Can Grazing Management Enhance Conservation Values?

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https://www.sdmmp.com/view_project.php?sdid=SDMMP_SDID_187_5dfaaad75575d

Outline

- Project Goals (including target species)
- Hypotheses
- Study Approach
- Desired Outcomes
- Preliminary results

Project Goals

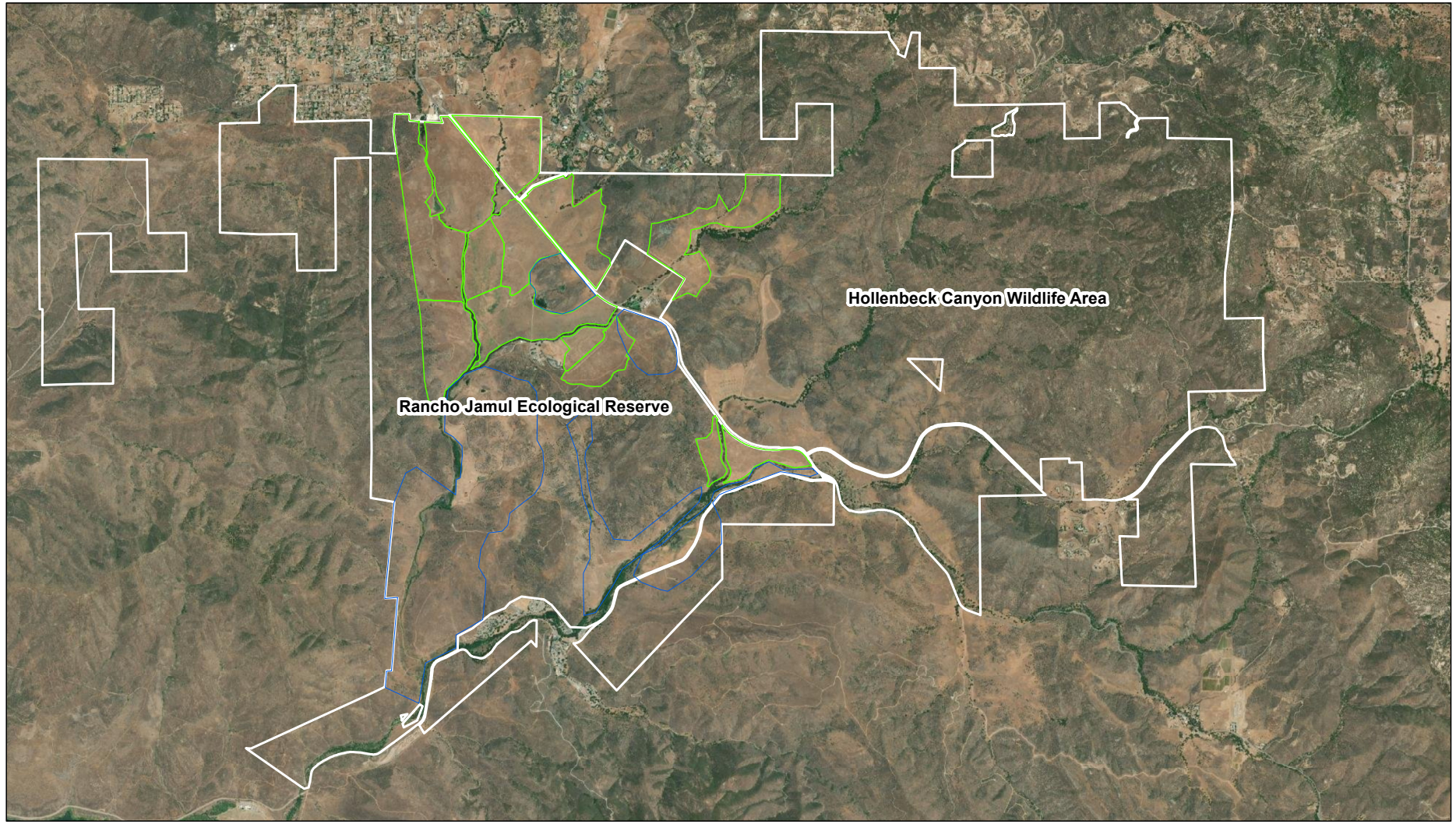
1. Evaluate Grazing to Benefit:

- Wildfire fuel loads
- Grassland/shrubland plants (native/exotic)
- Sage scrub habitat maintenance
- Wildlife and MSP species habitat

