DRAFT: Modelling occurrence of mule deer, feral horses and mountain lions in NW Nevada

DRAFT

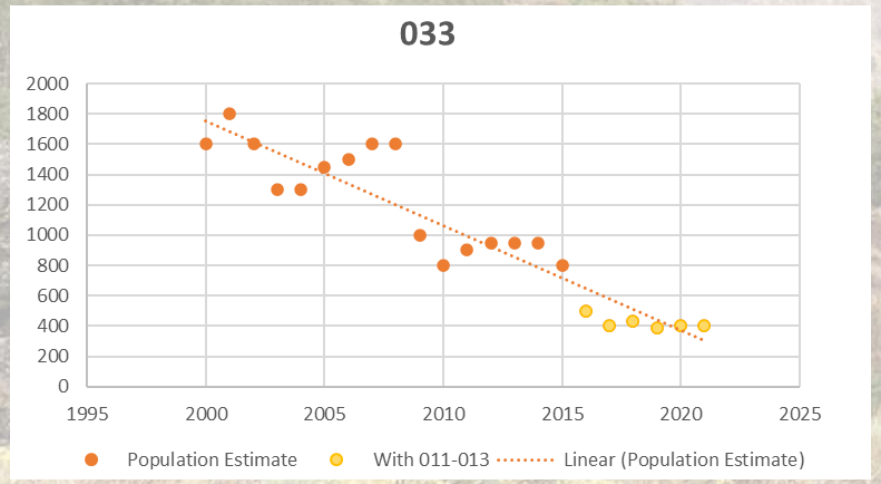
Project 46 update

Dr. Sean Sultaire, Dr. Robert Montgomery, Dr. Joshua Millspaugh

UNIVERSITY OF OXFORD

UNIVERSITY OF MONTANA

Project 46: NW NV Mule Deer



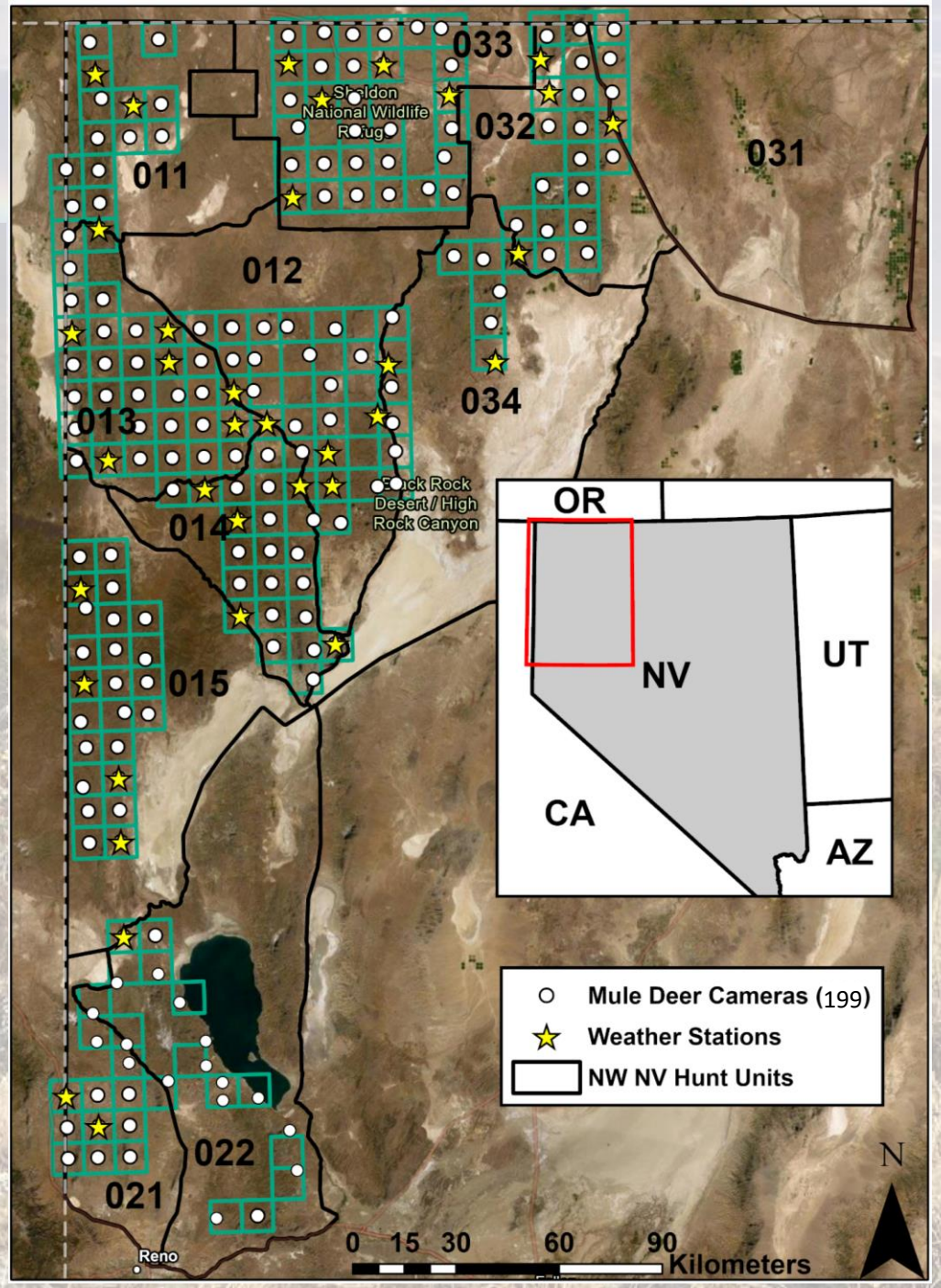
Project 46: NW NV Mule Deer

