WILDLIFE STRIKES

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BY: OMAR MASH..

Is this important? Animals die every day

Forecasting # of Strikes

Collision Date and Time
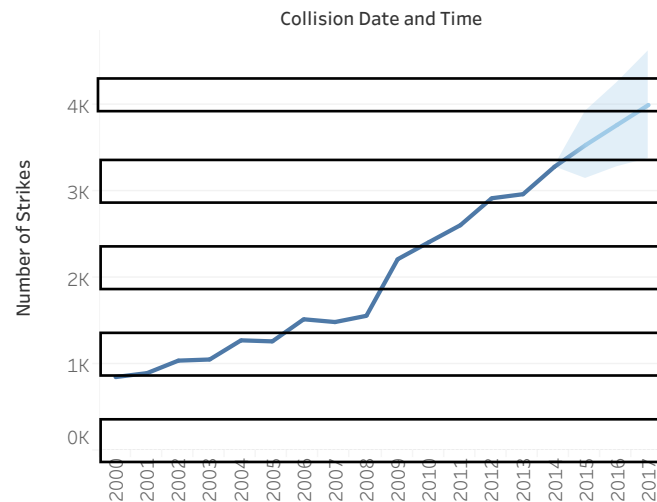
## Count of strikes by Phase of Flight

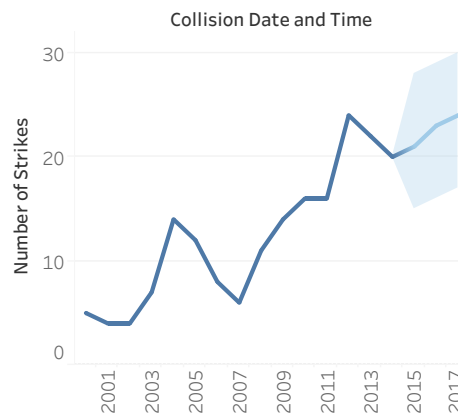**When: Phase ..**
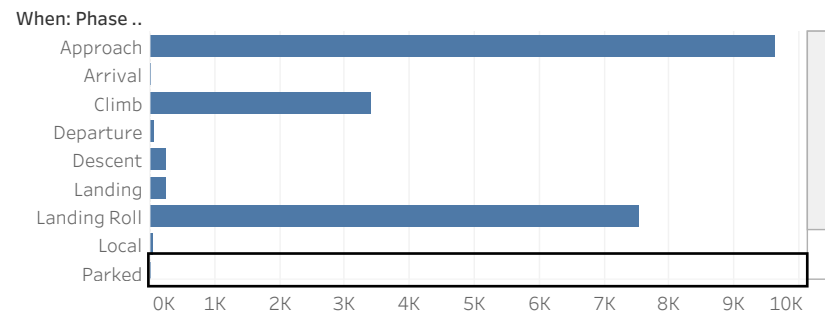

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Key Takeaway:
- # of strikes is only poised to increase
- most strikes happen when the plane is actively moving, not when
stationary. This tells us that the plane and those who are responsible of
it, have some culpability
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Sum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

Collision Date and Time
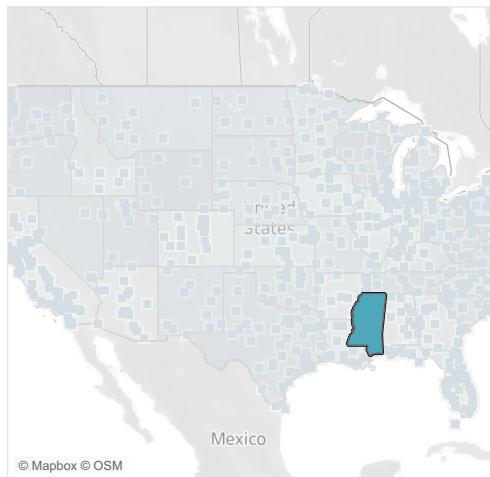
Dawn	12
Day	117
Dusk	10
Night	27

Species that are unique to this state

Wildlife: Species
Kites, eagles, hawks
Vireos

When: Phase ..

