

# Project 1: Aircraft Wildlife Strikes, 1990-2015

Grayson Curry

# Some Questions I Had About the Data Going in

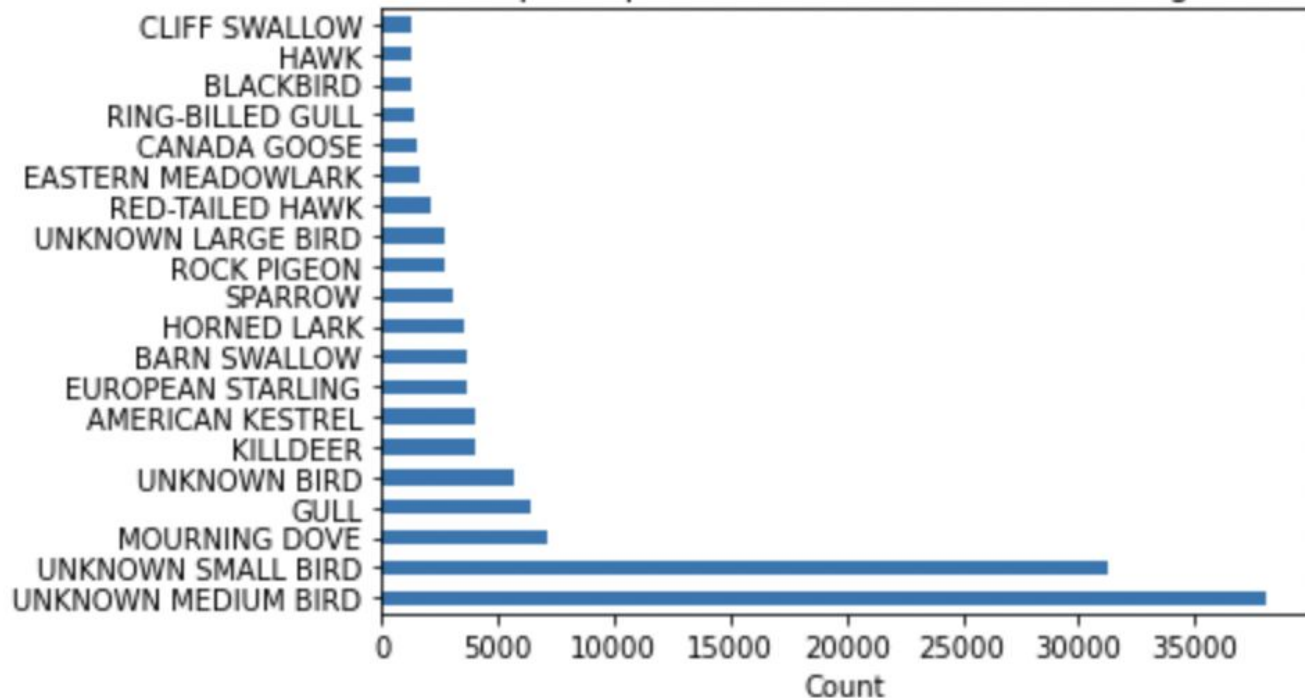
- What bird species cause the most damage to airplanes?
- What airplanes do these wildlife strikes happen the most often to?
- How has the number of incidents changed over time?



