

Human Fatalities and Destroyed Aircraft Due to Wildlife Strikes, 1912 to Present

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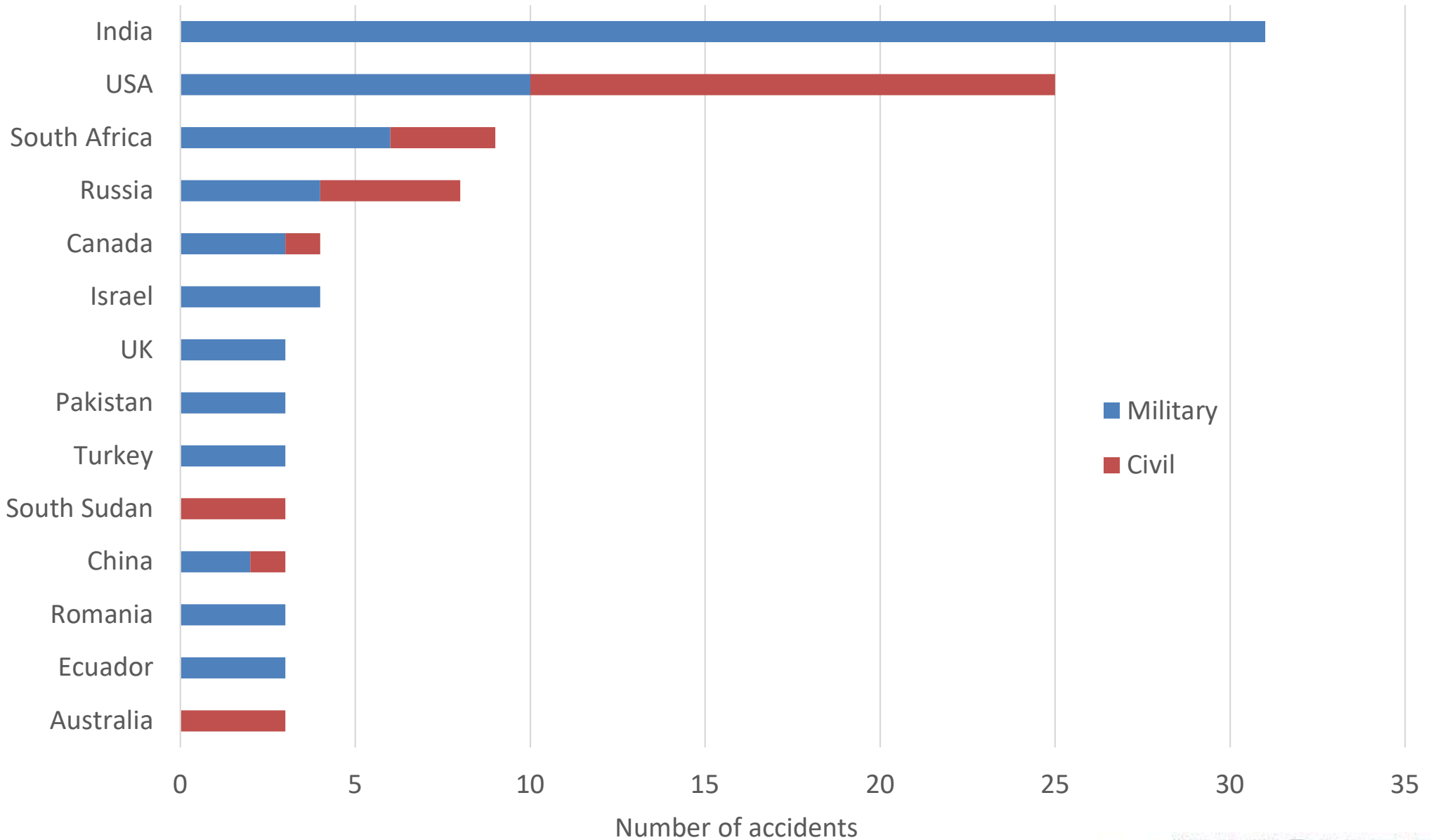
Acknowledgement: John Thorpe & John Richardson

Fatalities and Destroyed Aircraft - Worldwide

Recorded wildlife (birds & mammals)
crashes in aviation history

	No. Hull Losses	No. Fatalities
Civil	243	522
Military	513	294
Total	756	816

Additions since 2019 (n=140)



Ethiopian Airline Flight 302 – Addis Ababa Ethiopia

10th March 2019



Boeing 737 MAX crash

- Crashed 6 minutes after take off from Addis Ababa
- All 149 passengers and 8 crew died
- Ethiopian Accident Investigation Bureau found no bird involvement

NTSB response: “NTSB believes that the erroneous AOA signals provided by the left AOA sensor were instead caused by the separation of the AOA sensor vane due to impact with a foreign object, which was most likely a bird.”

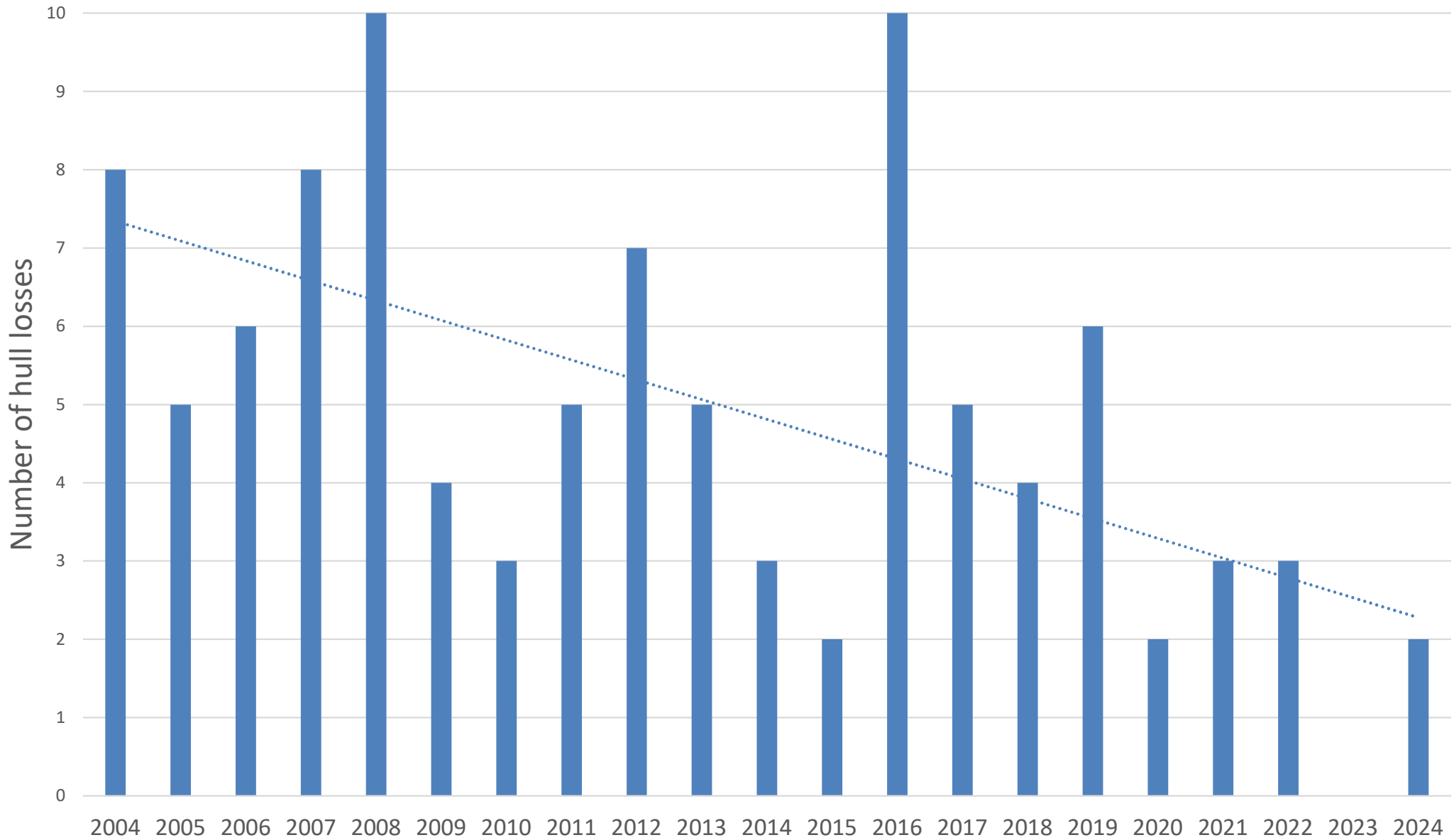
Ural Airlines Flight 178, Zhukovsky International Airport, Russia 15th August 2019

