

Bait Presentation for Camera Studies: 2016 in Bowling Alley 2016 & 2017 Mescal Wildlife Sanctuary

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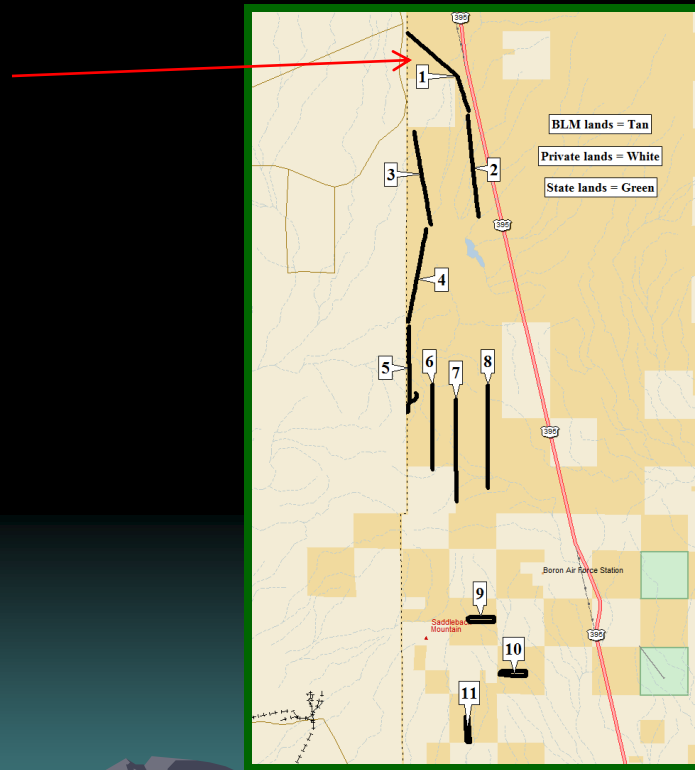
Cell: (760) 964-0012