2. Evaluate ecological sites for grazing monitoring and planning

Rancho Jamul and Hollenbeck Canyon

Rancho Jamul Ecological Reserve and Hollenbeck Canyon Wildlife Area



Legend

- RJER_softlines
- HCWA_grazing
- RJER_grazing

N
W E
S

0 0.5 1 2 Miles

UC Berkeley Range Lab 2022
Prepared by: Kaveh Motamed

Literature Review

- Impacts of introduced annual plants (esp. grasses)
- Fire ecology in CSS
- Type conversions
- Conservation of rare species
- Ecological Site Descriptions
- Available at: https://www.sdmmp.com/view_article.php?cid=SDMMP_CID_187_625051ca1fb35

Rangeland Ecology

March 2009

March 2011

March 2012

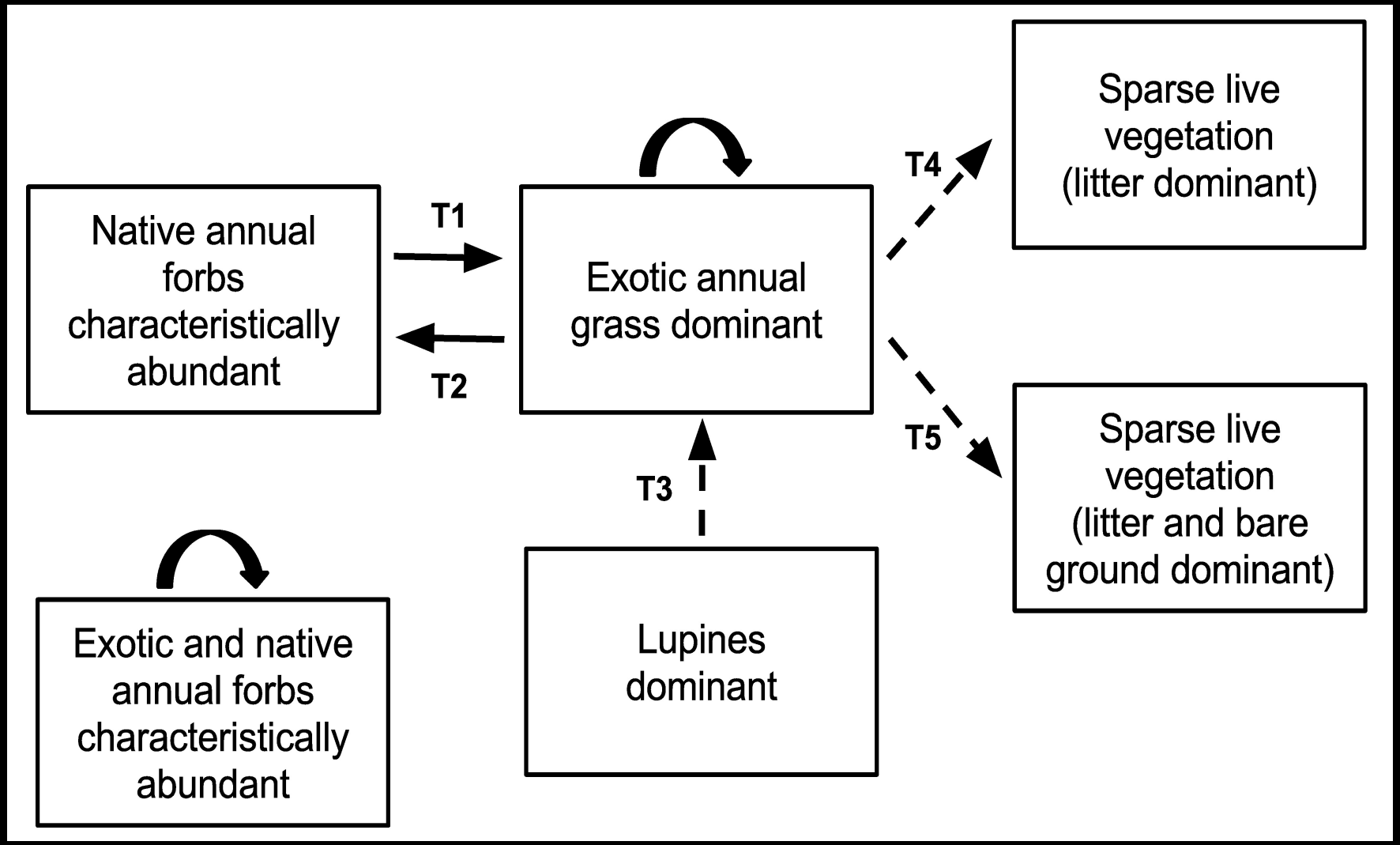
March 2013

March 2014

Drivers of Biodiversity on Managed Rangelands

Spatial Scale	Area	Primary Drivers
Ecological Site	10,000 Acres	Geology and Soils, Land Conversions, Climate Change
Ranch	1,000 Acres	Soils and Geology, Economics, Ecosystem Services, Weather, Land Conversions, Wildfires
Pasture	100 Acres	Soils, Habitat Loss, Grazing practices, Invasives, Residual Dry Matter, Prescribed Burning

Hypotheses: Opportunistic Grazing Management



Study Approach

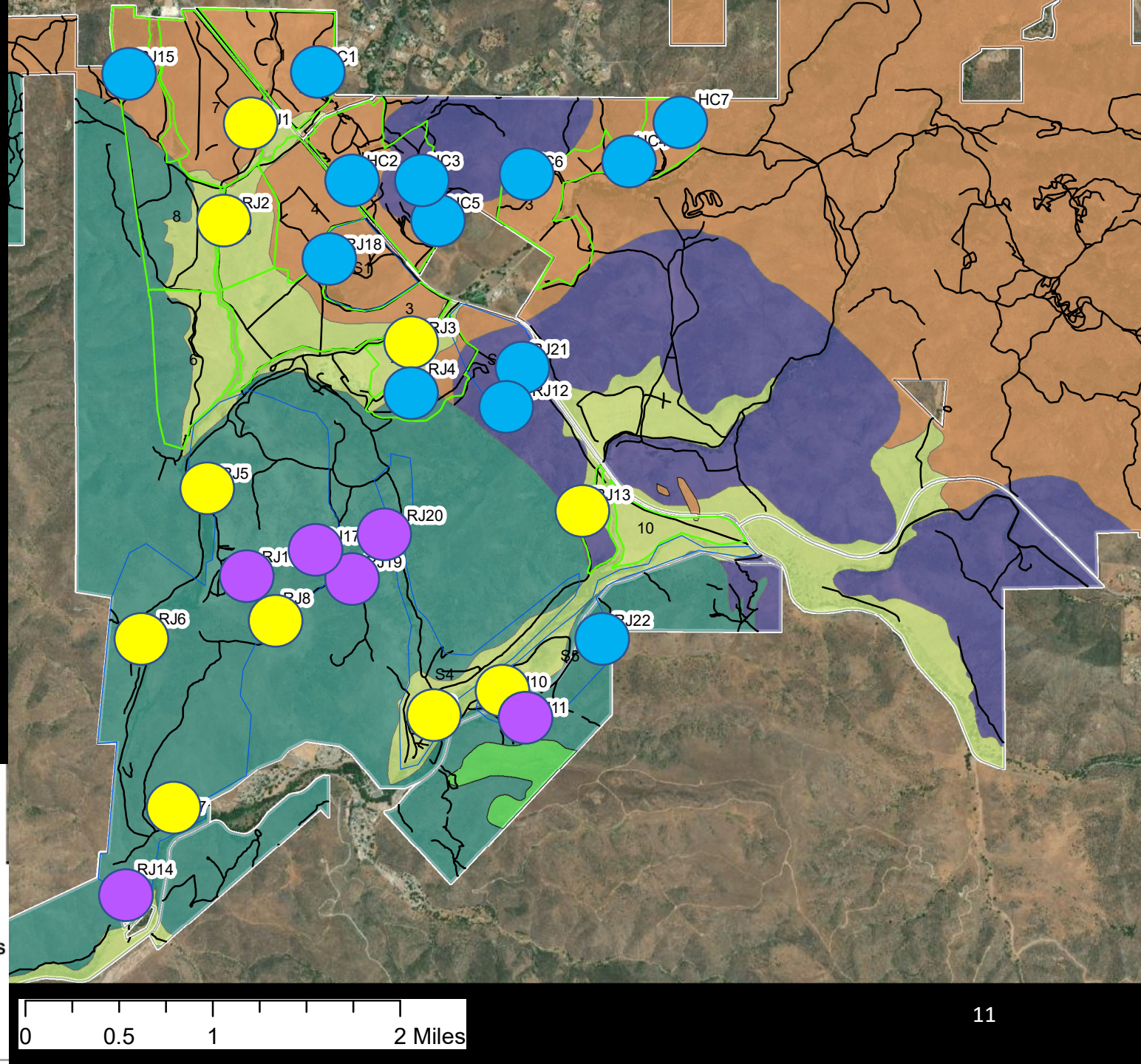
- Select study sites
- Collect physical site information (soils, geomorphology, aspect)
- Collect biomass and species composition data
- Identify vegetation and site patterns within these datasets
- Validate site classification using vegetation data
- Test grazing effect in the context of ESD and STM models

Desired Outcomes

- Testable framework for models describing change and the drivers of change (ESDs and STMs)
- Guidelines for achieving management goals on a topo-edaphically diverse landscape
- Monitoring plan for future evaluation and for guiding adaptive management

