

Assessment of the mammalian and avian community in the Laramie Range, Wyoming, with camera traps

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Mammalian and Avian Communities

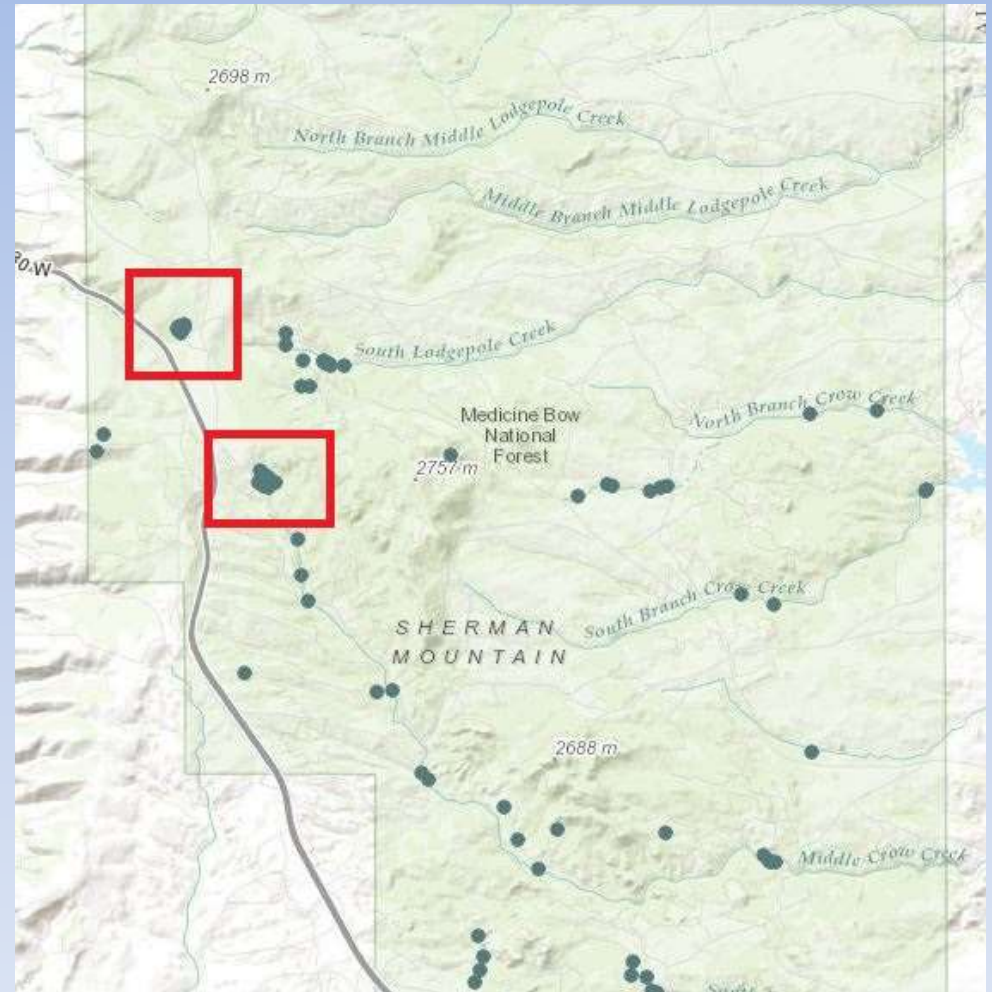
- The influence of habitat on the composition of mammalian and avian communities in the Rocky Mountains has not been fully explored.
- Describing site specific communities can provide an understanding of possible responses to rapid human-induced global change.



Mammalian and Avian Communities

Our goals were:

- To begin quantifying and monitoring biodiversity in the Laramie Range using camera traps.
- Store the resulting data in the Wyoming Biodiversity database to ensure availability to future researchers.



