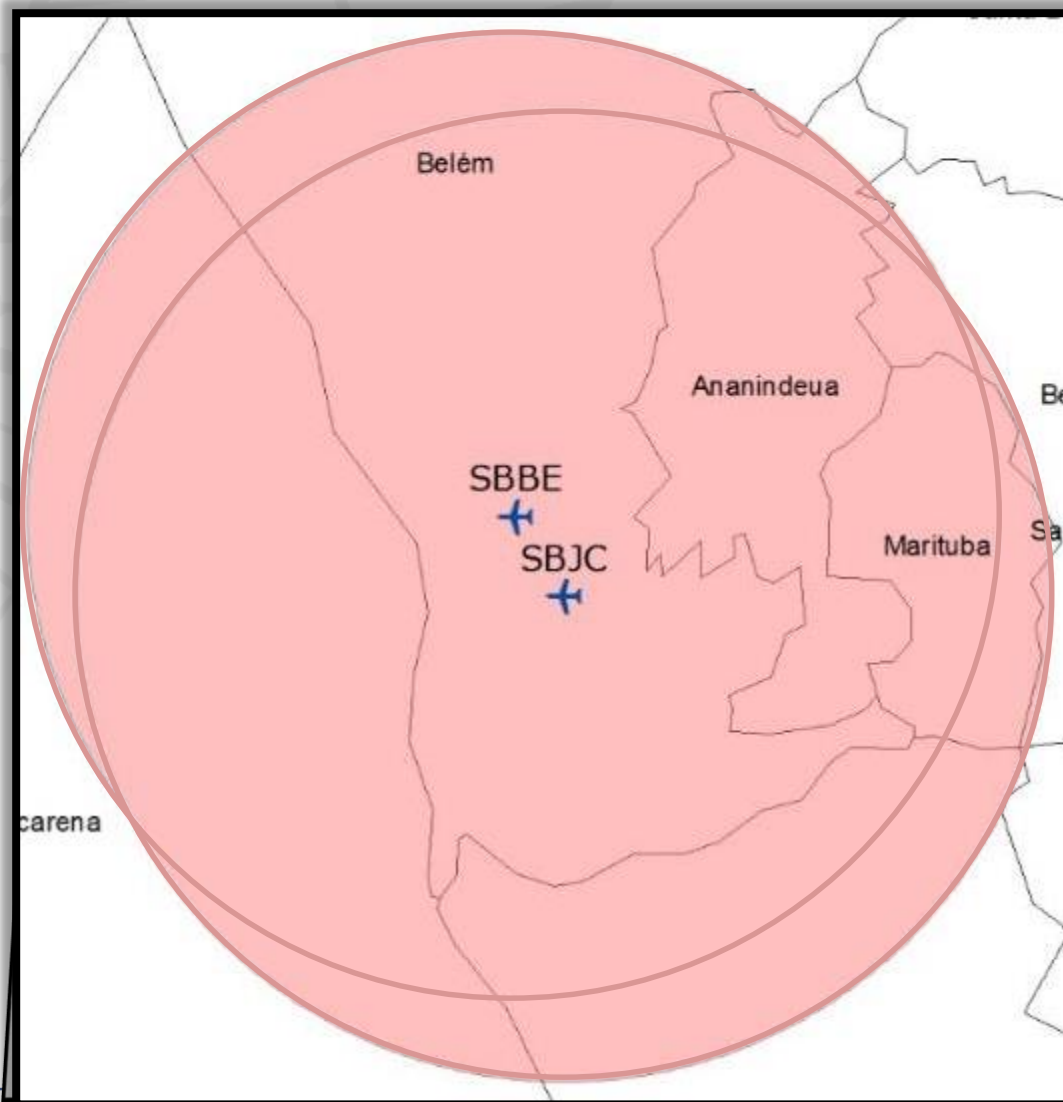
Risk = Probability x Severity



Integration

ASA

COMAER issues Technical Aeronautical Advice inside the environmental licensing process to reduce attractants surrounding aerodromes





Integration

Main Issues – Reporting (data):

- Poor reporting culture
- ANAC does not have an Advisory Circular to guide industry to report all strikes to CENIPA
- There is no national forensics laboratory to use DNA analysis to identify species
- There is no standardised strike cost calculation by aircraft operators (direct or indirect).



