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# Recreation and Wildlife Activity in the Wood River Valley

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# *Recreation and Wildlife Activity in the Wood River Valley*

PRESENTER:

**Sarah Coose**

**BACKGROUND: As the human population grows, humans and animals increasingly share space – potentially leading to human-wildlife conflict in natural spaces.**

## METHODS

### Data Collection

Deployed 48 infrared-trigger field cameras along various trails in the Wood River Valley.

### Spatial Analysis : Hurdle Model

Uses binomial and negative binomial regression to describe whether number of human detections is correlated with the presence or absence and/or abundance of a species.

### Temporal Analysis: Coefficient of Overlap

Describes how much the temporal activity patterns each species overlaps with human recreation.

## RESULTS

### Binomial regression

There was no significant correlation between number of human detections and the presence or absence of any species.

### Negative binomial regression (n = 48)

- High recreation correlates with low abundance of elk (p = 0.004).
- High recreation correlates with high abundance of bear (p = 0.012), coyote (p = <0.001), and wolf (p = <0.001).

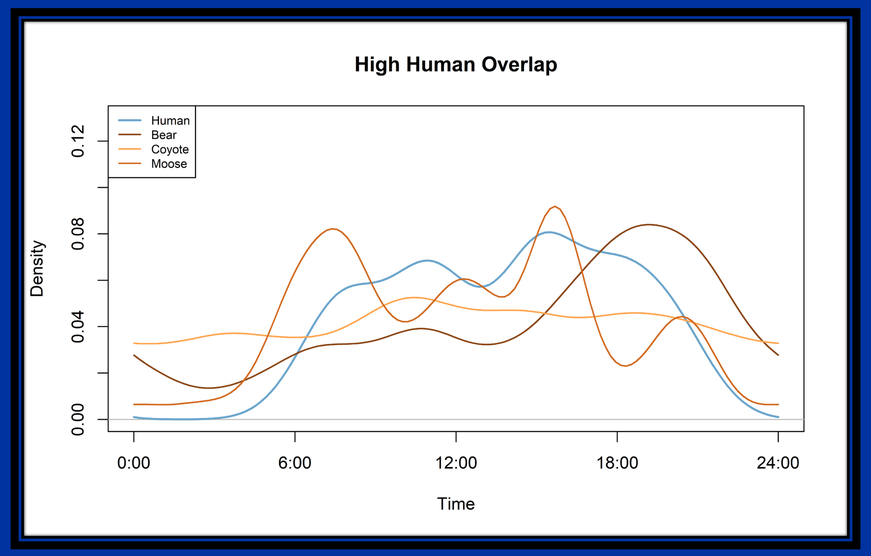
### Temporal analysis

**-** There was a general trend of two groups of animals – one with high coefficients of overlap and one with a low coefficients of overlap

## CONCLUSIONS

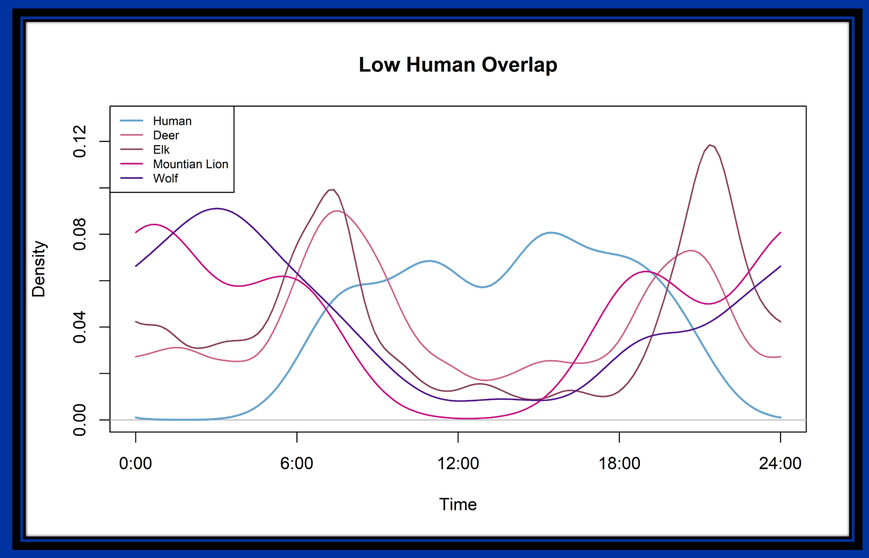
High recreation correlated with higher presence of bear, coyote and wolf. However, these species utilized different temporal strategies.

# Many species use the **same trails** as humans, but **different strategies** in how they spend their time




Strategy 1: High human overlap. These species were active at similar times to humans.



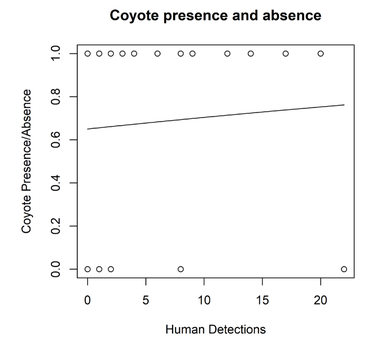



Strategy 2: Low human overlap. These species were active at different times than humans.

# Further Details

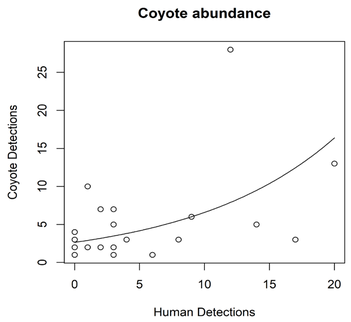
### Spatial Analysis : Hurdle Model

- Binomial regression example



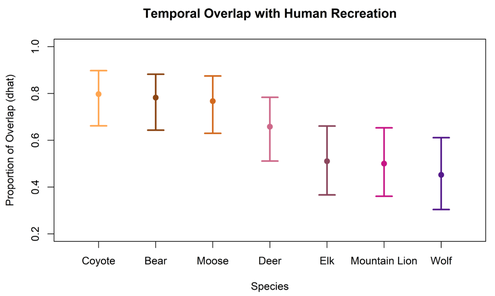

Higher number of human detections correlated with a higher probability of coyote presence.

- Negative binomial regression example




Higher number of human detections correlated with higher number of coyote detections

### Temporal Analysis: Coefficients of Overlap




Mean coefficient of overlap with 95% CI. General trend shows coyote, bear, and moose with high overlap and elk, mountain lion, and wolf with low overlap.

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