

November 22, 2017

To: The Federal Aviation Administration

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Subject: FAA Wildlife Hazard Research

Background

The Federal Aviation Administration illustrates that collisions between aircraft and wildlife in the past century have caused the loss of hundreds of lives globally, and the loss of billions of dollars in aircraft damage. The intent of this memo is to illustrate our observations of the given data. Our analysis has showed certain traits and patterns of the wildlife incidents that have occurred. With this knowledge and awareness, we hope this will allow to be able to take precautions for the future.

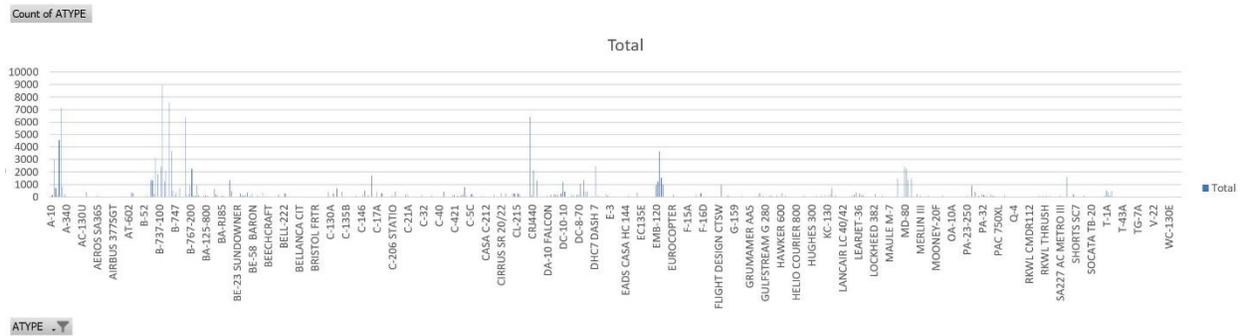
Analysis

The analysis that was conducted shows that wildlife incidents are at its highest during the summer months from June until August. It gradually starts to decrease during the fall and it drastically decreases during the months until February. In March, the incidents start to increase again except from May to June. The explanation for that is because birds migrate during the winter months which can cause the decrease of the wildlife incidents.

