Summary of camera trap data, SAGW, 2022

2023-05-26

# Effort

Going to start by running: source(“src/functions.R”) source(“src/photo-data/format-mammal-data.R”)

Then using code from photo-data/summarize-deployments-photos.R:

Information about when cameras were deployed and retrieved, regardless of how we delineate sampling occasions

Text with information about sampling occasions (number, dates for each)

Include a figure with camera deployment information, with sampling occasions. Use existing code to create the plot with horizontal lines for each camera. Add vertical lines to denote sampling occasions. Then save/print (using NPS formatting?)

# Detections

Table with detection summaries

* row for each species detected (common and scientific names)
* number of photos, detections (max of one per day or sampling period per location). If we want the number of photographs (so can have multiple on same day at same place), then can use count(dat[], Species\_code). This is what they included in reports previously. Alternatively, could report the number of detections, limiting it to one per day at each location (need to calculate). Or the nubmer of detections, limiting it to one per occasion at each location (what’s currently in the detects dataframe).
* number of locations
* detection rate (denoting for which species we ran occupancy model). Rate = if each sampling occasion at a particular location is an opportunity for a detection, it’s the proportion of these opportunties (occasion\*location) with a species detection

# Modeling approach

Occupancy models

* types of data used
* parameters estimated

spOccupancy package (that uses a Bayesian framework)

Model selection

* what covariates were considered (i.e., candidate model set)
* how a model for inference was selected

# Species 1 (create species sections in a loop since the number of species will change across parks and years?)

## Model used for inference

Brief description

Table with parameter estimates (along with generic caption)

Example:

summary(cars)

## speed dist   
## Min. : 4.0 Min. : 2.00   
## 1st Qu.:12.0 1st Qu.: 26.00   
## Median :15.0 Median : 36.00   
## Mean :15.4 Mean : 42.98   
## 3rd Qu.:19.0 3rd Qu.: 56.00   
## Max. :25.0 Max. :120.00

## Estimated occurrence probabilities

Map

## Estimated covariate effects on occurrence and/or detection probabilities

Figures with captions. Example:

