



Data Visualization of Bird Strikes between 2000-2011

Objective

The goal of this project is to analyse the bird strike incidents happened between 2000-2011. To achieve the goal, The dataset used is collected by FAA during 2000-2011. The objective of the project is to perform data visualization techniques to understand insights of the data. This project aims apply various Business Intelligence tools such as Tableau or Power BI to get a visual understanding of the data.

Insights

Airport with Most Air Strikes

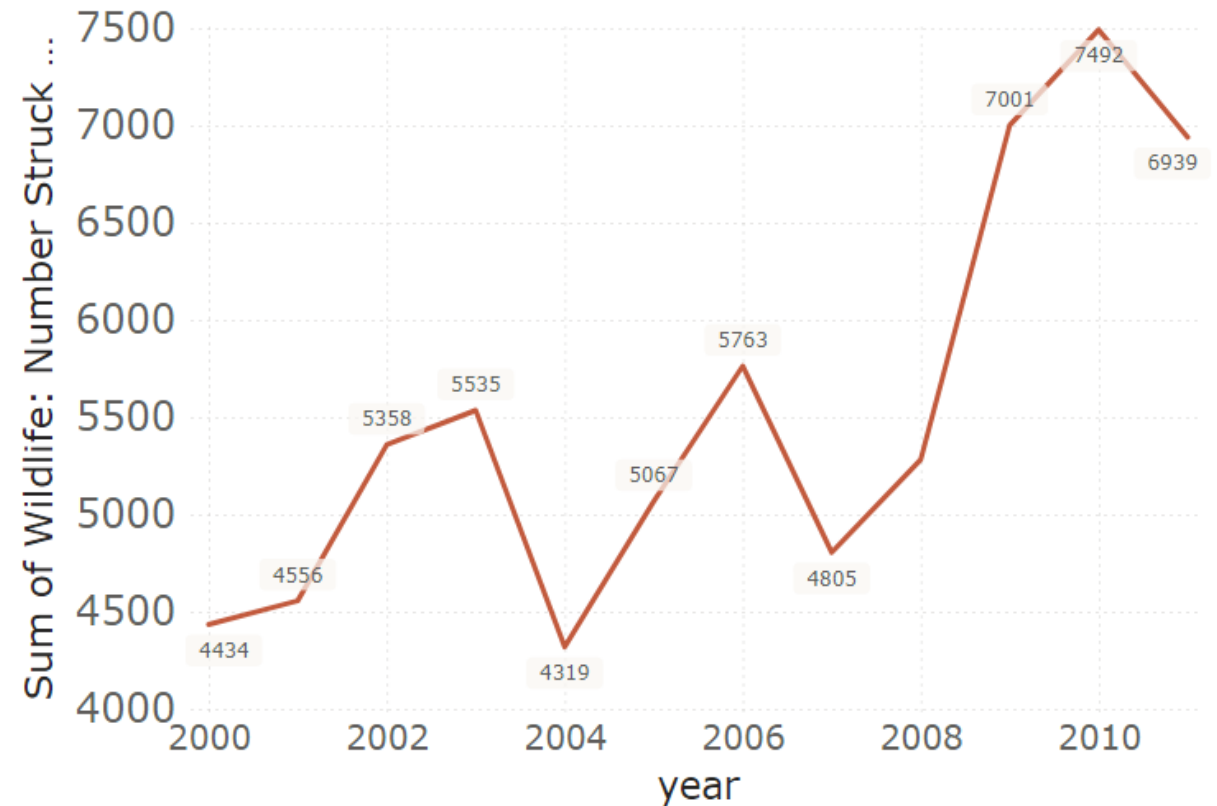
Number of Incidents

BY AIRPORT: NAME

Airport: Name	Number of Incidents
DALLAS/FORT WORTH INTL ARPT	802
SACRAMENTO INTL	676
SALT LAKE CITY INTL	479
DENVER INTL AIRPORT	476
KANSAS CITY INTL	452
PHILADELPHIA INTL	442
ORLANDO INTL	408
BALTIMORE WASH INTL	401
LOUISVILLE INTL ARPT	394
JOHN F KENNEDY INTL	389
CHARLOTTE/DOUGLAS INTL ARPT	367
NASHVILLE INTL	364
LAMBERT-ST LOUIS INTL	363
CHICAGO O'HARE INTL ARPT	331
PORTLAND INTL (OR)	313
NEWARK LIBERTY INTL ARPT	305
CINCINNATI/NORTHERN KENTUCKY INTL ARPT	302
ATLANTA INTL	296
CHICAGO MIDWAY INTL ARPT	295
HOUSTON-HOBBY	293
DETROIT METRO WAYNE COUNTY ARPT	281
Total	14624

