

# Sooke Hills Wildlife Monitoring Project

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## Background

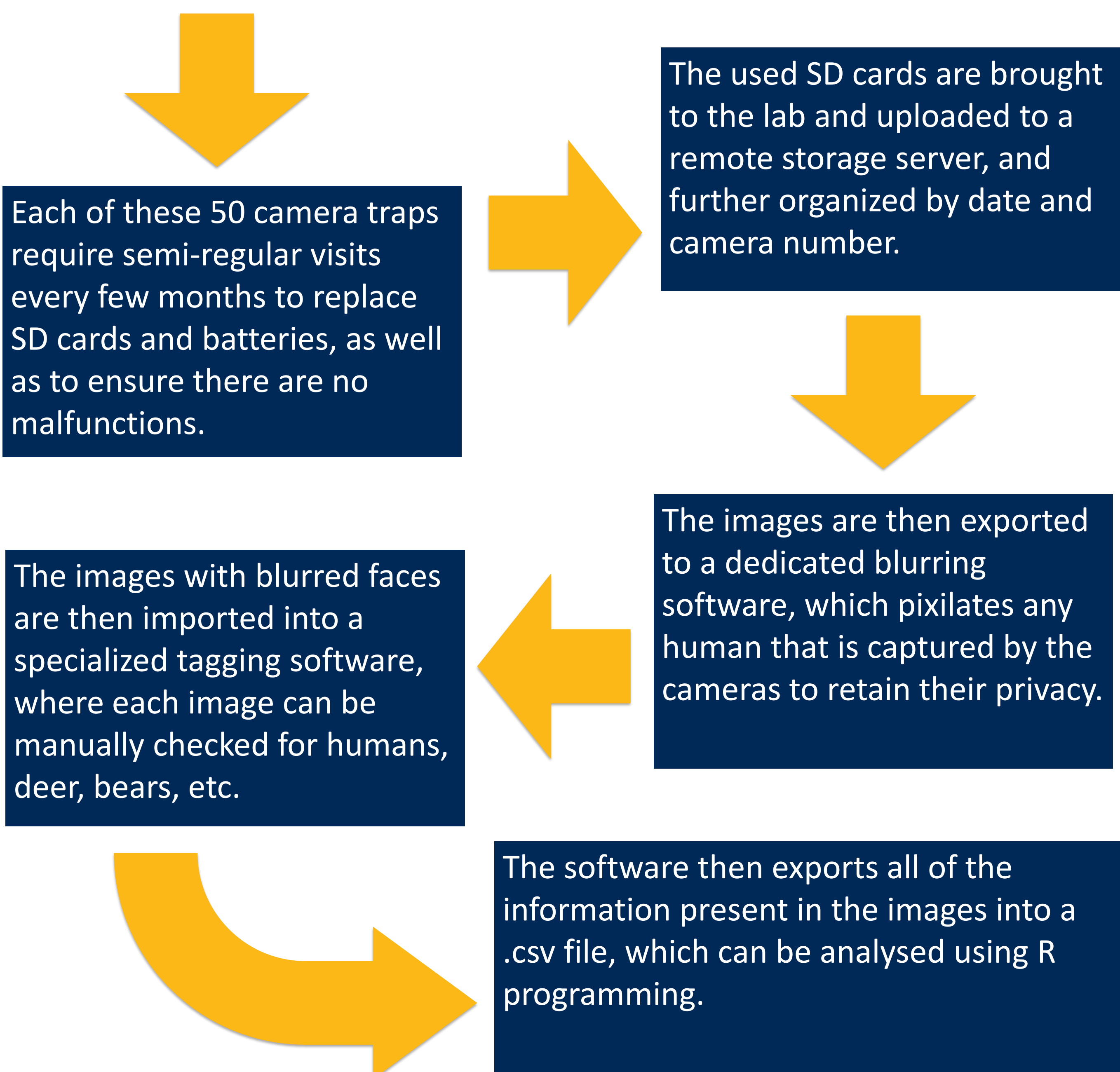
- As human populations increase globally, the interface of human-wildlife interactions become more expansive.
- Recognition of human-animal interactions will provide important information about the management of outdoor recreation spaces.
- Observations about human-animal interactions may be able to 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.