Use remote data collection methods to:

1) Estimate mule deer abundance in NW Nevada

2) Quantify environmental factors correlated with mule deer occurrence and abundance across the region

-Includes biotic factors (predation/competition)



Bushnell
NVMD128
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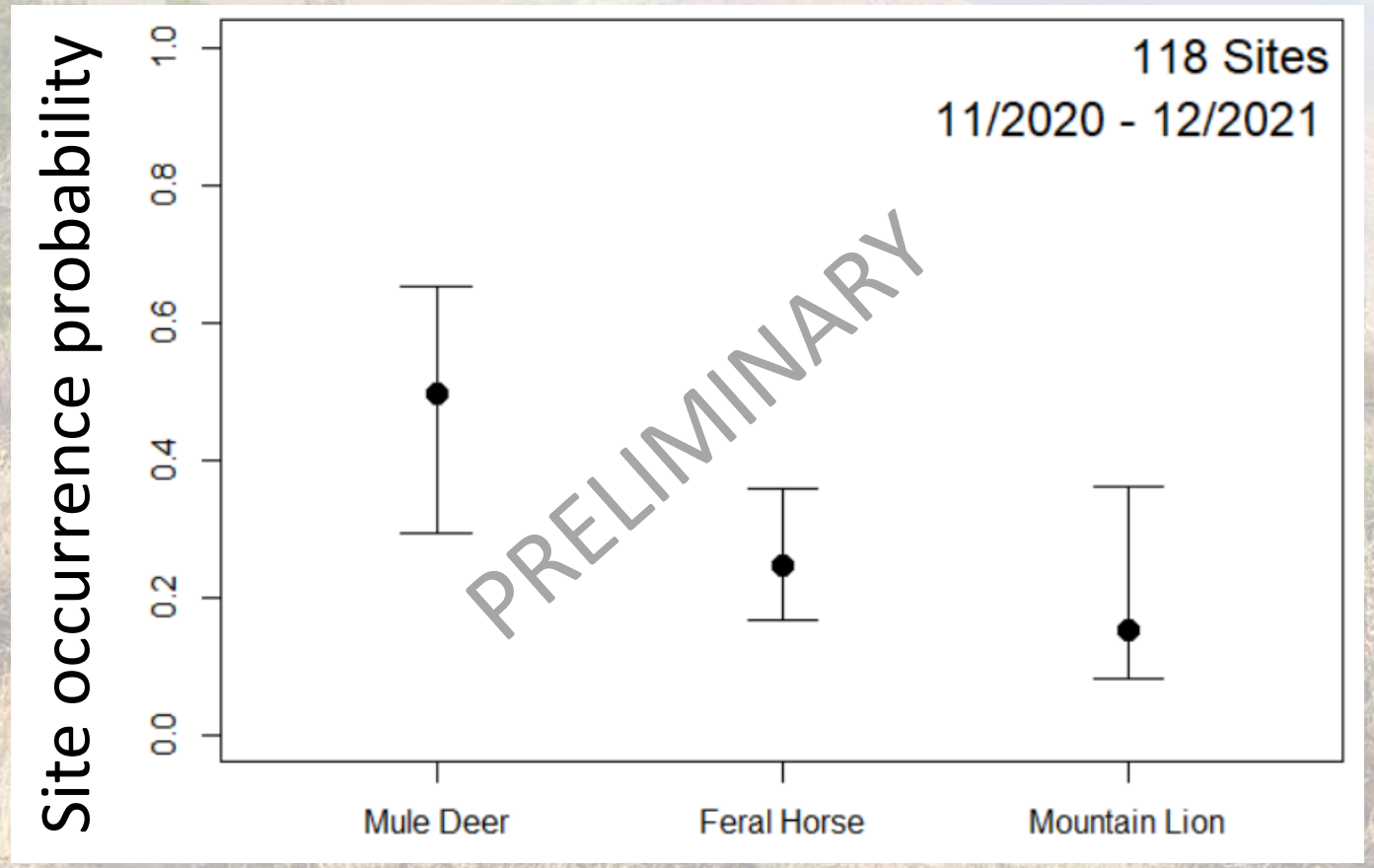
01-08-2021
07:34:25