Preliminary Results Ecological Sites

1. Alluvial sites; all geology types
2. Hilly sites; granitic and gabbro geology
3. Hilly sites; metavolcanic geology



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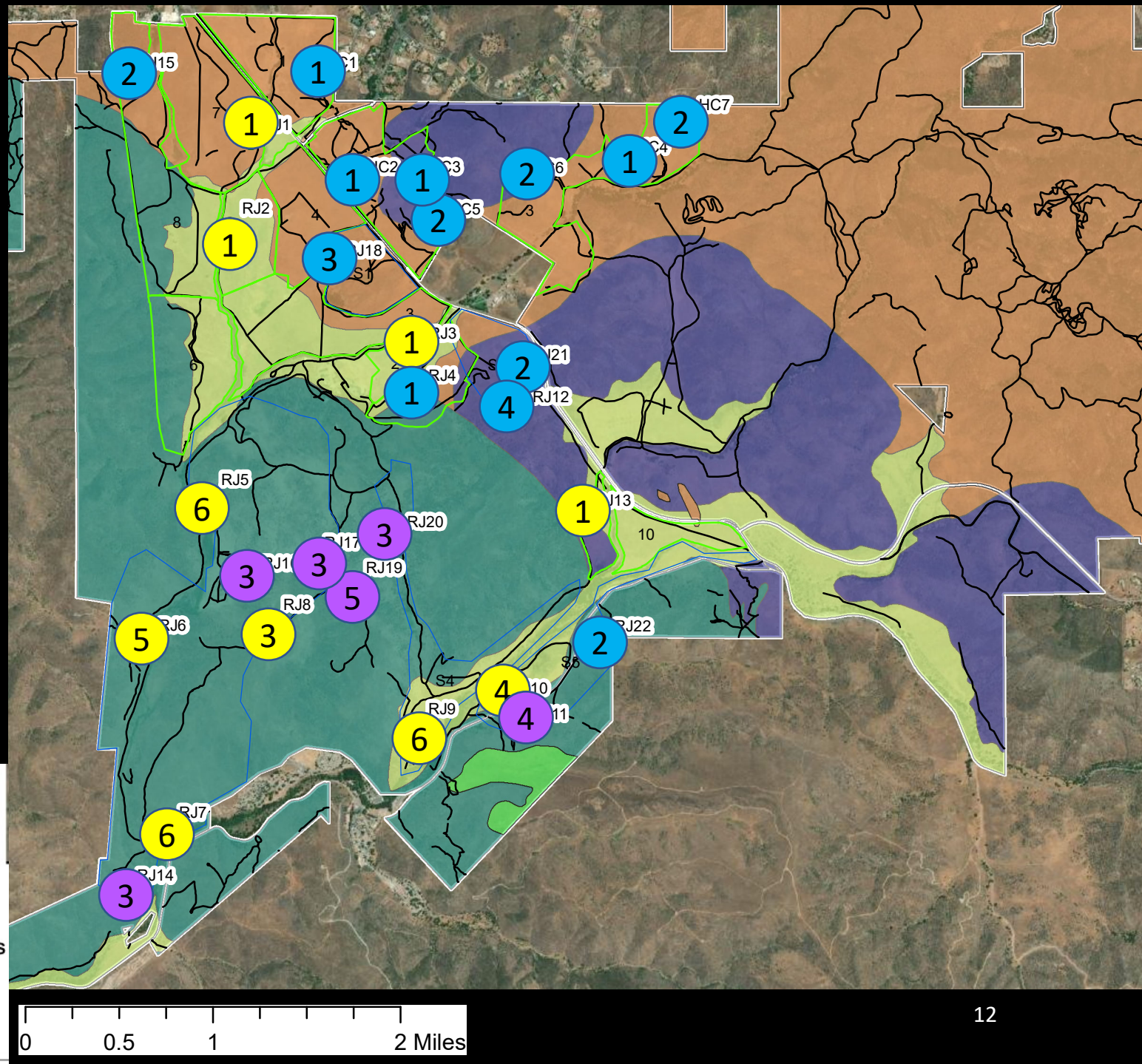