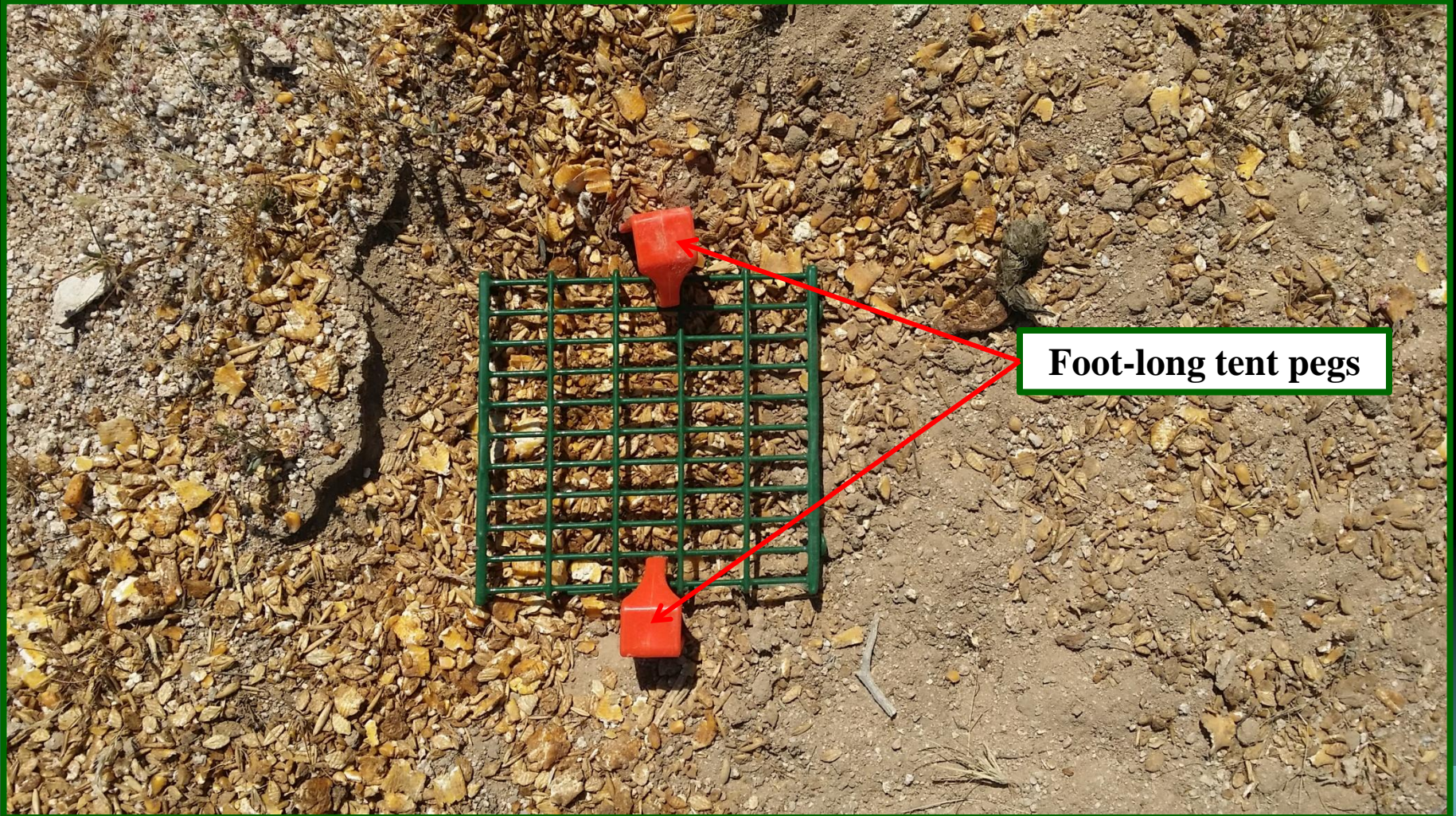
Bowling Alley

Grid 1 = 10 Cameras

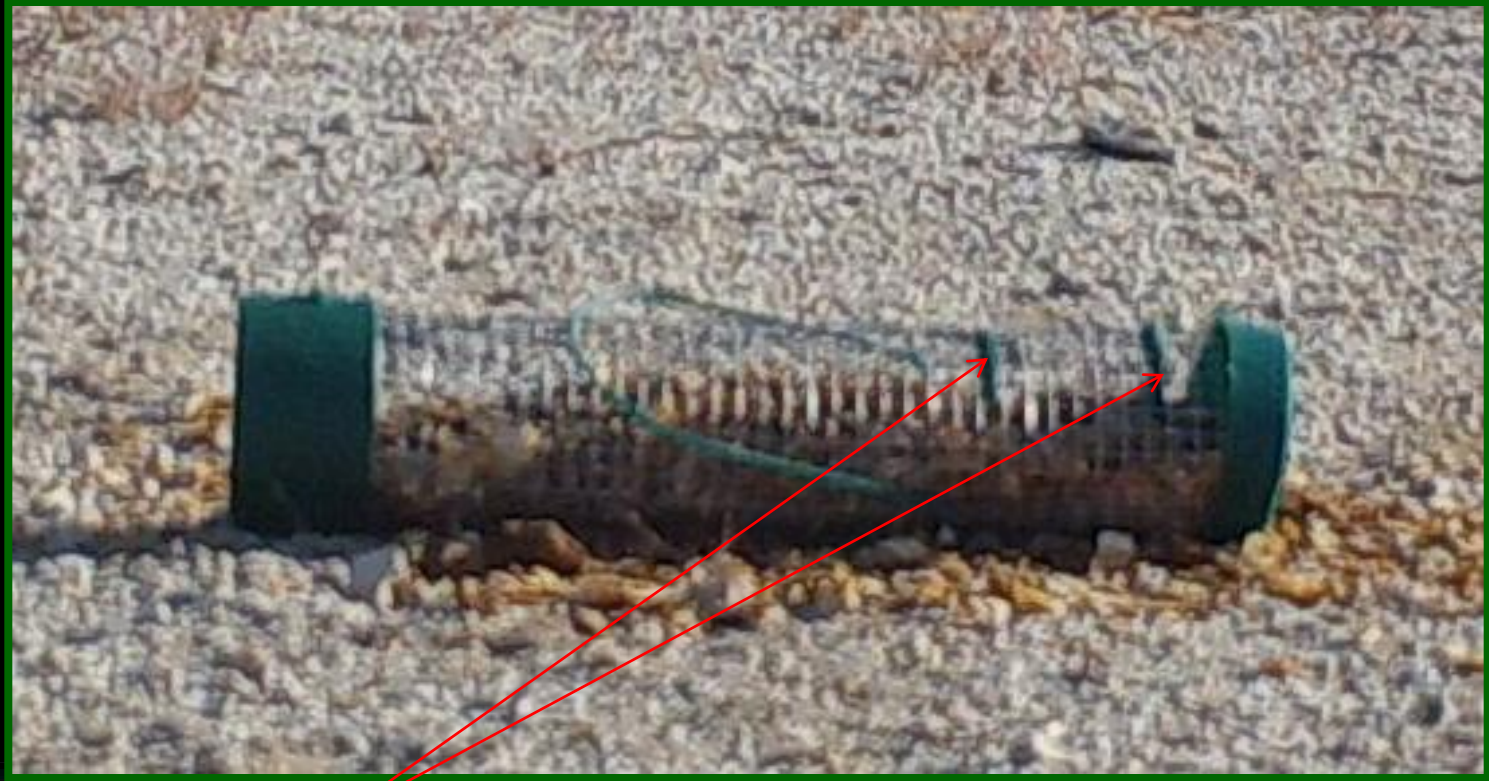
May 5-10, 2016



Close-up of suet cage



