

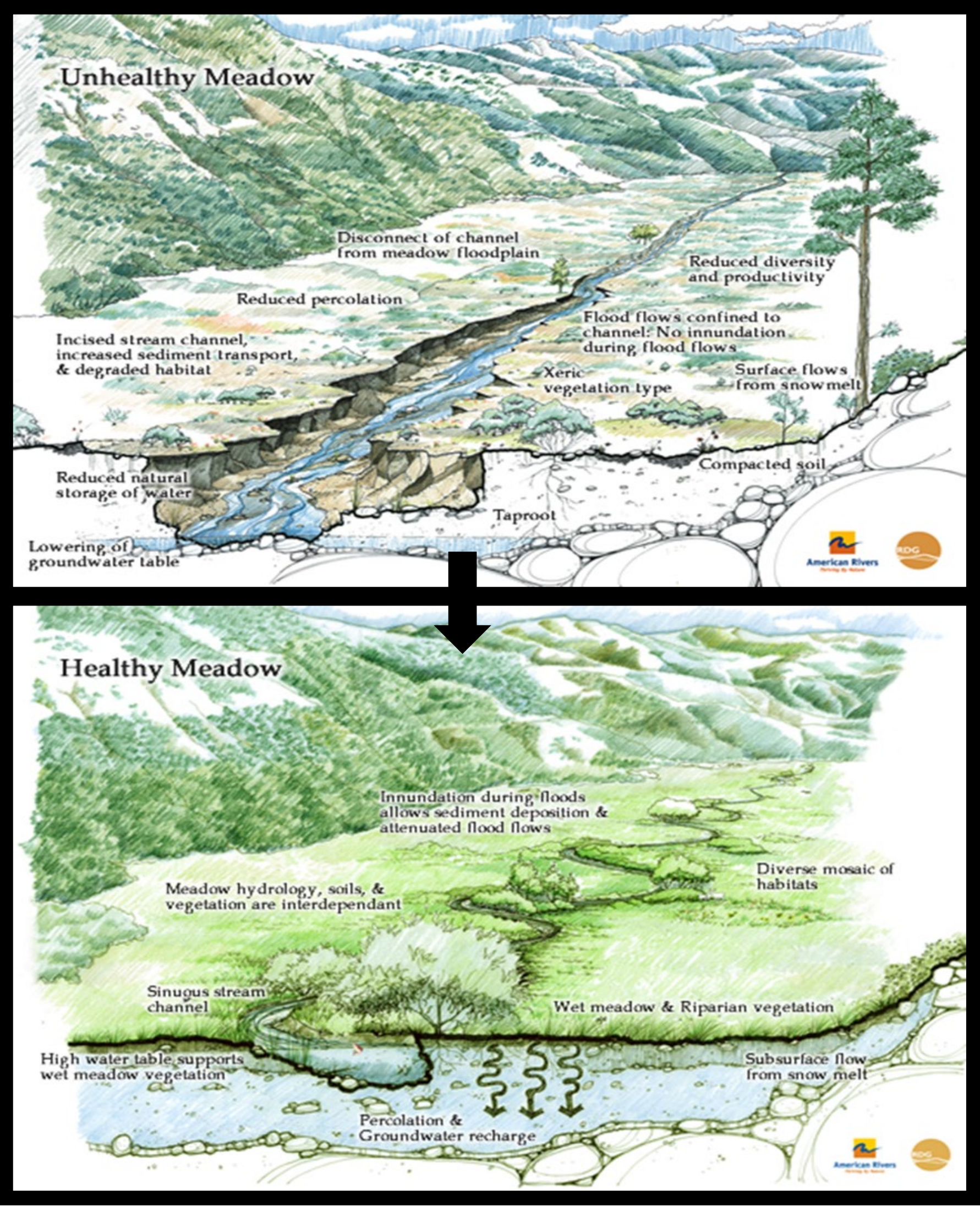
Water Table Height and Vegetation Composition of Facultative and Obligate Wetland Species in Response to Restoration in a Montane Meadow, Northern California

Matt Berry,¹ Carrie Monohan^{1,2}, Dave Weixelman³, Ann Bykerk-Kauffman¹

¹California State University Chico, Department of Geological and Environmental Sciences, ²The Sierra Fund, ³US Forest Service, Pacific Southwest Region, (Ret.)