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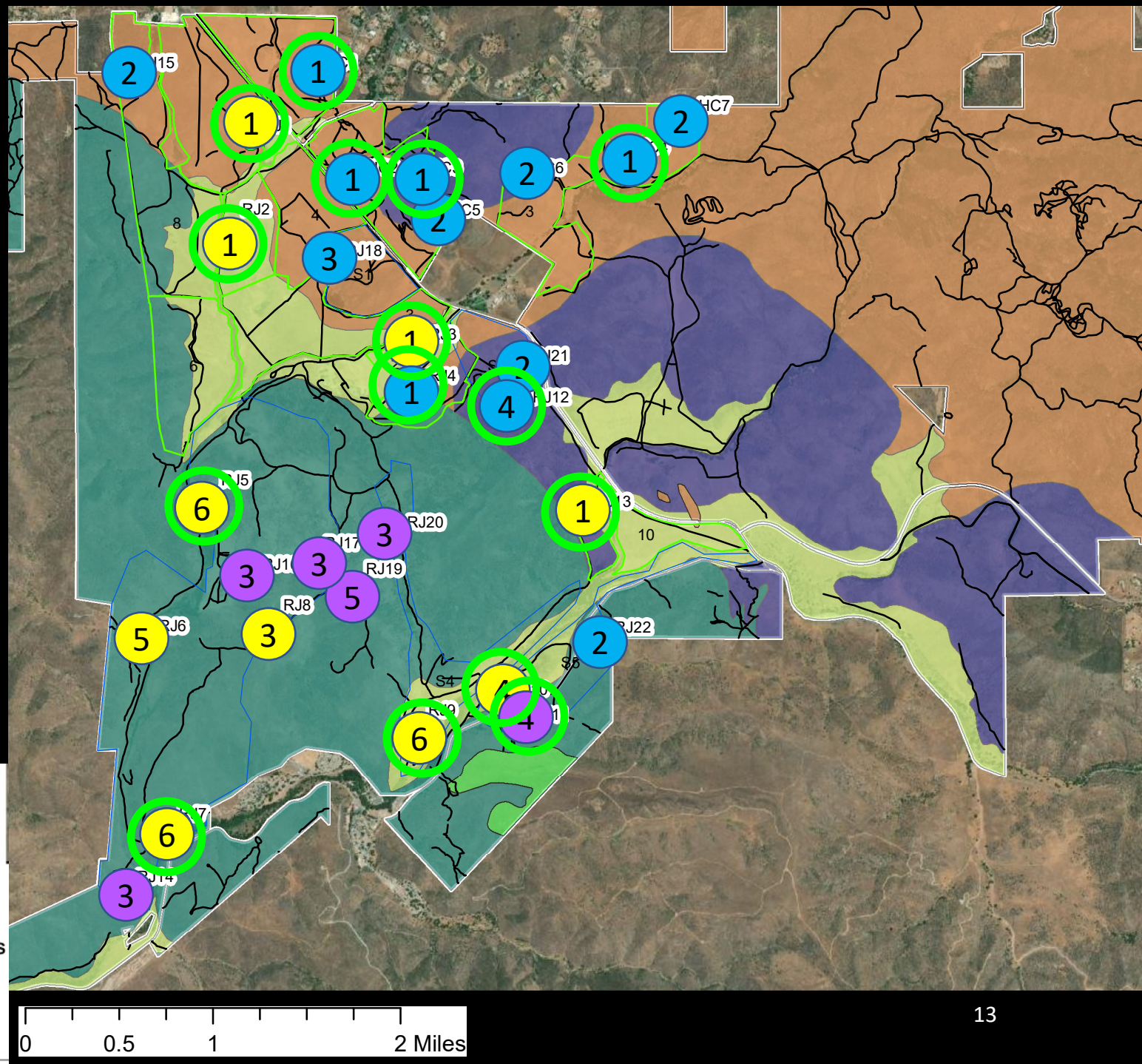


