

Wild Horse impact of springs and seeps on the Modoc National Forest

Laura Snell,

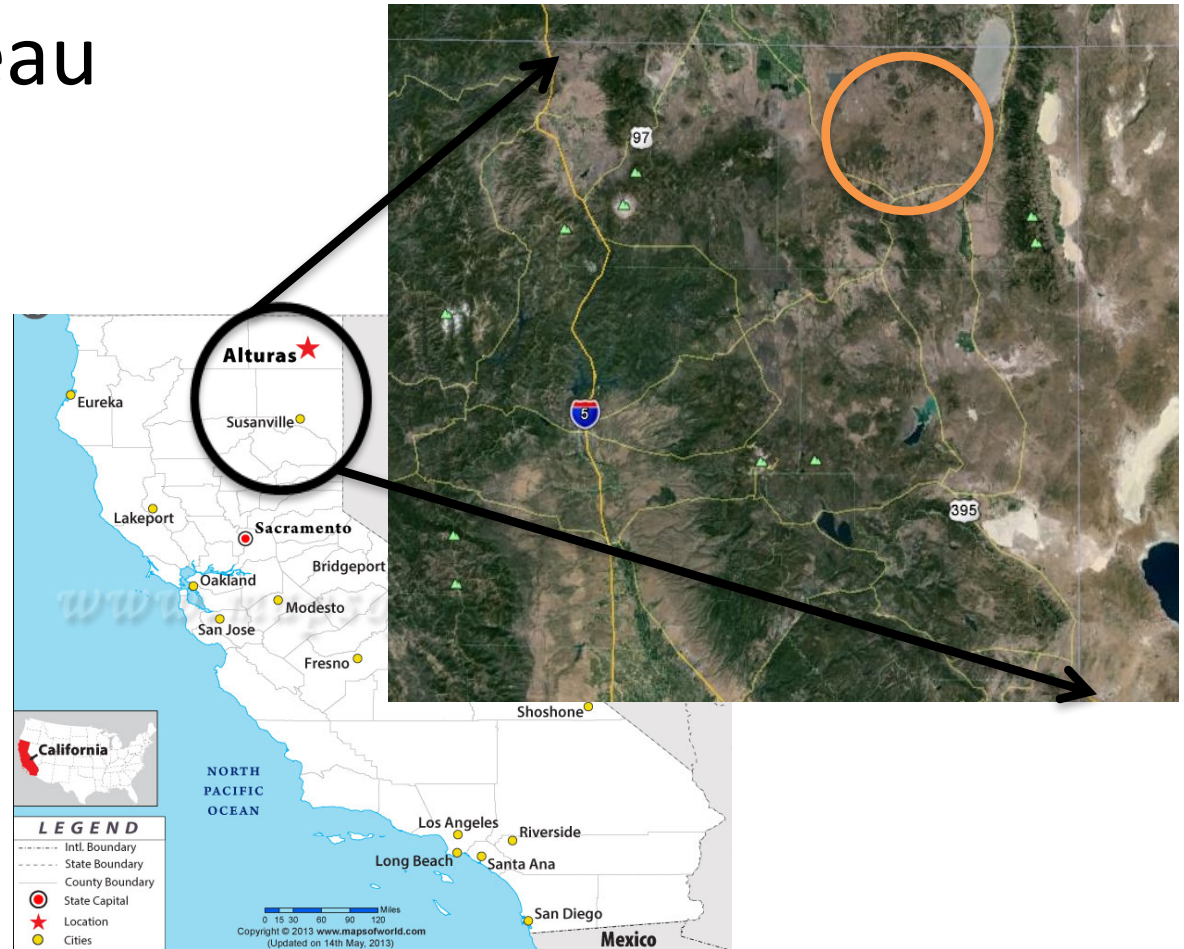
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Background

- Devil's Garden Plateau

- Prehistoric Lava Flow
- 5,000 – 6,000 Feet Elevation
- Sage Steppe and Juniper Ecosystem
- Pacific Flyway Route
- Interstate Deer Herd
- Multiple Use