Close-up of bird feeder

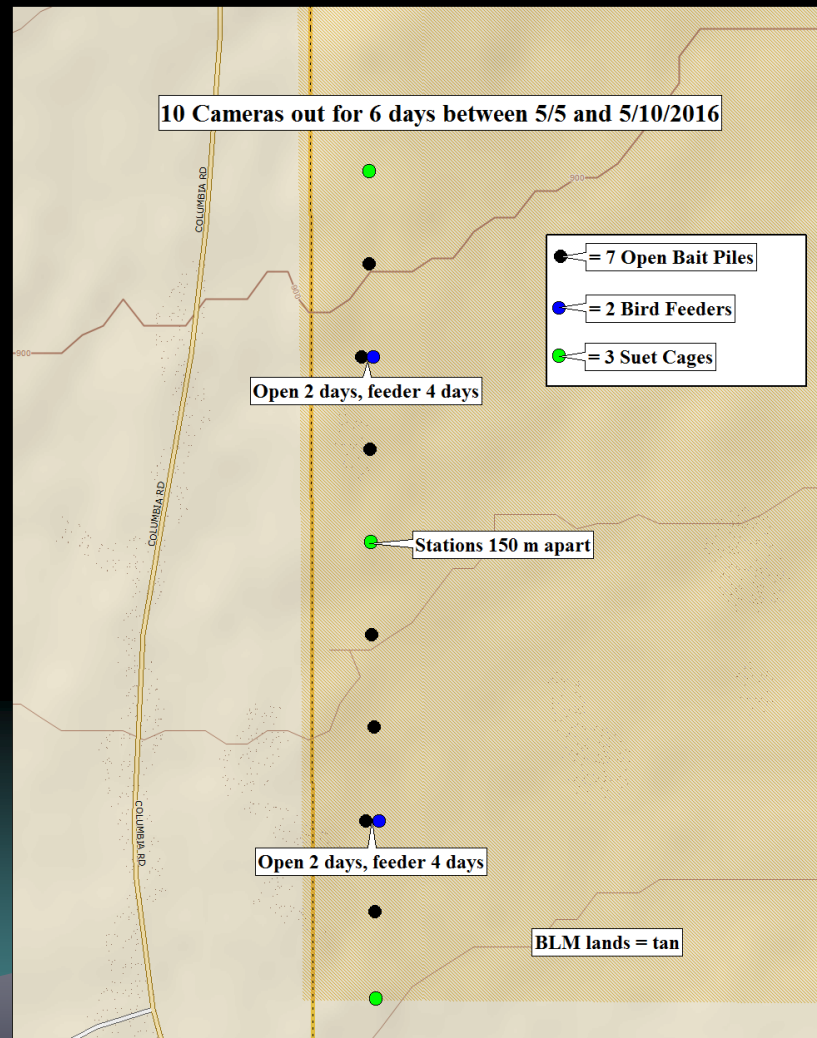


Pegged to ground and with end caps



Camera
set-up
with
suet cage

Staggered placement of bait piles, bird feeders, and suet cages



Camera 1



Suet Cage: 25 raven images on 2 visits
(Same visit if images are ≤ 3 minutes apart
Cameras set to take five images at a time)

