

The Effects of Increasing Bear Activity at The Bent of the River



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ABSTRACT

In recent years, black bear (*Urus americanus*) populations throughout Connecticut (CT) have increased. As this trend continues, black bears are developing new habits to survive. Citizens have expressed concerns about the presence of black bears and how they impact surrounding wildlife and the public. The objective for this project was to understand the activity pattern and habitat use of black bears within the Bent of the River Audubon Center in Southbury, CT. To address this objective, we set up study plots in different habitats to record photo and video evidence, as well as signs (i.e. scat, rubbing, and tracks) of black bears. After studying camera footage, carnivores (coyote, bobcat); herbivores (deer, rabbit); and omnivores (bear, fox, opossum) were observed throughout Bent of the River. Bear presence did not appear to have an effect on other wildlife. Bears generally avoided high traffic and frequently-used public areas. These findings can help inform other ongoing projects occurring throughout west central CT, and can assist Bent of the River in educating the public and local community on the presence of bears in the area.

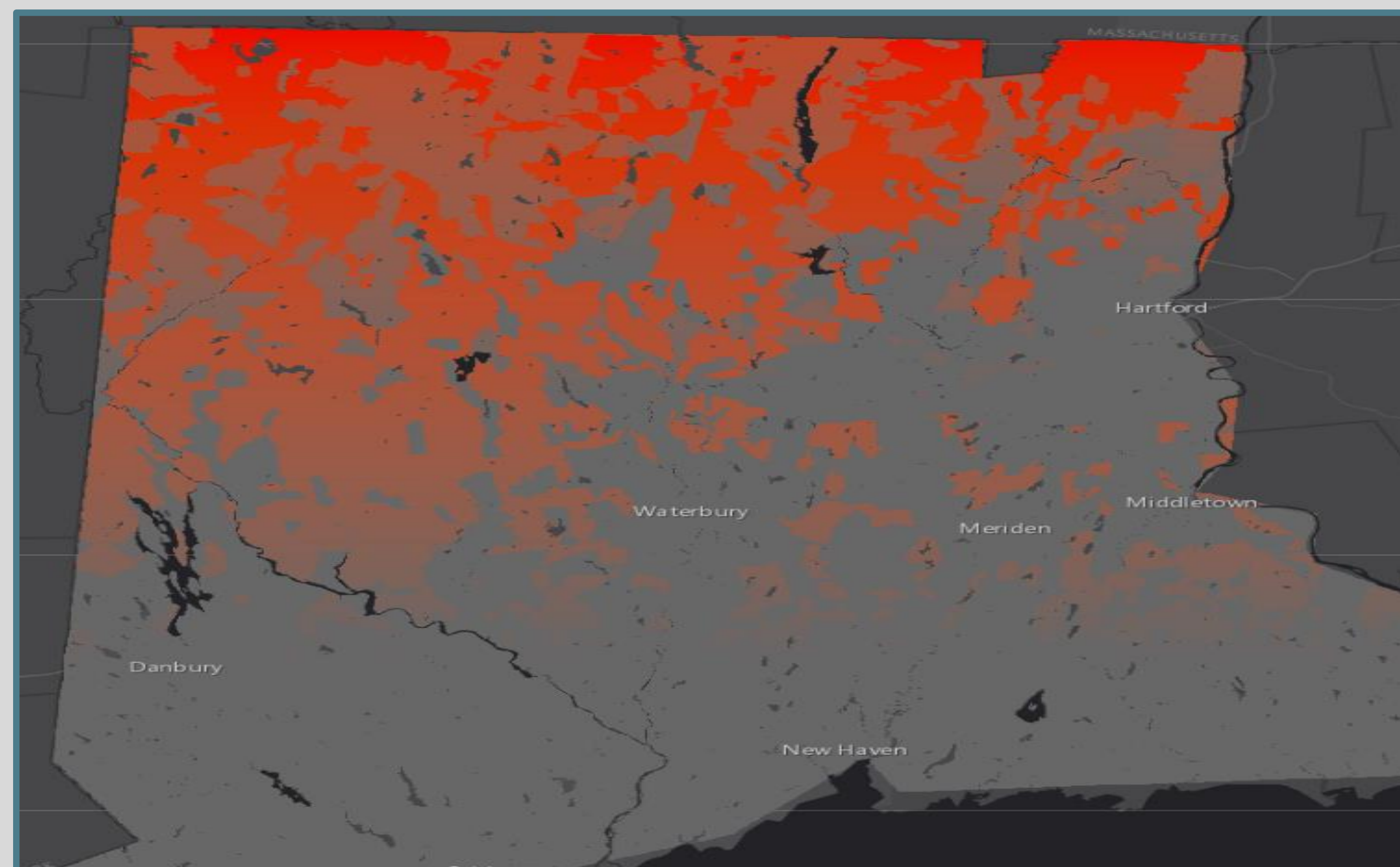


Fig 1. Black bear sighting density estimated throughout CT's northwest corner¹. The highest density of bear sightings in CT have occurred along the Massachusetts border, and have increased throughout CT as bears have migrated into more populated areas.

