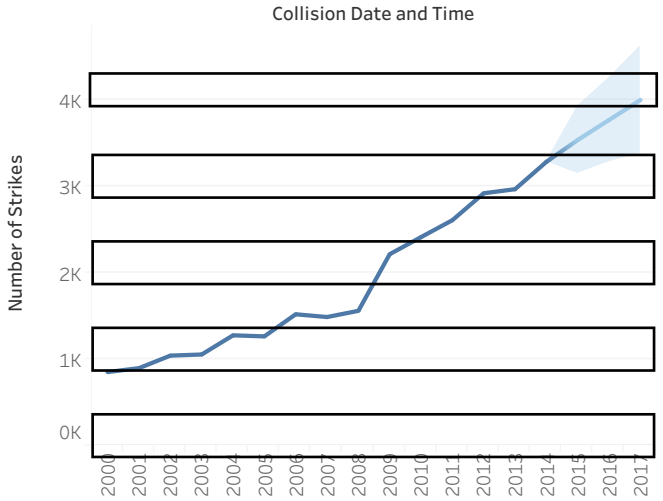
WILDLIFE STRIKES

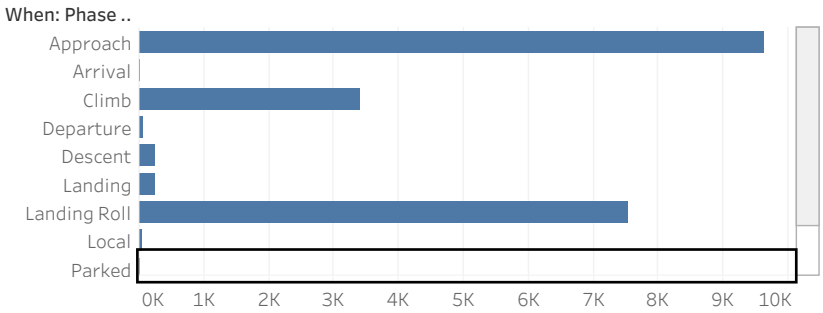
BY: OMAR MASH..

Is this important? Animals die every day

Forecasting # of Strikes

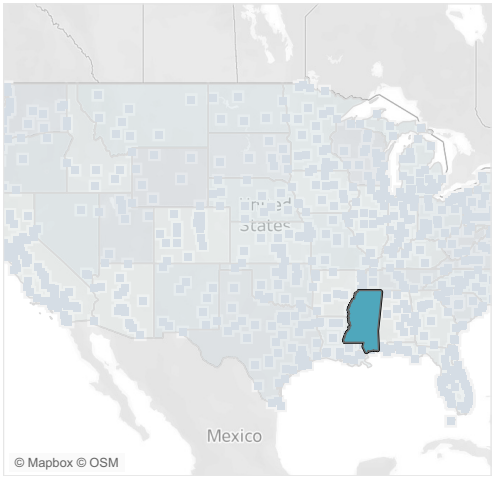


Count of strikes by Phase of Flight

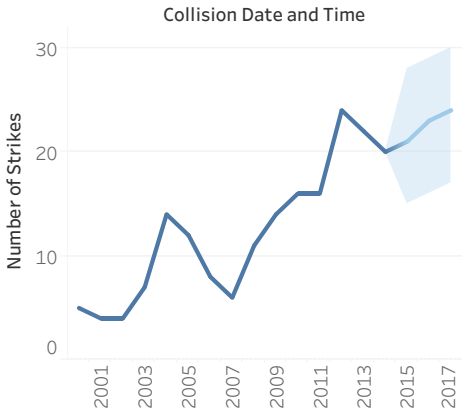


Key Takeaway:
- # of strikes is only poised to increase
- most strikes happen when the plane is actively moving, not when stationary. This tells us that the plane and those who are responsible of it, have some culpability

Sum of Costs	# of Strikes	Median # of Miles from air..	Median # Feet above ground	Most common observed Impact to ..	Most common species involved in ..	Most common level of Damage
46,644	186	0	0	None	Mourning dove	None



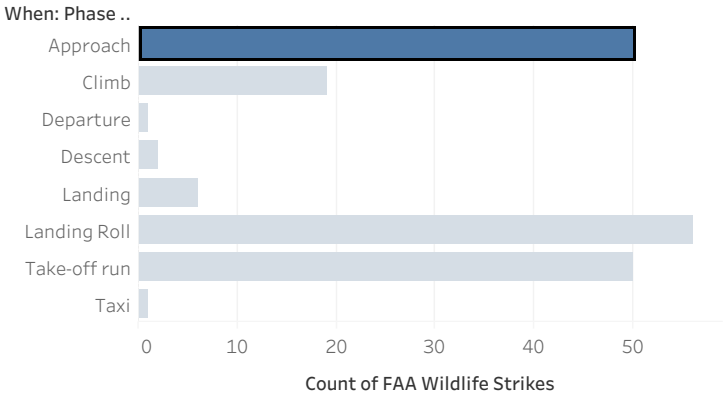
Forecasting # of Strikes



Dawn	12
Day	117
Dusk	10
Night	27

Species that are unique to this state

Wildlife: Species
Kites, eagles, hawks
Vireos

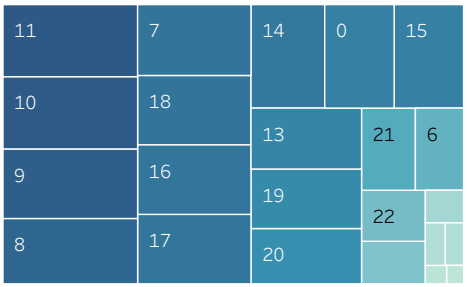


Insights:
- using this dashboard, we can find patterns by location, either through airport or state (You can use the map to filter through)
- we can find out if there are any wildlife species that are unique to that location (can only be found there)
-a forecast of that location
-the count of time of day it happens and what phase of flight it happens
-along with some statistics of that location that include total costs, # of strikes, avg miles from airport and avg feet above ground and most common observed impact, species involved, and level of damage.