Camera 1



2 visits on 5/6/2016 @ 10:12 & 18:15:
Closest encounter; no eating

Camera 2



Open bait pile: 53 images on 6 visits,
on May 5, 6, & 7 @ ±09:30 & 18:15

Camera 3



Open bait pile on 5/5-5/6/2016;
5 images of 1 visit on 5/5/2016 at 18:24

Camera 3

Bird feeder 5/7 to 5/10/2016



No ravens visited bird feeder

5/8/2016



End caps still in place at 08:44

5/8/2016



End caps dislodged at 19:05

5/9/2016 @ 05:14



Kit foxes were common but did not remove
either bird feeders or suet cages

They did however...



Would marking deter rodent use?

5/9/2016 @ 19:03



26.77 inHg ↑ 75°F 05/09/2016 07:03PM CAMERA3

5/10/2016 @ 08:07



Cleaned out one end, now inside

5/10/2016 @ 08:22



Now digging under cage to release bait

Camera 4

- Open bait pile
- 10 images of 2 raven visits:
 - 1st raven at 18:45 on May 5th
 - 2nd raven at 18:53 on May 9th
 - Actively eating grain and peanut butter



Camera 5

- Bait in suet cage
- 11 images of 2 raven visits:
 - At 09:50, 15:28 both on 5/5/2016
 - No actual feeding observed



Camera 6

- Open bait pile
- 66 images of 7 raven visits:
 - May 5th = 4 visits: 06:43, 06:53, 12:31, 18:08
 - May 7th = 1 visit: 18:32
 - May 9th = 2 visits: 18:20, 18:56
 - Actively eating grain and peanut butter



Camera 7

- Open bait pile
- 20 images of 4 raven visits:
 - May 5th = 3 visits: 06:33, 12:15, 18:13
 - May 8th = 1 visit: 06:35
 - Actively eating grain and peanut butter



Camera 7



Camera 8

- Open bait pile May 5 & 6
20 images of 3 visits on May 5, actively eating grain and peanut butter:
 - May 5th = 3 visits: 12:35, 15:09, 18:16
- Bird feeder May 7 through 10
1 image of 2 ravens on May 10
 - One raven visit on May 10th, no feeding



Camera 8



Two ravens at feeder on May 10th @ 07:08
but do not feed (in spite of peanut butter)

Camera 9

- Open bait pile
- 88 images of 9 raven visits:
 - May 5th = 3 visits: 11:55, 12:05, 14:53
 - May 7th = 1 visit: 14:27
 - May 8th = 2 visits: 09:00, 11:20
 - May 9th = 2 visits: 08:27, 19:01
 - May 10th = 1 visit: 0700
 - Feeding common



Camera 10

- Bait in suet cage
- 7 images of 1 raven visit:
- One raven visit on 5/5/2016 at 18:08
- No actual feeding observed



Camera 10



Closest image to bait; appears “suspicious?”

Camera 10



On 5/10, AGS undermines cage for bait

Summary of Raven Photos

| <u>#</u> | <u>Type</u> | <u># Images</u> | <u># Visits</u> | <u>Feeding?</u> |
|----------|-------------|-----------------|-----------------|-----------------|
| 1 | Suet | 25 | 2 | No |
| 2 | Open | 53 | 6 | Yes |
| 3 | Open 2 days | 5 | 1 | Yes |
| 3 | Cage 4 days | 0 | 0 | No |
| 4 | Open | 10 | 2 | Yes |
| 5 | Suet | 11 | 2 | No |
| 6 | Open | 66 | 8 | Yes |
| 7 | Open | 20 | 4 | Yes |
| 8 | Open 2 days | 20 | 3 | Yes |
| 8 | Cage 4 days | 1 | 1 | No |
| 9 | Open | 88 | 9 | Yes |
| 10 | Suet | 7 | 1 | No |

Mescal Wildlife Sanctuary

Trapped in 2016

- 5 camera stations trapped by Sharon Dougherty from 4/27 to 5/2/2016
- With following results:
 - #1 = 51 images of 6 raven visits
 - #2 = 85 images of 9 raven visits
 - #3 = 60 images of 10 raven visits
 - #4 = 21 images of 3 raven visits
 - #5 = 64 images of 9 raven visits