Miracle in the cornfield

- A321 crash on takeoff after both engines ingested gulls
- 233 on board, no fatalities – aircraft written off
- Illegal waste dumps near the airfield were implicated



Civil Hull Losses 20.5 Year Trend (n=101)



DCH-8-400 Cargo - Somalia

14th July 2020

Struck a donkey

- The aircraft impacted small mounds that were used for runway maintenance work.
- A fire erupted, which consumed the aircraft.
- All three crew members survived the accident.



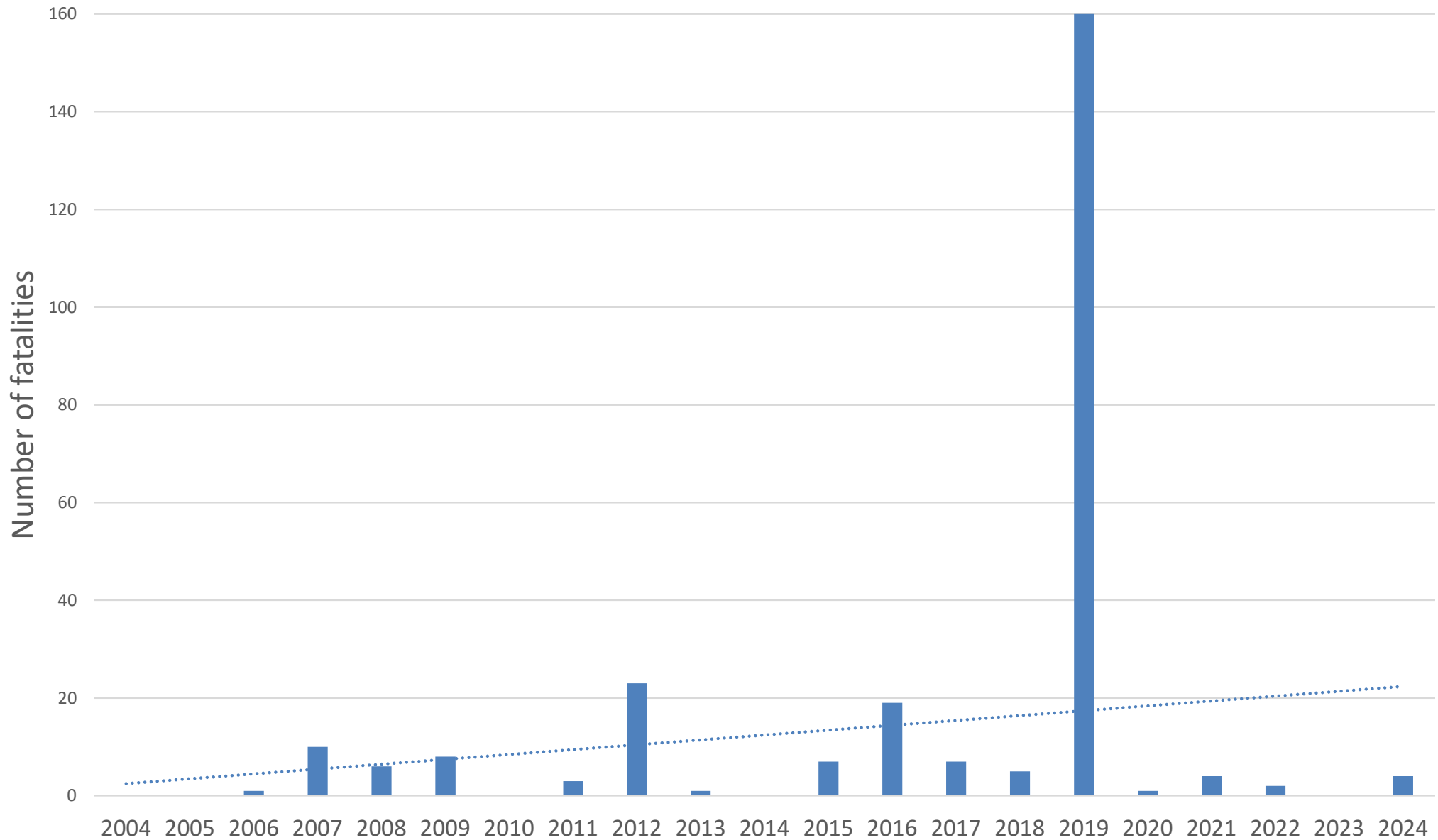
Cessna 550 Citation II – Johns Island, South Carolina, USA

1st May 2021

- The aircraft collided with two deer just after rotation at Charleston Executive Airport, SC.
- The pilot assessed that the flight controls functioned normally, but that the airplane was having issues with pressurization, and he was unable to communicate via radio
- He contacted ATC via mobile phone and landed
- Nil fatalities – aircraft written off



Civil Fatalities 20.5 Year Trend (n=261)