Devil's Garden Plateau

Wild Horses

- Horses used in cavalry and farming
- Horse grazing permits
- Mechanization of farming
- 140 year history



Devil's Garden Background

- Wild Horse territory totals about 250,000 acres
 - Horses occupy nearly 600,000 acres
 - Private and Tribal Lands
 - Public Safety
- Appropriate Management Level (AML) Devil's Garden 206-402 Horses
 - Nearly 4,000 currently
 - Largest USFS herd

October 1, 2017 USFS Estimates



- ~7100 wild horses, 900 wild burros
- 19 national forests, 8 western states
- 34 active territories on 2.1 million acres
 - 27 wild horse / 4 wild burro territories
 - 3 wild horse & burro territories
 - 24 managed with BLM (JMAs)

Research Project



Methods

- Chose 10 sites
- Light-Moderate-Heavy Use
- Horses, Cattle, Wildlife
- Natural Spring or Seeps



Methods

- Bushnell NatureView Camera
 - 3 pictures at a time
 - 15 minute timed photos sunrise-sunset
 - Triggered photos 24 hours
 - Spring, summer, fall
 - Before, during, after grazing season



Methods



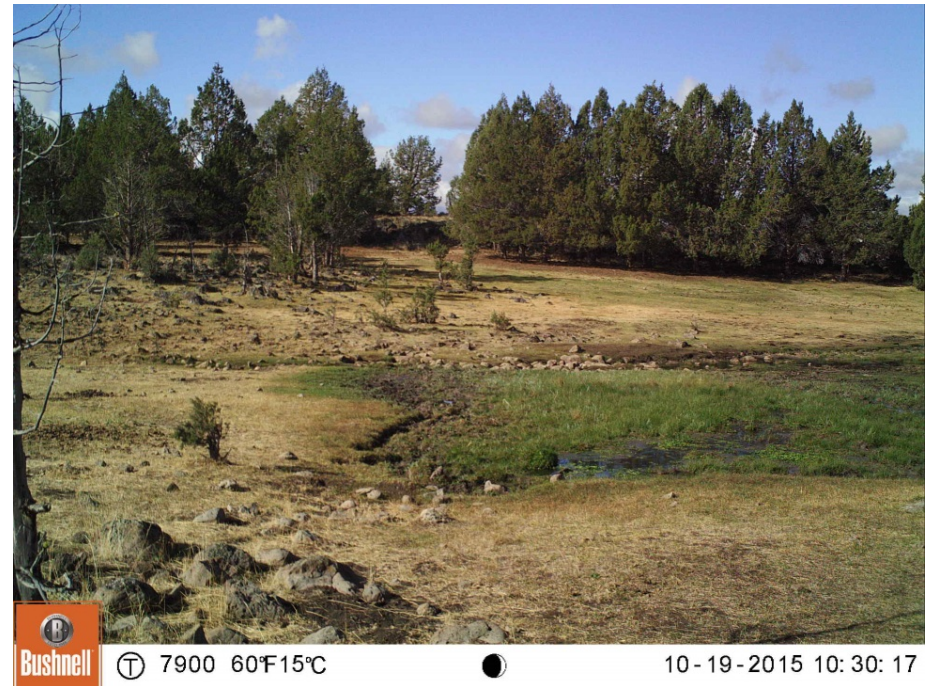
- Riparian Vegetation Sampling
 - Modified MIM sampling
 - Measuring of wetted area, drawing of spring, pictures
- Vegetative Composition
- Horse Habitat and Use Assessment

Objectives

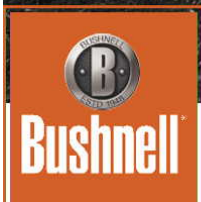
- Quantify time of day, number of animals, and time spent at springs and seeps
- Measure vegetation cover and richness across plots
- Measure streambank quality and changes in spring/seep appearance
- Observe animal interactions around springs/seeps

Outcomes

- Started in summer 2015
- Nearly 1 million pictures taken
- Preliminary Results 2015/2016