Mescal Wildlife Sanctuary

Trapped 4/27 to 5/2/2016

#1 = 51 images of 6 visits:

4/30 14:21, 17:50, 18:08, 18:25, 18:49; 5/1 06:10 (morning)

#2 = 85 images of 9 visits:

4/30 14:29, 14:38, 14:52, 15:06, 15:19, 16:08, 16:16, 16:49;
5/1 07:45

#3 = 60 images of 10 visits:

4/29 15:47; 4/30 15:37, 15:44, 15:55, 16:04, 16:20, 16:29,
16:45, 17:47; 5/1 09:27

#4 = 21 images of 3 visits:

4/30 15:01, 15:12, 15:32

#5 = 64 images of 9 visits:

4/27 13:45; 4/29 15:49; 4/30 15:57, 16:51, 16:58, 17:17,
17:57, 19:10; 5/1 09:09 [4 of 37 (11%) morning visits]

Bowling Alley

Trapped 5/5 to 5/10/2016

#1 = 25 images of 2 visits:

5/6 10:11 and 18:15

#2 = 53 images of 6 visits:

5/5 18:27; 5/6 09:16, 09:31, 15:19, 18:12; 5/7 09:32

#3 = 5 images of 1 visit:

5/5 18:24

#4 = 10 images of 2 visits:

5/5 18:22; 5/9 18:53

#5 = 11 images of 2 visits:

5/5 09:50, 15:28



Bowling Alley

Trapped 5/5 to 5/10/2016

#6 = 66 images of 8 visits:

5/5 06:43, 06:54, 12:31, 18:08; 5/7 18:32; 5/9 18:20, 18:23, 18:56

#7 = 20 images of 4 visits:

5/5 06:33, 12:15, 18:13; 5/8 06:33

#8 = 21 images of 4 visits:

5/5 12:34, 15:09, 18:16; 5/10 07:08

#9 = 88 images of 9 visits:

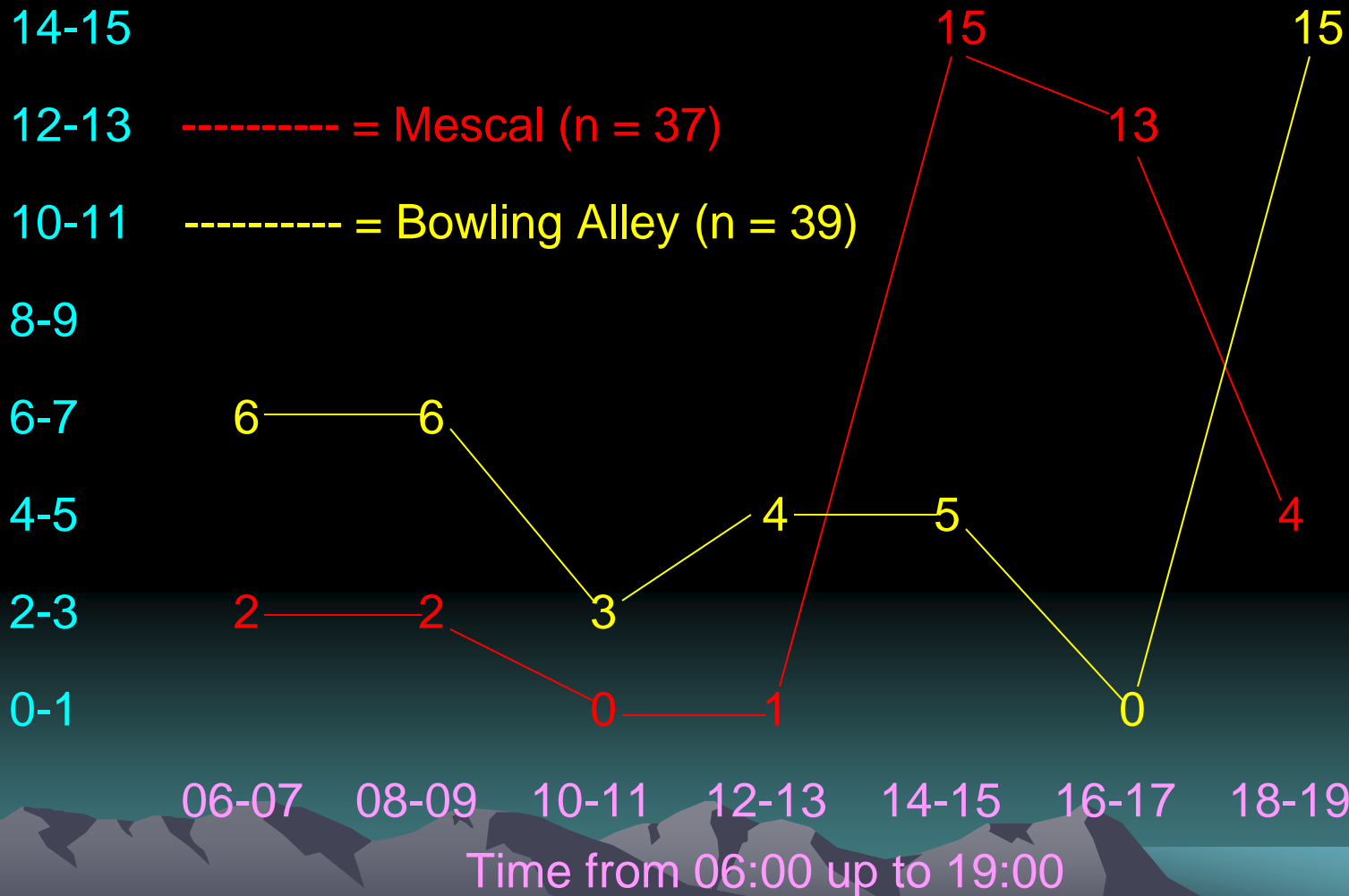
5/5 11:53, 12:06, 14:53; 5/7 14:27; 5/8 09:00, 11:20; 5/9 08:27, 19:01; 5/10 07:00