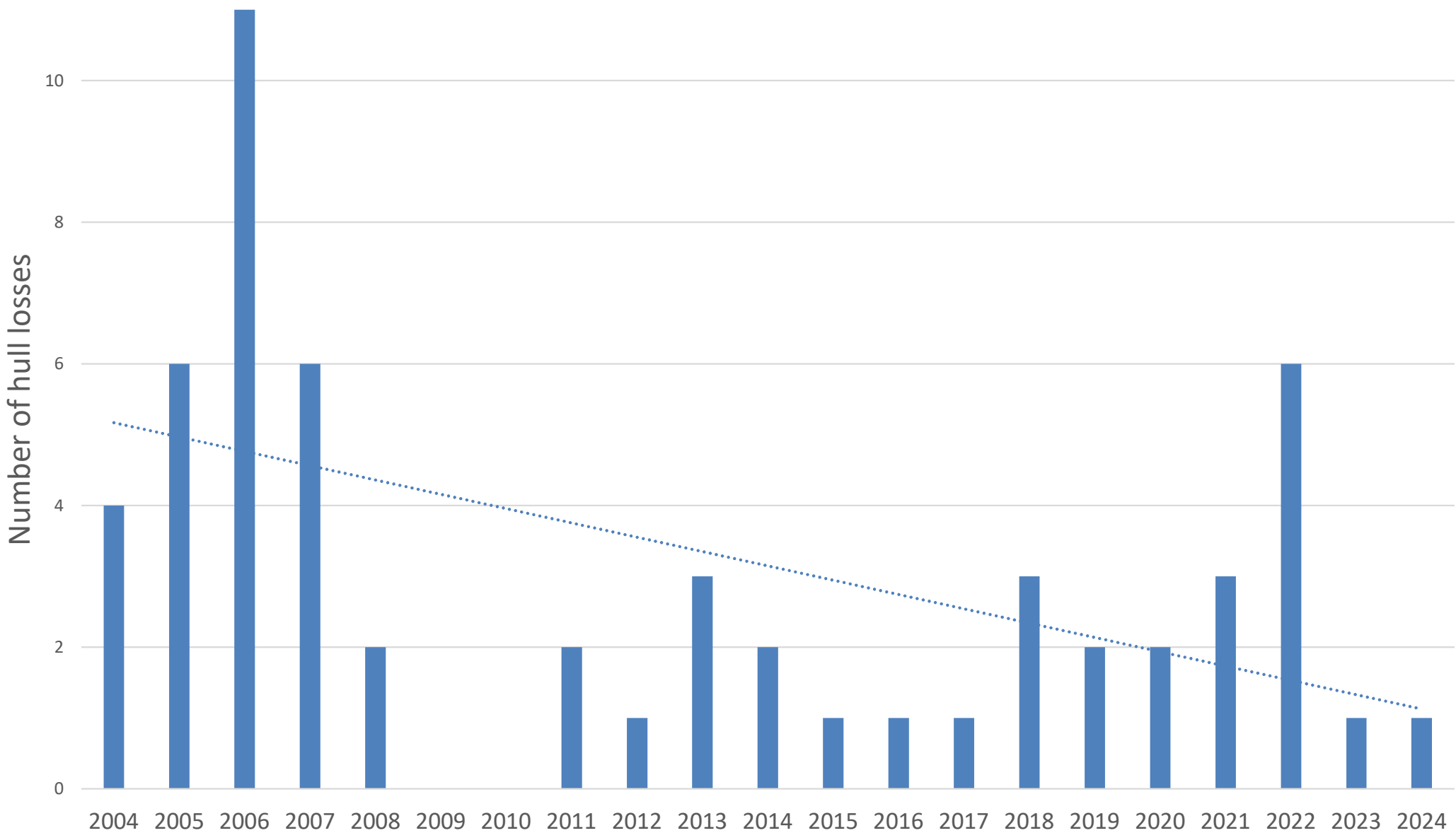


Robinson R22 Betta II – northeast of Durban, South Africa 3rd May 2021

- Training flight at Virginia Aerodrome
- En route a bird impacted the helicopter's tail rotor blade which cut through the tail cone skin
- The helicopter crashed into the reeds on the bank of Umegeni River
- The helicopter was destroyed and both occupants fatally injured



Military Hull Loss 20.5 Year Trend (n=58)



Unknown aircraft - China

5th October 2020

- People's Liberation Army Daily reported that the pilot communicated encountering a bird strike shortly after takeoff.
- The engine's in-flight shutdown warning instantly began flashing, and the display screen went black.
- Caused by a bird's impact on the engine of the fighter aircraft during takeoff, causing it to stall.
- Pilot survived.



Republic of Korean Airforce – KF16, Seosan Airbase, South Korea 8th June 2021

- During takeoff run, pilot detected problems and chose to eject
- The fighter jet crashed but the pilot was uninjured
- Inspection confirmed a bird was ingested into an air intake of the jet



US Airforce T-45C Goshawk, Fort Worth Texas, USA

19th September 2021

- Navy trainer crashed into a Lake Worth neighborhood during approach
- A 4.5-pound black vulture ingested into the jet's single engine
- Plummeted into backyards and burst into flames, injuring at least three residents.
- A military instructor and a student pilot ejected just seconds before impact and suffered injuries
- The accident caused nearly \$47US million in damage, including medical costs and the destruction of the plane



<https://www.youtube.com/watch?v=fMjaVINsfuo>

Indian Airforce Mig-29, Dabolim, Goa, India 16th November 2019

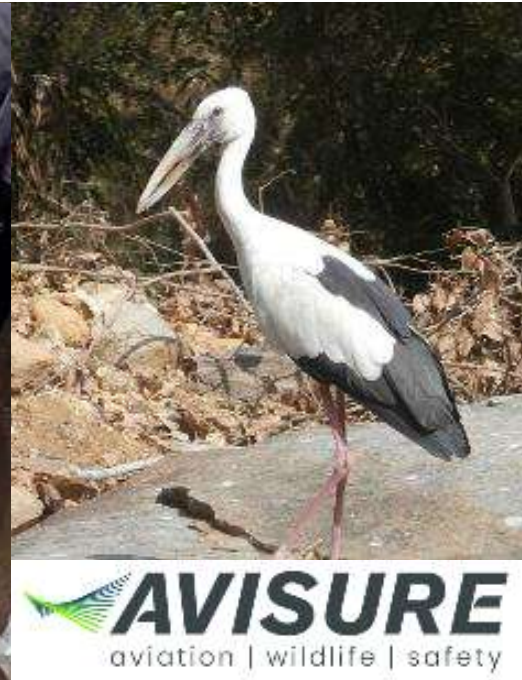
- Dabolim International Airport, Goa, India
- Crashed after takeoff
- Two crew ejected safely



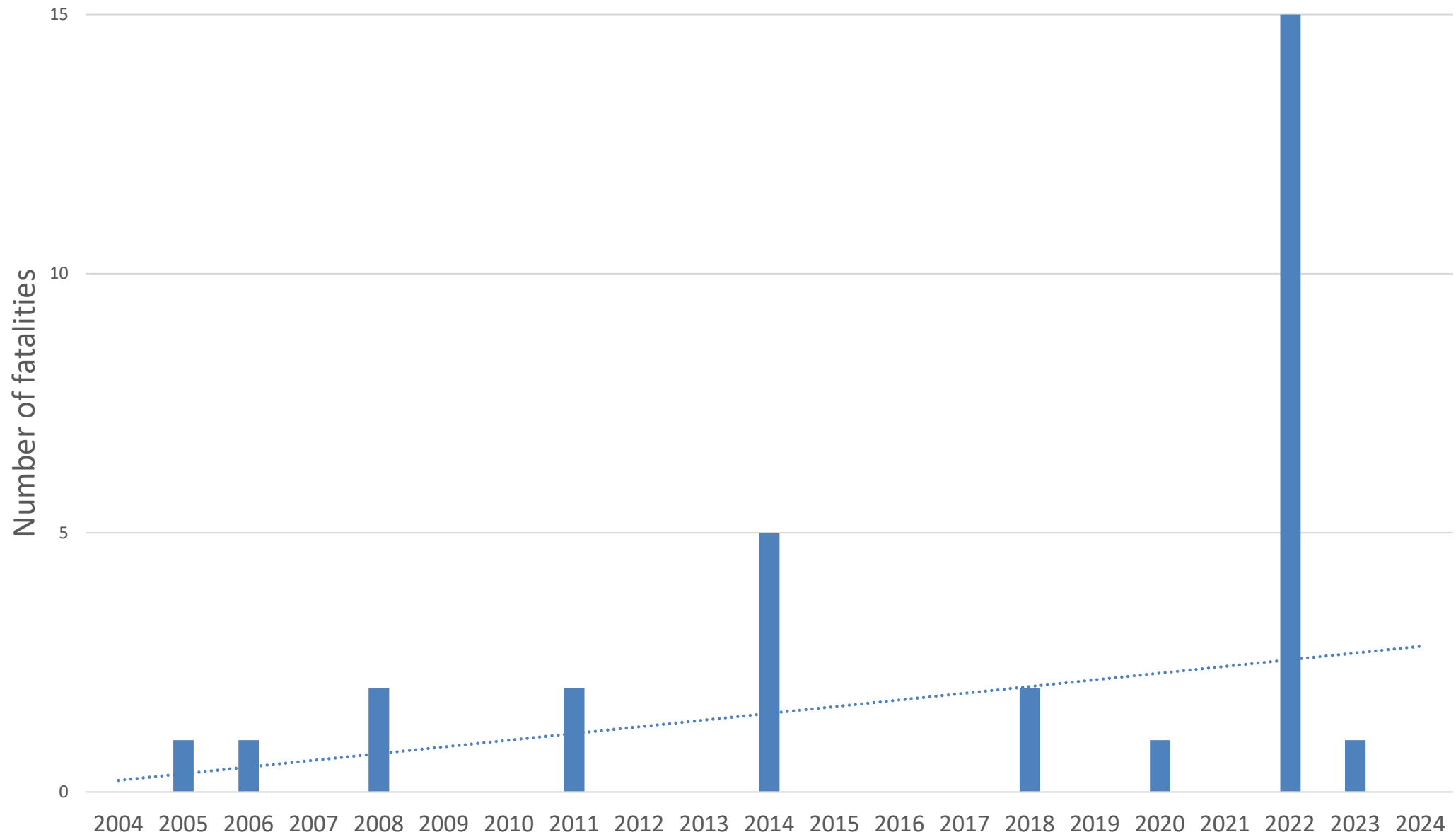
Royal Thai Airforce Northrop F-5 Chai Badan, Thailand