Total Number of Bird Strikes Incidents per Year

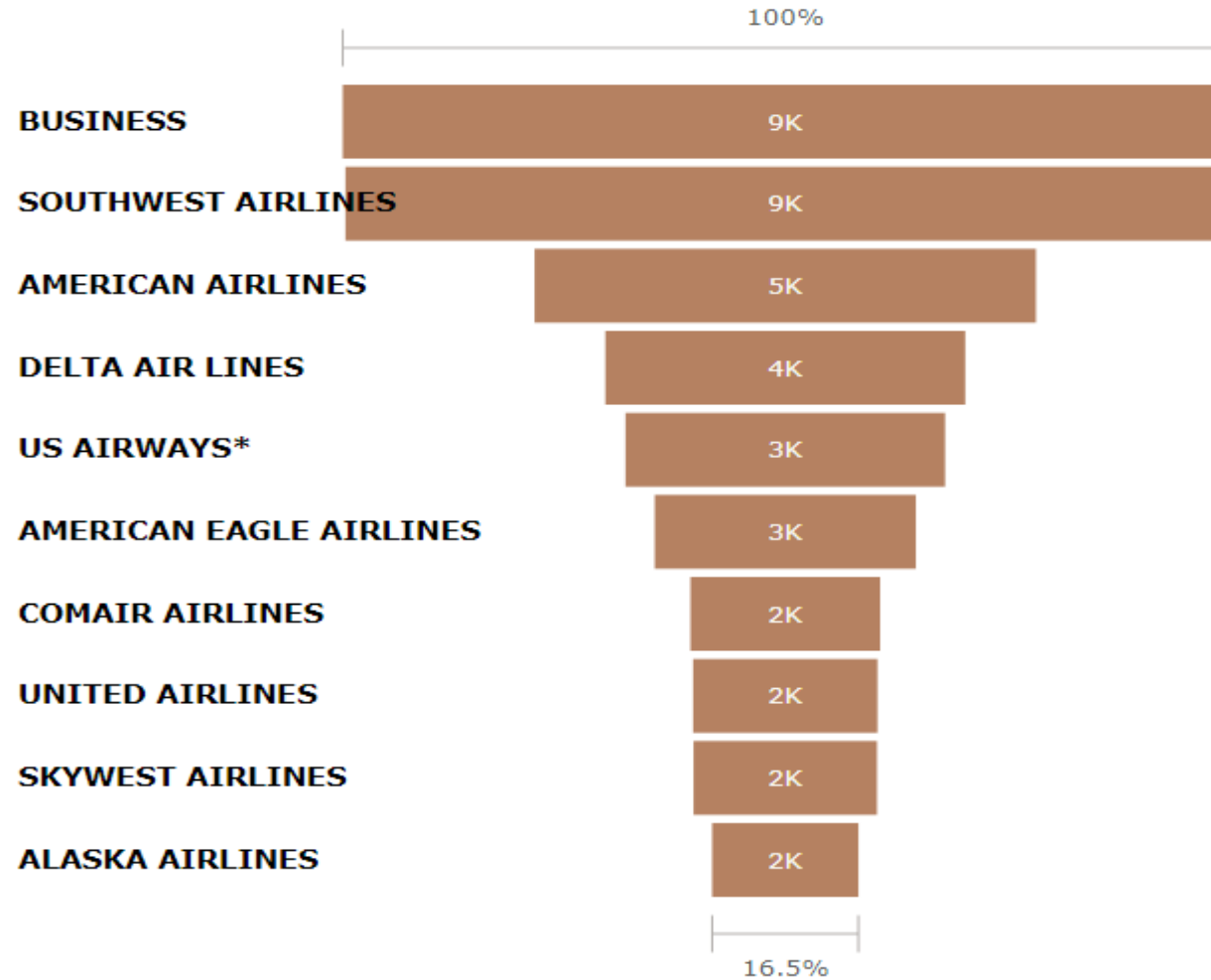
Number of Actual Bird Strikes by Year



We can see that Bird Strikes Incidents have an upward trend with year 2009 has the highest number of incidents. The total Bird Strikes from 2000 – 2011 is approximately 67000.