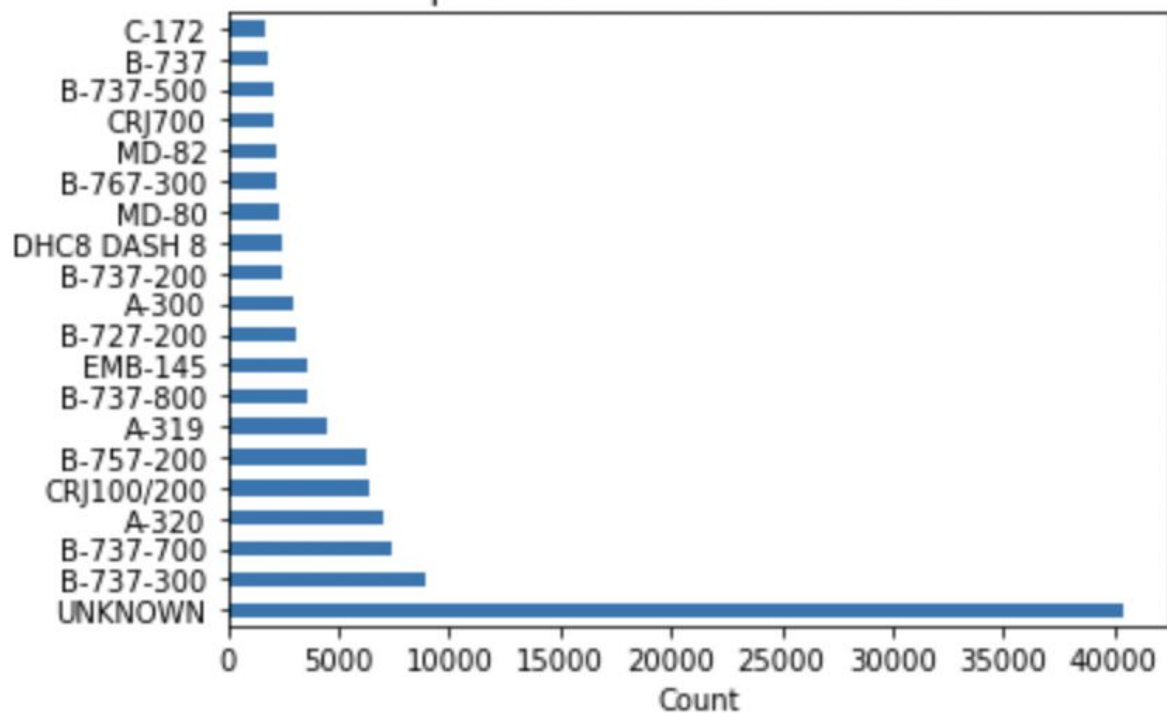
	Record ID	Incident Year	Incident Month	Incident Day	Operator ID	Operator	Aircraft	Aircraft Type	Aircraft Make	Aircraft Model	...	Fuselage Strike	Fuselage Damage	Landing Gear Strike	Landing Gear Damage	\$
0	127128	1990	1	1	DAL	DELTA AIR LINES	B-757-200	A	148	26	...	0	0	0	0	
1	129779	1990	1	1	HAL	HAWAIIAN AIR	DC-9	A	583	90	...	0	0	0	0	
2	129780	1990	1	2	UNK	UNKNOWN	UNKNOWN	NaN	NaN	NaN	...	0	0	0	0	
3	2258	1990	1	3	MIL	MILITARY	A-10A	A	345	NaN	...	0	0	0	0	
4	2257	1990	1	3	MIL	MILITARY	F-16	A	561	NaN	...	0	0	0	0	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	
174099	366091	2015	9	30	SWA	SOUTHWEST AIRLINES	B-737-700	A	148	42	...	0	0	0	0	
174100	365902	2015	9	30	SWA	SOUTHWEST AIRLINES	B-737-700	A	148	42	...	0	0	0	0	
174101	365903	2015	9	30	BUS	BUSINESS	CITATIONJET	A	226	49	...	1	1	0	0	
174102	366046	2015	9	30	QXE	HORIZON AIR	DHC8 DASH 8	A	303	10	...	1	0	0	0	
174103	365823	2015	9	30	AWI	AIR WISCONSIN AIRLINES	CRJ100/200	A	188	10	...	0	0	0	0	