3rd December 2021

- Aircraft struck a bird and the pilot ejected
- Pilot suffered two broken legs and a broken left arm
- The plane debris was scattered over the area
- DNA test result indicated an open-billed stork



Military Fatalities 20.5 Year Trend (n=30)



Canadian Airforce CT114 Tutor, Canada

17th May 2020

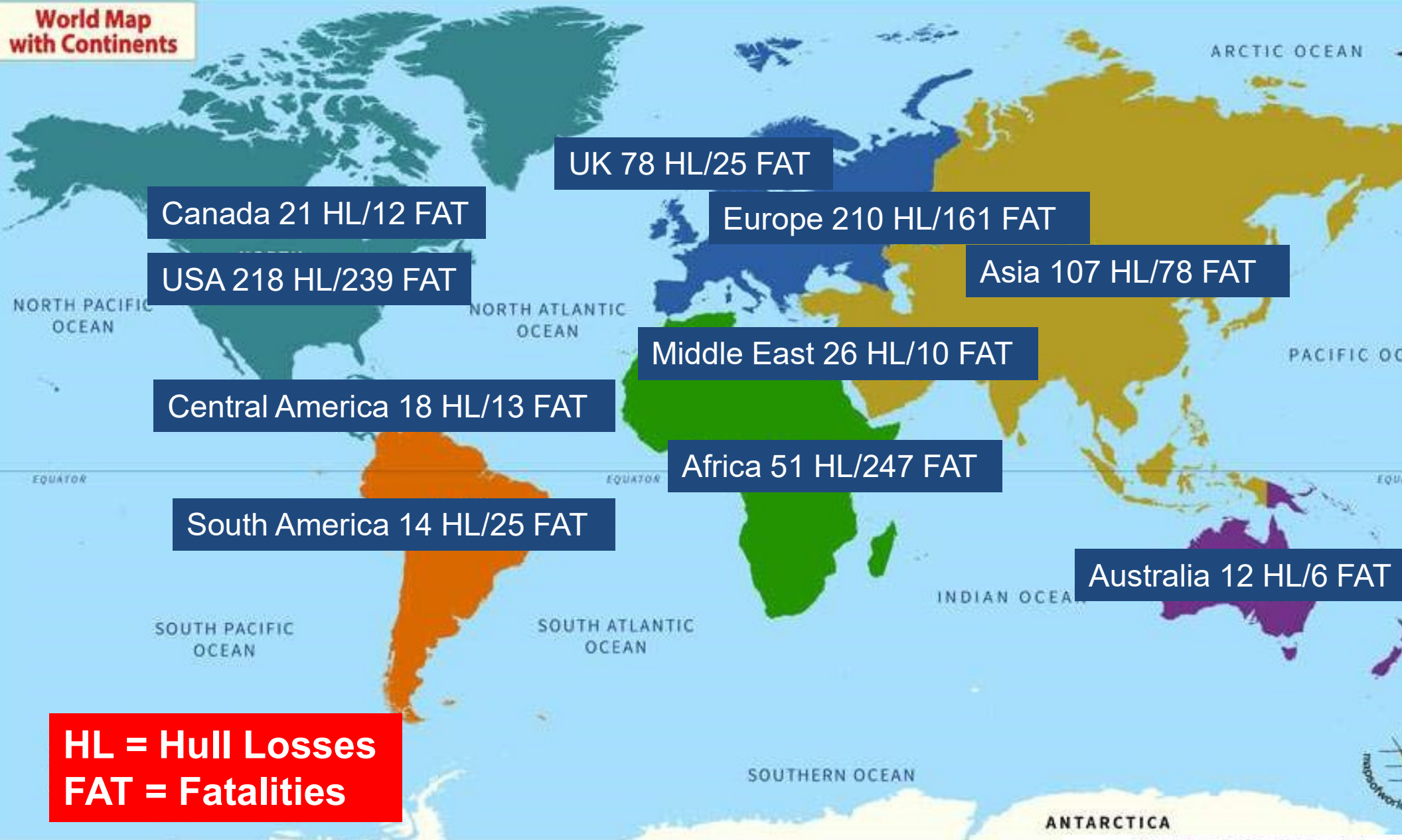
Snowbirds Demonstration Team

- Aircraft crashed enroute to Comox British Columbia
- Western Tanager (30 g)
- Compressor stall that wasn't cleared rather than catastrophic failure
- Pilot and passenger ejected; however, one human fatality



Wildlife Caused Accidents by Region (Civil & Military)