Integration

Main Issues – SARPs implementation (action):

- Low compliance to the criteria listed in Doc. 9137, particularly in relation to:
 - Wildlife dispersal and patrols
 - Grass policy
 - Staff training (crews, ATC, wildlife teams)



The Future

The new regulation

- COMAER is creating a new regulation that will:
 - Make the process for issuing TAAs for off-airport hazards clearer
 - Request wildlife strike reporting from all aviation industry (airports, airlines, ATC)
 - Develop and implement wildlife hazard management programs on Brazilian Air Force bases



The Future

Technical Aeronautical Advice

- The new regulation will better identify who, when, how and to whom TAAs are issued
- For hazardous land uses in the ASA to be approved by the environment authority, COMAER will issue a TAA that will form part of the land user license. License conditions are likely to include:
 - Site monitoring by aerodrome operators
 - Site checks by COMAER



The Future

Technical Aeronautical Advice



Tipo de atividade	Potencial atração de fauna	Restrição especial relacionada à distância do centro da maior pista do aeródromo			
		Empreendimento novo (LP e LI)		Empreendimento em operação (*)	
		até 5km	entre 5-10km	até 5km	entre 5-10km
Abatedouro	Muito alto	Proibição	Adequação	Adequação	Adequação
Agricultura extensiva de grãos e/ou frutas	Alto	Proibição	Adequação	Adequação	Adequação
Agricultura (outras culturas extensivas)	Moderado	Adequação	Adequação	Adequação	Adequação
Aquicultura ou processamento de pescado (aberto)	Muito alto	Proibição	Adequação	Adequação	Adequação
Aquicultura ou processamento de pescado (enclausurado)	Moderado	Adequação	Adequação	Adequação	Adequação
Aterro controlado (recobrimento diário – material inerte)	Muito alto	Proibição			
Aterro sanitário (recobrimento diário – material inerte)	Alto	Proibição	Proibição	Adequação	Adequação
Barragens (criação de espelho d'água)	Alto	Proibição	Adequação	Adequação	Adequação
Criação de animais de corte (aberta)	Alto	Proibição	Adequação	Adequação	Adequação
Criação de animais de corte (enclausurada)	Moderado	Adequação	Adequação	Adequação	Adequação
Curtume	Muito alto	Proibição	Adequação	Adequação	Adequação
Deposição de resíduos sólidos a céu aberto (vazadouro)	Muito alto	Proibição			
Estação de transbordo de resíduos sólidos	Alto	Proibição	Proibição	Adequação	Adequação
Estação de tratamento de esgoto (ETE) ou água (ETA)	Moderado	Adequação	Adequação	Adequação	Adequação
Feiras livres (gêneros alimentícios)	Moderado	Adequação	Adequação	Adequação	Adequação
Indústria de processamento de alimentos (rações, etc)	Moderado	Adequação	Adequação	Adequação	Adequação
Silos e outras construções de estocagem de alimentos	Moderado	Adequação	Adequação	Adequação	Adequação
Zoológicos	Moderado	Adequação	Adequação	Adequação	Adequação



The Future

Reporting (data)

The new regulation will:

- Better regulate who, when, how, to whom and in which timeframe strike reports must be sent
- Provide similar instructions related to near-misses and sightings
- Allow for more transparency regarding how reports are analysed and approved
- Provide the aviation industry with more comprehensive instruction on how to use the BWSD, with particular emphasis on:
 - National Wildlife Ranking
 - Aerodrome Wildlife Ranking



Helping Brazil Move Forward

How the global aviation industry can help Brazil progress:

- IATA could encourage or require aircraft operators to provide strike cost calculations (direct and indirect) to the national databank to help SARP implementation
- ICAO could encourage or require the national regulator to develop Acceptable Levels of Safety for wildlife strike risk



