

Table 1 Duties of Urban Park Rangers over the years- Trends in Critical Final Ranger Action, Types of Animal Reported and Source of Information over time. Only those Type of Animals(Animal Class) values are taken which are present in the Data Dictionary. Any special characters were dropped.

Trend Analyzed		Year			
		2018	2019	2020	2021
Final Ranger Action	ACC	332	173	173	98
	Rehabilitators	42	64	121	55
Type of Animal Reported	Birds	103	200	369	173
	Coyotes	2	7	5	4
	Deer	13	18	27	13
	Domestic	24	48	54	35
	Fish-numerous quantity	1	0	2	2
	Marine Reptiles	0	2	1	1
	Raptors	37	45	56	40
	Small Mammals- RVS	471	180	149	77
	Small mammals- Non RVS	26	54	72	46
	Terrestrial Reptile	13	44	48	36
Source Of Information	Central	117	125	163	134
	Conservancies	259	60	55	29
	Employee	182	213	281	147
	Observed by Ranger	12	48	61	36
	Other	35	33	29	8
	Public	95	152	228	107

Year	Type Of Anim Source		FRA	Count
2018	Birds	Central	ACC/Rehab	7
2018	Domestic	Central	ACC/Rehab	4
2018	Raptors	Central	ACC/Rehab	2
2018	Small Mamm	Central	ACC/Rehab	26
2018	Small Mamm	Central	ACC/Rehab	0
2018	Terrestrial Re	Central	ACC/Rehab	1
2018	Birds	Central	Others	15
2018	Domestic	Central	Others	4
2018	Raptors	Central	Others	6
2018	Small Mamm	Central	Others	32
2018	Small Mamm	Central	Others	8
2018	Terrestrial Re	Central	Others	3
2018	Birds	Employee	ACC/Rehab	22
2018	Domestic	Employee	ACC/Rehab	9
2018	Raptors	Employee	ACC/Rehab	2
2018	Small Mamm	Employee	ACC/Rehab	57
2018	Small Mamm	Employee	ACC/Rehab	11
2018	Terrestrial Re	Employee	ACC/Rehab	1
2018	Birds	Employee	Others	23
2018	Domestic	Employee	Others	1
2018	Raptors	Employee	Others	4
2018	Small Mamm	Employee	Others	40
2018	Small Mamm	Employee	Others	4
2018	Terrestrial Re	Employee	Others	4
2018	Birds	Public	ACC/Rehab	2
2018	Domestic	Public	ACC/Rehab	5
2018	Raptors	Public	ACC/Rehab	7
2018	Small Mamm	Public	ACC/Rehab	15
2018	Small Mamm	Public	ACC/Rehab	1
2018	Terrestrial Re	Public	ACC/Rehab	0
2018	Birds	Public	Others	23
2018	Domestic	Public	Others	0
2018	Raptors	Public	Others	7
2018	Small Mamm	Public	Others	26
2018	Small Mamm	Public	Others	4
2018	Terrestrial Re	Public	Others	0
2018	Birds	Others	ACC/Rehab	5
2018	Domestic	Others	ACC/Rehab	0
2018	Raptors	Others	ACC/Rehab	5
2018	Small Mamm	Others	ACC/Rehab	189
2018	Small Mamm	Others	ACC/Rehab	3
2018	Terrestrial Re	Others	ACC/Rehab	1