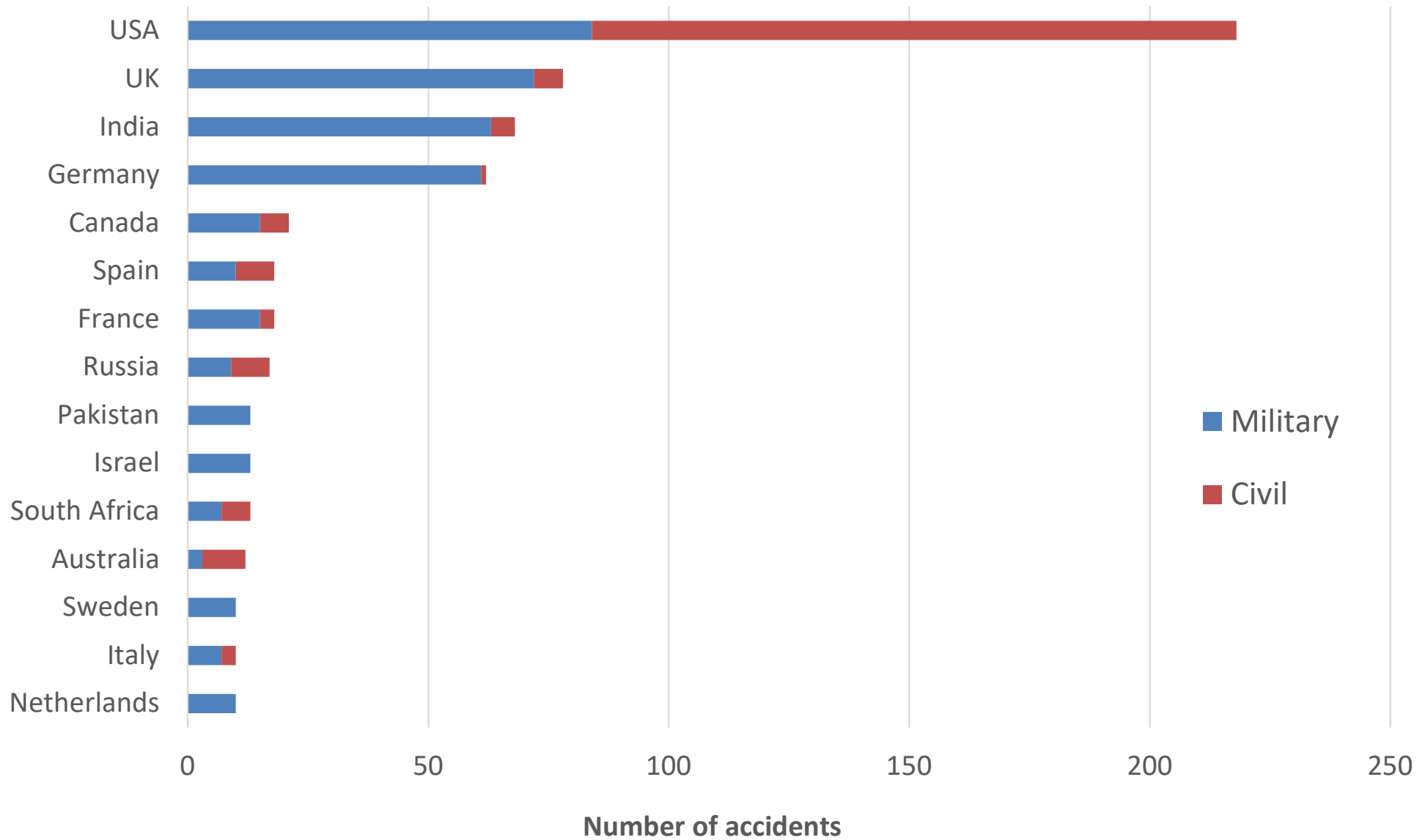
World Map
with Continents



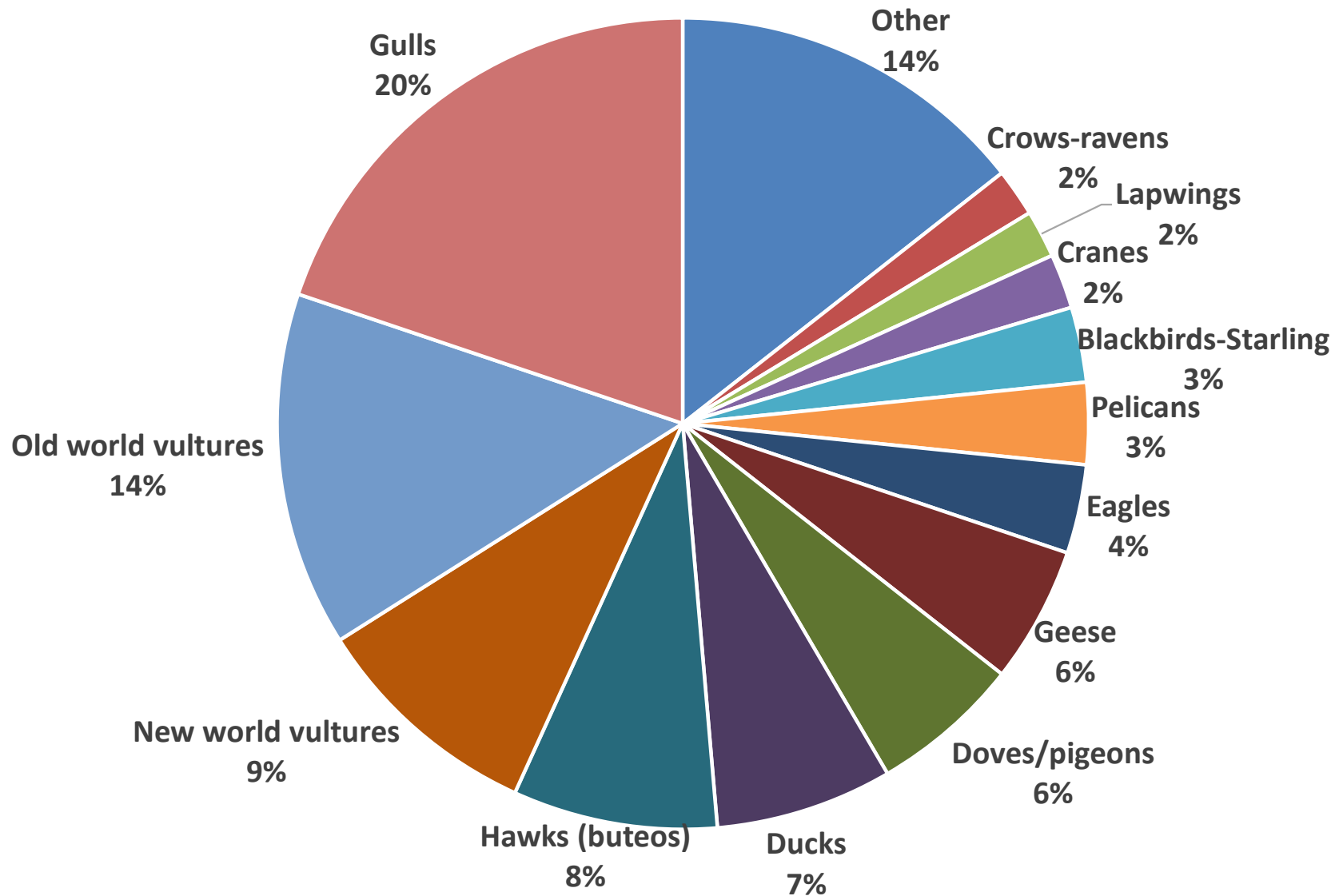
HL = Hull Losses
FAT = Fatalities

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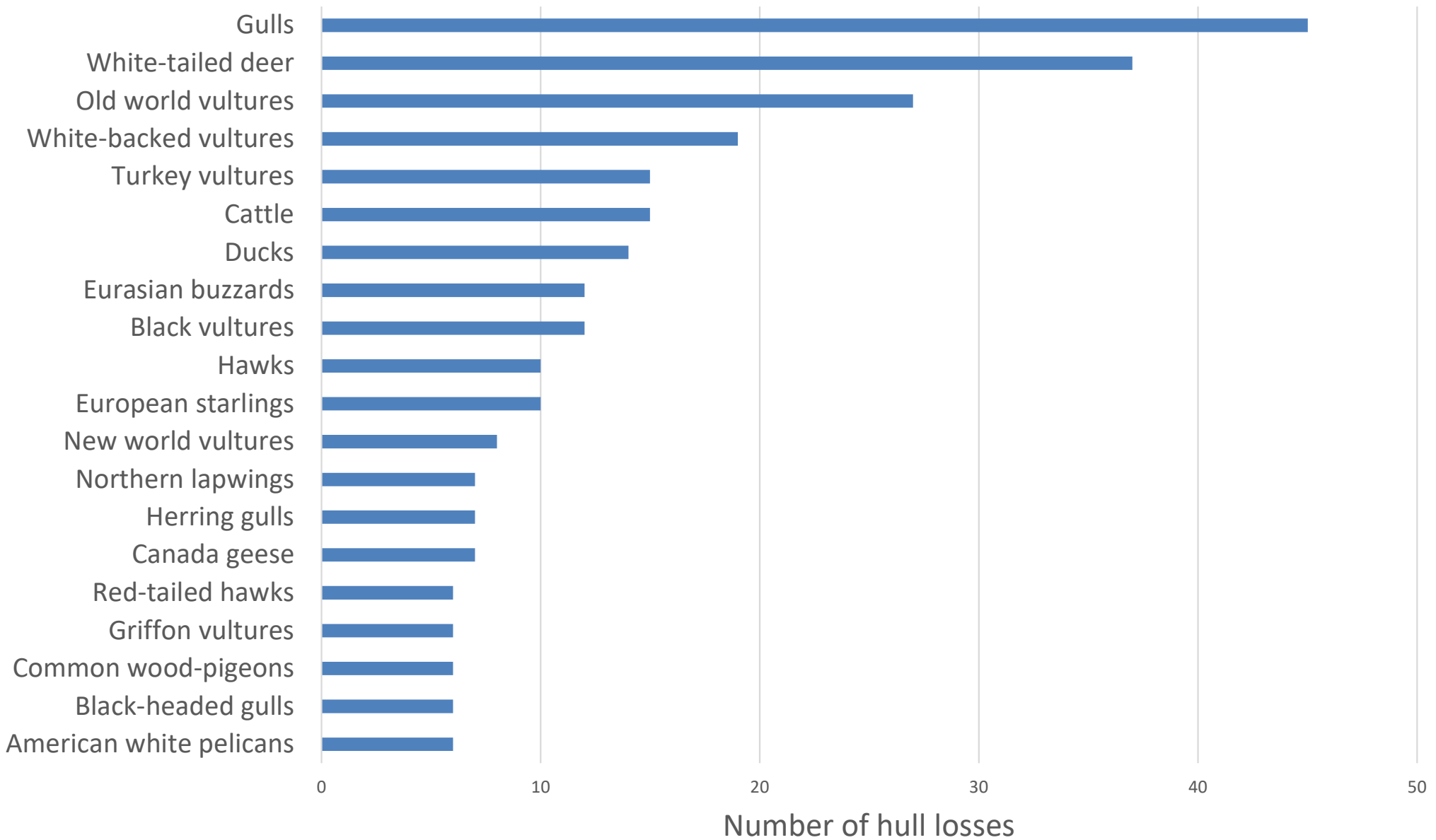
Wildlife Caused Accidents by Country (Civil & Military)



Bird Groups (where known) Causing Accidents



Top 20 Wildlife Species (where known) Causing Hull Loss Civil and Military



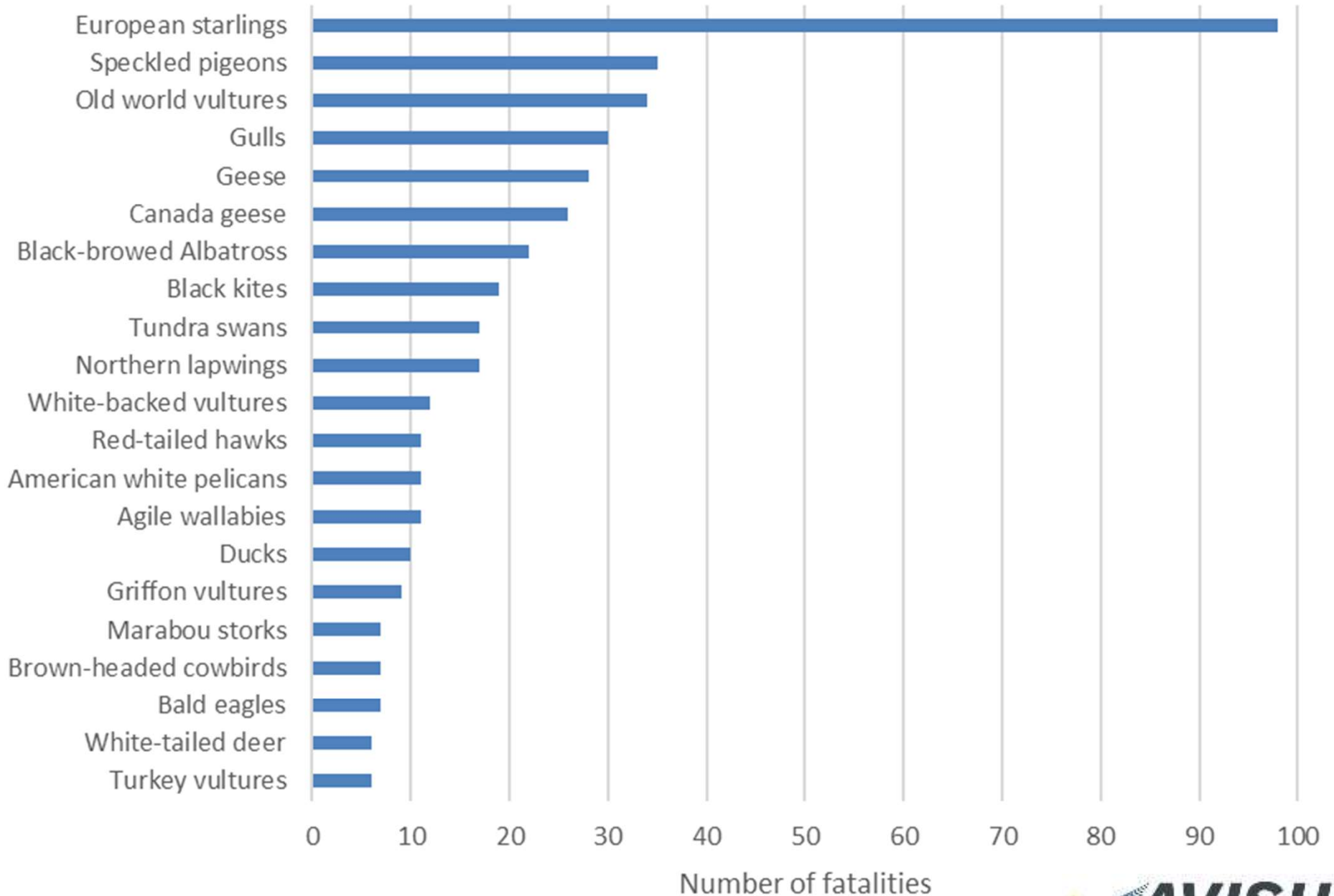
Beech V35 – 5 miles east of Hummel, Virginia USA

24th November 2020

- Two fishermen reported seeing the airplane fly thru a flock of seagulls
- They then saw two birds fall to the water
- Shortly thereafter, they observed a plume of black smoke from the accident site
- Pilot deceased



Top 21 Wildlife Species (where known) Causing Fatalities Civil and Military



Eastern Airlines Flight 375, Boston USA

4th October 1960



The worst bird strike in US history

- Lockheed Electra struck a large flock of Starlings on take off from Boston
- Lost thrust in turboprop engines and rolled left into Winthrop Bay
- 62 of 72 on board were killed
- This crash triggered FAA design specifications for withstanding impact from wildlife



Belgian Air Force, C-130 Hercules, Eindhoven AFB, Netherlands July 15th 1996

- Struck multiple starlings and lapwings on short final and attempted missed approach
- Aircraft crashed short of the runway and caught fire.
- 34 fatalities.