Bushnell
NVMD095
27°F -2°C
12-29-2020
20:19:40

Bushnell
NVMD113
49°F 9°C
12-10-2020
13:43:33

Probability of site occurrence across species

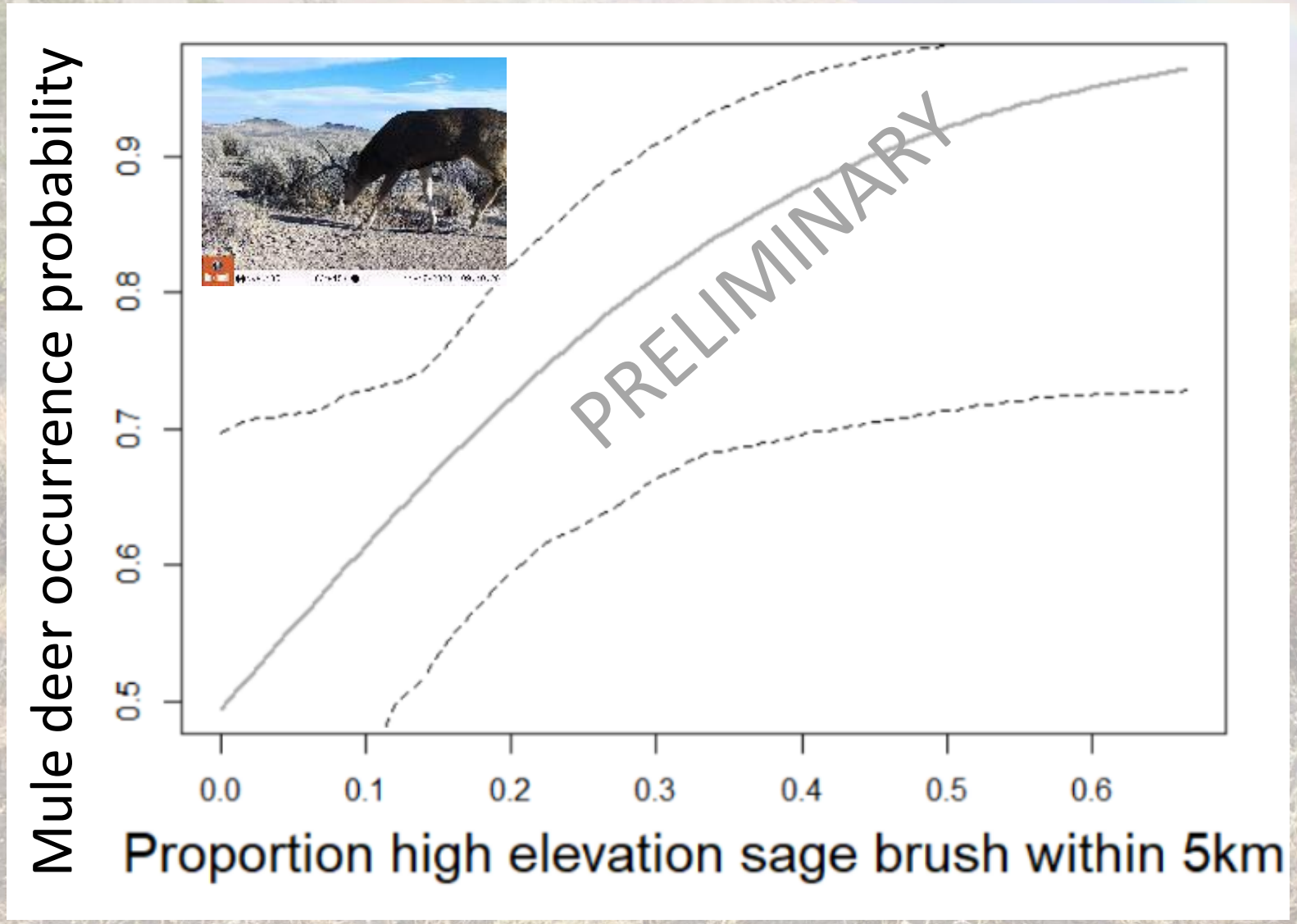


Highest for mule deer