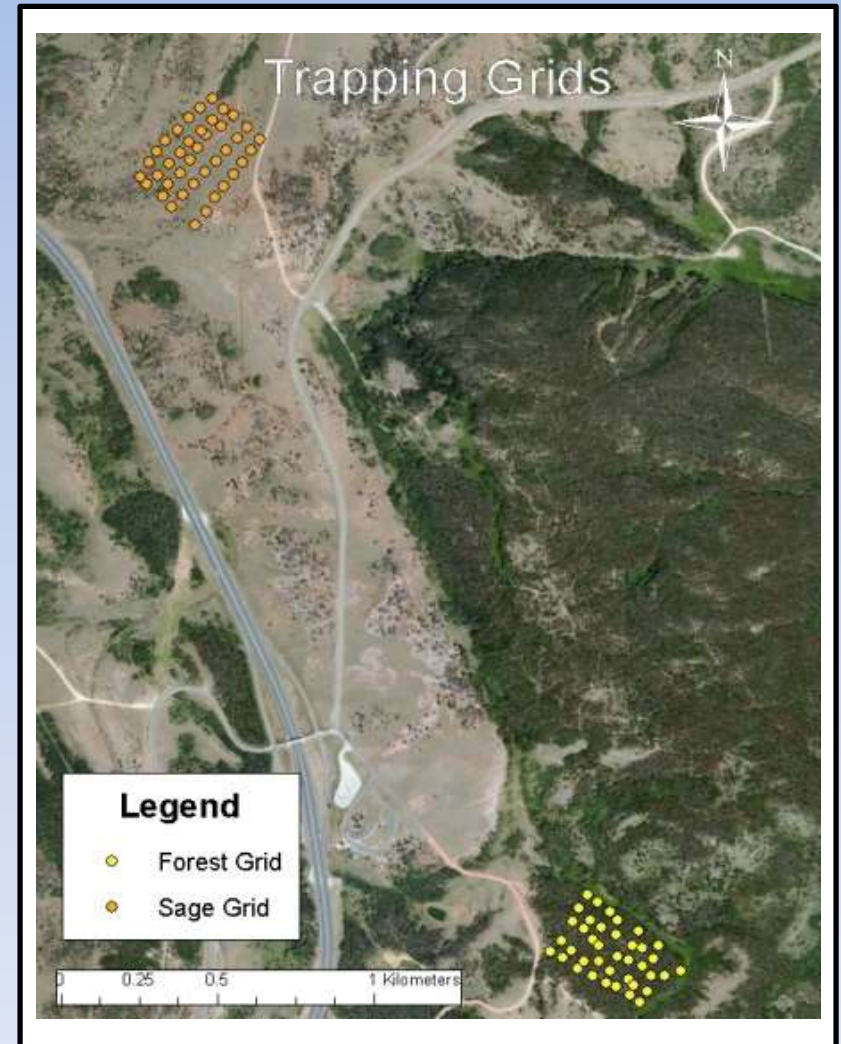
Study Area

- 21 km East of Laramie in Medicine Bow National Forest
- Semi-arid continental habitat
- Two Habitats Sampled:
 - Forest Habitat
 - Sagebrush Habitat



Camera Traps

- 23 cameras were placed in two grids concurrently used for a companion study on least chipmunks.
- Cameras were deployed for 45 days.



Camera Traps

- Cameras were placed roughly 0.25m above the ground at 50 m intervals.
- Initially they were set to low sensitivity but were changed to high sensitivity to capture small mammals.
- Videos were recorded for 30 seconds after the camera was triggered.