INTRODUCTION

Over the past several years, black bear population density has increased in Connecticut¹ (CT) (Fig. 1). Approximately 6,734 bear sightings have been reported since December 2015 (DEEP Black Bear). In Southbury alone, 282 reported sightings from March 2016 to February of 2017.²

At the Bent of the River Audubon Center, a highly-trafficked nature preserve used by the public for recreation (Southbury, CT), there has been a major increase in bear population. Bears enter the nature preserve largely to find an easy food source, and while doing so knock over bird feeders, enter barns, and scavenge through trash. As such, the increased bear population at the Bent of the River presents a public safety concern.

The goal of this study was to find patterns in bear activity and the habitats they utilize to educate Bent of the River visitors and community members. In doing so, we assessed the relationship between activity patterns of black bears, other wildlife, and the public.

REFERENCES

¹UConn CLEAR. "The Bears are Back." Accessible at: <http://clear3.uconn.edu/viewers/bears/>
²DEEP. "Black Bear Fact Sheet." Accessible at: http://www.ct.gov/deep/cwp/view.asp?a=2723&q=325968&deepNav_GID=1655



Fig 2. Camera locations for each study plot used to detect black bear presence at Bent of the River Audubon Center (Southbury, CT). Each pin icon represents the location of a camera throughout the property. Red pins represent camera sites where bears were detected.

METHODS

Study Area and Organism

- ❖ This project was conducted at the Bent of the River Audubon Center in Southbury, CT. The 700-acre property contains several different habitats.
- ❖ Four habitat types (14 sites) were studied (Fig. 2):
 - ❑ Dense forest
 - ❑ Wetlands
 - ❑ Grasslands & shrublands
 - ❑ Public & community areas
- ❖ Black bears (*Urus americanus*) were the primary organism of interest to understand their activity patterns and habitat.

Data Collection

1. From July 2016 to February 2017, we used two motion-activated Browning trail cameras to collect photo and video data of bears at each site. Specific camera sites were determined by signs such as scat, rubbing, and tracks found.
2. The two cameras in each site were set up as follows:
 - ❑ Set up on trees with strap about 2 ft from the ground.
 - ❑ Each camera in each site was placed at the same time.
 - ❑ Both cameras took 10-second videos and a picture after motion-activated.
3. Digital cameras were then used to capture picture evidence of the different signs at each site such as scat and tracks.
4. The following data were extracted from camera trap photos and videos:
 - ❑ Date
 - ❑ Location
 - ❑ Temperature
 - ❑ Weather
 - ❑ Time
 - ❑ Species
 - ❑ Number of species
 - ❑ Behavior of species
5. Camera footage was analyzed in approximately two week increments.

RESULTS

- ❖ Carnivores (coyote, bobcat); herbivores (deer, rabbit); and omnivores (bear, fox, opossum) were observed throughout Bent of the River (Fig. 3).
- ❖ Bear presence did not appear to have an effect on other wildlife.
 - ❑ Deer were present before and after the bear sightings.
- ❖ Bears generally avoided high traffic and frequently-used public areas (Fig. 4).
 - ❑ During summer camp months July and August, the radius of bear activity from the education center was greater (Fig. 5).
- ❖ During fall months, when public visitation was lower, bears were more likely to scavenge bird feeders and garbage but late October to hibernation bear were not caught on the cameras (Figs 4 & 5).