INTRODUCTION

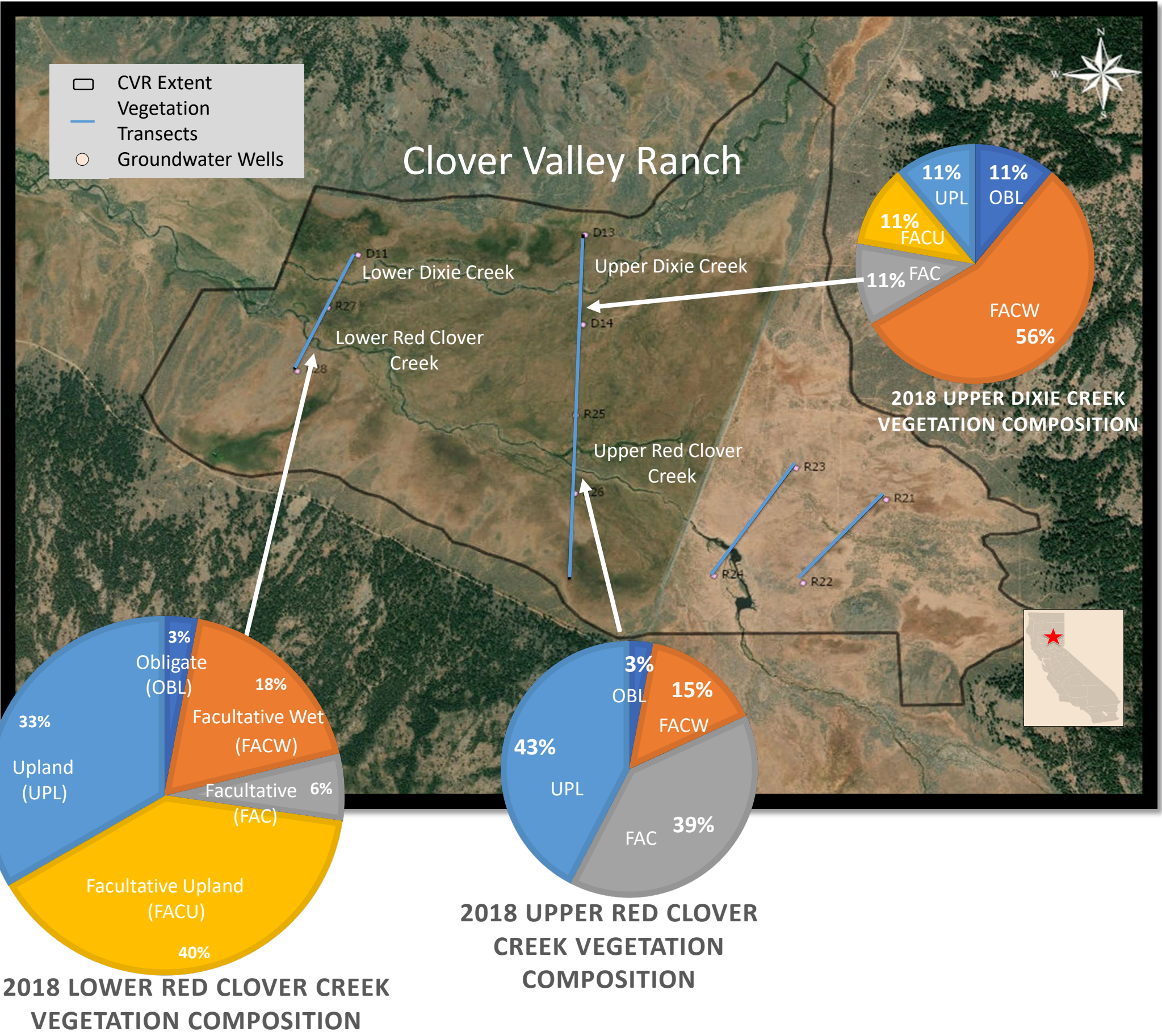
Restoration of hydrologic function in meadows is a way to improve habitat and to ensure resiliency for climate change. Wet Meadows are groundwater-dependent systems that rely on shallow water-table depths. Restored wet meadows provide late season cold water which improves ecosystem resiliency. This study investigates the linkage between water table height and vegetation composition, specifically wetland obligate/facultative species.



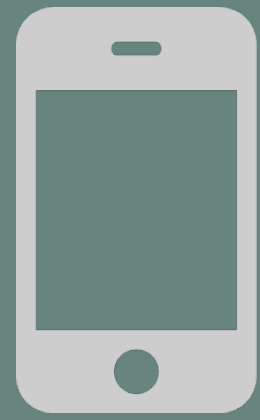
Representations of wet and dry meadows as healthy and unhealthy alternative stable states.

METHODS

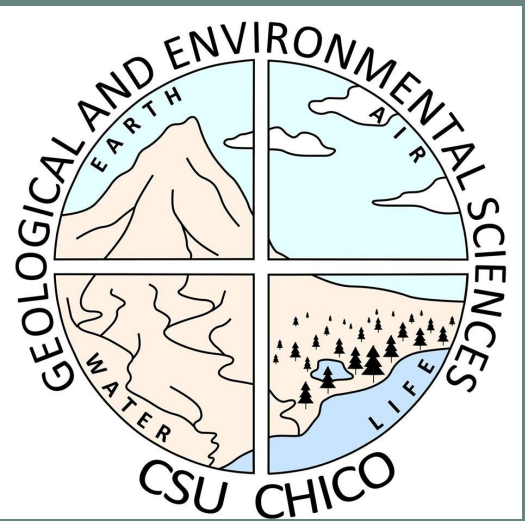
- The study area is in Red Clover Valley, CA, a ~1,250-hectare degraded meadow that has been grazed for over 100 years.
- Continuous monitoring of the groundwater table elevation using pressure transducers in piesiometers will be analyzed with annual vegetation transects (point line intercept and basal area coverage) taken at 300ft intervals along each transect.