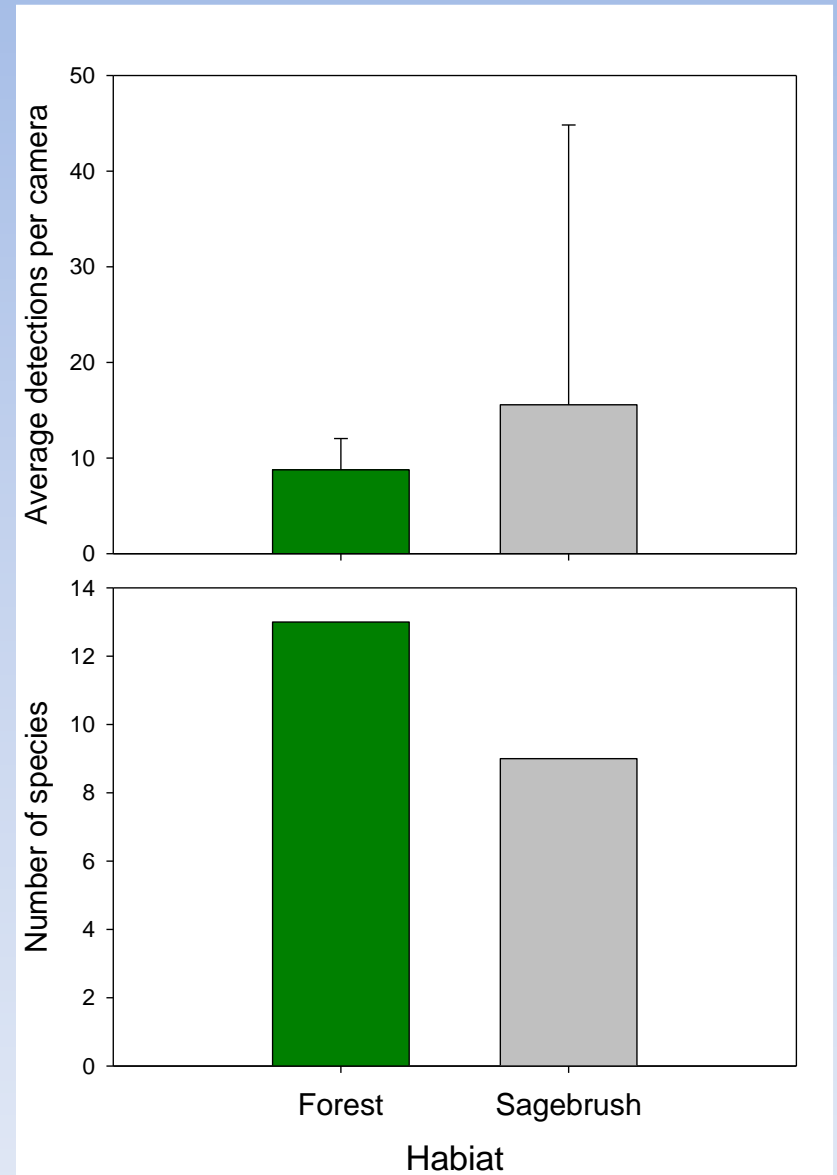
Data Retrieval and Analysis

- Each week over the 45 day period data cards were pulled and downloaded to a computer. The cameras were immediately reset.
- All videos were screened and those with no animal footage were discarded.
- Consecutive video segments with less than 1 minute interval were combined into a single observation.