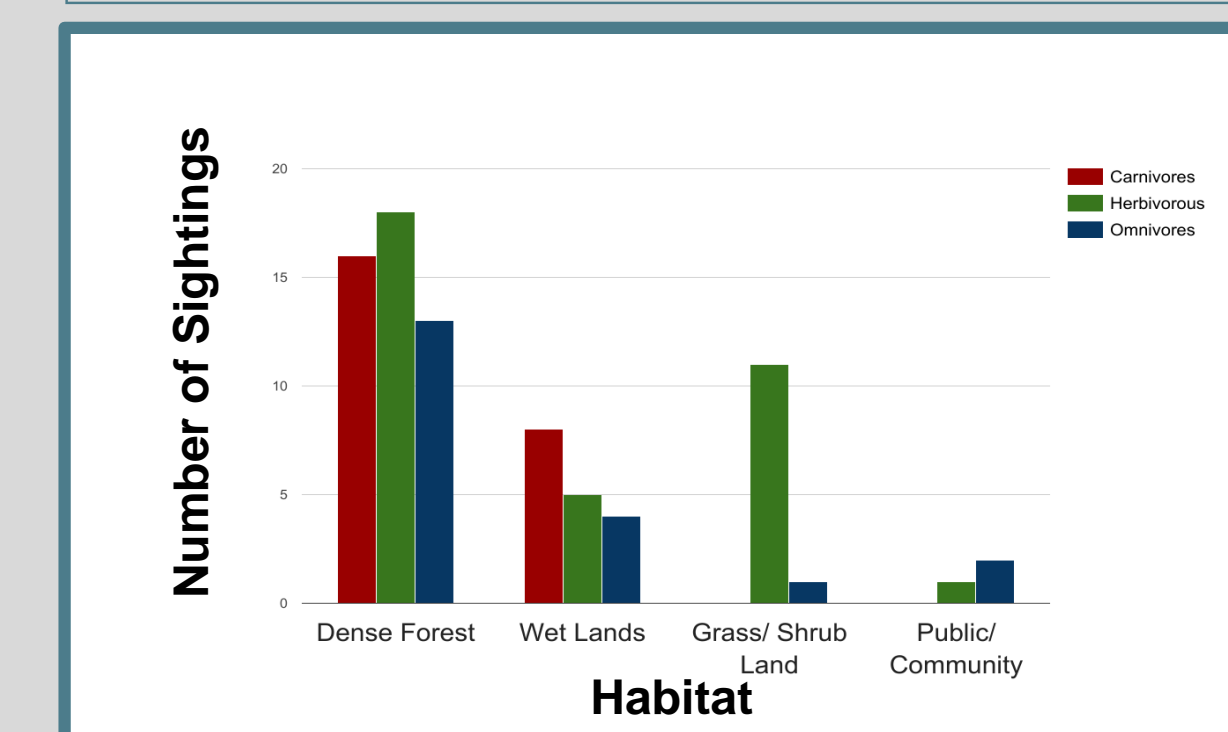


Fig 3. Carnivores, herbivores and omnivores observed on camera footage in the study plots at Bent of the River Audubon Center (Southbury, CT). Specific mammals included: coyote, bobcat (carnivores); deer, rabbit (herbivores); and bear, fox, opossum (omnivores)