~50% use of camera sites by mule deer

~20% use by feral horses

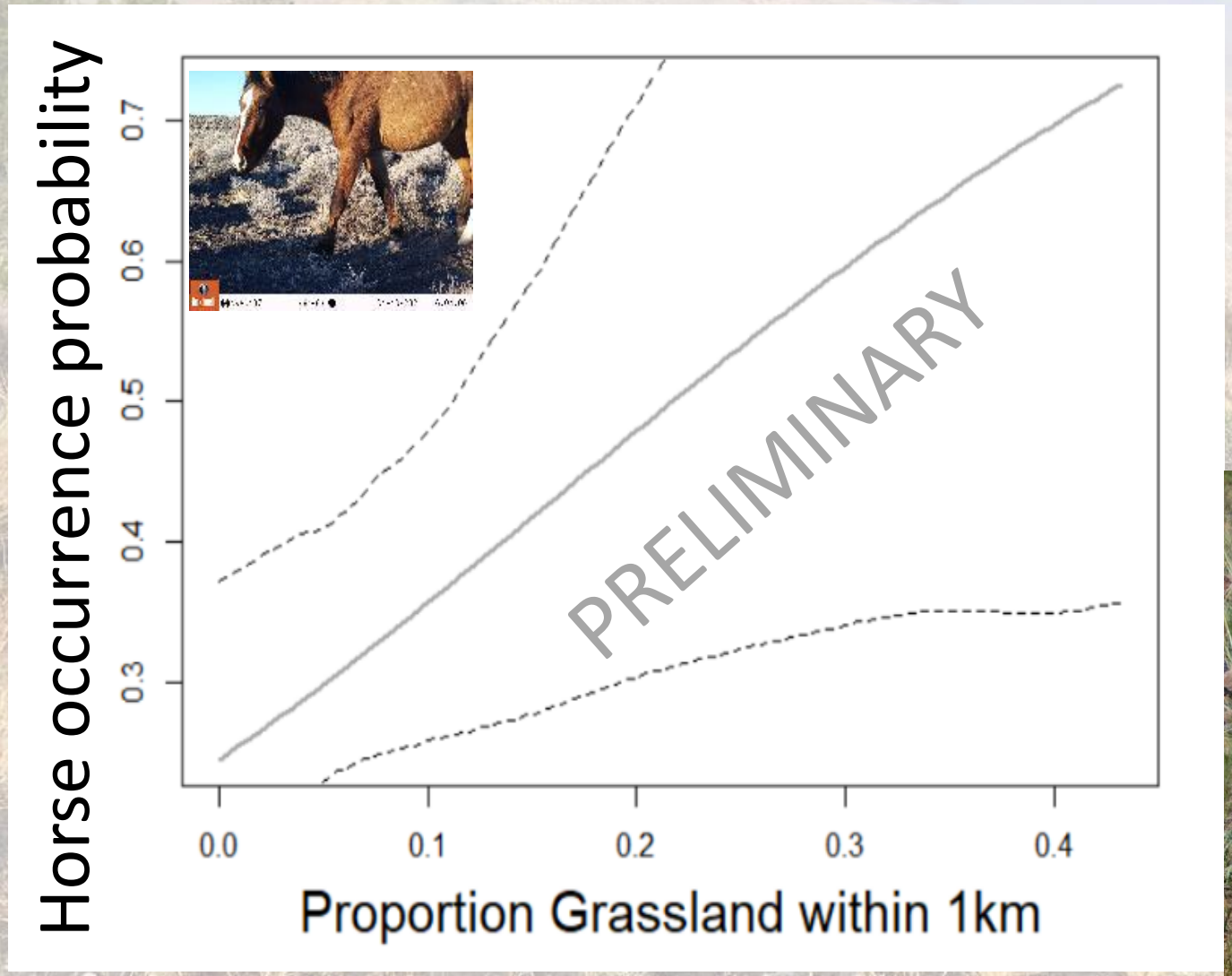
Habitat relationships



Variable most correlated with mule deer occurrence