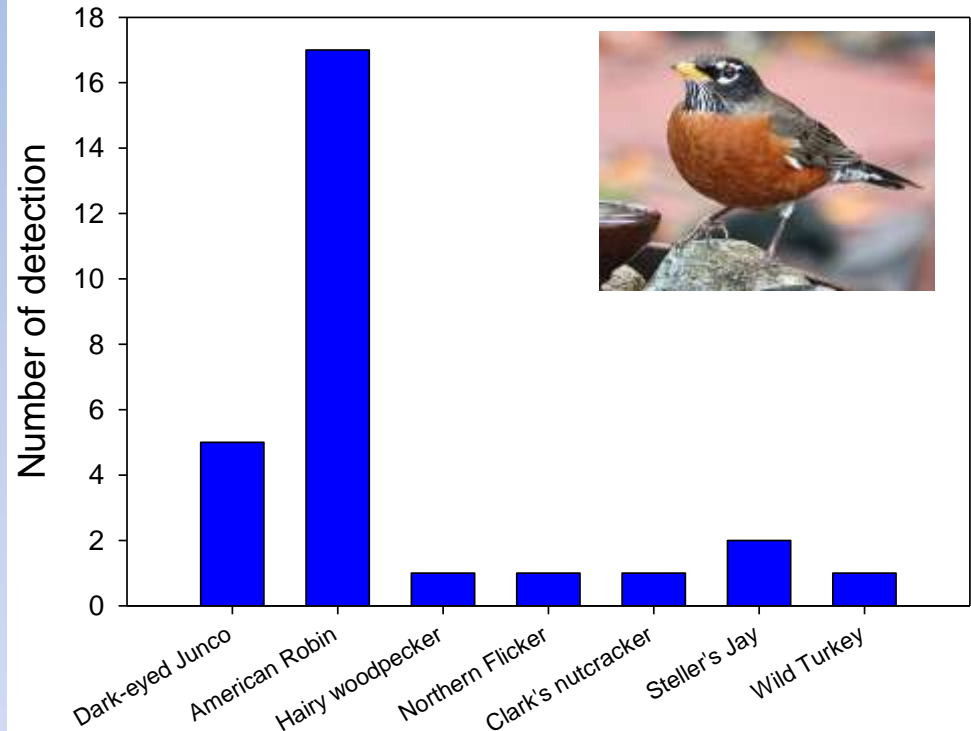


Results

- Overall we collected 415 video segments of animal footage representing 275 independent observations.
- There were more detections in the sagebrush but more species in the forest.

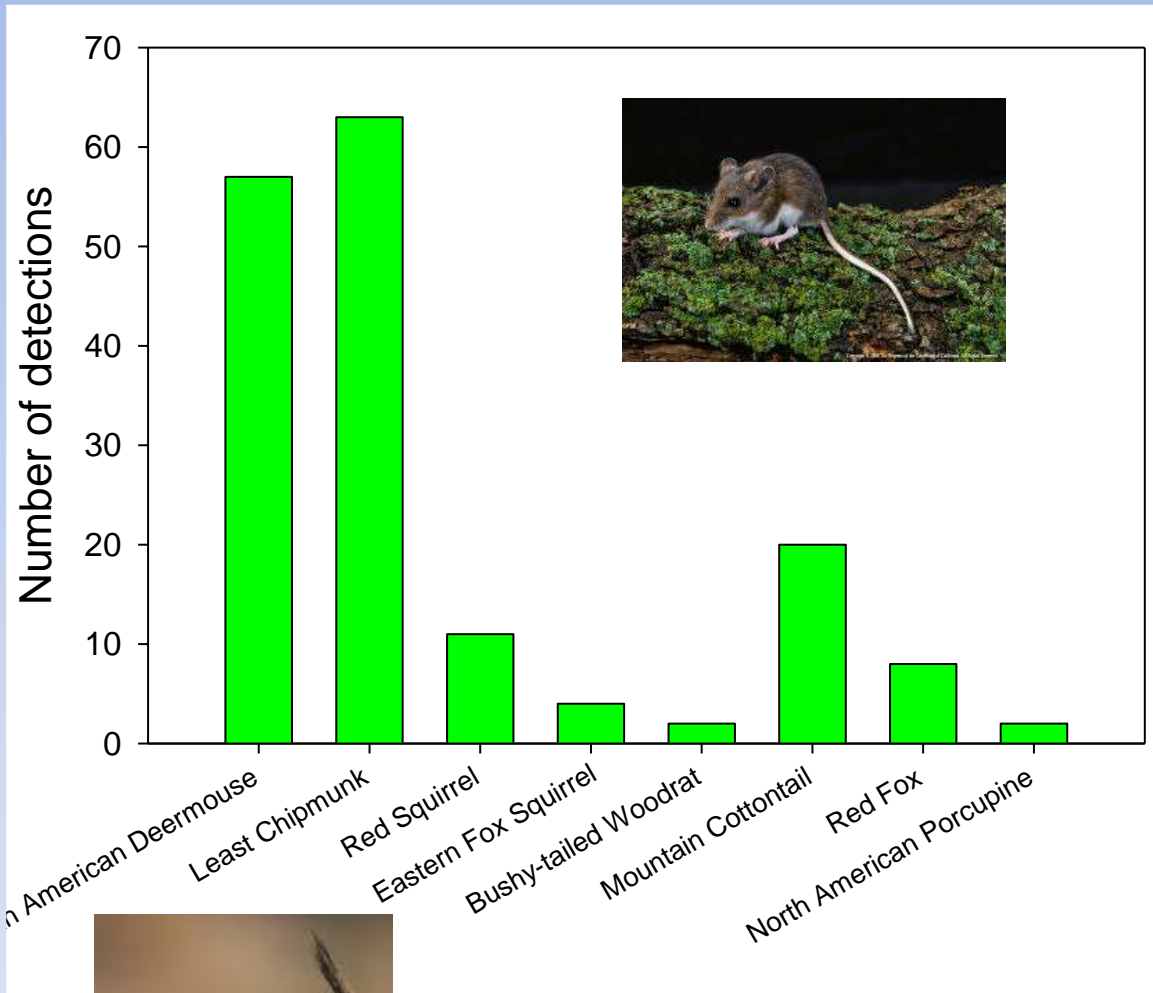


Results



Bird detections were relatively low, with a prevalence of American Robin. Most bird detections occurred in the forest.