BOLES SPRING



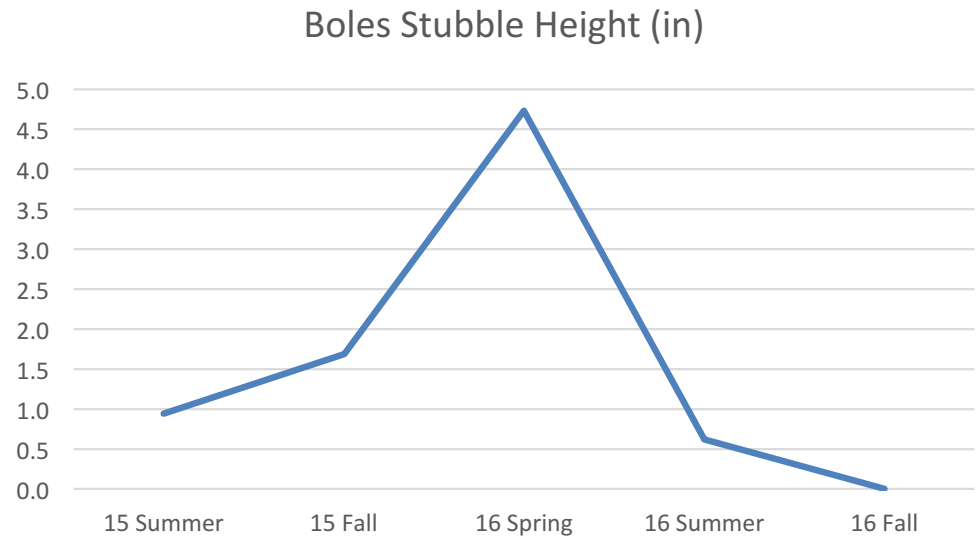
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Boles Spring

- Wild Horse Grazing
- Variety of Wildlife
- Mud Bottom Spring









6/20/17



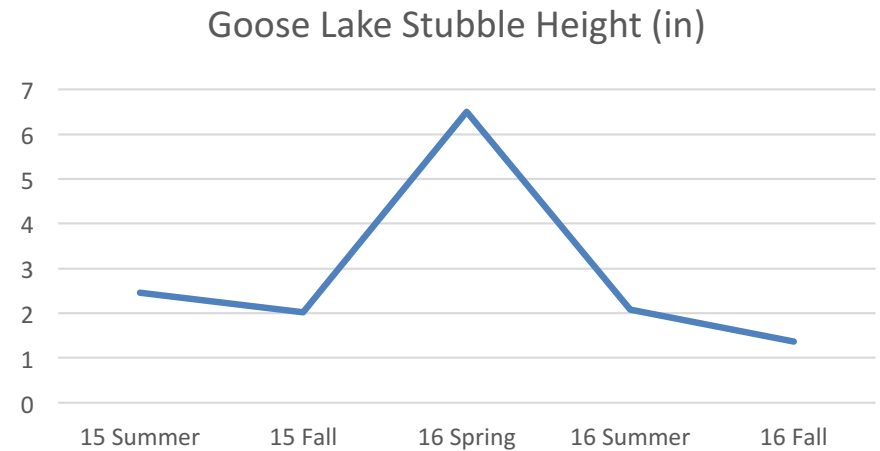
GOOSE LAKE SPRING



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Goose Lake Spring

- Old Exclosure and Gather Corral
- Wild Horses
- Wildlife
- Rock Anchored Spring