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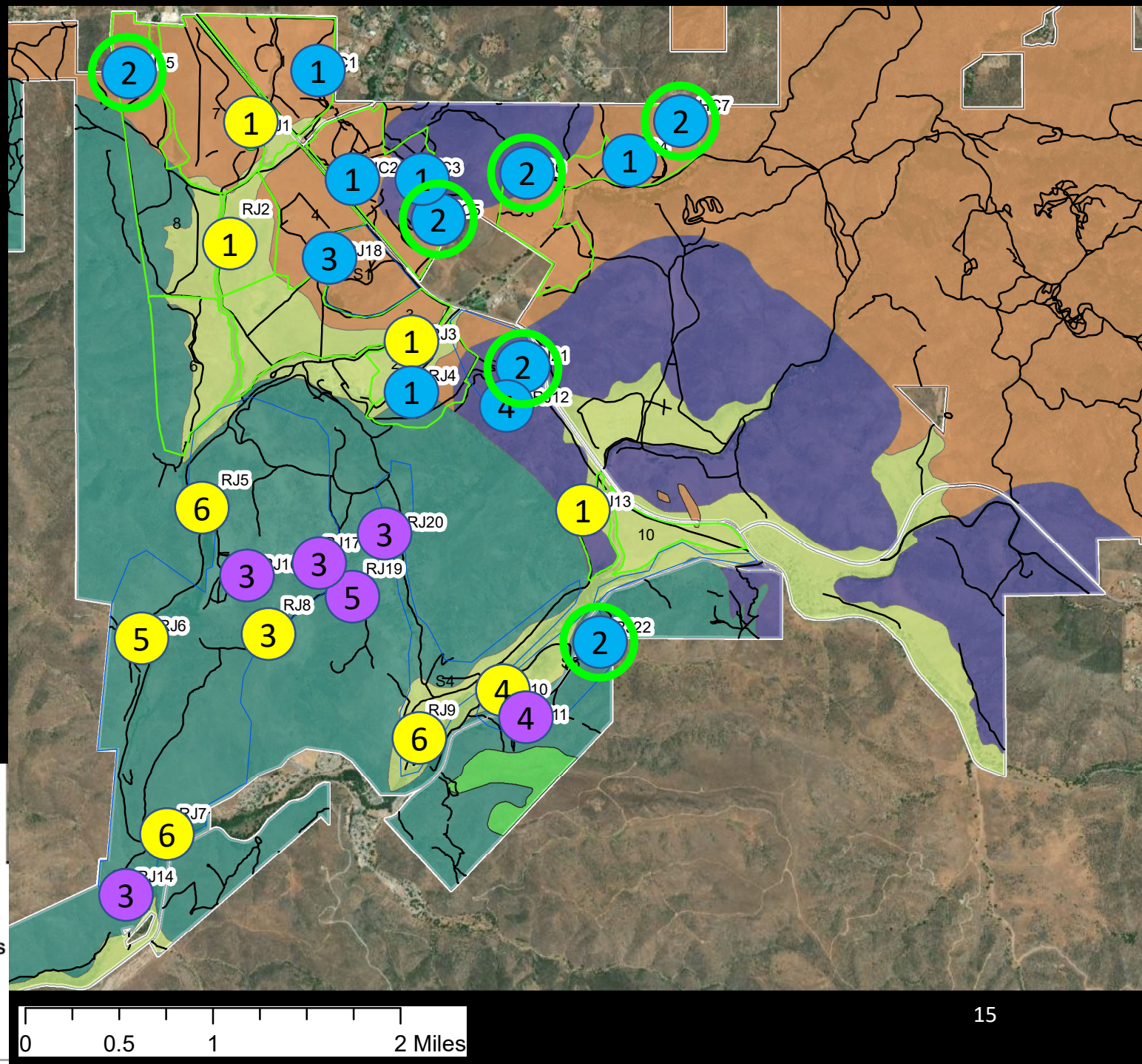

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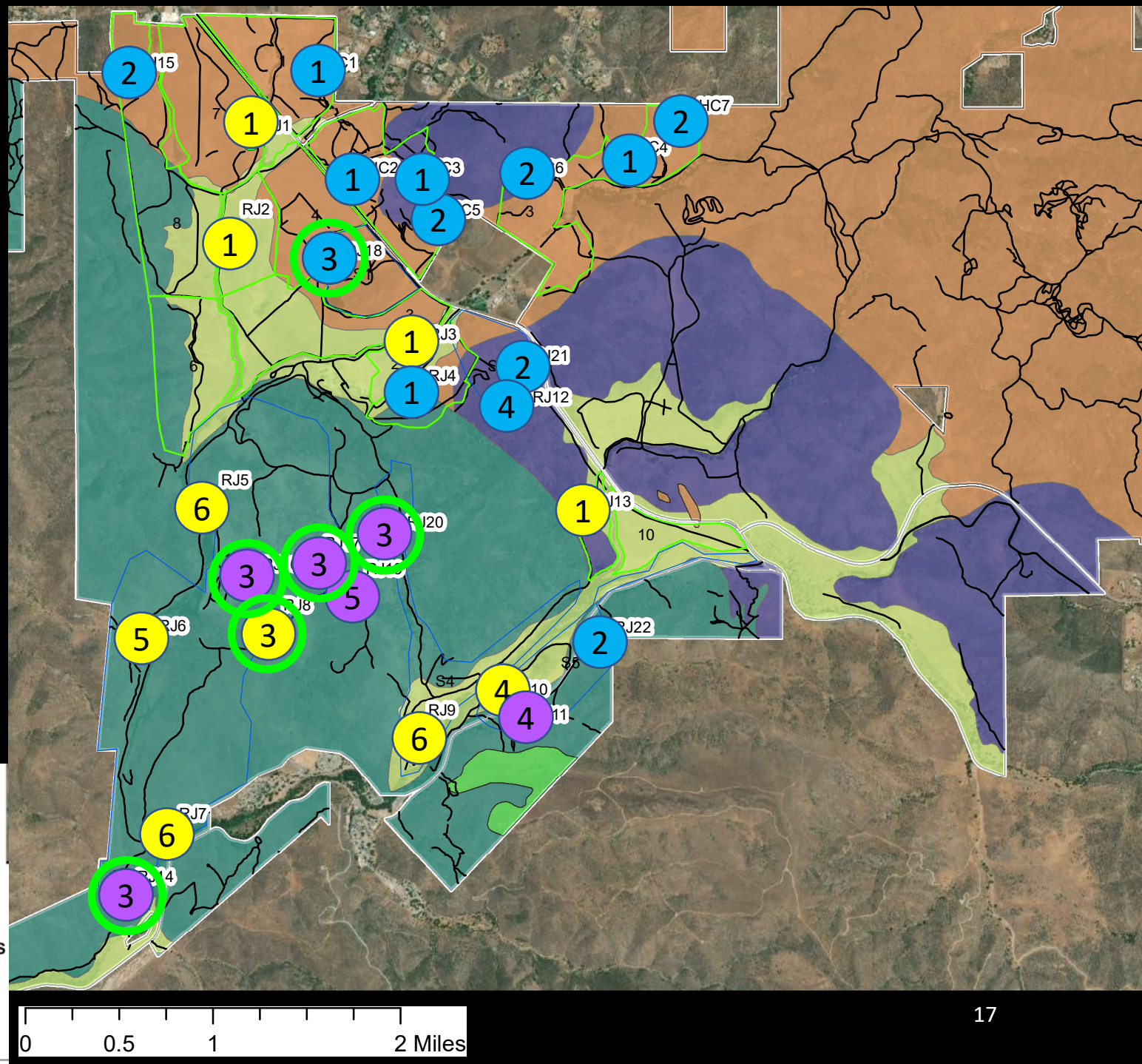

