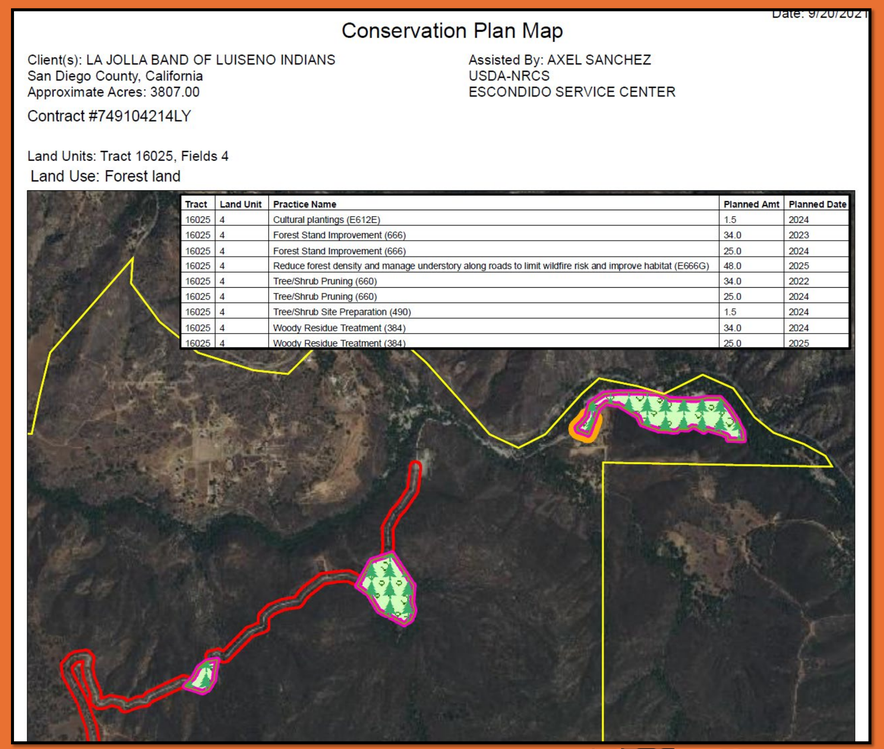
FIRE & NRCS on Trust Land at La Jolla 4-15-25



Date: 9/20/2021

Conservation Plan Map

Client(s): LA JOLLA BAND OF LUISENO INDIANS
San Diego County, California
Approximate Acres: 3807.00

Assisted By: AXEL SANCHEZ
USDA-NRCS
ESCONDIDO SERVICE CENTER

Contract #749104214LY

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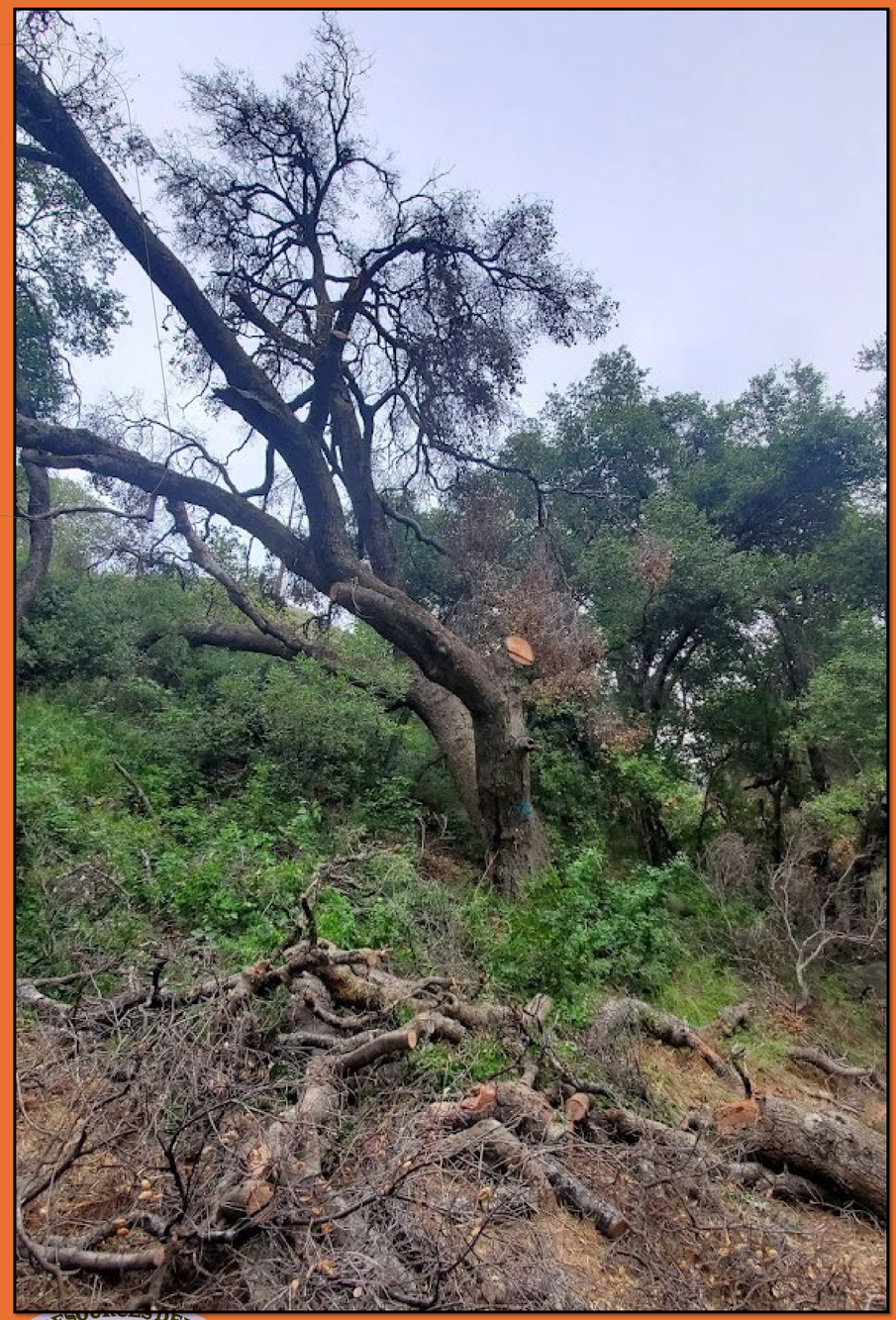

