2020 Project Summaries
Boreal Ecosystem Recovery & Assessment
An NSERC Collaborative Research & Development Program

Wildlife Team: ARUs Track Hunting Activity

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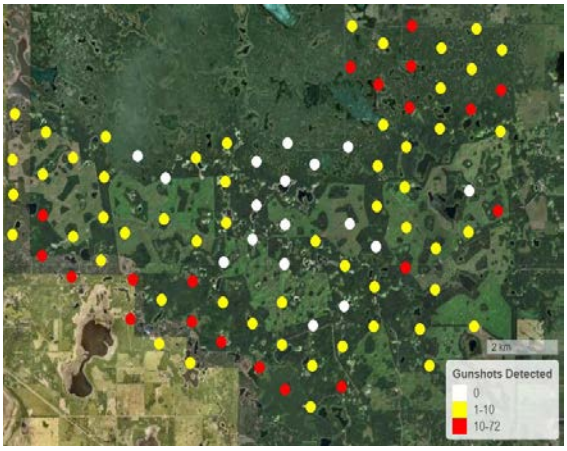
Project Summary

A benefit of using autonomous recording units (ARUs) is that the resulting datasets can be mined for information on a diverse set of questions. In this project, we sought to use ARUs to examine patterns of human hunting activity via the detection of gunshots. We deployed 91 recording units from September to December 2018. We collected and scanned a total of 3 months of continuous data from over 100 locations resulting in >7000 gunshots detected. Detected gunshots were concentrated around the edge of the park, near vehicle-access points. ARUs in the center of our study area and 3 km or more from the access points, detected few or no gunshots. Detailed spatial and temporal analyses are being developed, but this project demonstrates the potential of ARUs for studying the spatial and temporal patterns of hunting.

Management Implications and Lessons Learned

ARUs produce rich datasets that can serve a multitude of different purposes. We were able to extract gunshots from long recordings, and were able to infer that hunting activity declines markedly with increasing distance from a road. These results have implications for understanding the potential impacts on game species due to the creation of new roads, which is ongoing in parts of Alberta. More generally, our methods can be adapted to study any type of anthropogenic noises, in any location. ARUs are being used to generate maps of industrial noise or traffic noise, and to examine the potential impacts of these noises on animals. This approach was tested in order to provide a methodology requested by Oilsands Monitoring Program, who are concerned with interactions between hunting and energy development.



Spatial distribution of gunshot detections in Cooking Lake-Blackfoot Provincial Recreation Area. Vehicle access points are at the west, south, and northeast of the park.

Publication(s)

A publication of this work is planned to be prepared in fall/winter of 2020/2021.