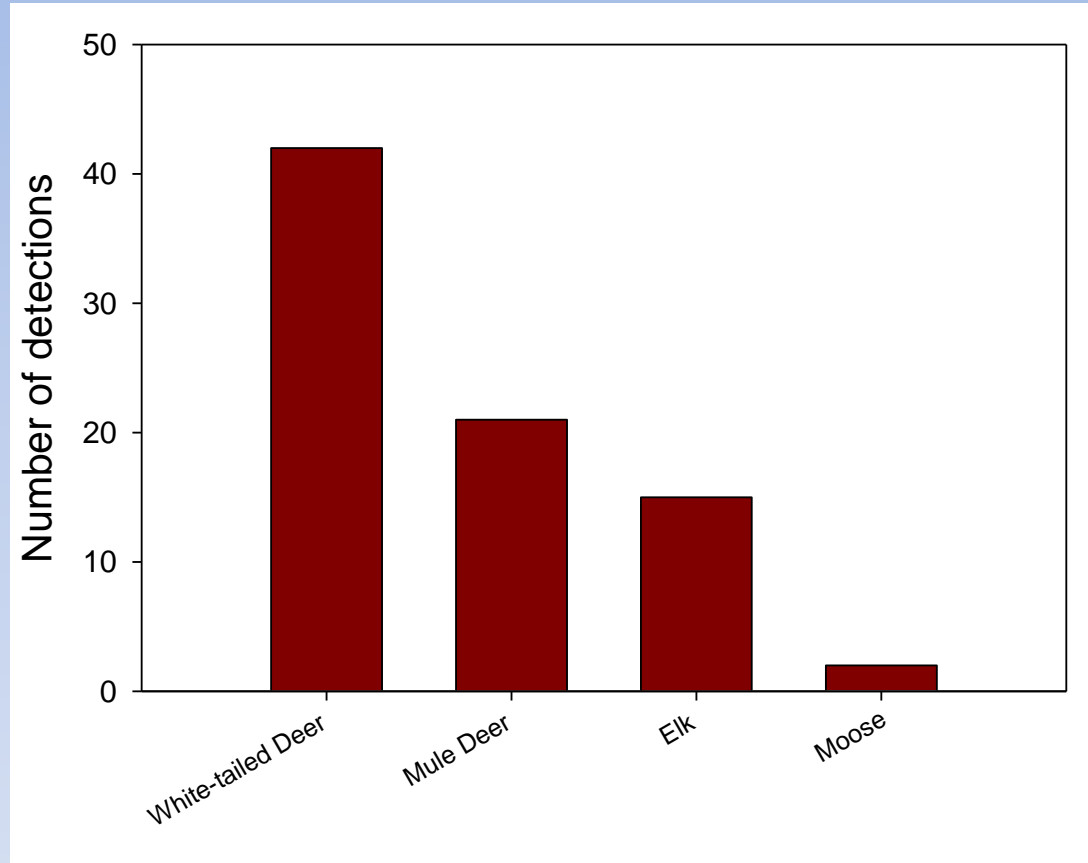
Results



- Small and medium-sized mammal detections were dominated by deermice and chipmunks.
- Tree squirrels were only detected in the forest whereas woodrats were only found in the sagebrush.

Results

- Unexpectedly, the highest number of large mammal detections were of White-tailed deer.
- Most large mammals detection occurred in the forest.



Results

- Most mammals were observed at night. Elk and deer were active in both day and night; Sciurids were diurnal.



Conclusion

- We found that remote cameras are best for large and small mammals.
- For detecting birds we suggest alternate camera placement.
- Future Studies
 - Relation between detections and abundance
 - Behavioral data
 - Effects of bark beetle tree mortality on animals detections



Thanks to:

Department of Zoology & Physiology, University
of Wyoming

Wildlife Ecology Classes 2006-2014

Wyoming NSF EPSCoR

Questions?