Higher than proportion sagebrush within 1km

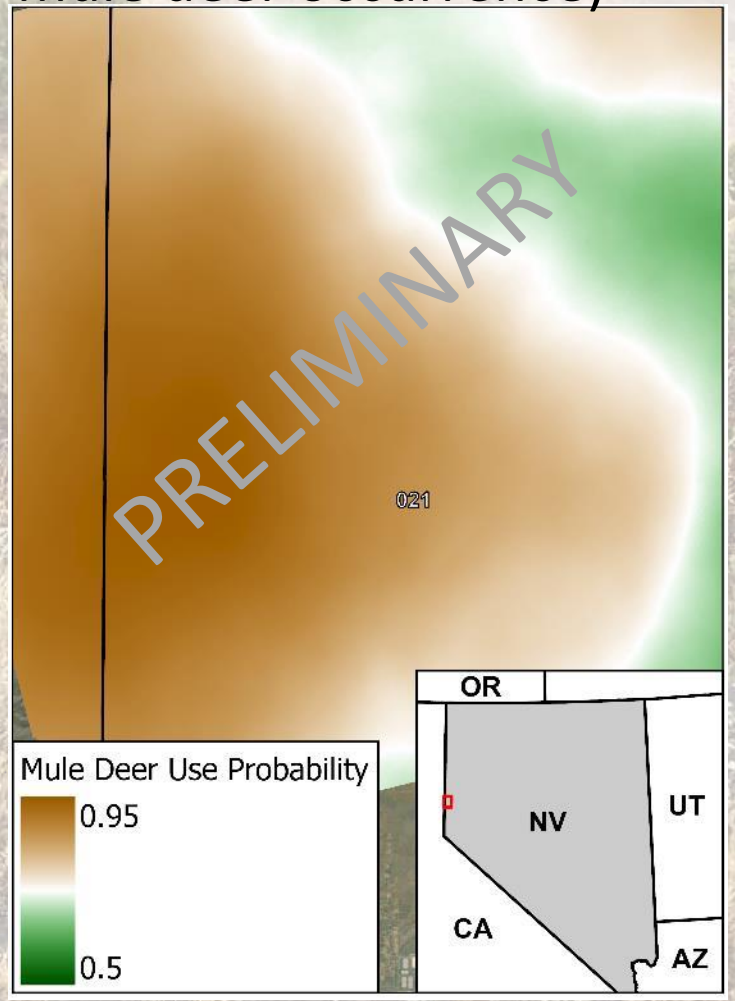
Habitat relationships



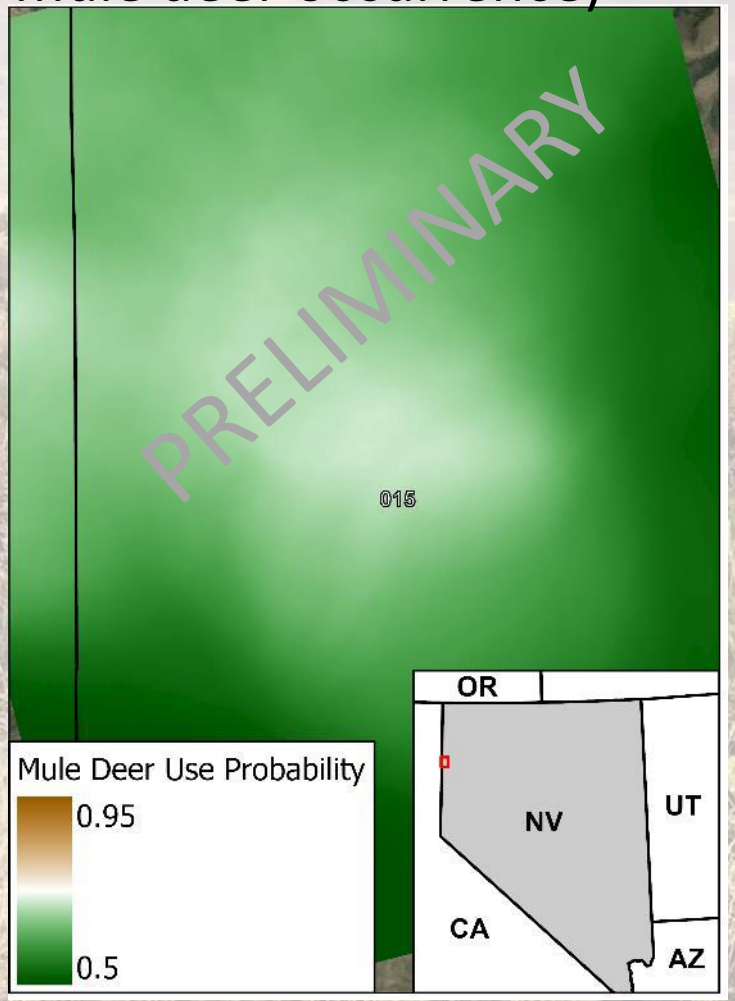
Variable most correlated with horse occurrence