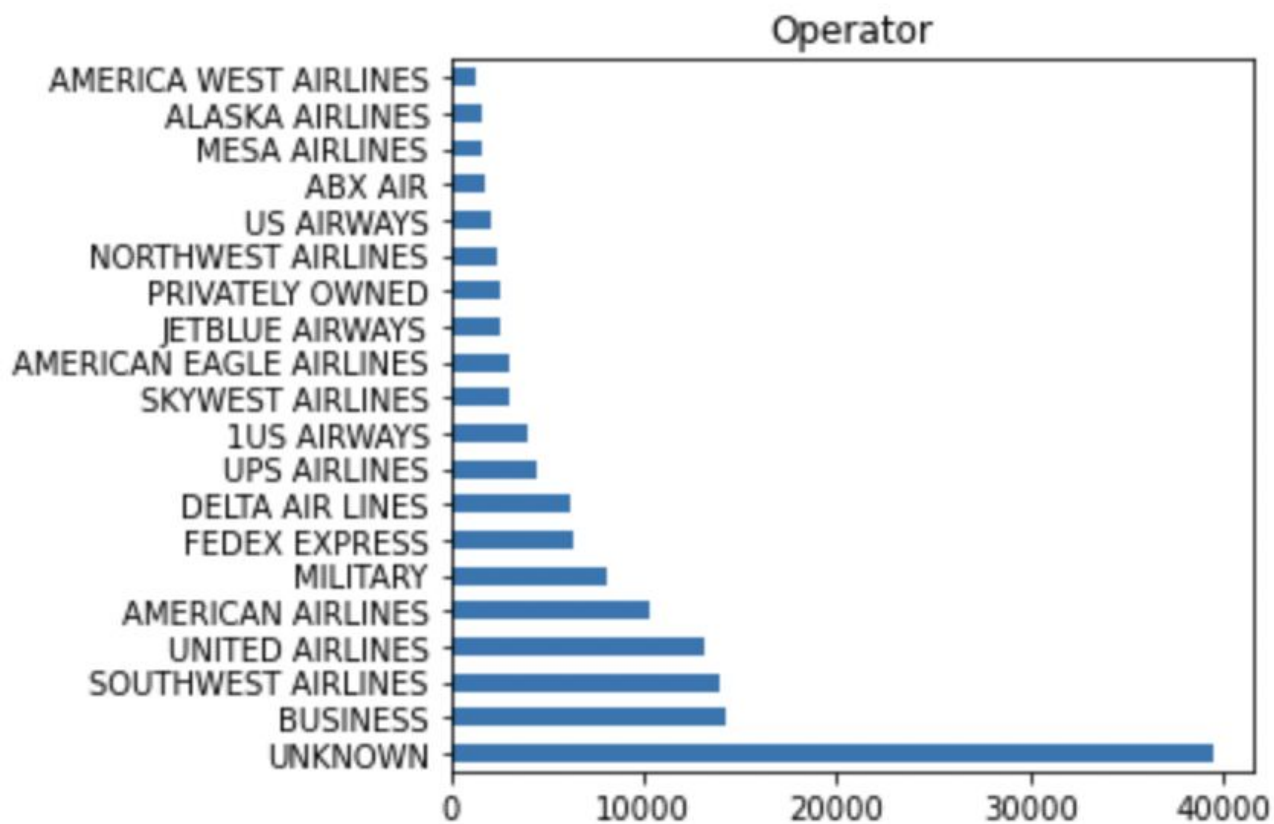
- Airport, State, FAA Region
- Flight Phase, 'Visibility', Precipitation, Height, Speed, Distance,
- Species ID, Species Name, Species Quantity
- Flight Impact,
- Fatalities, Injuries
- Aircraft Damage