Top 10 Airlines having encountered most number of bird strikes

Top 10 US Airlines in terms of having encountered bird strikes

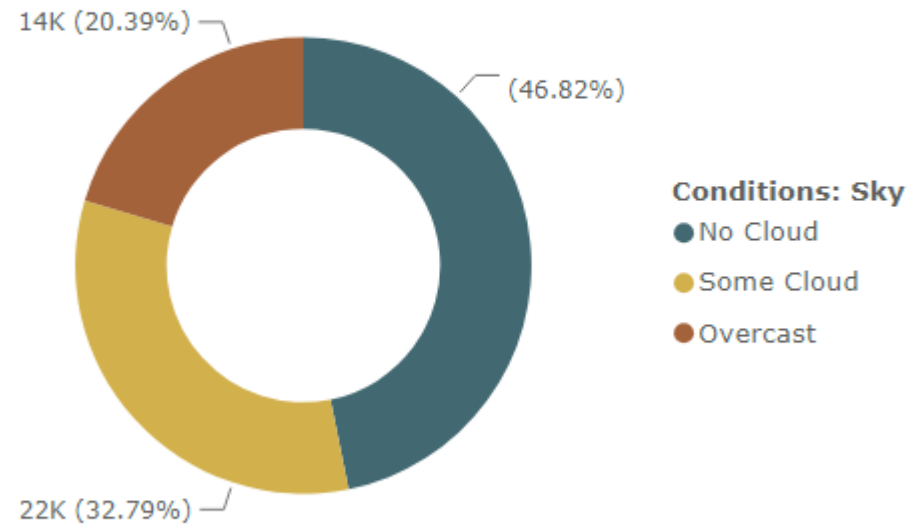


Business Airlines has encountered most number of bird strike followed by Southwest and American Airlines.

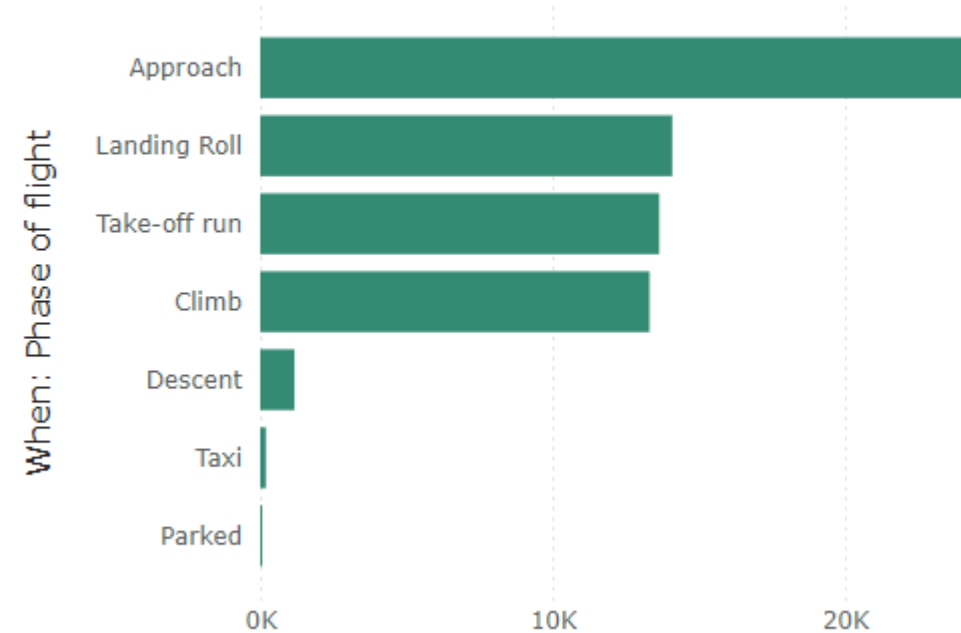
When do most bird strike incidents occur?