2018 Birds	Others	Others	5
2018 Domestic	Others	Others	0
2018 Raptors	Others	Others	4
2018 Small Mamm	Others	Others	85
2018 Small Mamm	Others	Others	4
2018 Terrestrial Re	Others	Others	1
2019 Birds	Central	ACC/Rehab	6
2019 Domestic	Central	ACC/Rehab	7
2019 Raptors	Central	ACC/Rehab	5
2019 Small Mamm	Central	ACC/Rehab	18
2019 Small Mamm	Central	ACC/Rehab	2
2019 Terrestrial Re	Central	ACC/Rehab	1
2019 Birds	Central	Others	24
2019 Domestic	Central	Others	4
2019 Raptors	Central	Others	5
2019 Small Mamm	Central	Others	23
2019 Small Mamm	Central	Others	5
2019 Terrestrial Re	Central	Others	10
2019 Birds	Employee	ACC/Rehab	28
2019 Domestic	Employee	ACC/Rehab	14
2019 Raptors	Employee	ACC/Rehab	2
2019 Small Mamm	Employee	ACC/Rehab	25
2019 Small Mamm	Employee	ACC/Rehab	6
2019 Terrestrial Re	Employee	ACC/Rehab	2
2019 Birds	Employee	Others	44
2019 Domestic	Employee	Others	5
2019 Raptors	Employee	Others	5
2019 Small Mamm	Employee	Others	42
2019 Small Mamm	Employee	Others	10
2019 Terrestrial Re	Employee	Others	8
2019 Birds	Public	ACC/Rehab	18
2019 Domestic	Public	ACC/Rehab	5
2019 Raptors	Public	ACC/Rehab	8
2019 Small Mamm	Public	ACC/Rehab	10
2019 Small Mamm	Public	ACC/Rehab	7
2019 Terrestrial Re	Public	ACC/Rehab	1
2019 Birds	Public	Others	42
2019 Domestic	Public	Others	4
2019 Raptors	Public	Others	10
2019 Small Mamm	Public	Others	25
2019 Small Mamm	Public	Others	18
2019 Terrestrial Re	Public	Others	10
2019 Birds	Others	ACC/Rehab	16

2019 Domestic	Others	ACC/Rehab	0
2019 Raptors	Others	ACC/Rehab	4
2019 Small Mamm	Others	ACC/Rehab	21
2019 Small Mamm	Others	ACC/Rehab	9
2019 Terrestrial Re	Others	ACC/Rehab	3
2019 Birds	Others	Others	22
2019 Domestic	Others	Others	3
2019 Raptors	Others	Others	8
2019 Small Mamm	Others	Others	16
2019 Small Mamm	Others	Others	7
2020 Terrestrial Re	Others	Others	9
2020 Birds	Others	ACC/Rehab	17
2020 Domestic	Others	ACC/Rehab	6
2020 Raptors	Others	ACC/Rehab	3
2020 Small Mamm	Others	ACC/Rehab	7
2020 Small Mamm	Others	ACC/Rehab	5
2020 Terrestrial Re	Others	ACC/Rehab	3
2020 Birds	Others	Others	56
2020 Domestic	Others	Others	3
2020 Raptors	Others	Others	4
2020 Small Mamm	Others	Others	13
2020 Small Mamm	Others	Others	10
2020 Terrestrial Re	Others	Others	11
2021 Birds	Others	ACC/Rehab	10
2021 Domestic	Others	ACC/Rehab	2
2021 Raptors	Others	ACC/Rehab	1
2021 Small Mamm	Others	ACC/Rehab	3
2021 Small Mamm	Others	ACC/Rehab	2
2021 Terrestrial Re	Others	ACC/Rehab	0
2021 Birds	Others	Others	31
2021 Domestic	Others	Others	3
2021 Raptors	Others	Others	3
2021 Small Mamm	Others	Others	4
2021 Small Mamm	Others	Others	3
2021 Terrestrial Re	Others	Others	0
2020 Birds	Central	ACC/Rehab	22
2020 Domestic	Central	ACC/Rehab	5
2020 Raptors	Central	ACC/Rehab	3
2020 Small Mamm	Central	ACC/Rehab	13
2020 Small Mamm	Central	ACC/Rehab	2
2020 Terrestrial Re	Central	ACC/Rehab	1
2020 Birds	Central	Others	44
2020 Domestic	Central	Others	11