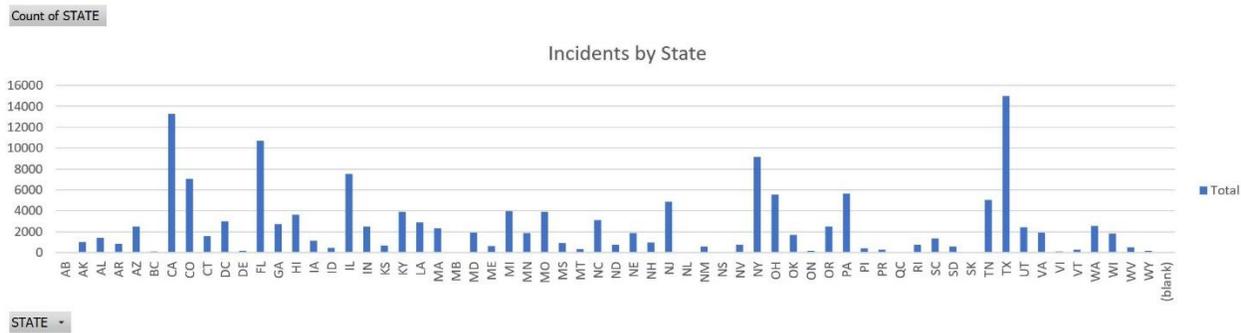


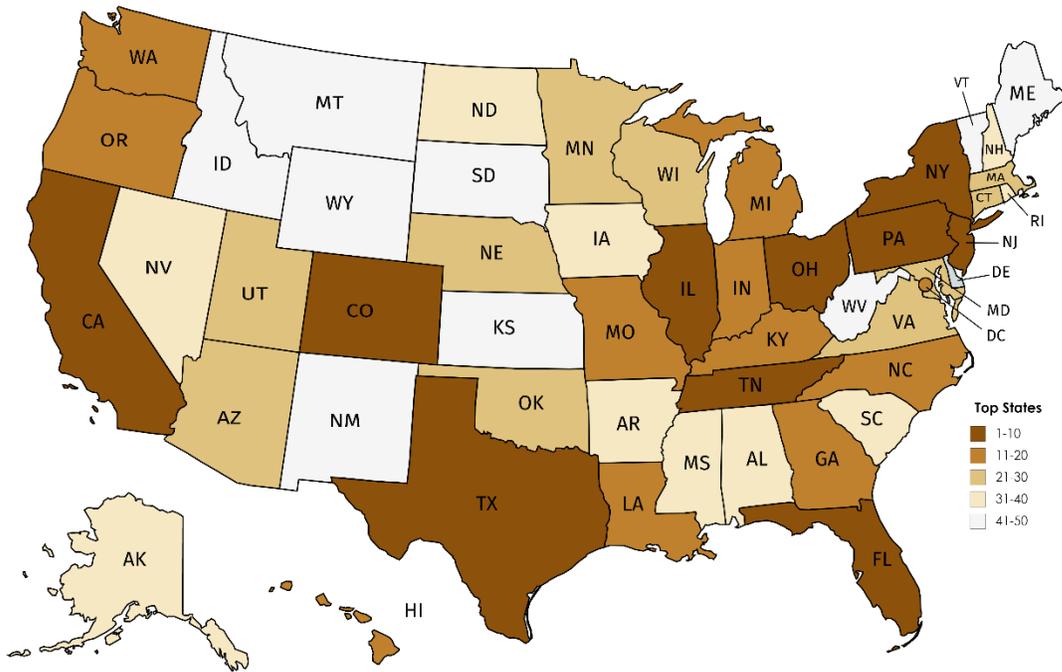
Through our investigation, we were able to see that the manufacturer Boeing had the largest number of incidents with their aircraft. While surprising, it is to note that Boeing does supply a large amount of aircraft to passenger airlines, as well as commercial shipping airlines. The largest data point that was found, except for unknown, was Boeing's 737-300 series aircraft with 8957 incidents involving this type of aircraft. The second type of aircraft with the second highest number of incidents was Boeing's 737-700 series aircraft. Which as well is another popular model across passenger and commercial airliners. Without additional data in regard to

the number of each type of aircraft in use today, we cannot conclude if one type of aircraft is safer than others. The graph is attached below.



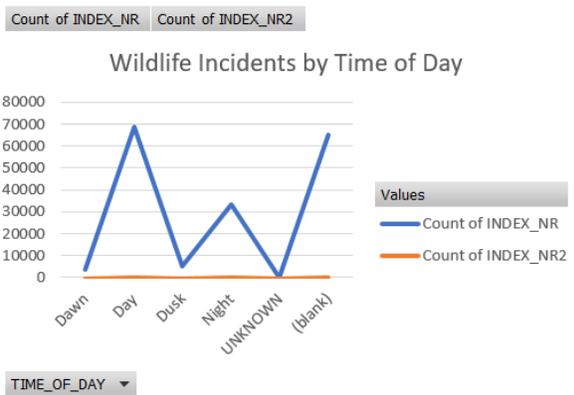
The two graphs below also indicate our research regarding incidents by state. The first graph indicates the number of incidents per state. Which as can be seen that California, Texas, and Florida have the highest number of bird strikes. This can be attributed to their warmer weather and birds migrating to these areas during winter times. The other graph/map shows the areas, by state, where these incidents occur the most. As you can see the highest concentration is in the northeast section of the united states. However, it can still be shown that many bird strikes do occur on the western seaboard and in southern states.





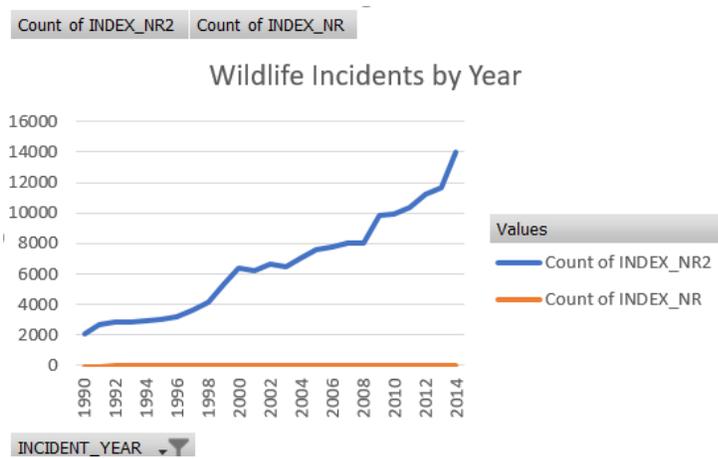
Created with mapchart.net ©

The graph below illustrates that wildlife incidents increase from dawn until day. They decrease from during the day until dusk. It starts increasing from dusk until night. However, it can be noted that a lot of data was for the time of day was either unknown, or left blank in the report.