#10 = 7 images of 1 visit:

5:5 18:08 [13 of 39 (33%) visits in the morning]



Frequency of Raven Visits



Bowling Alley versus Mescal Wildlife Sanctuary both in 2016

- Bowling Alley = 306 images of 39 visits
- 10 cameras, so $\bar{X} = 30.6$ images of 3.9 visits
- Mescal = 281 images of 37 visits
- 5 cameras, so $\bar{X} = 56.2$ images of 7.4 visits



Mescal Wildlife Sanctuary

February 2017

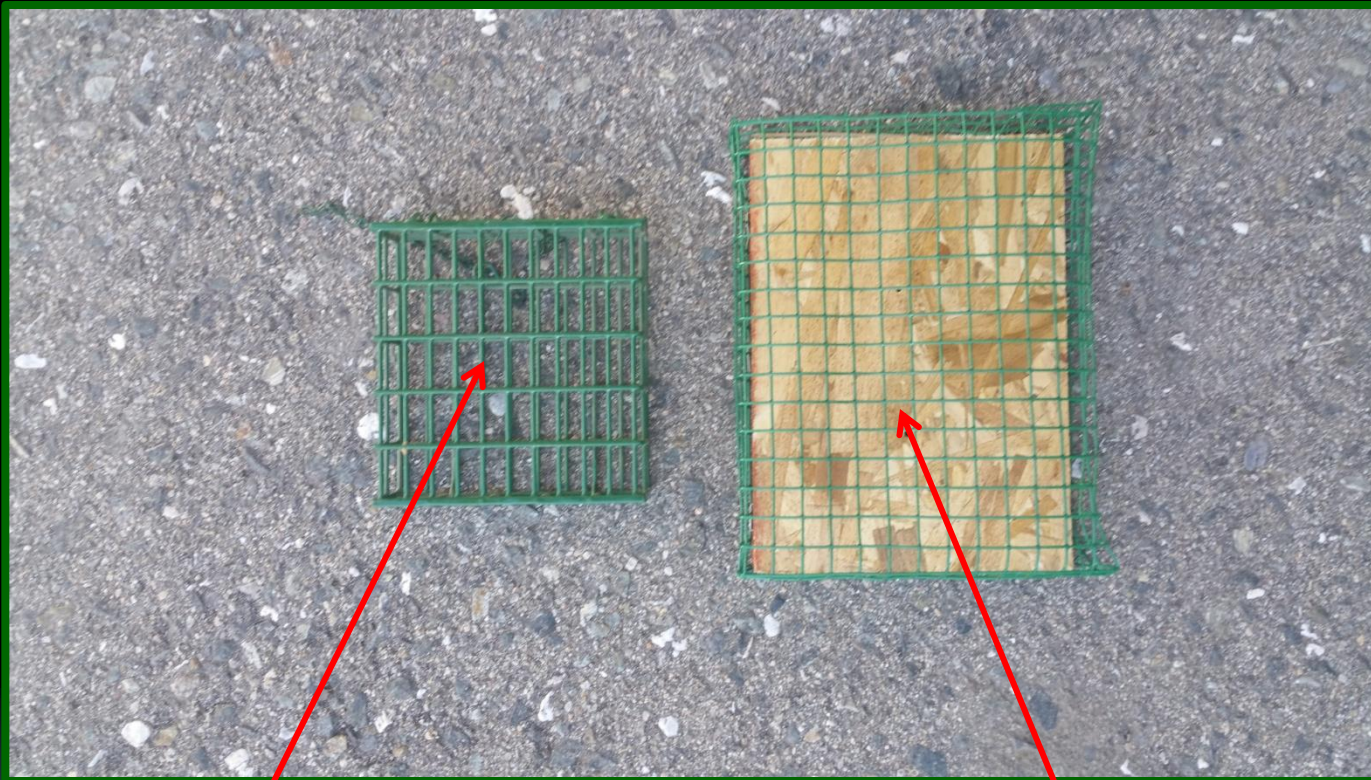


Schedule and Results

- 2/4/2017: 5 cameras in wire cages
- 2/10/2017: 90% bait removed; replenished; 1 raven image; are ravens common?
- 2/11/2017: Add five open bait piles
 - 90% bait removed from cages; 2 raven images
 - All bait removed from piles; ravens at all piles
- 2/12-2/17/17: Wire boxes replace cages (no ravens) and open bait piles present (ravens at all piles)



2017 modify suet cage to have wooden base to prevent rodent undermining



2016 = 1 x ½" Suet Cage

2017 = ½ x ½" Wire Cage

Suet cage with wooden bottom,
partially buried, with 12" central dowel





Suet cage on
top of soil

2 buried
1 partially buried
2 on top of soil

2/4/2017 to 2/10/2017 = 830 images,
this is only raven image:



But bait 90% depleted overnight

Typical scenario where nocturnal rodents
remove 90% of bait on the 1st night



Several nice shots!



On 2/12 replace cages with boxes and
add 5 open bait piles through 2/17



No bait removed from wire boxes after six days



Boxed bait on 2/12/2017





Boxed bait on 2/17/2017


Best to bury boxes as 3" height obscures some AGS images


Still seeking bait on sixth day

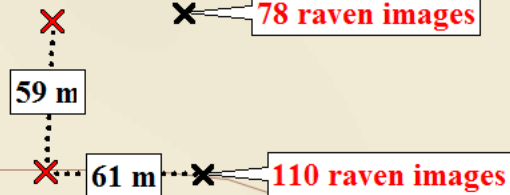


Raven Observations

From 2/11 to 2/17 two raven images in 4,819 photographs  52 m  53 raven images at bait pile from 2/12 to 2/17