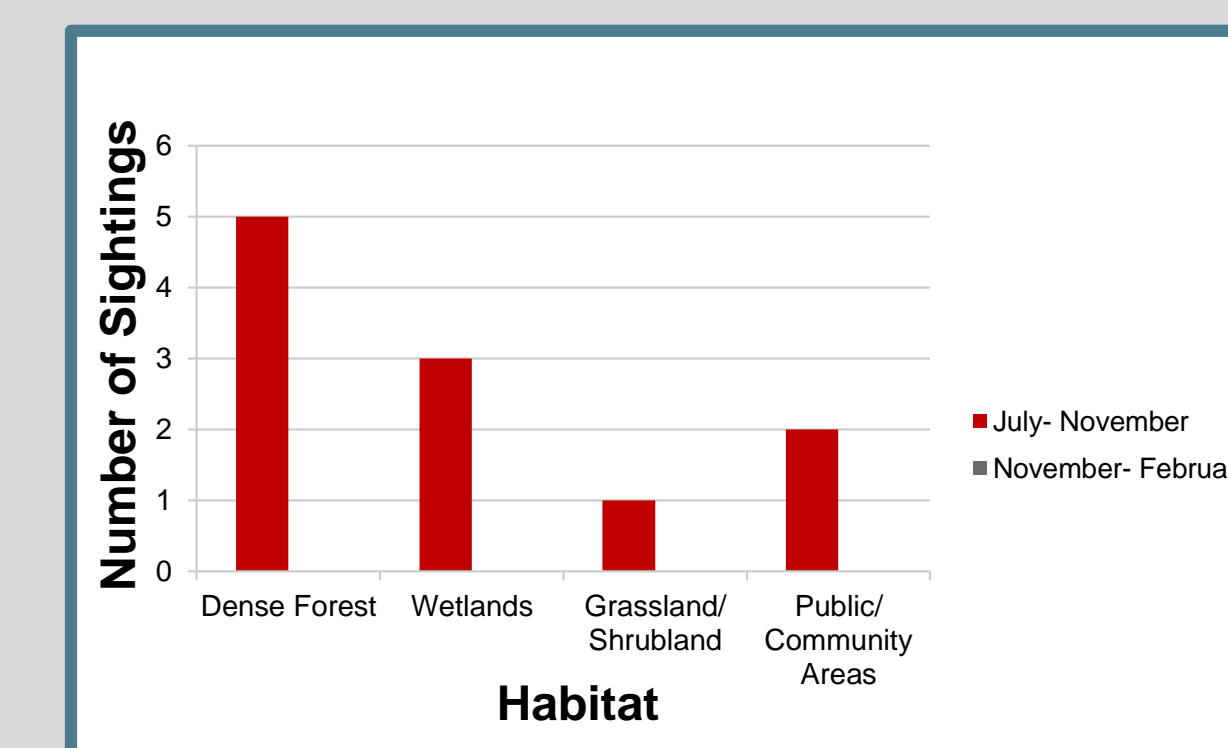


Fig 4. The number of bears captured on camera in each habitat type. All of the footage was documented from July to November. Cameras were set through February but no bears were active.

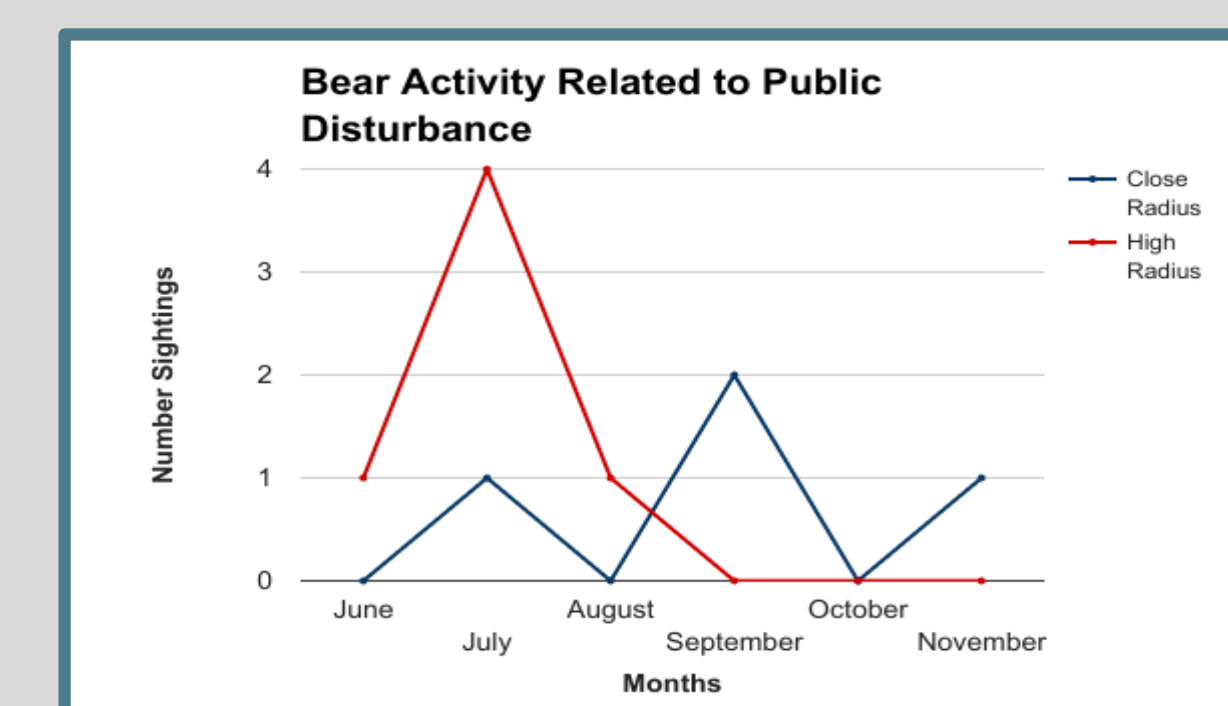


Fig 5. Frequency of bear activity impacted by different rates of public disturbances. June through August represent high public activity and September through November represent low public activity at the Bent of the River.

CONCLUSIONS

Bears were documented throughout all of the habitats studied in Bent of the River Audubon Center. The encounters seemed to be impacted by high human activity and noise levels. Consistent with other studies at Bent of the River, black bears were more active and "desperate" in colder months while preparing for winter hibernation. These findings can help inform other ongoing projects throughout western CT, and can assist Bent of the River in educating the public and local community on the presence of bears in the area.

Future work on this project includes assembling a short video that documents wildlife activity that were encountered during this study. The video will show and describe how each mammal utilized the different habitats of study. Ideally, the video will have a wide reach, with a submission planned for the Connecticut Film Festival, Bent of the River website (<http://bentoftheriver.audubon.org/>) and NEAT TV that can be viewed for those with Charter Communications subscribers.

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