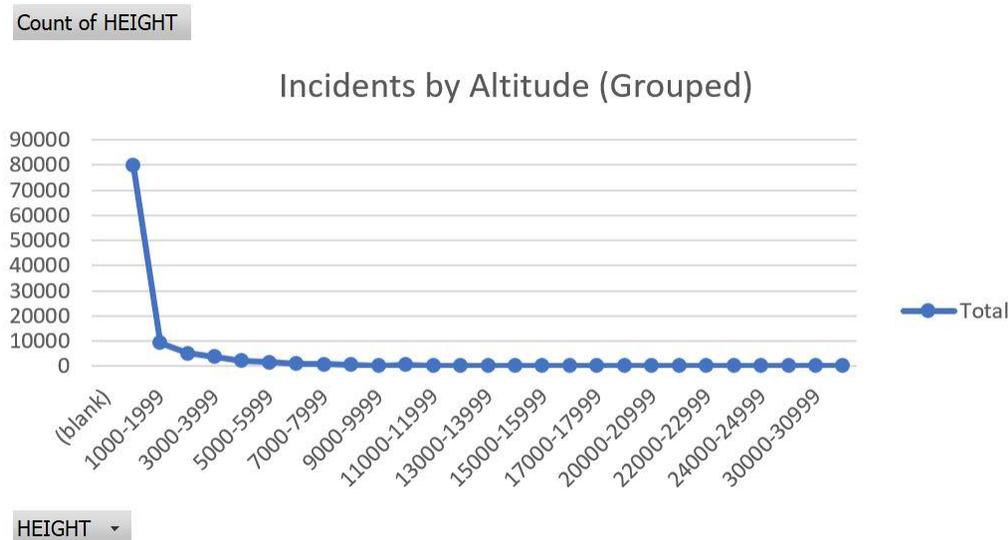


The graph below demonstrates that wildlife incidents have gradually increased since 1990. These incidents have had a steady gradual increase since the first report in 1990. Over the years

they have increased at about a linear rate, until 2012 where a large increase can be seen in the graph.

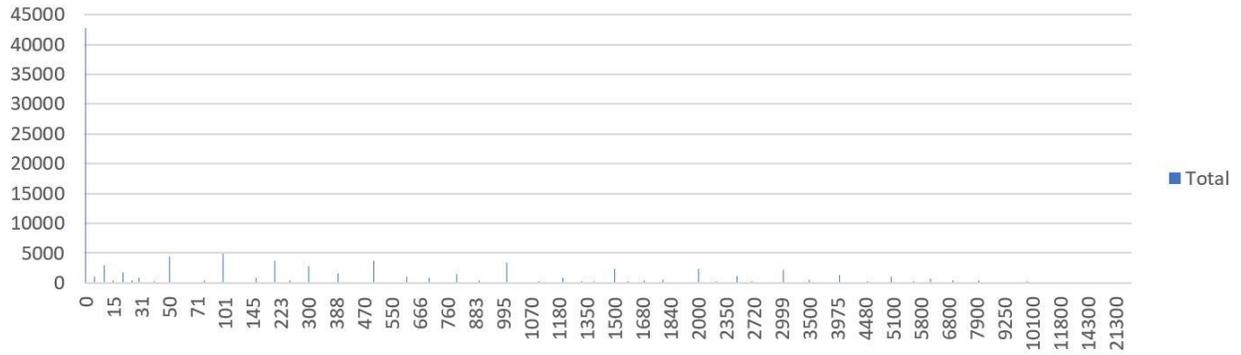


Lastly, we can view the altitude that each incident occurred in. Most incidents, 76% of which, occurred when the aircraft was less than 1,000 feet in altitude. This is represented in the graph below. We can also note that the largest number of incidents, 42,471 incidents, occurred when the aircraft was on the ground and not flying in the air. This is also represented in the second graph below.



Count of HEIGHT

Incidents by Altitude (Ungrouped)



HEIGHT ▾