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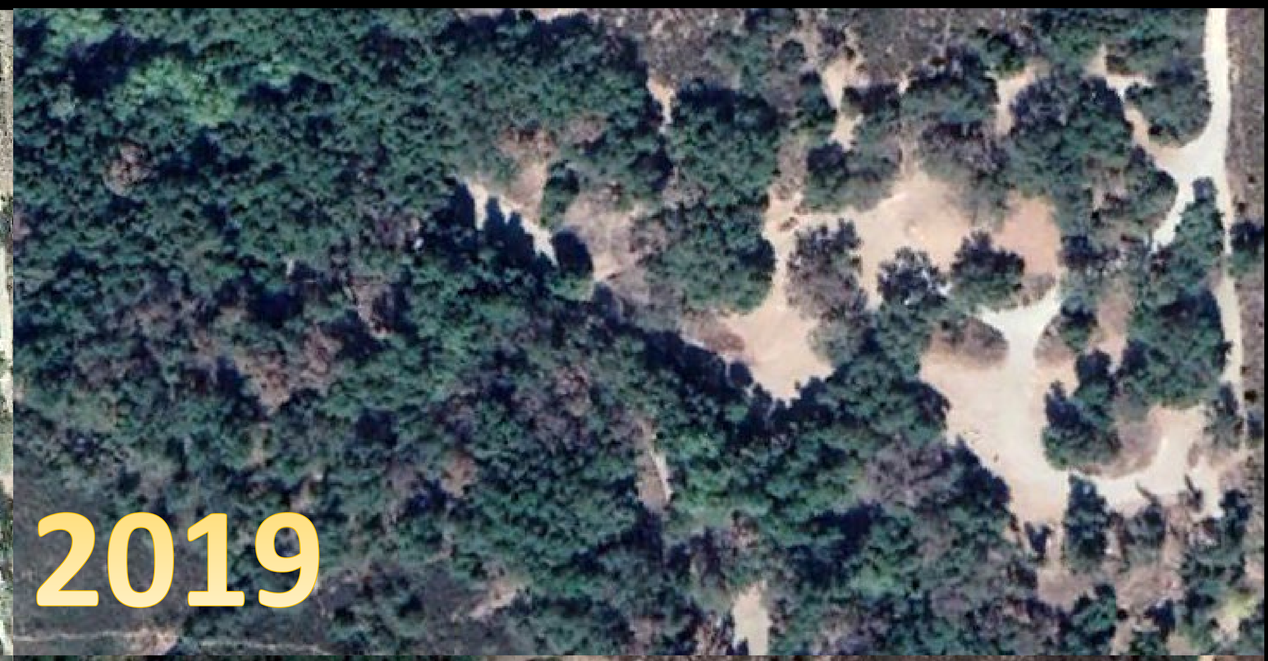
Problem = Wildfire potential + goldspotted oak borer + tree mortality + drought + topsoil loss + erosion + landslides + wind + negative feedback cycles…