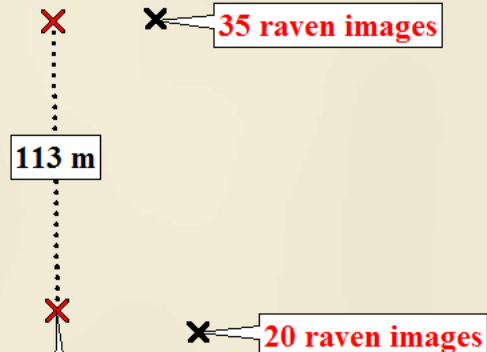
 = 5 wire cages and boxes

 = 5 open bait piles



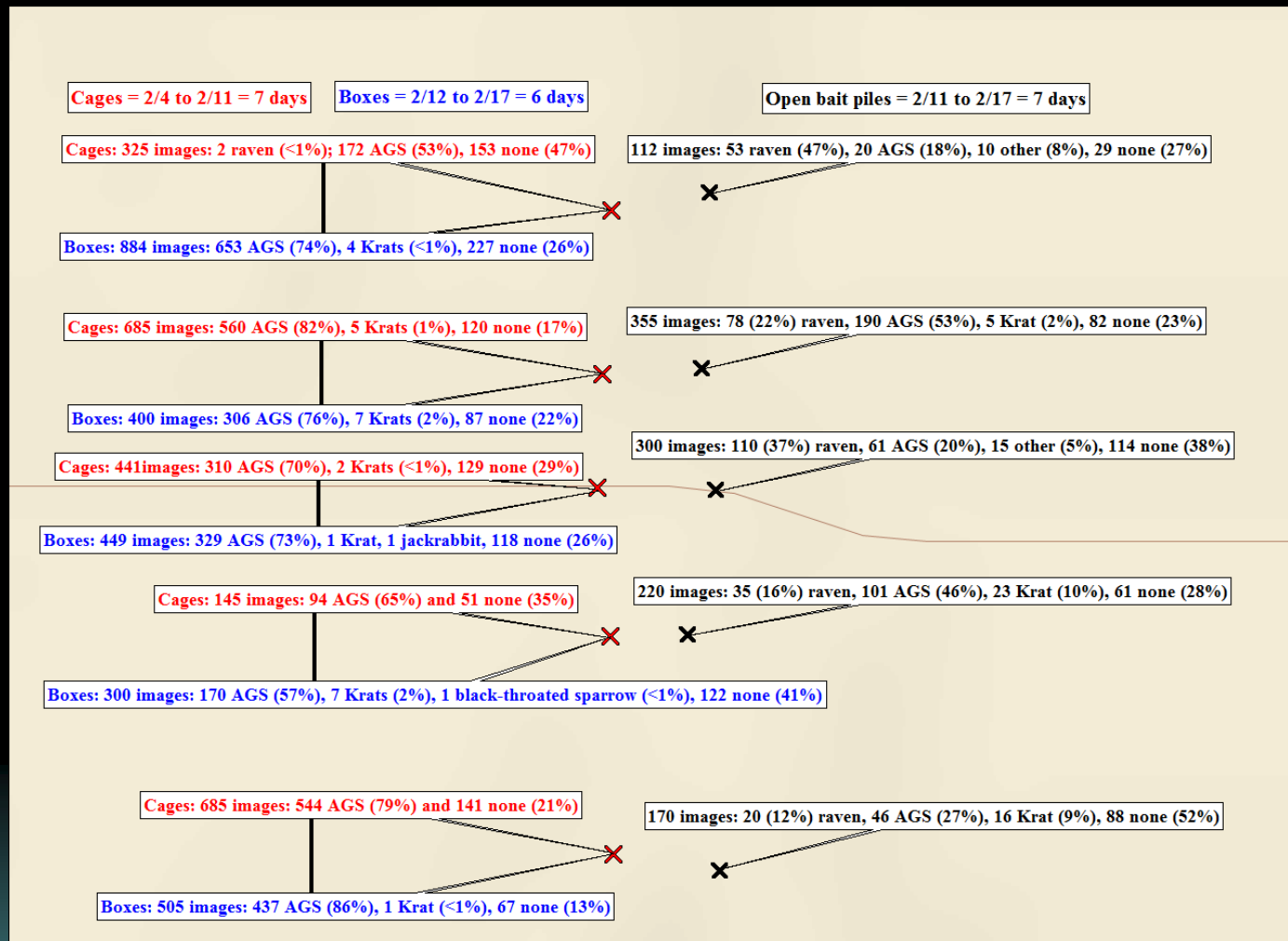
Station Numbers

| | |
|---|----|
| 1 | 6 |
| 2 | 7 |
| 3 | 8 |
| 4 | 9 |
| 5 | 10 |



From 2/4 to 2/10 one raven image in 830 photographs

All Observed Images



Summary Statistics

- **Cages** = 7 days, 2281 images
2 raven, 1680 AGS, 7 other, 594 none
<1% 74% 0.3% 26%
- **Boxes** = 6 days, 2538 images
0 raven, 1895 AGS, 21 other, 621 none
0% 75% 0.8% 24%
- **Bait pile** = 7 days, 1157 images
296 raven, 418 AGS, 69 other, 374 none
26% 36% 6% 32%

2017 Plans