Spatial predictions of occurrence

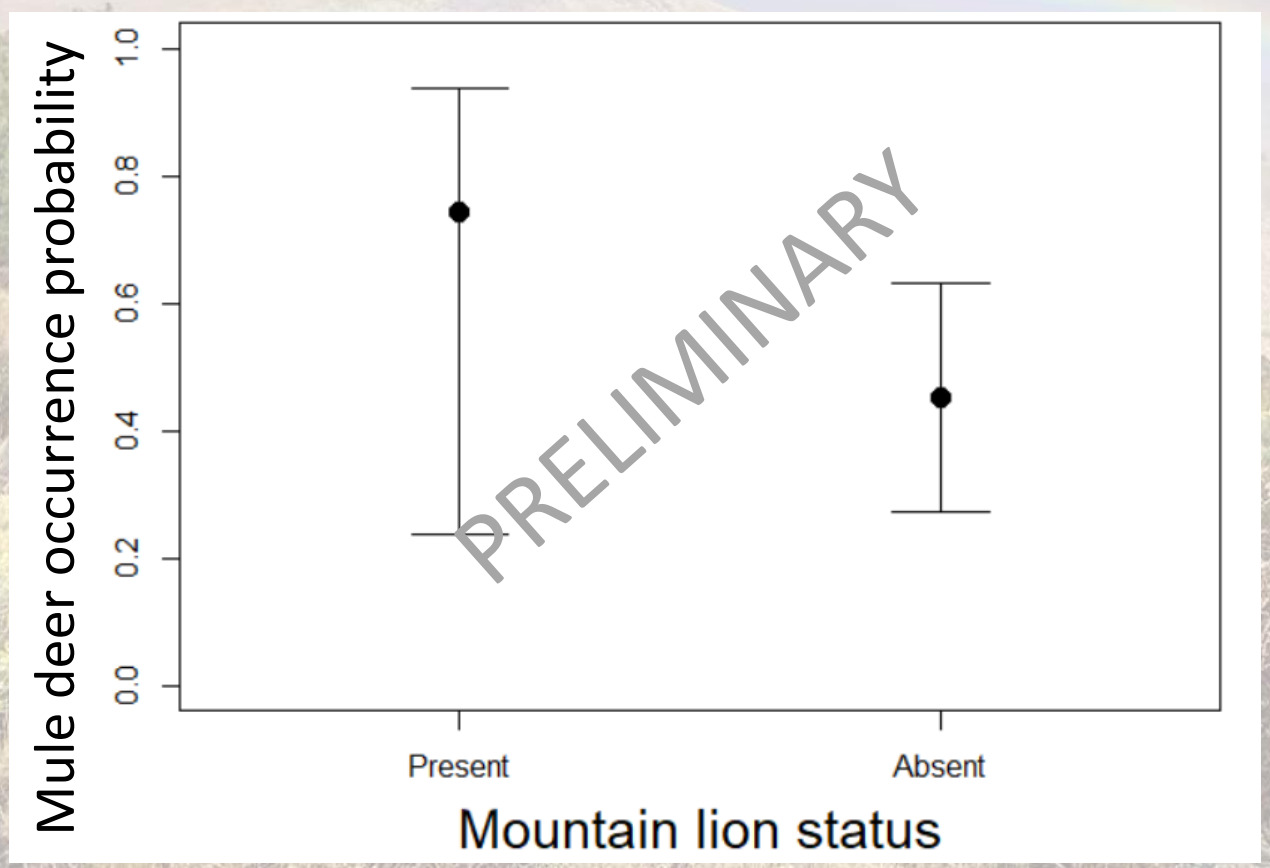
Hunt Unit 021 (high predicted mule deer occurrence)