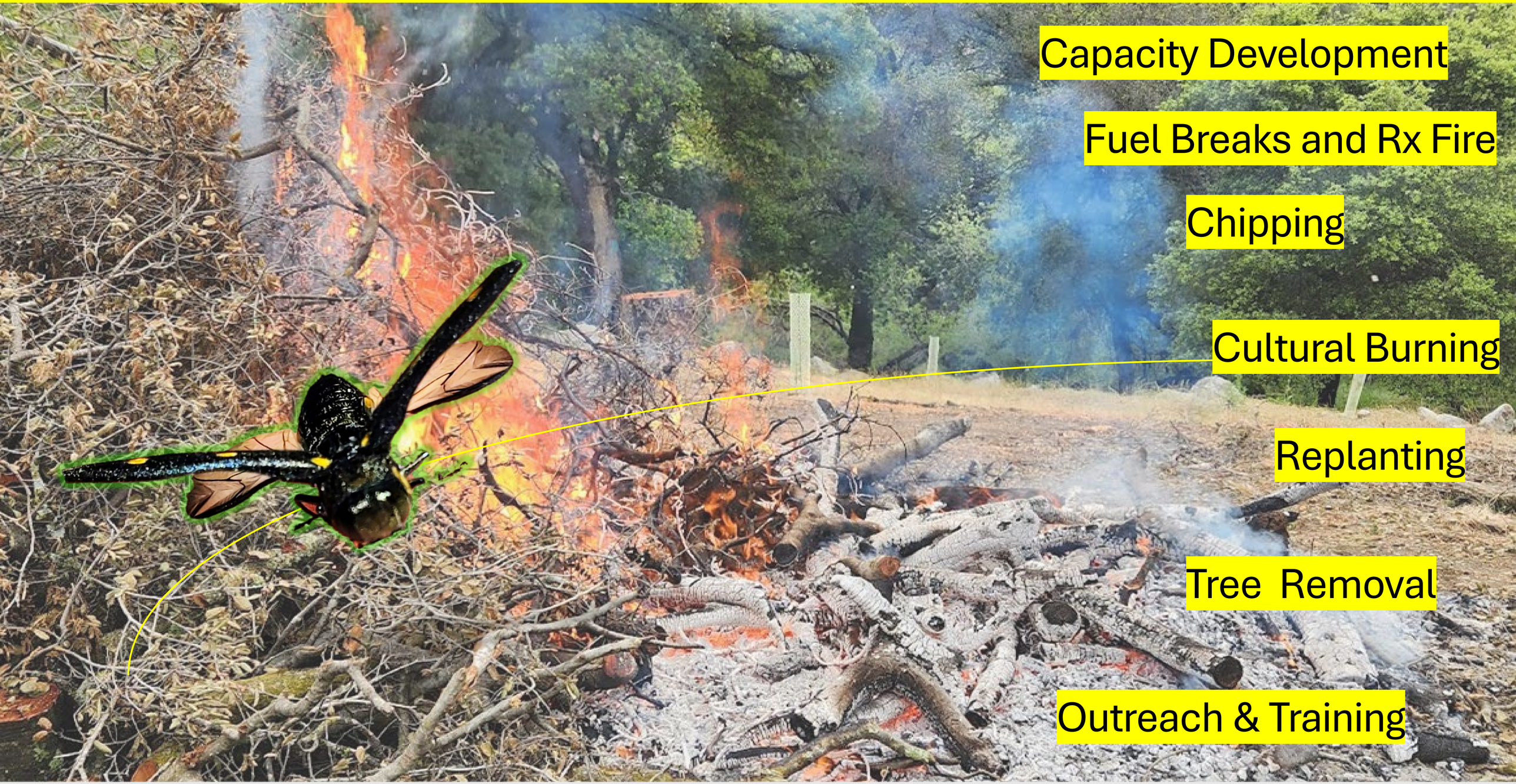
Photo: Valley Center Roadrunner

- 95% of reservation burned & 52 homes burned
- Goldspotted Oak Borer has caused over a million dollars in damage LJR
- Over 1000 trees have died in last 8 years