Approach
Climb
Departure
Descent
Landing
Landing Roll
Take-off run
Taxi

Count of FAA Wildlife Strikes
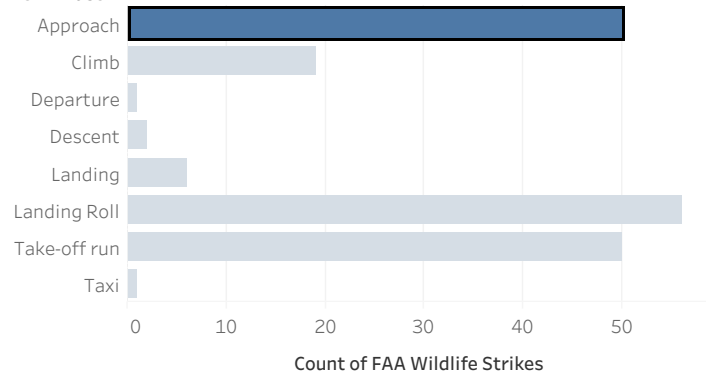
Insights:
— using this dashboard, we can find patterns by location, either through airport or state (You can use the map to filter through)
— we can find out if there are any wildlife species that are unique to that location (can only be found there)
—a forecast of that location
—the count of time of 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.
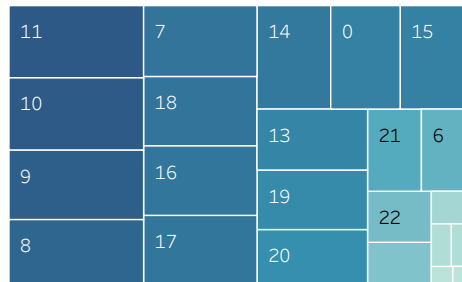
Key Takeaways:
—This can be used to provide information that can make our flight safer, from rescheduling to another time of day to deciding which airports to redirect flights to.
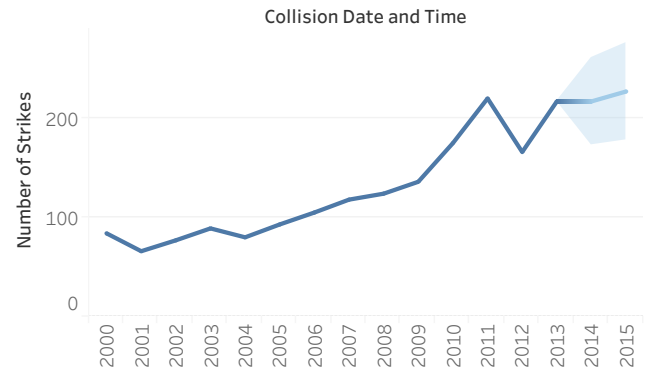
OverAll Stats

Proportions of strikes by Hour

11	7	14	0	15
10	18	13	21	6
9	16	19		
8	17	20	22	

Forecasting # of Strikes

Collision Date and Time

Number of Strikes — 2000 to 2015

Plotting the relationship between time of day and Number of Strikes

Collision Date and Time
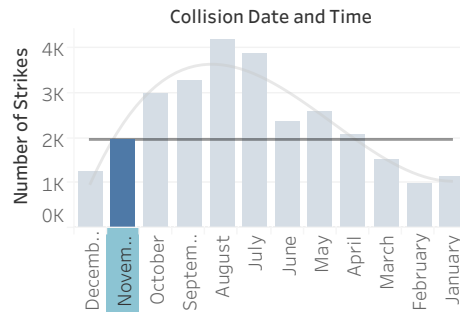
Minimum cost damage (>0$) by species

Wildlife: Species

Min. Cost: Total $ — Trumpeter swan, Cackling goose, Long-eared owl, Hooded merganser, Peregrine falcon, Pelicans, Red-winged blackbird, White ibis, Nelson's sh...
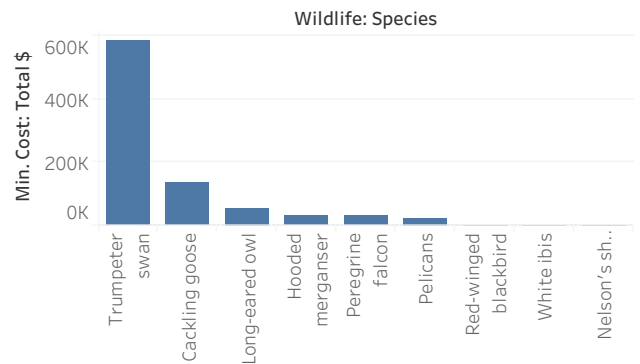
proportion of quarterly strikes in each year

2000   2001   2002   2003   2004   2005   20
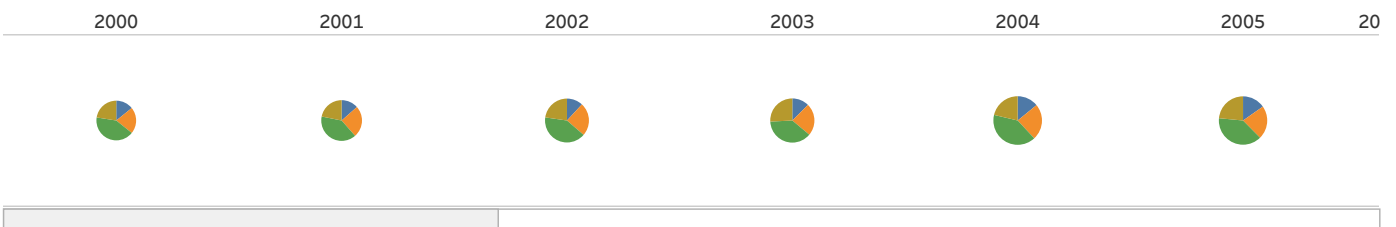
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Insights:
- using this dashboard, we can find patterns by time, either through hour
or year (You can use the bar plot with months to filter through)
- you can forecast # of strikes within the time period
-lowest cost that have been incurred by species 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)
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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?

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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
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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 ?

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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.
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