Sum of Wildlife: Number Struck Actual

BY CONDITIONS: SKY

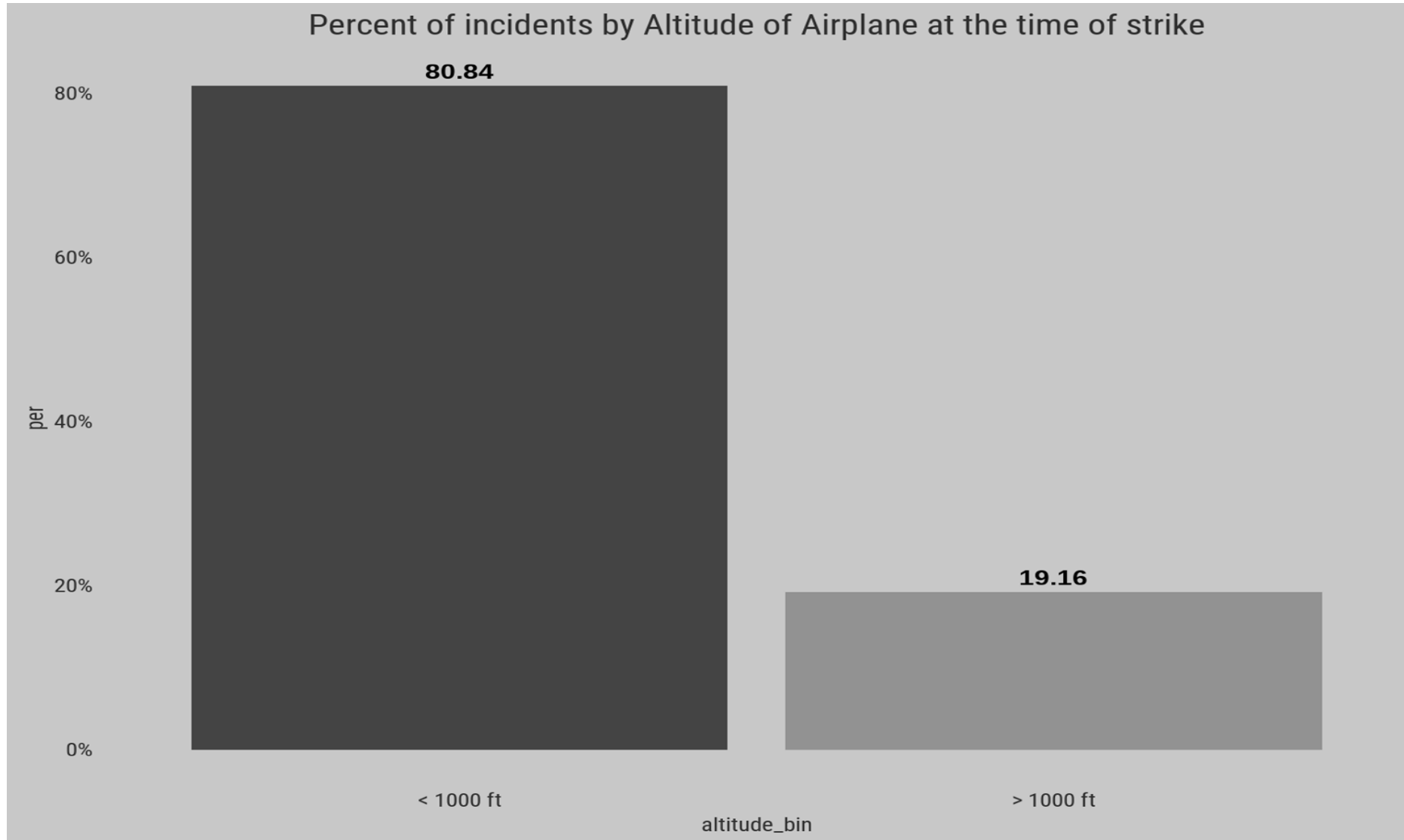


When do most bird strikes occur?



Most of the incidents have happened when there was no cloud. Moreover most bird strikes are recorded when the aircraft descends from its cruising altitude towards the runway for landing that is when it is approaching.