Loss of 300 trees over 30 Acres ~ $300,000 in first 3 years



Goldspottted oak borer Mitigation Strategies



Fast Facts- Goldspotted Oak Borer

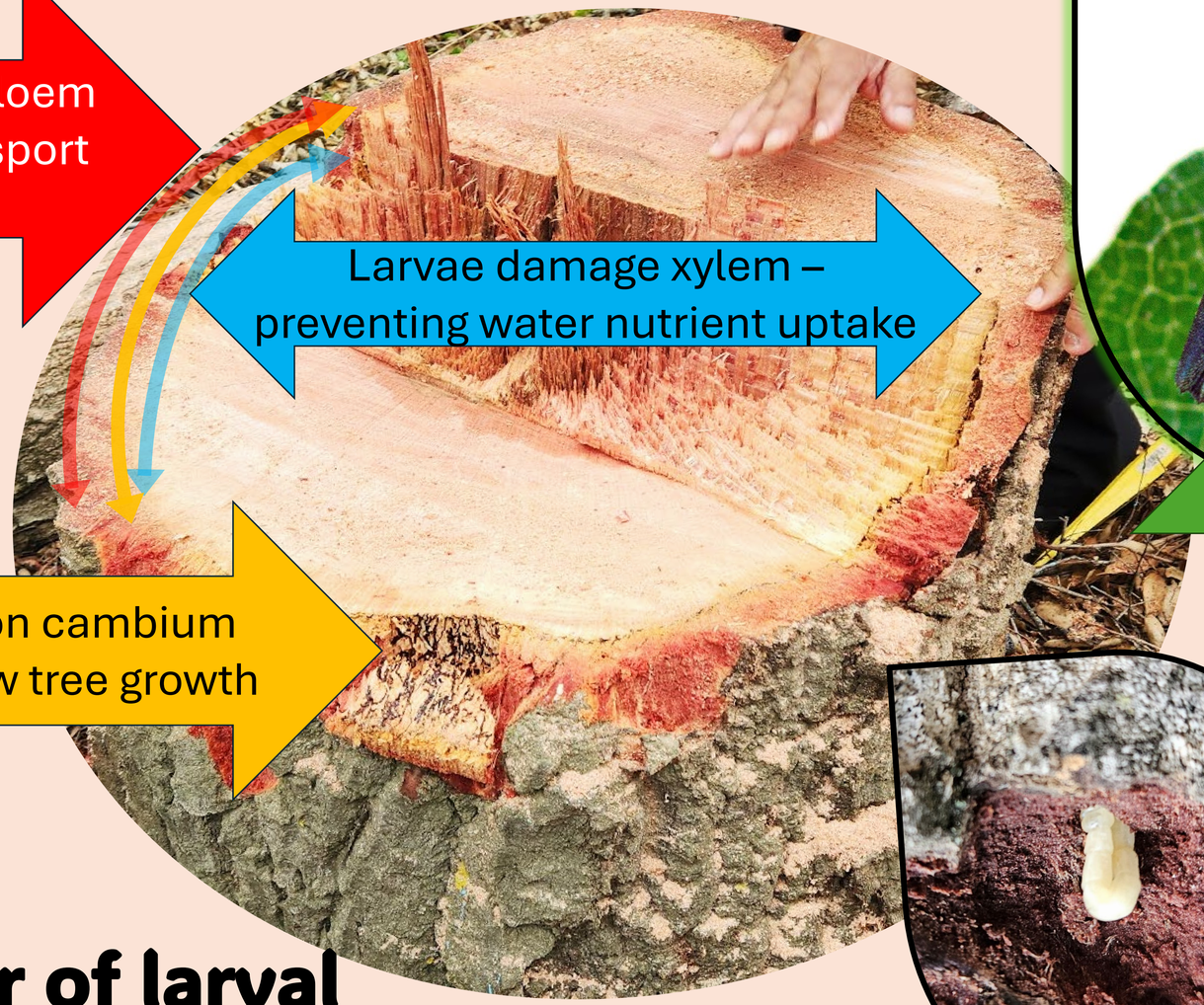
- Phloem feeding Buprestid jewel beetle
- Size of a grain of wild rice, with 6 gold spots
- Sourced to southeastern Arizona mountains[1,2]
- Red oak section of oaks, but also attacks golden cup (*Quercus* sect. Lobatae & Protobalanus) hosts for feeding and reproduction[3]
    - coast live oak – *Quercus agrifolia*
    - California black oak – *Q. kelloggii*
    - canyon live oak – *Q. chrysolepis*

Photo Credit. Mike Lewis

1. Coleman, T. W., and S. J. Seybold. 2008. Previously unrecorded damage to oak, Quercus spp., in southern California by the goldspotted oak borer, Agrilus coxalis Waterhouse (Coleoptera: Buprestidae). Pan. Pac. Entomol. 84: 288Ð300
2. Coleman, T.W.; Seybold, S.J. Collection history and comparison of the interactions of the goldspotted oak borer, Agrilus auroguttatus Schaeffer (Coleoptera: Buprestidae), with host oaks in Southern California and Southeastern Arizona, U.S.A. Coleopts. Bull. 2011, 65, 93–108.
3. Venette, Robert C.; Coleman, Tom W.; Seybold, Steven J. 2015. Assessing the risks posed by goldspotted oak borer to California and beyond. In: Standiford, Richard B.; Purcell, Kathryn L., tech. cords. Proceedings of the seventh California oak symposium: managing oak woodlands in a dynamic world. Gen. Tech. Rep. PSW-GTR-251. Berkeley, CA: U.S. Department of Agriculture, Forest Service, Pacific Southwest Research Station: 317-329.