Top 20 Species Involved in Aircraft Damage

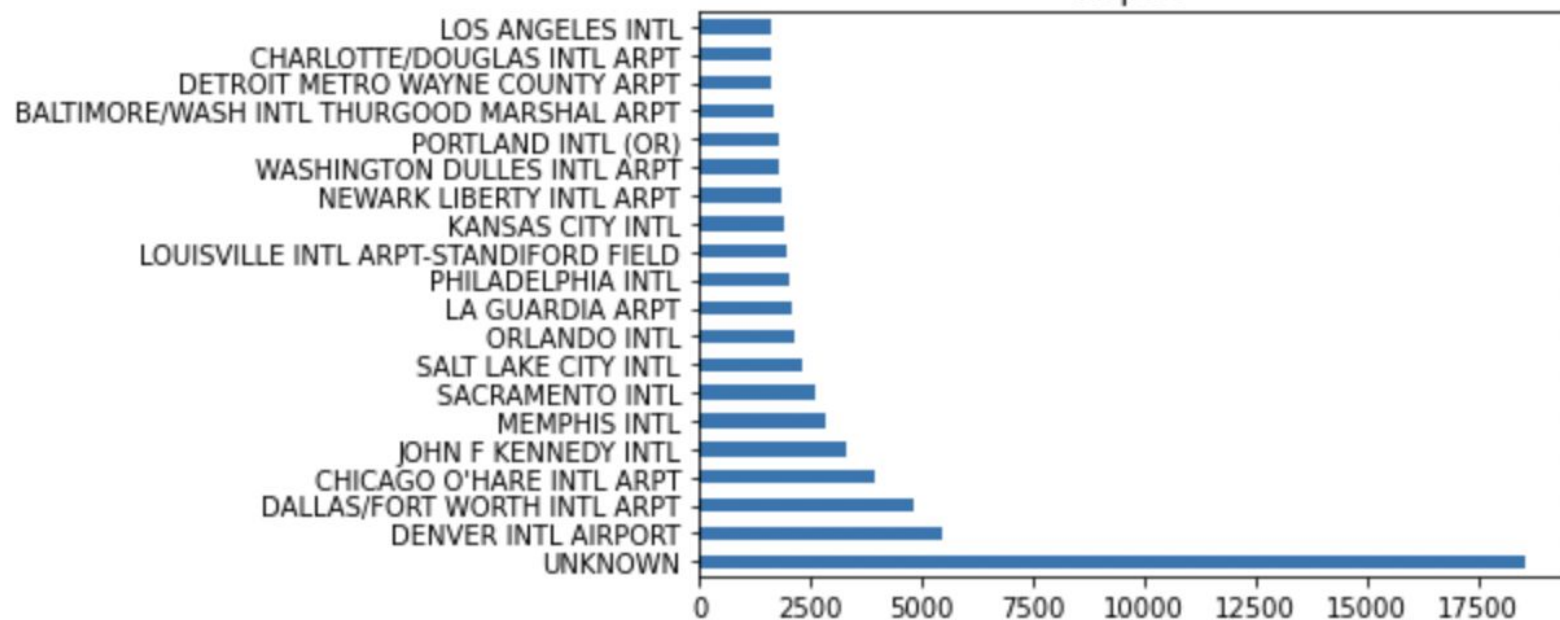


Top 20 Aircrafts Involved in Incident

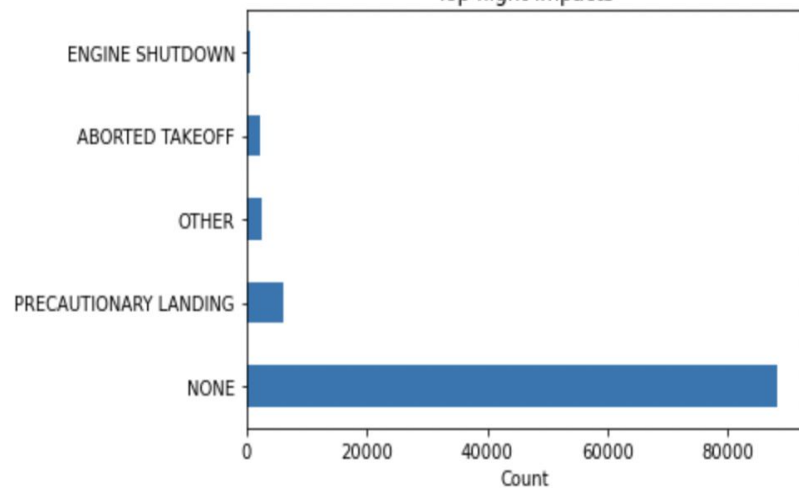




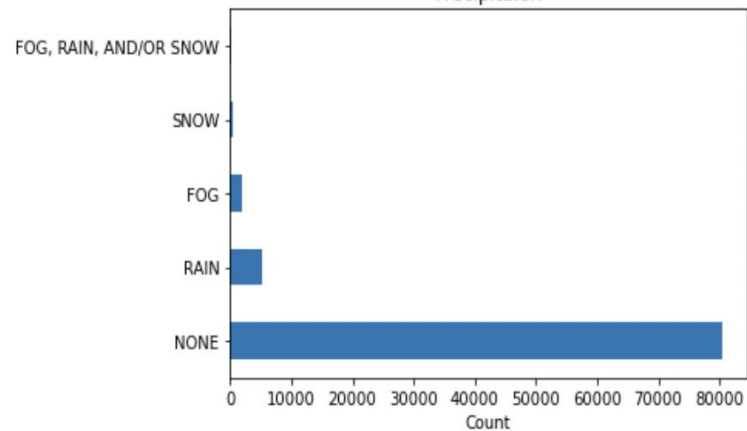
Airport



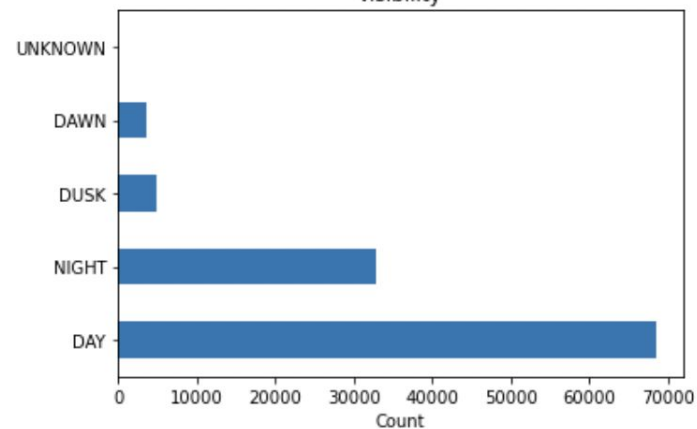
Top flight impacts



Precipitaion



Visibility





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days_in_month = [31,28,31,30,31,30,31,31,30,31,30,31]
days_in_month_leap = [31,29,31,30,31,30,31,31,30,31,30,31]

years = []
months = []
incidents_in_month = []
days_in_months = []
incidents_in_year = []

for year in range(1990,2015):
    for month in range(1,13):
        df_month = df[(df['Incident Year']==year) & (df['Incident Month']==month)]
