

Cathance River Preserve Mammal Study 2022

Purpose- How does the time of day and time period (diurnal, nocturnal, and crepuscular hours) affect the mammal species in the Cathance River Preserve?

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Hypothesis- Mammals will be most active during crepuscular hours.

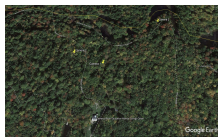
Background-

- Different mammals are active at different times of day based on many factors. The biggest factors are their behavior, diet, the temperature, and daylight hours.
- Diurnal is a term for any animal that is active during the day; sunrise to sunset
- Crepuscular is a term for any animal that is active an hour before sunrise and an hour after sunset
- Nocturnal is a term for any animal that is active during night; the time from where the sun sets to when the sun rises.

Procedure -

1. Set up 3 cameras, one in the woods off to the right of the Barnes Leap trail; 1 off to the left of the trail and 1 by the river. See map below for locations. Strap cameras to trees and make sure red light is flashing to turn them on.
2. Determine the coordinates of where the cameras are located at each different location. Camera 1 located at 43.95763°N -69.94935°W. Camera 2 located at 43.95782°N -69.95023°W. Camera 3 located at 43.95887°N -69.94736°W
3. Collect the SD cards by taking the card out of the wildlife cameras weekly and inserting them into the reader on the computer.
4. Watch the footage and take notes on what mammal was spotted and how many, the time, and any extra observations.
5. If not able to view the footage or pictures, download the app StellarPlayer, and drag videos into the app, and the video/picture will be played/shown.

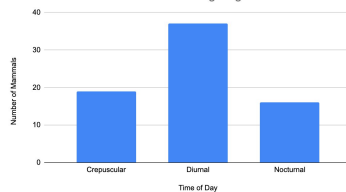
Camera Locations-



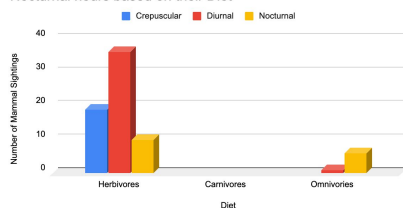
Summary Table of Sightings By Species

Species	Crepuscular	Diurnal	Nocturnal	Total sightings
Beaver	0	1	8	9
Gray fox	0	0	2	2
Snowshoe Hare	3	0	2	5
Raccoon	0	1	4	5
White-Tailed Deer	16	34	0	50
Woodchuck	0	1	0	1
Totals	19	37	16	72

Time vs. Total Number of Mammal Sightings



Number of Mammals seen during Crepuscular, Diurnal and Nocturnal hours based on their Diet



White-Tailed Deer 9/15/22

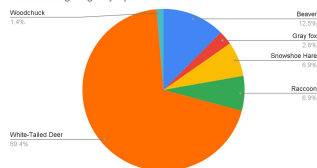


Woodchuck 9/13/22

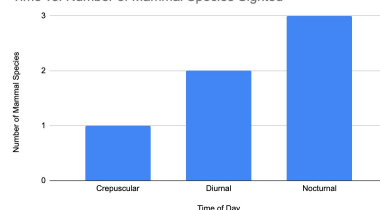


Beaver 9/20/22

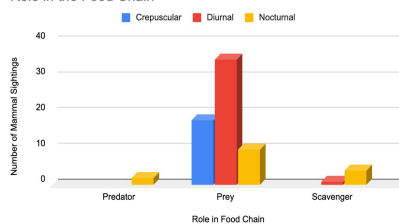
Mammal Sightings By Species



Time vs. Number of Mammal Species Sighted



Crepuscular, Diurnal and Nocturnal Sightings based on their Role in the Food Chain



Conclusion-

- The researchers hypothesis was not supported by the videos taken on the mammals activity.
- Overall there were 4 species with 37 total sightings during the day, 2 species with 19 total sighting during crepuscular hours, and 4 species with 16 total sightings during the night.
- The species that the researchers observed were beaver, gray fox, snowshoe hare, raccoon, white-tailed deer, and a woodchuck.
- During crepuscular hours the researchers saw snowshoe hares and white-tailed deer.
- During diurnal hours the researchers saw beavers, raccoons, white-tailed deers, and woodchucks.
- During nocturnal hours the researchers saw beavers, gray foxes, snowshoe hares, and raccoons.
- During crepuscular hours the researcher saw that all mammal sightings were herbivores.
- During diurnal hours the researcher saw that 36 of the sightings were herbivores and 1 omnivore.
- During nocturnal hours the researcher saw that 10 sightings were herbivores and 6 were omnivores.
- The researchers noticed that there were no sightings of any mammal that was a carnivore.
- There was some data that the that the deer population around the Cathance River Preserve could have skewed. The deer caused the daytime sightings to increase tremendously.

Acknowledgements-

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