How do GSOB Kill trees?

Larvae feed on phloem limiting food transport for tree



Larvae damage xylem – preventing water nutrient uptake

Adults feed on leaves for 10 days before laying eggs

Larvae feed on cambium preventing new tree growth

Larvae get all the nutrition needed to develop into adult beetles

Each year of larval feeding causes tree injury until tree dies

Photos by J. Tamm La Jolla Band Indians & J. Tamm & Mike Lewis UC Riverside

Goldspotted Oak Borer ANNUAL LIFECYCLE

~ DEC - FEB

~ MAR - MAY

The annual life cycle primarily occurs protected under the tree bark. Life stages can overlap, and timing can vary with changing weather patterns. Adult beetle emergence is likely similar to other *Agrilus* beetles, which emerge after accumulation of ~450 growing degree days (base 50 °F), typically beginning in May with peak emergence in June/July.**

~ SEP –NOV

~ JUN - AUG

[8]* Coleman, T.W.; Jones, M.I.; Smith, S.L.; Venette, R.C.; Flint, M.L.; Seybold, S.J. 2015. Goldspotted oak borer, *Agrilus auroguttatus*. USDA Forest Service, Forest Insect & Disease Leaflet No. 183, 16 p.
~ Denotes estimate from Tamm unpublished field, lab observations, or research-based estimates; Photos by Joelene Tamm La Jolla Indians/UC Riverside Photos except GSOB in pupal Chamber K. Turner
D= days, W= Weeks, Mo= Months
**https://www.agriculture.nh.gov/publications-forms/documents/landscape-pests.pdf

Photos by: J. Tamm La Jolla Band of Indians & UC Riverside

Cultural Req's on Trust Land for Rx Burn

Fire Management Plan

Forest Management Plan

Prescribed Burn Plan

Smoke Mgmt. Plan

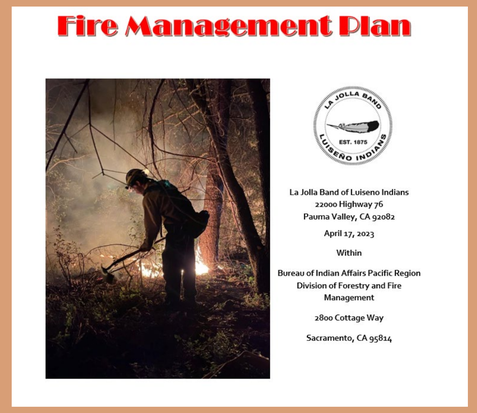
Qualified personnel & resources

NRCS completed NEPA

NRCS agreement

Good Weather

Nesting Bird



***Note, BIA regards cultural burning and regulates it as a prescribed fire**

Date: 6/20/202

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45 Acre plot

- High fuel load & tree mortality
- Has not burned in over 100 years
- LJ & NRCS staff had to crawl and hack through plot & could not access most of eastern half due to terrain
- Initial fuels work cost $45K to prep 6 acres due to low capacity of workforce, per acre cost has dropped to $3000 an acre.
- Only burned 2/6 acres due to weather and end of season.

5-30-24 Cultural & Rx NRCS Burn Day in the Campground

Photo credit by Condor Visual Media (2024 Cultural burn)

Photo credit by Condor Visual Media (2024 Cultural burn)

Post burn

Figure 4. This false-color composite revealed the impact of good fire on the landscape. Comparisons with pre-burn imagery showed significant changes in vegetation cover and health, providing critical data for evaluating cultural burn effects and guiding future burns.