88 71°F 21°C



10-21-2015 13:24:05



88 91°F 32°C



11-04-2015 15:35:56

7/24/17



POTHOLE SPRING



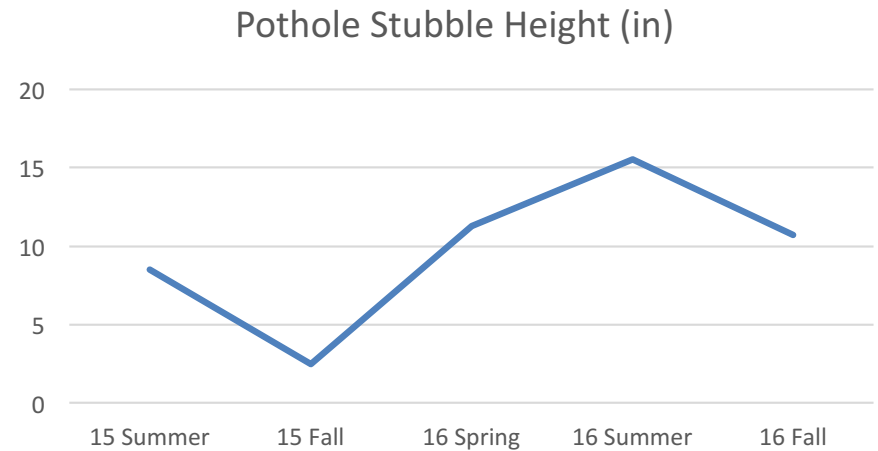
97 44°F6°C



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Pothole Spring

- Private Land
- Fenced Out Wild Horses
- Managed Livestock Grazing





104 109°F42°C



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101 77°F 25°C



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85 91°F32°C



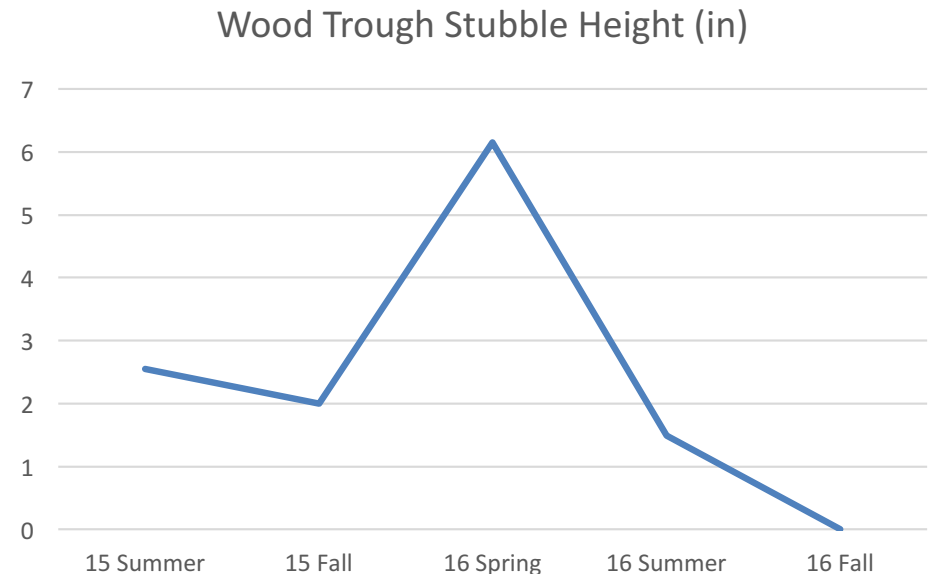
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WOOD TROUGH SPRING