Firefighters initially were not aware that there was a large number of passengers on board



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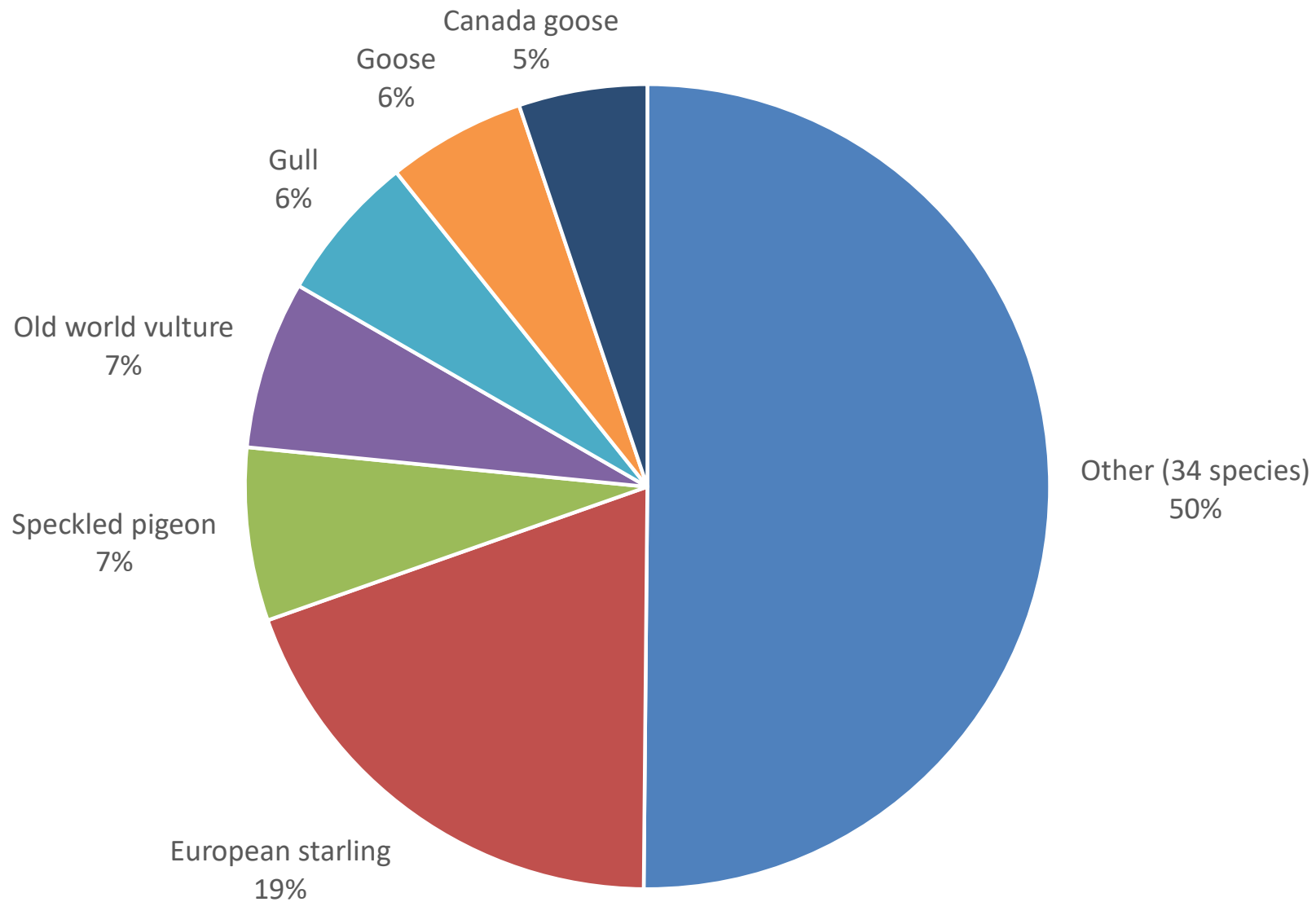
Ethiopian Airlines Flight 604, Bahir Dar Airport, Ethiopia 17th September 1988



- B737: both engines ingested multiple Speckled Pigeons on takeoff, losing thrust.
- Aircraft caught fire during gear-up landing.
- 35 fatalities.



Bird Groups (where known) Causing Fatalities



USA Crashes

Date	State/Territory	Location	Civil or military	Aircraft	Phase of flight	AGL (ft)	Species	Killed
2-Jan-19	FL	Anna Maria Island	Civil	Robinson R44	En route	20	Unknown sea bird	0
29-Apr-19	WA	Ridgefield	Civil	Vans Aircraft RV-6	Approach	500	Green-winged teal	2
11-May-19	FL	Naples	Civil	Piper Twin Comanche	Approach	1000 - 2100	Black vulture	1
24-Nov-20	VA	East of Hummel	Civil	Beech V35	En route	275	Unknown gull	1
1-May-21	SC	Johns Island	Civil	Cesna 550 Citation II	Take-off	0	White-tailed deer	0
19-Sep-21	TX	Lake Worth	Military	T-45C Goshawk	Approach	780	Black vulture	0
17-Dec-21	FL	Auburndale	Civil	Aerofab LAKE LA-4-250	En route	550	Turkey vulture	2
3-Mar-22	SC	Halfmoon Island	Military	F-18D	Climb	2000	Turkey vulture	0
16-Aug-22	TX	Kingsville	Military	T-45 Goshawk Trainer	Approach	1810	Black vulture	0
7-Nov-22	MS	South of Columbus Air Force Base	Military	T-38C Talon	En route	2,900	Black Vulture	0
20-Jan-24	OK	East of Hydro	Civil	Bell 206L-3	En route	500-600	Cackling goose	3
2-Apr-24	AL	Barbour County	Military	AH-64E Apache	En route	722	Black Vulture	0

Bell 206L-3, Hydro OK

20th January 2024

- NY Times article – January 2024
 - The three crew members onboard lost contact with their company’s control center
 - Return from transporting a patient in Oklahoma City.
- NTSB preliminary report – February 2024
 - “The carcasses of several geese were located in the debris field as well as one embedded in a flight control servo.”
 - US Air Force’s Avian Hazard Advisory System found the probability of bird activity “low” in the vicinity of the accident.



An Air Evac Lifeteam helicopter in 2018. Ryan Hermens/The Paducah Sun, via Associated Press

AH-64E Apache, Barbour County, AL 2nd April 2024

Initial information:

- Routine flight training
- No reports of injury to people or damage to property on the ground.
- The incident is currently under investigation.

Further review:

- Bird hit tail rotor system
- Whole tail rotor system removed from impact.
- No injuries to pilots, aircraft crashed in an open field.
- Daytime (1555 hours).