Can vegetation composition be used to monitor water table recovery from meadow restoration?



Take a picture for more information

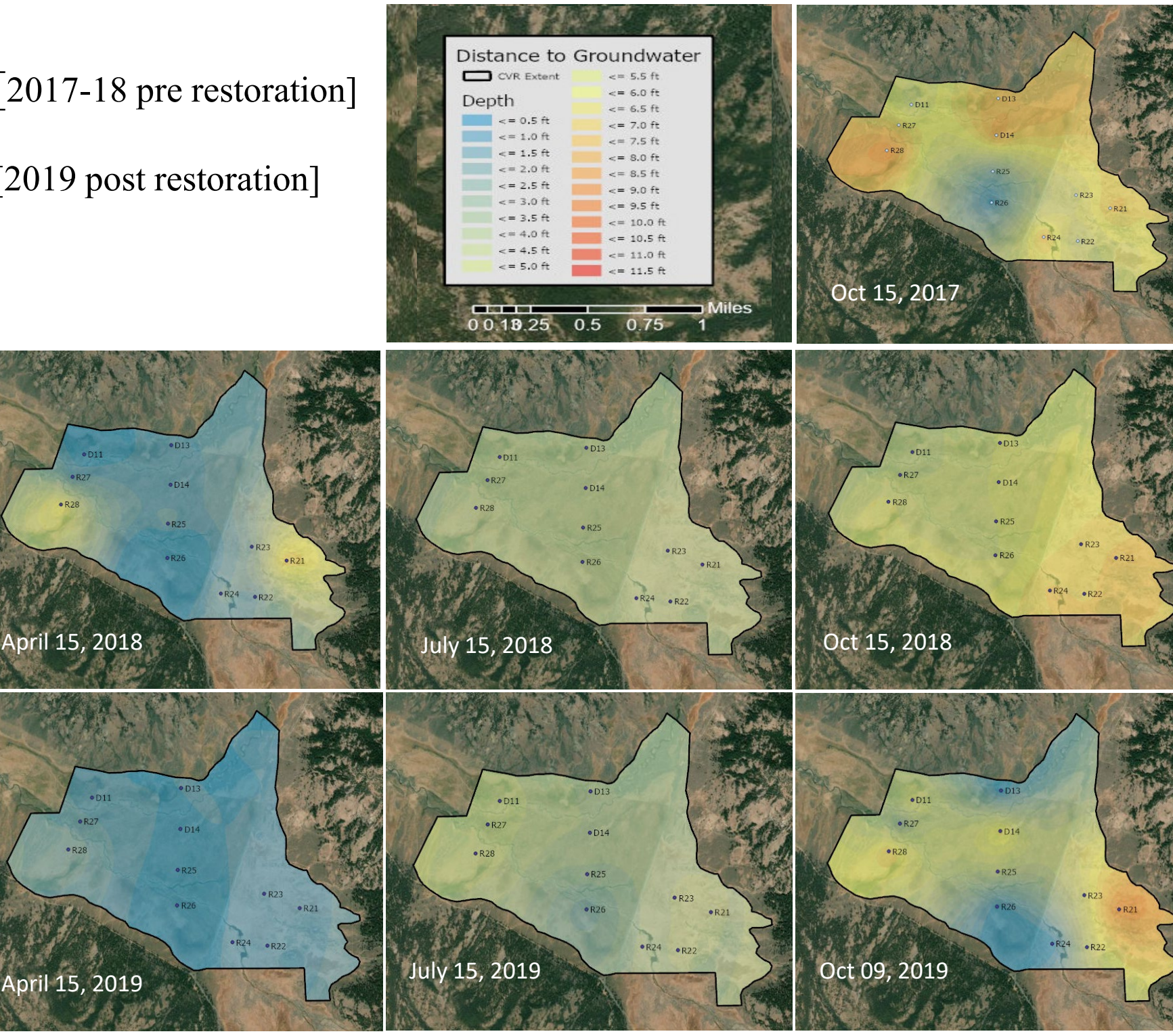


Preliminary Results

Pre restoration monitoring began in 2017, restoration took place summer of 2018, and post restoration monitoring began in 2019.

Post-restoration, an increase in percent obligate/facultative plant species is expected, as is an elevated water table, which should increase hydrologic connectivity and the amount of water available to the root zone.

Seasonal groundwater contour maps pre and post restoration



Research Questions

1. Does the percent facultative/obligate plant species change with water table recovery from meadow restoration?
2. Is water table recovery best monitored using point-line-intercept (canopy) and or quadrat (basal) area coverage surveys?
3. What percentage of facultative/obligate plant species indicates water table recovery post restoration?

Aerial photos from Sept 2017 and Sept 2019



Acknowledgements

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