Sooke Hills Wildlife Monitoring Project
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Background

• As human populations increase globally, the interface of human-wildlife interactions become more expansive.
• Recognition of human-animal interactions will provide important information about the management of outdoor recreation spaces.
• Observations about human-animal interactions may be able to help delineate if outdoor recreation activities are having a negative effect on wildlife habitats and corridors.

Objectives

• Identify hotspots of habitats and corridor use by all wildlife.
• Measure the effect of human recreation use on the habitats and corridors.
• Develop models to analyse both human and wildlife movement in response to the potential and projected human outdoor recreation activities.

Methods

50 motion detection cameras (camera traps) were placed throughout the Sooke Hills Wilderness Area as well as the Greater Victoria Water Supply Area at the beginning of August, 2021.

Each of these 50 camera traps require semi-regular visits every few months to replace SD cards and batteries, as well as to ensure there are no malfunctions.

The images with blurred faces are then imported into a specialized tagging software, where each image can be manually checked for humans, deer, bears, etc.

The software then exports all of the information present in the images into a .csv file, which can be analysed using R programming.

The images are then exported to a dedicated blurring software, which pixilates any human that is captured by the cameras to retain their privacy.

The used SD cards are brought to the lab and uploaded to a remote storage server, and further organized by date and camera number.

Preliminary Results

• After running a very preliminary activity pattern analysis (APA) for humans and black deer, there are already some trends which can be seen.
• From this small sub-sample taken from a singular camera (SH6), temporal partitioning of diet and recreationalist activities are already being clearly demonstrated. (Figure 4)
• This trend can also visually be seen while tagging images, as most animal activity is seen during the early mornings and late nights.
• The coefficient of overlap is 0.0017, which mean the overlap of deer to people in this specific location is less than 1%.
• Looking to the small grey area of Figure 4, the only likely time an individual in the wilderness area would spot a deer at this location would be at around 6pm, as recreational activities are ending for the day.

Future Work

As analysis of available images continues, some further analysis will be possible:

• Evaluation of trail use and movement of both humans and wildlife.
• Identification of specific habitats and areas of interest for wildlife.
• Ability to identify and track individual wildlife with repeated sightings.
• 10 cameras still require future visits.

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