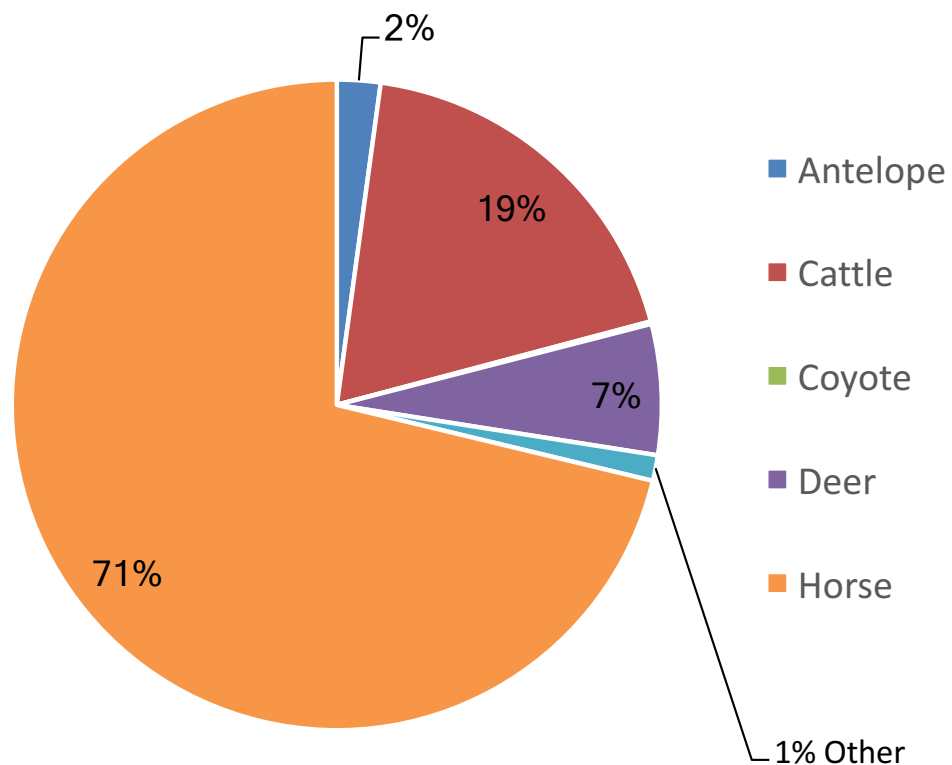


Wood Trough Spring

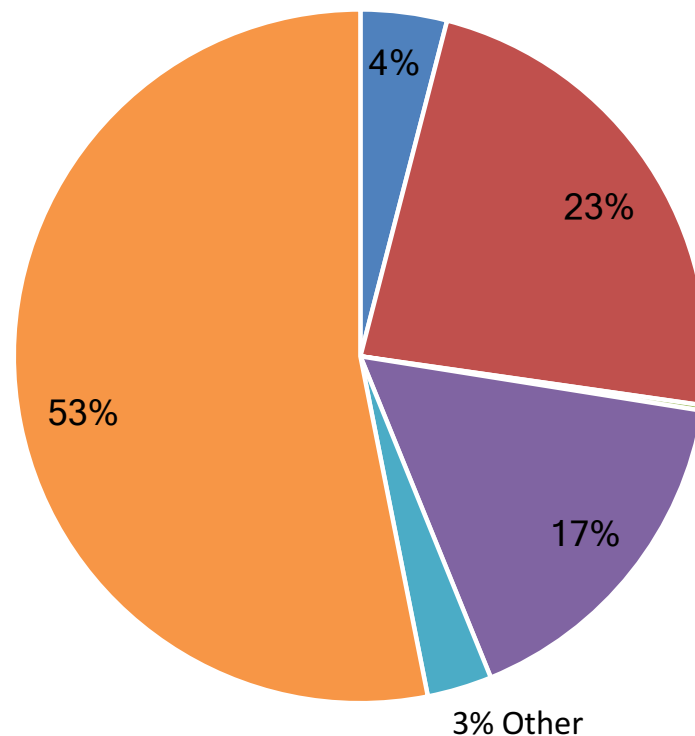
- Historically Livestock and Wild Horses
- 50% livestock reduction 2017
- 100% reduction 2018+



Total # of Animals



Total Time Present (min)











Discussion Vegetation Impacts

- USFS Guidelines in Riparian Areas
- Stubble Height
- Trampling



Tom Blandford

Discussion

- Managed verse Unmanaged Grazing
- Heterogeneous Landscape
- Multi-Use



Future Research

- Analysis
 - timing and number of species
 - vegetative data along with quantity of use
- Water Quality Project? Riparian Health?

Thanks!

- USFS Modoc National Forest
 - Jenny Jayo, Glenna Eckel
- BLM Eagle Lake Office
 - Ken Collum, Patrick Farris
- Modoc County Ag Commissioner's Office
- Modoc County
- Modoc County Farm Bureau



Questions?



84 102°F38°C



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