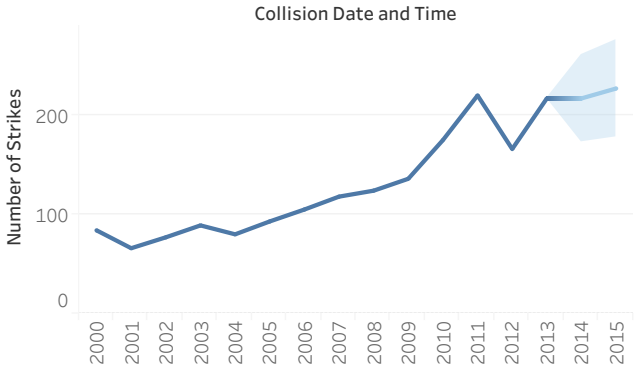
Key Takeaways:
-This can be used to provide information that can make our flight safer, from rescheduling to another time of day to deciding which airports to redirect flights to.

OverAll Stats

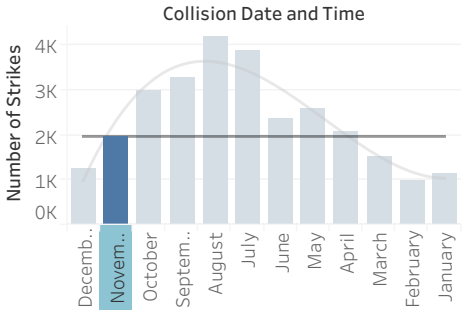
Proportions of strikes by Hour



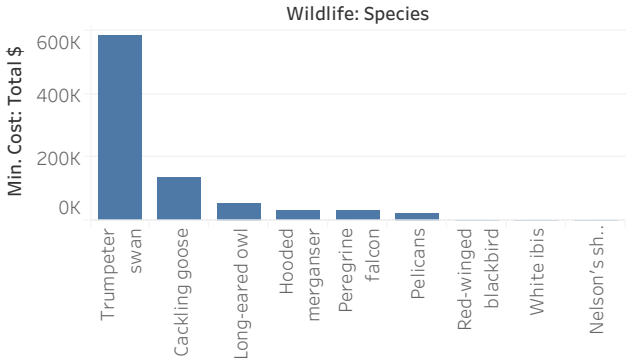
Forecasting # of Strikes



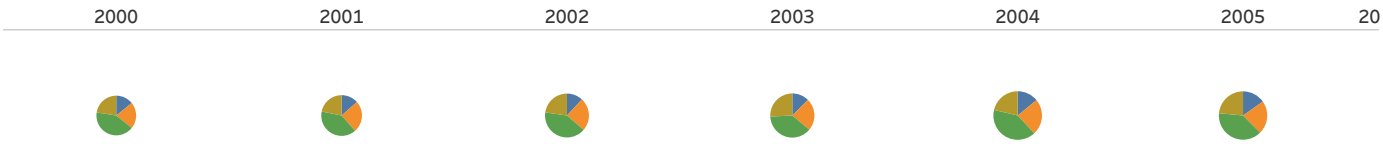
Plotting the relationship between time of day and Number of Strikes



Minimum cost damage (>0$) by species



proportion of quarterly strikes in each year



Insights:
- using this dashboard, we can find patterns by time, either through hour or year (You can use the bar plot with months to filter through)
- you can forecast # of strikes within the time period
-lowest cost that have been incurred by species above 0$

Key Takeaways:
-This can be used to provide information that can make our flight safer, from rescheduling to another time of day to deciding which species we should look at for and at what time of year. (For example, in November the lowest cost of a strike with a trumpeter swan costs the airline 600,000$, so we should invest in swan control in november)

A Question that Intrigued me

Can we predict the cost in dollars the damage will cost by the species of the animal?

So what type of insights can we derive from the dashboard?

Key Takeaway:
- to be able to answer the first question we would need need to be able to regress with the categorical variable of species. But unfortunately tableau public does not provide correlations or regressions on categorical variables. I used R studio to make a logistic regression and found out it explains less than 1% of costs
-we can infer that is because there are more important factors like body mass of the wildlife, and part of the plane it came in contact with
-what the dashboard can answer include finding which locations have the least strikes & costs, comparing locations to determine which locations should expand services

Challenges and Shortcomings

- The dataset only holds records of wildlife strikes. So not all flights
- What other data did the dataset not contain?

Any Questions ?

Key Takeaway:
- The insights and takeaway shouldn't be held to a scientific regard and should be taking a bunch of salt with it

Why:
-dataset only holds record of flights with wildlife strikes not all flights
- This means that although we can observe less strikes in a certain hour, it could actually be at a higher rate if that hour had less overall flights
-The data also does not contain data on the weight of the wildlife, direction plane was heading, the route it took, nor the part of the plane the wildlife came in contact with

Rationale for the visualizations I selected:
Visuals are easily understood, provide relevant information like statistics and forecasts

If I had more time I would try to reconcile the dataset with a larger dataset that include all flights, other important factors like body mass, size of plane, and etc.