Summary of camera trap data, SAGW, 2022

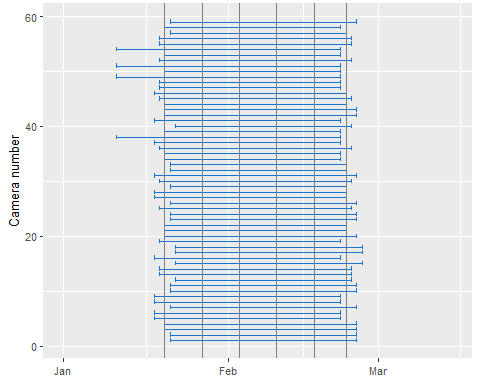
2023-06-05

# Effort

A total of 59 cameras were deployed in SAGW between 2022-01-11 and 2022-01-22, and were retrieved between 2022-02-22 and 2022-02-26. We delineated a total of 5 sampling occasions that were each 7 days long.

| Occasion | Start | End |
| --- | --- | --- |
| 1 | 2022-01-20 | 2022-01-26 |
| 2 | 2022-01-27 | 2022-02-02 |
| 3 | 2022-02-03 | 2022-02-09 |
| 4 | 2022-02-10 | 2022-02-16 |
| 5 | 2022-02-17 | 2022-02-23 |

In the figure below, each horizontal blue line represents a camera deployment. The gray vertical lines denote the beginning and end of the 5 consecutive sampling occasions.



# Detections

We detected a total of 11 mammal species on the 59 cameras during the 5 sampling occasions. For each species, we present the total number of photographs obtained (multiple photos may occur at the same camera location in the same day), the number of detections to be used in an occupancy modeling framework (maximum of one detection per location per sampling period), and unique number of camera locations where the species was photographed.

Table 2. Mammal photographs obtained from 59 remote cameras at Saguaro National Park - Tucson Mountain District, January 20 - Feb 23, 2022

| Common name | Scientific name | No. photos | No. detections | No. locations |
| --- | --- | --- | --- | --- |
| Javelina | *Peccary tajacu* | 685 | 53 | 26 |
| Mule deer | *Odocoileus hemionus* | 548 | 68 | 36 |
| Black-tailed jackrabbit | *Lepus californicus* | 191 | 36 | 15 |
| Coyote | *Canis latrans* | 188 | 68 | 31 |
| Gray fox | *Urocyon cinereoargenteus* | 170 | 67 | 31 |
| Desert cottontail | *Sylvilagus audubonii* | 117 | 56 | 21 |
| Unknown jackrabbit | *Lepus sp.* | 113 | 31 | 12 |
| Bobcat | *Lynx rufus* | 48 | 23 | 15 |
| Feral dog | *Canis familiaris* | 9 | 3 | 2 |
| American badger | *Taxidea taxus* | 3 | 3 | 3 |
| Unknown skunk | *Mephitidae* | 1 | 1 | 1 |

# 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)

## Estimated occurrence probabilities

Map

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

Figures with captions.