Hunt Unit 015 (low predicted mule deer occurrence)



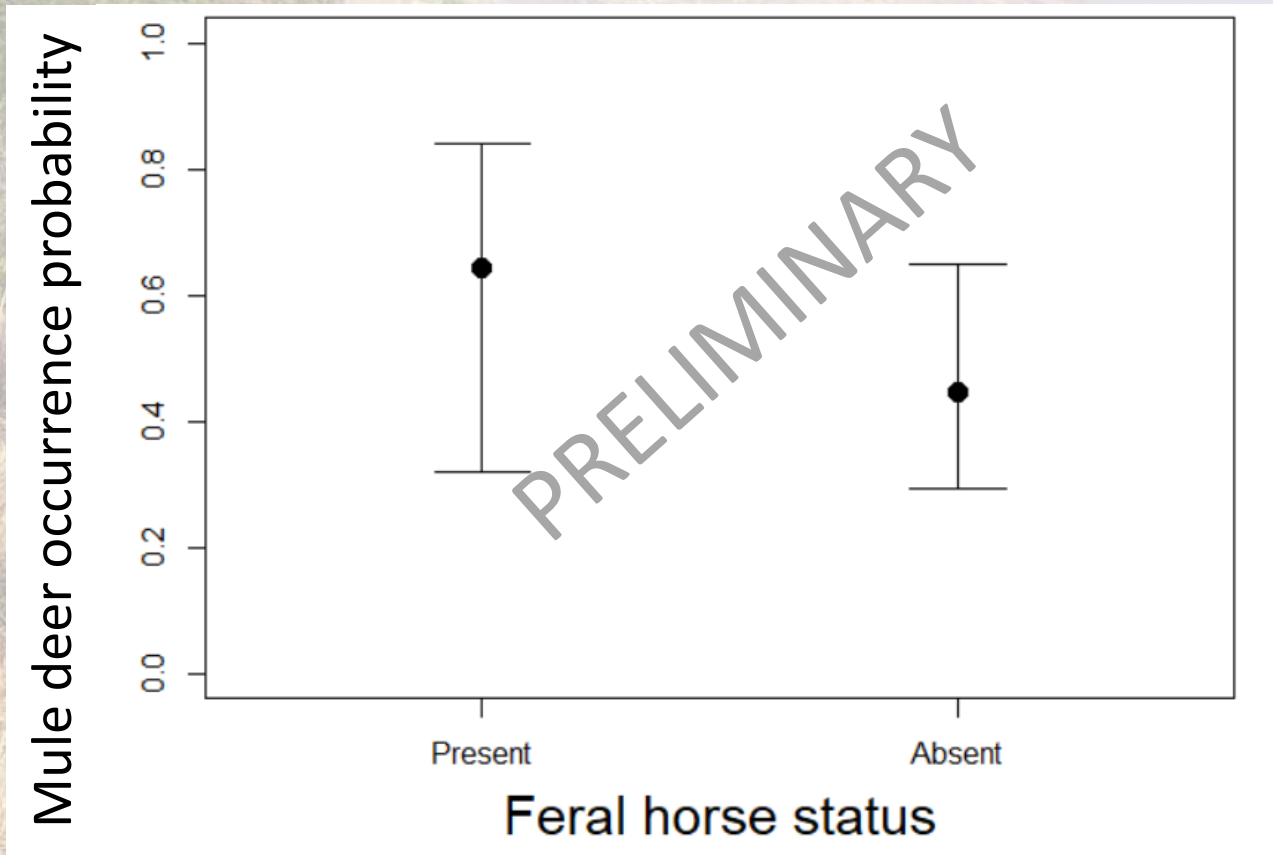
Mule deer and mountain lion occurrence



Positive relationship (nonsignificant)