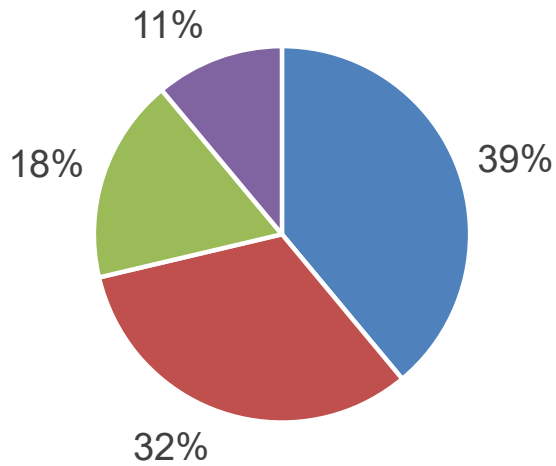
"Photo Courtesy of U.S. Army" - by Tech. Sgt. Andy Dunaway - www.army.mil (via internet archive)



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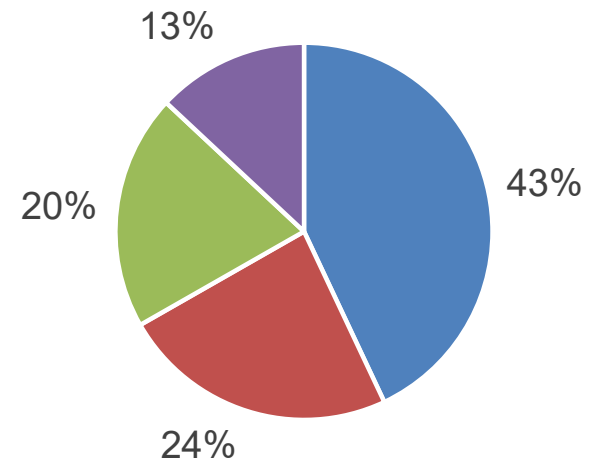
Wildlife Caused Accidents by Operations

Phase of Flight Civil and Military



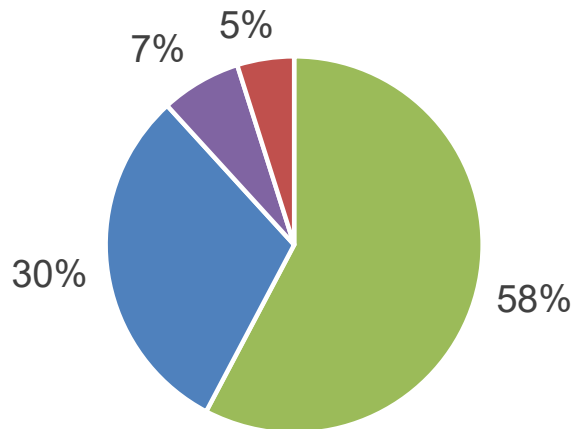
■ En-route ■ On-airport ■ Uncategorized ■ Off-airport

Phase of Flight Military



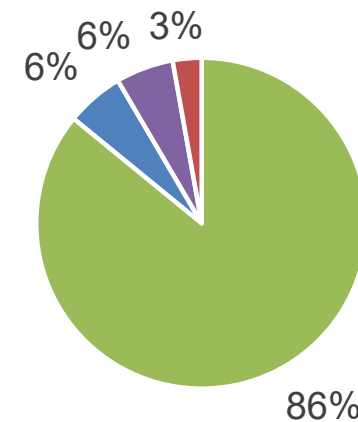
■ En-route ■ Unknown ■ On-airport ■ Off-airport

Phase of Flight Civil



■ On-airport ■ En-route ■ Off-airport ■ Unknown

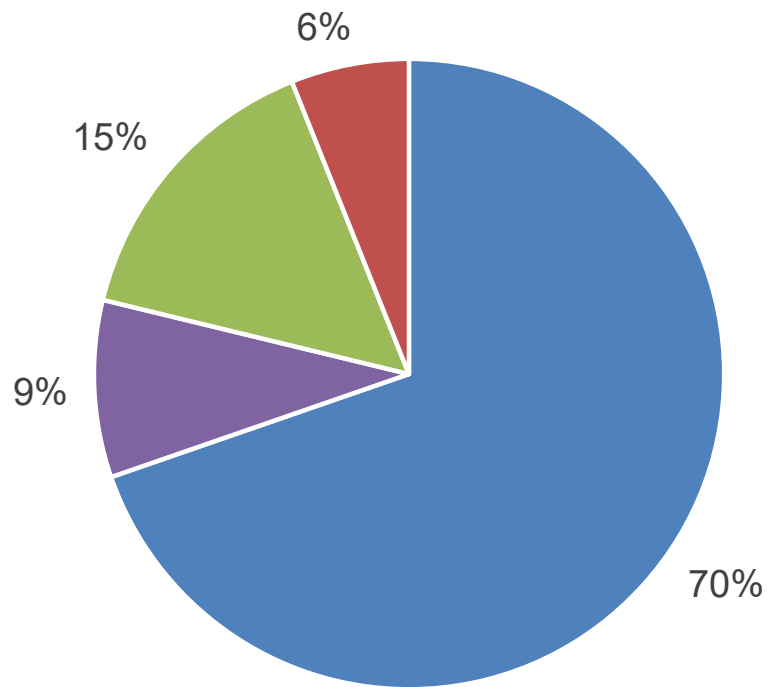
Phase of Flight Civil Commercial Transport



■ On-airport ■ En-route ■ Off-airport ■ Unknown

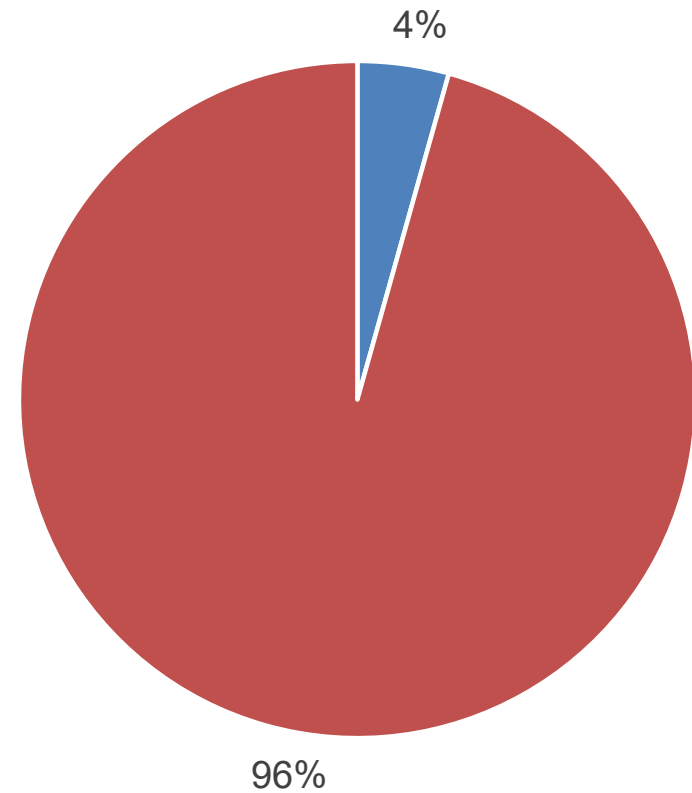
Wildlife Caused Accidents - Helicopters

Phase of Flight Civil and Military Helicopter



■ En-route ■ Off-airport ■ On-airport ■ Unknown

Wildlife Caused Accidents - Helicopter



■ Helicopter ■ Other



<https://avisure.com/serious-accident-database/>