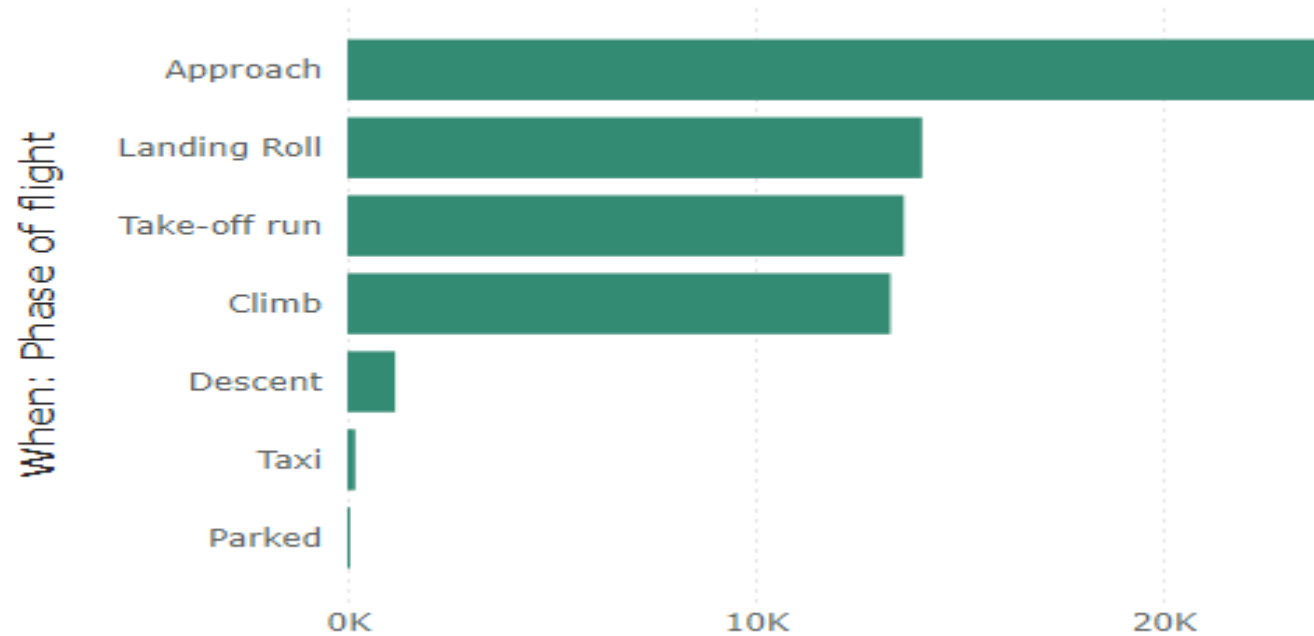
Altitude of Airplane at the time of bird strike



80.84% of bird strike incidents have happened when the altitude of airplane was <1000 ft and 19.16% have happened when altitude was >1000 ft.