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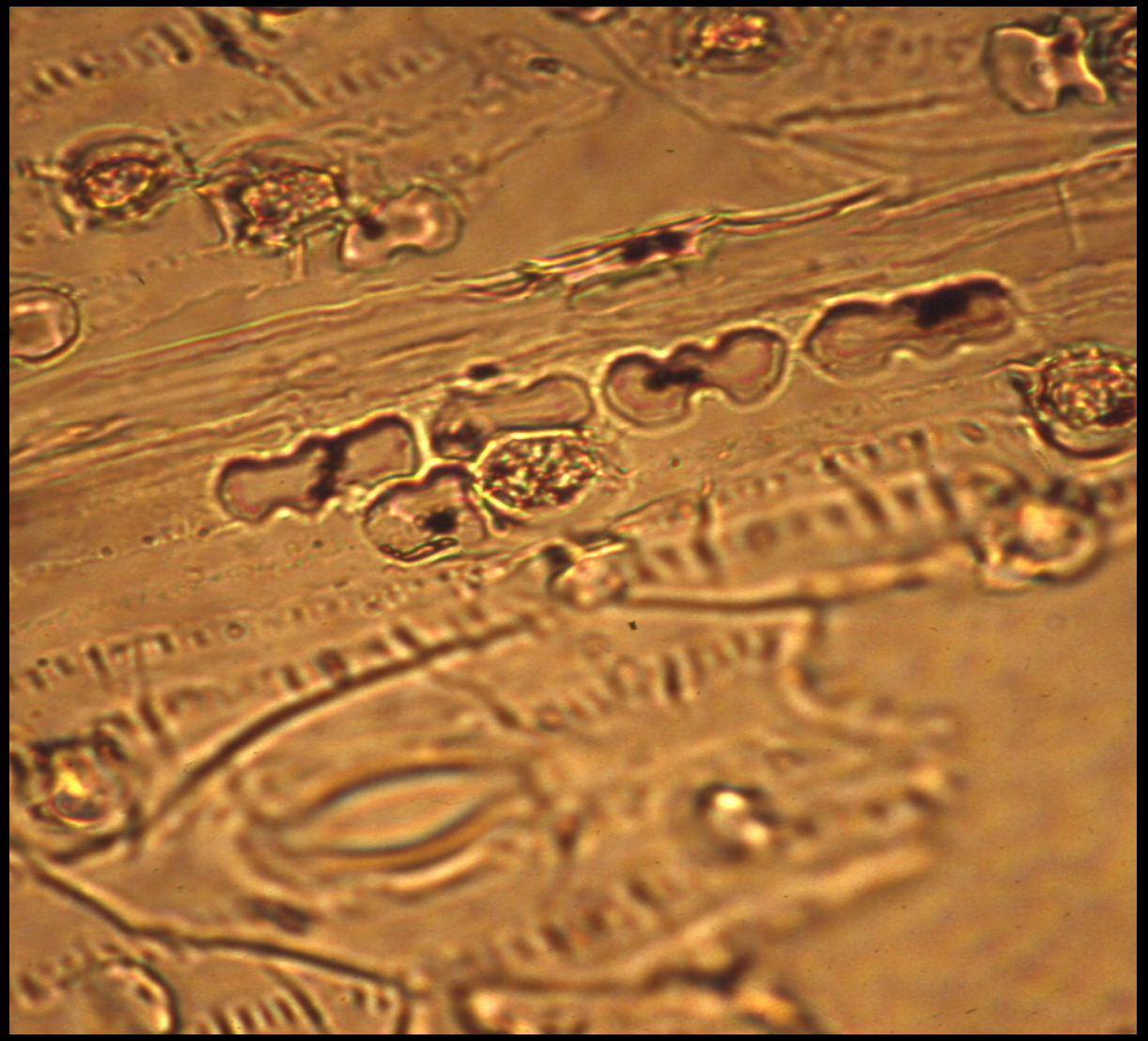
Dumbell-shaped opal phytoliths in *Stipa lepida* leaf