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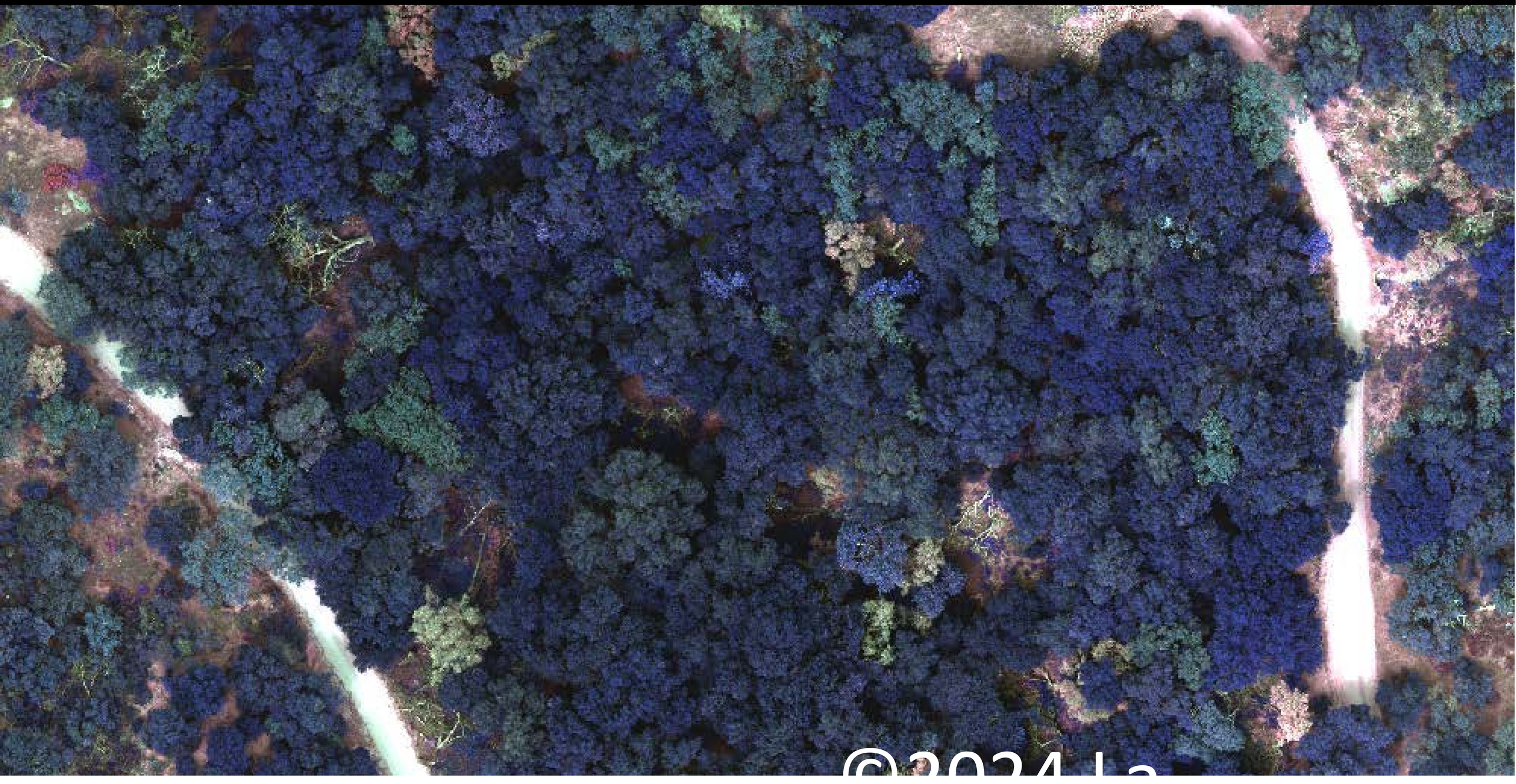