        incident_count = df_month.shape[0]
        years.append(year)
        months.append(month)
        incidents_in_month.append(incident_count)

        if year%4 == True:
            days_in_months.append(days_in_month_leap[month-1])
        else:
            days_in_months.append(days_in_month[month-1])

    df_month = df[(df['Incident Year']==year)]
    incident_count = df_month.shape[0]

    for i in range(0,12):
        incidents_in_year.append(incident_count)

data = pd.DataFrame({
    'Year': years,
    'Month': months,
    'incidents_in_month':incidents_in_month,
    'days_in_months':days_in_months,
    'incidents_in_year':incidents_in_year

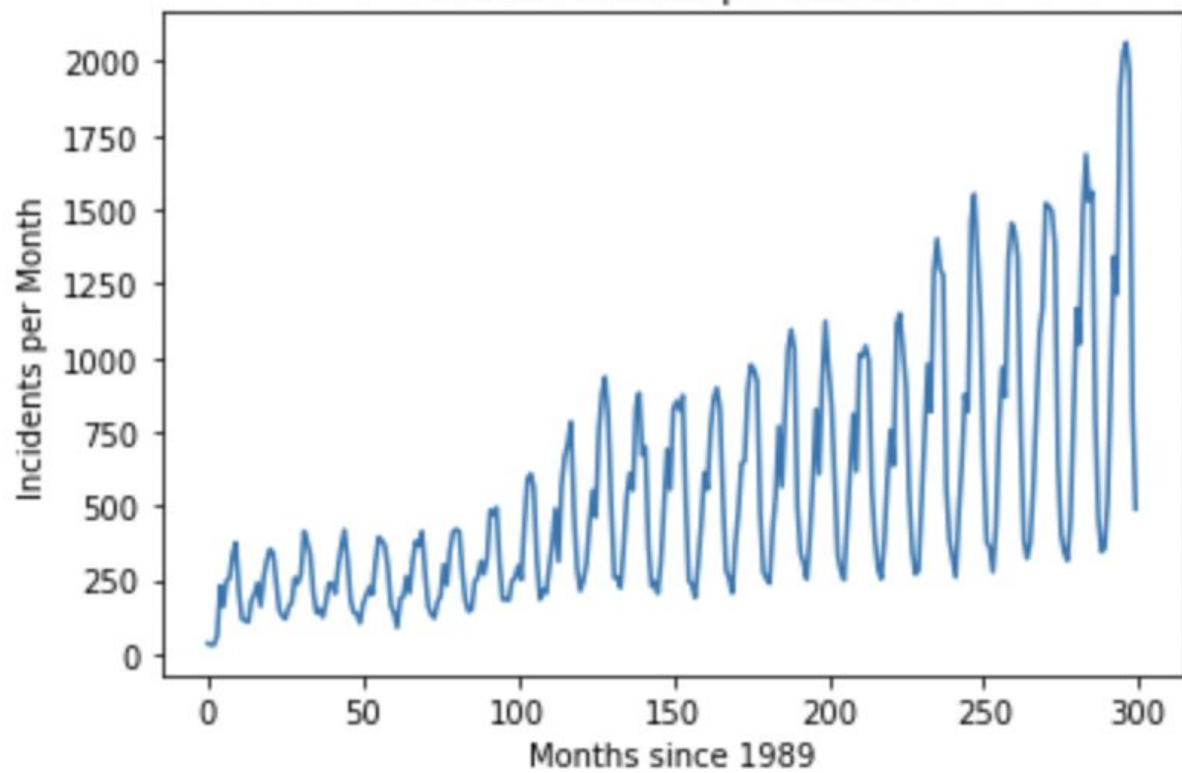
}, )