Phase of Flight at the time of strike

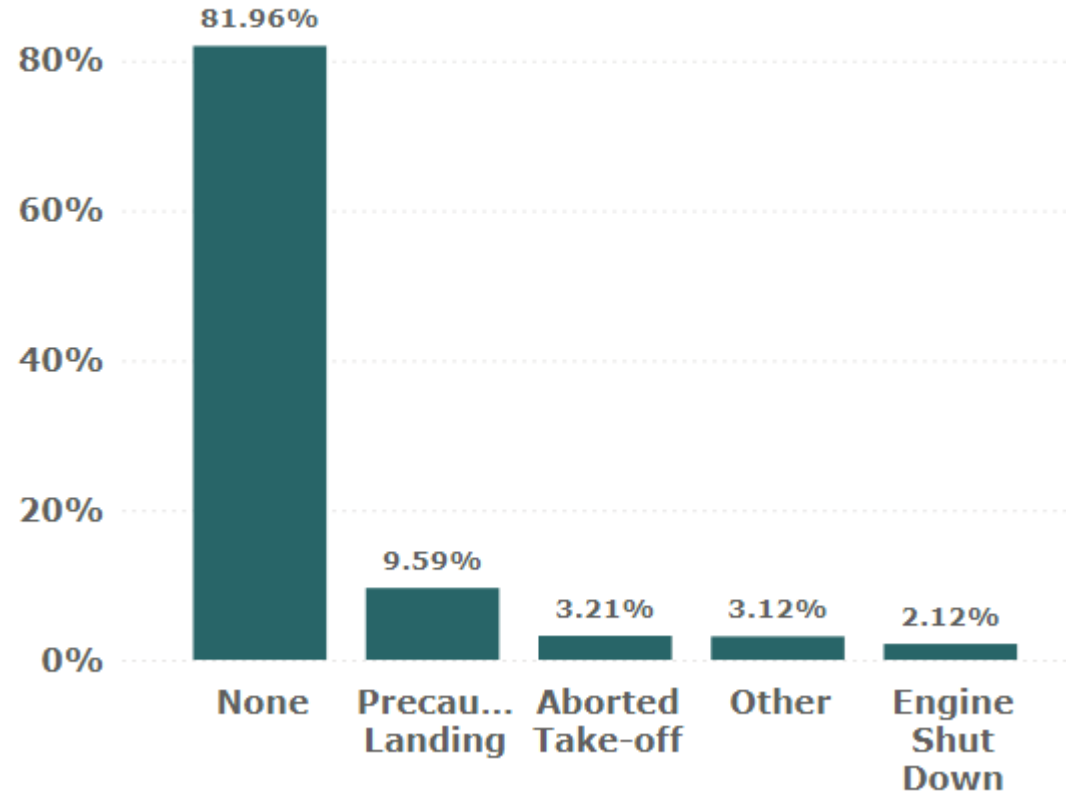
Phase of Flight During Bird Strike



Moreover most bird strikes are recorded when the aircraft descends from its cruising altitude towards the runway for landing that is when it is approaching followed by Landing Roll and Take-off run

Impact on Flights

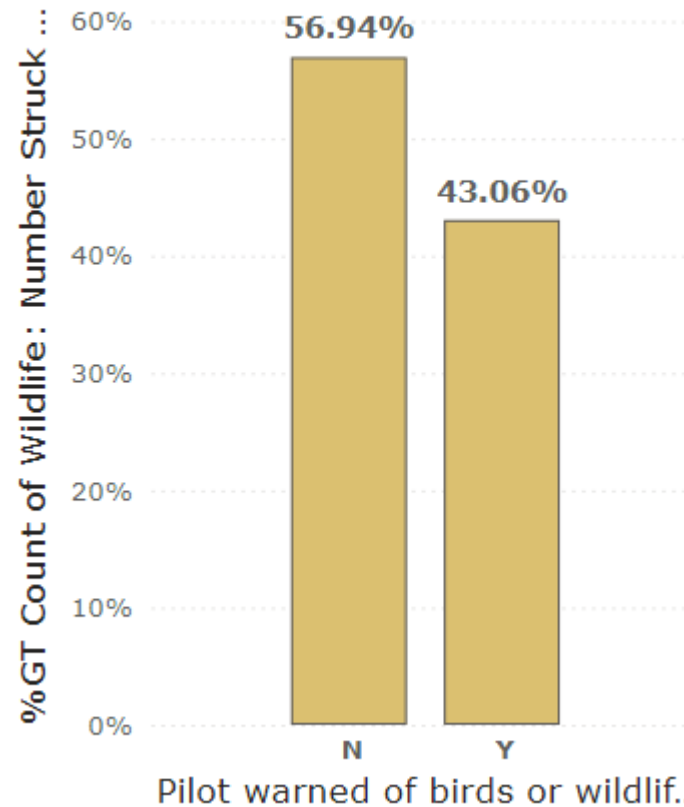
Percentage of Impact on Flights



About 80% of strikes had no impact leaving with 20% with precautionary landing, aborted take-off, engine shut down and others.

Does prior warning reduces the effect of damage?

Percentage of Bird Strikes by Pilot...



The percentage of strikes have lowered by about 14% when the pilots were warned prior to Bird Strike.

Conclusion

- ❑ 14% decrease in incidents when pilots were warned.
- ❑ Prior warning to the pilot reduces the risk of damage to the aircraft
- ❑ 52.78% of incidents have happened due to some small unknown bird.
- ❑ 72.9% incidents have happened when there is 1 bird/wildlife is struck in the airplane and caused damage.
- ❑ 90.31% incidents caused no damage while 9.69% incidents caused damage
- ❑ 80.84% of bird strike incidents have happened when the altitude of airplane was <1000 ft and 19.16% have happened when altitude was >1000 ft.
- ❑ Most of the incidents have happened when there is no cloud in each year