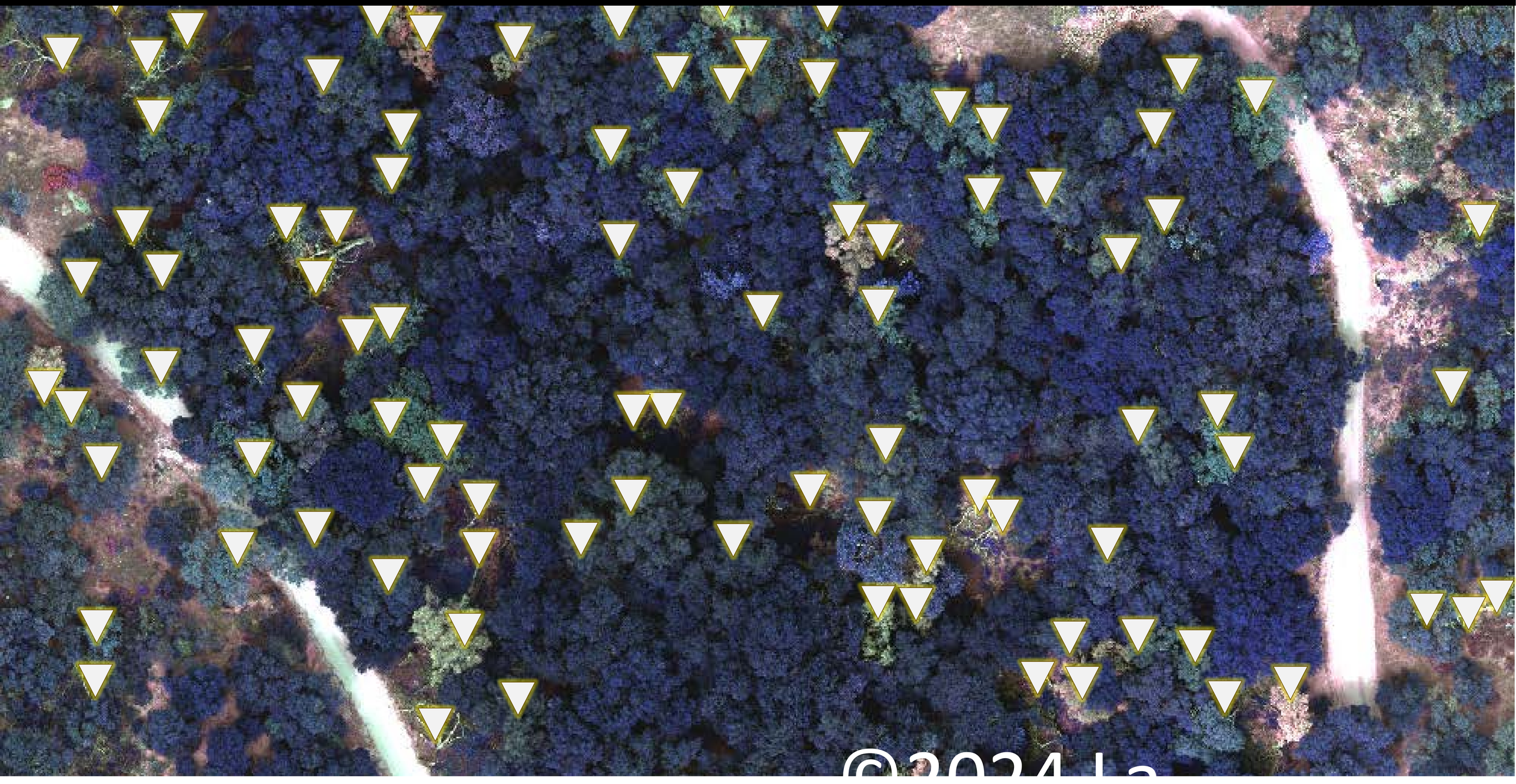
Oak Grove in false color depicting infra red