2020 Raptors	Central	Others	7
2020 Small Mamm	Central	Others	21
2020 Small Mamm	Central	Others	10
2020 Terrestrial Re	Central	Others	3
2020 Birds	Employee	ACC/Rehab	52
2020 Domestic	Employee	ACC/Rehab	9
2020 Raptors	Employee	ACC/Rehab	7
2020 Small Mamm	Employee	ACC/Rehab	38
2020 Small Mamm	Employee	ACC/Rehab	8
2020 Terrestrial Re	Employee	ACC/Rehab	4
2020 Birds	Employee	Others	57
2020 Domestic	Employee	Others	6
2020 Raptors	Employee	Others	7
2020 Small Mamm	Employee	Others	35
2020 Small Mamm	Employee	Others	20
2020 Terrestrial Re	Employee	Others	8
2020 Birds	Public	ACC/Rehab	44
2020 Domestic	Public	ACC/Rehab	5
2020 Raptors	Public	ACC/Rehab	8
2020 Small Mamm	Public	ACC/Rehab	11
2020 Small Mamm	Public	ACC/Rehab	5
2020 Terrestrial Re	Public	ACC/Rehab	5
2020 Birds	Public	Others	77
2020 Domestic	Public	Others	9
2020 Raptors	Public	Others	17
2020 Small Mamm	Public	Others	11
2020 Small Mamm	Public	Others	13
2020 Terrestrial Re	Public	Others	13
2021 Birds	Central	ACC/Rehab	12
2021 Domestic	Central	ACC/Rehab	8
2021 Raptors	Central	ACC/Rehab	6
2021 Small Mamm	Central	ACC/Rehab	8
2021 Small Mamm	Central	ACC/Rehab	3
2021 Terrestrial Re	Central	ACC/Rehab	0
2021 Birds	Central	Others	33
2021 Domestic	Central	Others	6
2021 Raptors	Central	Others	8
2021 Small Mamm	Central	Others	19
2021 Small Mamm	Central	Others	10
2021 Terrestrial Re	Central	Others	6
2021 Birds	Employee	ACC/Rehab	16
2021 Domestic	Employee	ACC/Rehab	6
2021 Raptors	Employee	ACC/Rehab	2

2021 Small Mamm Employee	ACC/Rehab	15
2021 Small Mamm Employee	ACC/Rehab	7
2021 Terrestrial Re Employee	ACC/Rehab	5
2021 Birds Employee	Others	26
2021 Domestic Employee	Others	5
2021 Raptors Employee	Others	6
2021 Small Mamm Employee	Others	20
2021 Small Mamm Employee	Others	10
2021 Terrestrial Re Employee	Others	10
2021 Birds Public	ACC/Rehab	10
2021 Domestic Public	ACC/Rehab	3
2021 Raptors Public	ACC/Rehab	5
2021 Small Mamm Public	ACC/Rehab	3
2021 Small Mamm Public	ACC/Rehab	2
2021 Terrestrial Re Public	ACC/Rehab	2
2021 Birds Public	Others	35
2021 Domestic Public	Others	3
2021 Raptors Public	Others	9
2021 Small Mamm Public	Others	5
2021 Small Mamm Public	Others	9
2021 Terrestrial Re Public	Others	8

Step Description:

1. The data was taken from the "**New York's Urban Park Rangers**" dataset (Set2).
2. These steps were performed in Excel.
3. Firstly, I imported the dataset into R studio and added a column year, this is to simplify the trends over years. Code used-

#For Dataset bdf

```
bdf <- bdf %>%
```

```
  mutate(`Date.and.Time.of.initial.call` = as.POSIXct(`Date.and.Time.of.initial.call`, format =  
"%m/%d/%Y %l:%M:%S %p"))
```

```
bdf <- bdf %>%
```

```
  filter(!is.na(`Date.and.Time.of.initial.call`))
```

```
bdf <- bdf %>%
```

```
  mutate(Year = year(`Date.and.Time.of.initial.call`))
```

4. Once the year column was generated, I filtered the column with year to segregate data into separate years.
5. Post that, I filtered on the column Animal.Class, Call.Source and Final.Ranger.Action to get the number of entries for each set of combinations.
6. All the data was finally merged to create the output table.