## 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.



Figure 1 – Camera SH48 capturing two elk fighting



Figure 2 – Camera SH6 capturing a black bear at night

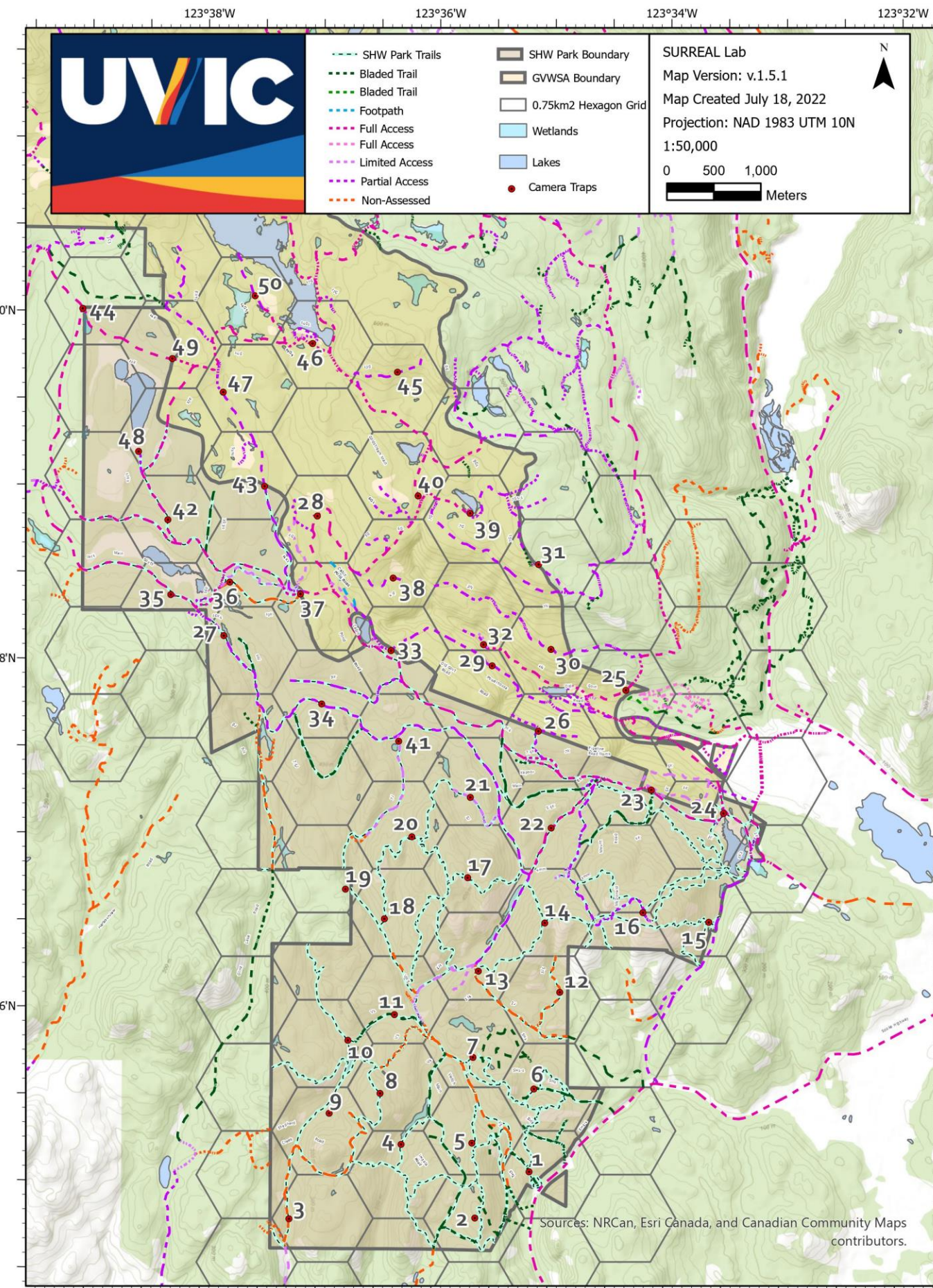


Figure 3 – Map of camera locations

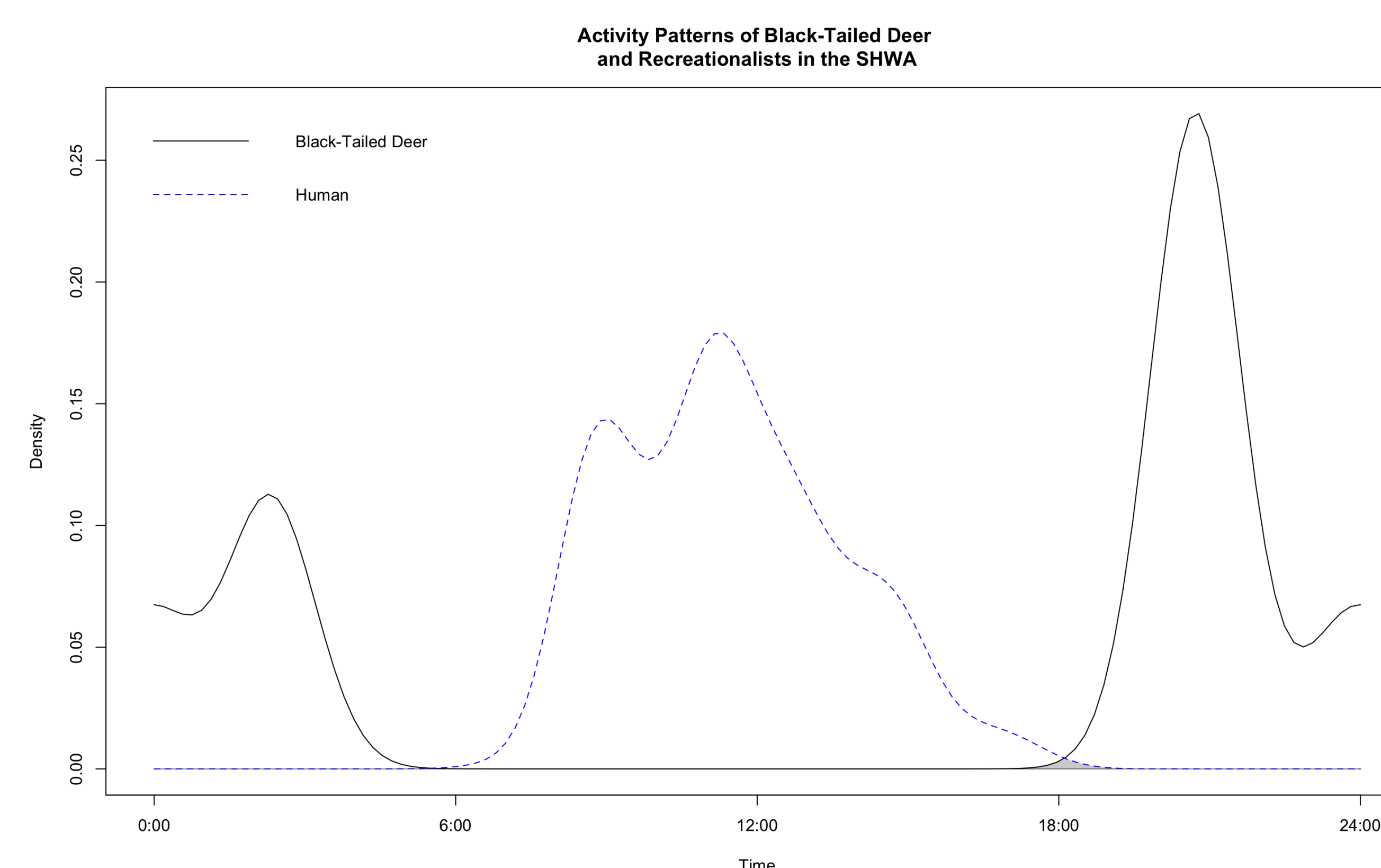


Figure 4 – Camera SH6 with an overlap of 0.0017 from a sample size of 28 deer and 312 humans.



Figure 5 – The motion detection cameras used.



Figure 6– Sooke Hills Wilderness Area.

## 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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