data

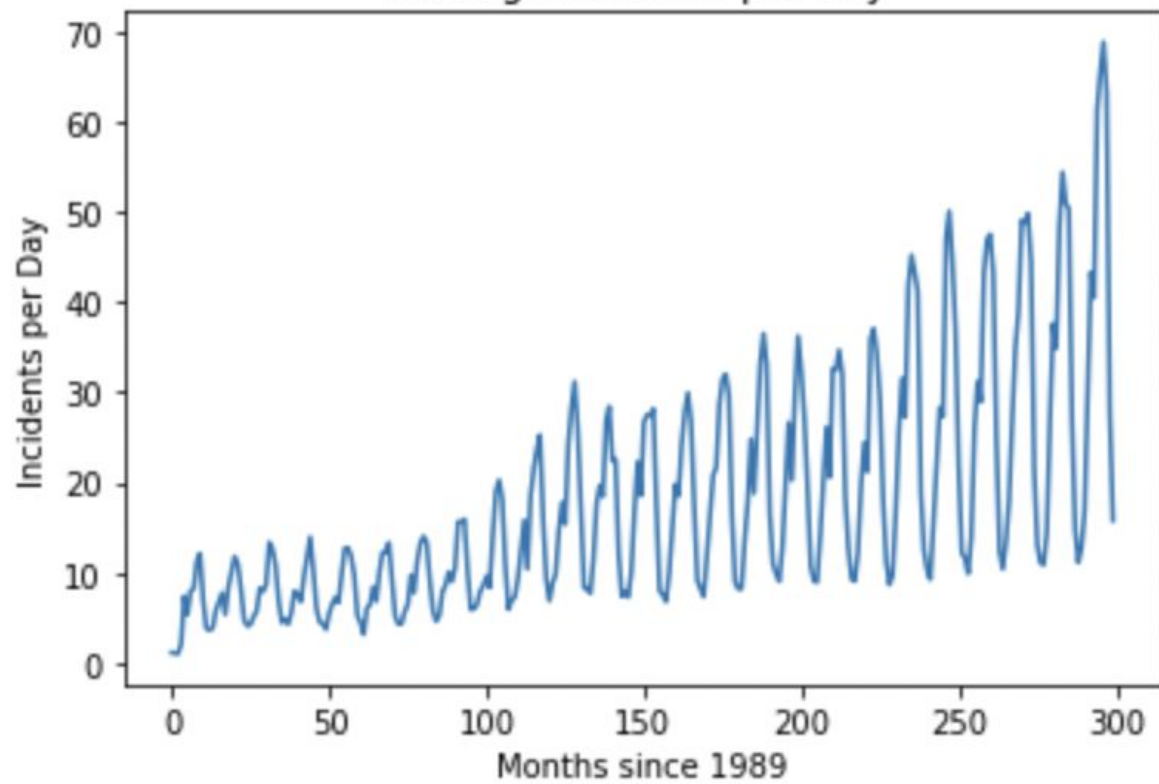
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	Year	Month	incidents_in_month	days_in_months	incidents_in_year
0	1990	1	36	31	2099
1	1990	2	31	28	2099
2	1990	3	32	31	2099
3	1990	4	63	30	2099
4	1990	5	230	31	2099
...	...	...	...	...	...
295	2014	8	2030	31	13976
296	2014	9	2064	30	13976
297	2014	10	1961	31	13976
298	2014	11	837	30	13976
299	2014	12	490	31	13976

Wildlife Strikes per Month



Average Incidents per Day



Month with highest average incident count