Suggests higher use of sites with mule deer by mountain lions

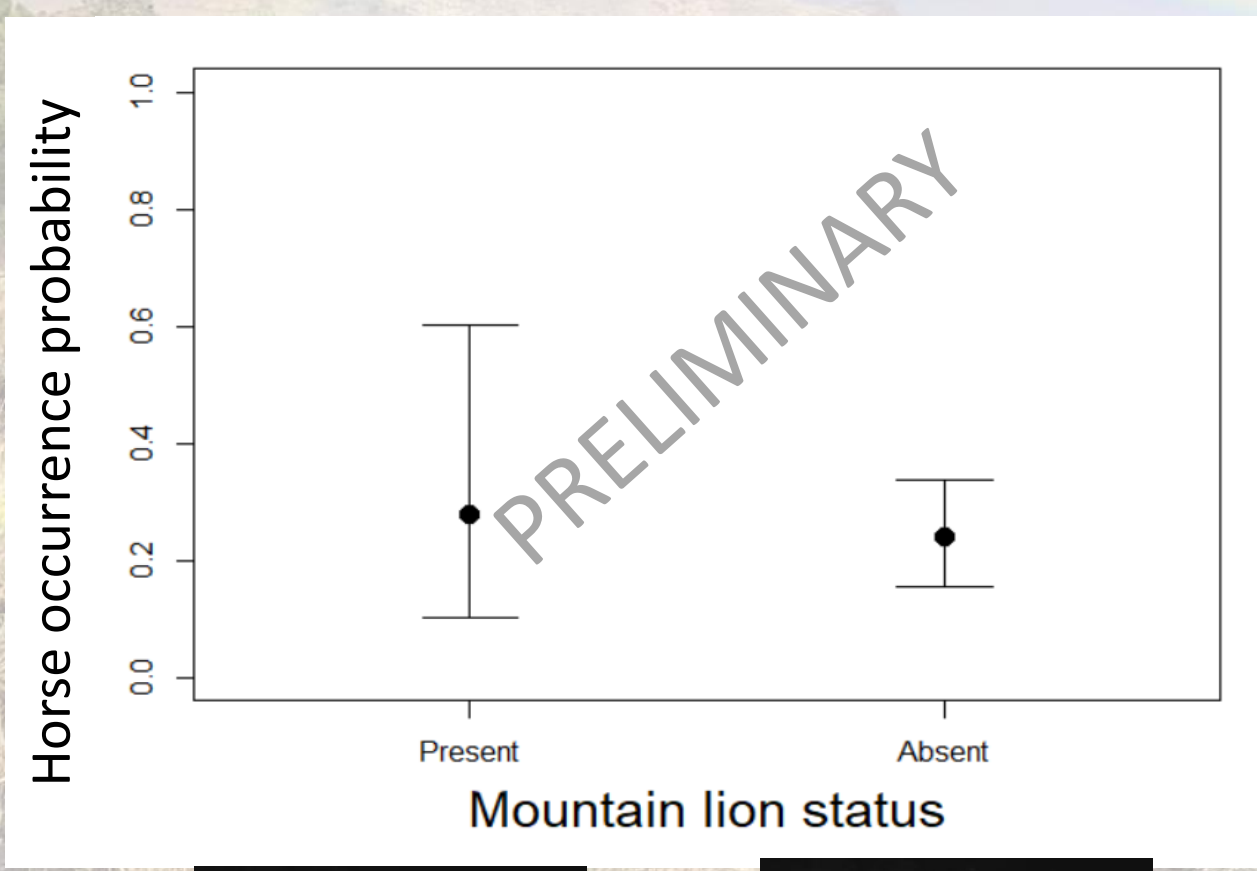
Mule deer and feral horse occurrence



Positive relationship (nonsignificant)

Indicates potential for competition (away from water)

Feral horse and mountain lion occurrence



Preliminary data suggests mountain lions are not selecting for sites based on presence feral horses

Next steps

- Include data from all 199 camera locations
- Incorporate species count data instead of presence/absence (more information)
- Additional years of data collection

Questions?

Bushnell
NVMD092 16°F -8°C 12-02-2020 07:59:48

Bushnell
NVMD125 77°F 25°C 08-27-2021 18:53:20

Bushnell
NVMD140 12°F -11°C 11-09-2020 08:16:18

Bushnell
NVMD095 65°F 18°C 03-02-2021 15:37:17

Bushnell
NVMD082 97°F 36°C 06-29-2021 18:56:22

Bushnell
NVMD066 41°F 5°C 11-14-2020 20:59:22