Preliminary Results: Phytoliths

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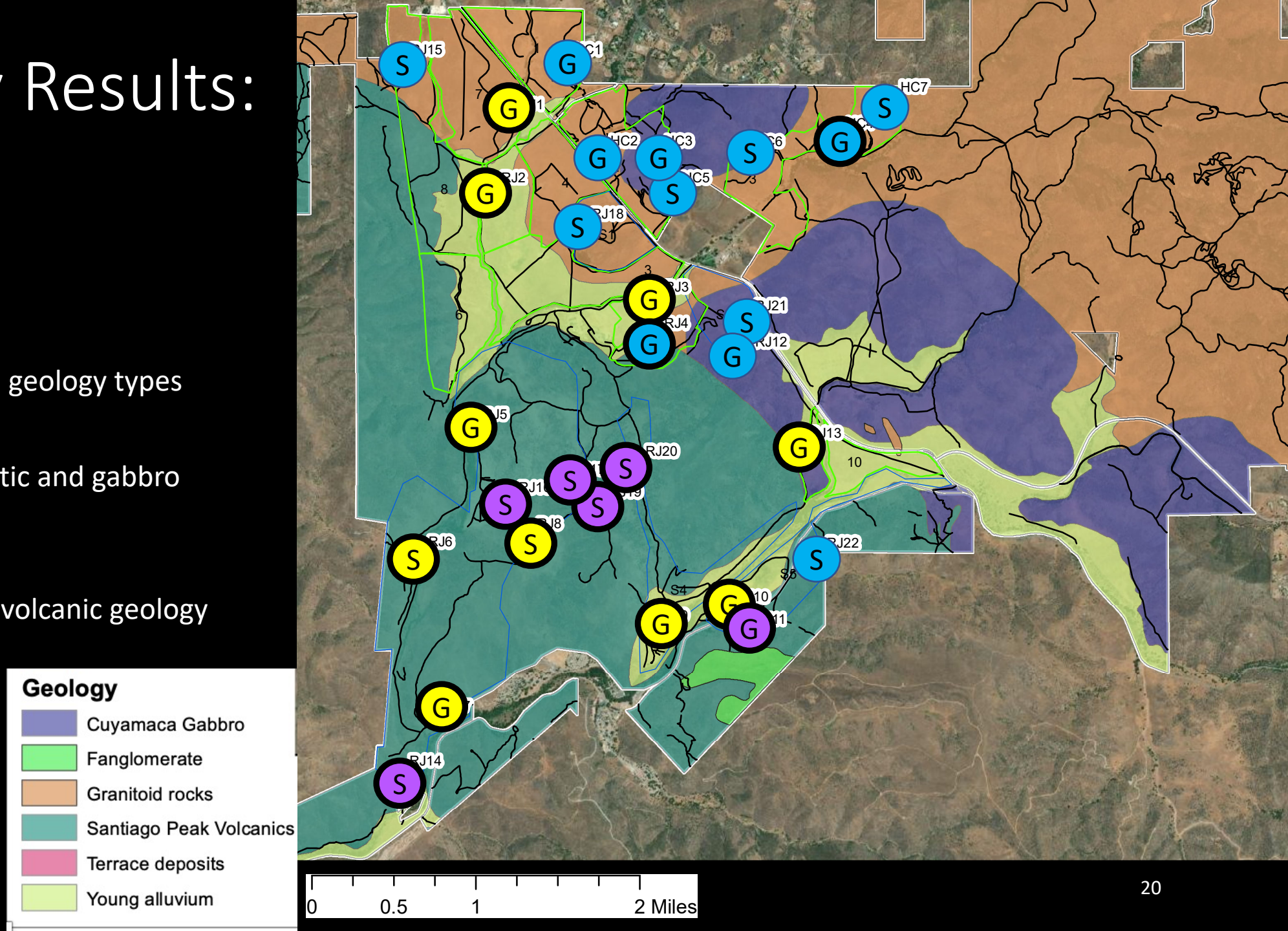

Next Steps

- Work with grazing operator and CDFW to evaluate and plan opportunities for grazing treatments
- Implement grazing treatments in key areas to test hypotheses about grazing impacts and observe change in target variables
- Populate STM/ESD models with observed states and transitions
- Write site-specific monitoring and management plan

Questions?