Stressed oak trees shown as brown, green, light purple



NRCS Burn Unit in collaboration with UCSD WIFIRE lab for terrestrical lidar scanning

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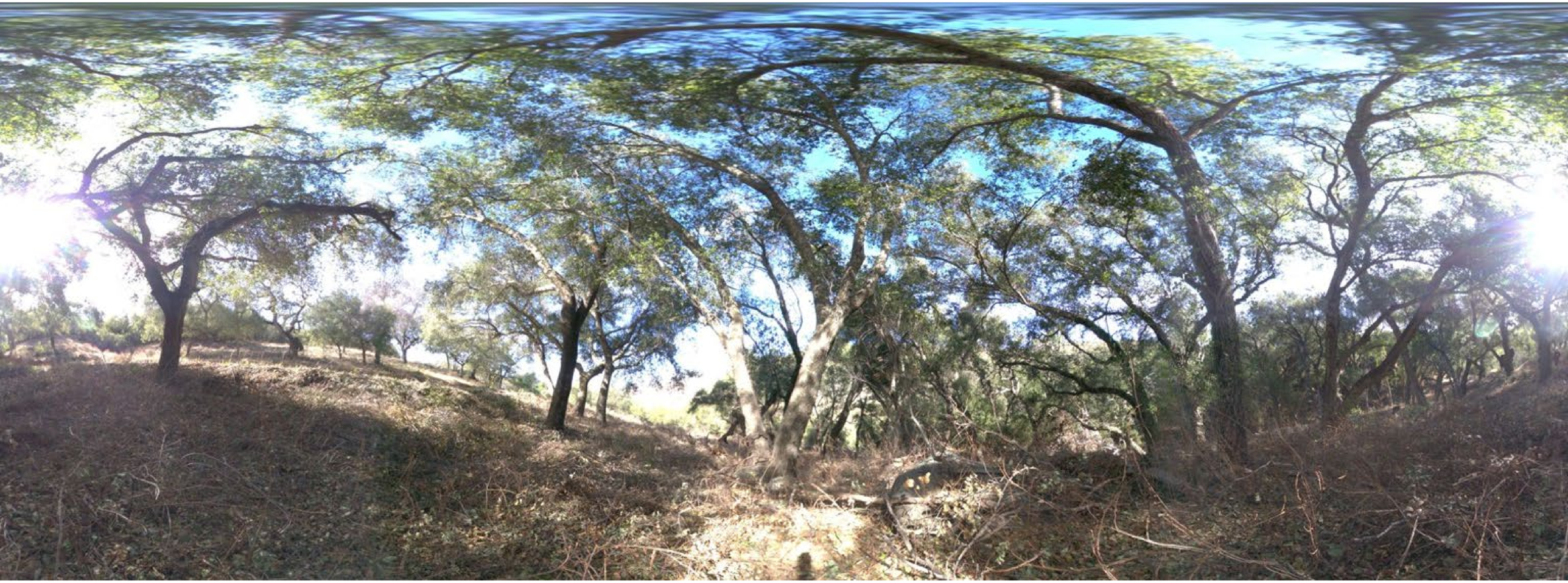
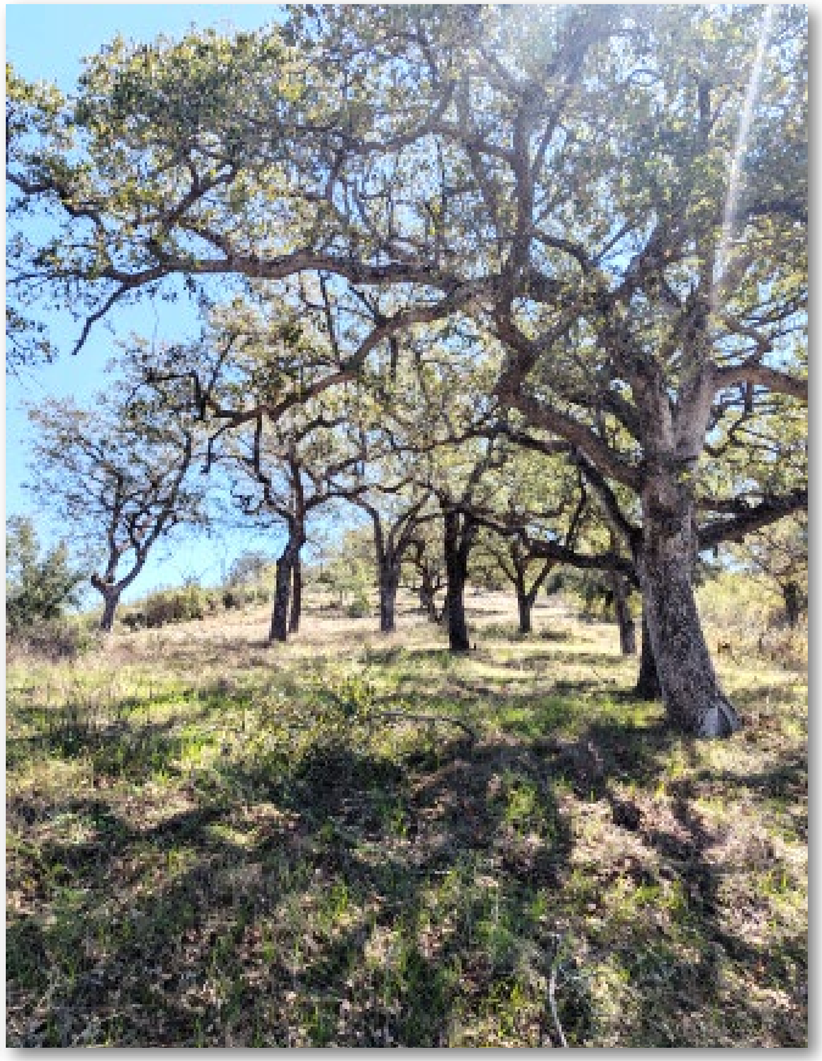
Large Grove – terrestrial lidar scan



Large Grove – terrestrial lidar scan

Large Grove – terrestrial lidar scan

Collaborating with community and agencies for education and resource conservation



Valley Of A Thousand Springs Fuel Break

- Used to slow wildfires (Paradise & Poomacha)
- Opens passageways for wildlife
- Access point for fire fighters to backburn in efforts to reduce fuel before a quick moving wildfire approaches.
- Maintenance March 2025 by fuels crew, needs annual brushing to be effective.
- Adjacent to NRCS Plots funded by CALFIRE

Alex Nowicki 2025

Questions & Comments

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Joelene.tamm@lajolla-nsn.gov
Bill.nelson@lajolla-nsn.gov
Wesley.ruisejr@lajolla-nsn.gov