

Chaparral Symposium IV: *Integrating science and stewardship to promote human and ecosystem resilience*

OVERVIEW: The 2024 Chaparral Symposium brought together scientists, managers, and stakeholders to address the costs and benefits of management action, and inaction, in the face of increasing wildfire risk and growing threats to biodiversity and ecosystem integrity. This year's symposium was hosted at Cal Poly, San Luis Obispo, thereby providing an opportunity to expand the conversation to include central coast shrublands, including maritime chaparral. The symposium included two days of presentations and posters, followed by a field trip to the Burton Mesa Ecological Reserve and the UC Sedgwick Reserve.

SYNTHESIS: Four distinct sessions highlighted essential aspects of chaparral research and conservation. Below, we summarize the key insights from each session.

BALANCING FIRE RISK & ENVIRONMENTAL IMPACTS

- Unlike montane frequent fire forests, there is typically tension between chaparral integrity and fuels reduction activities, including prescribed fire.
- To reduce ecological impacts, fuels reduction should focus on strategic areas for fire suppression and near values at risk.
- Strategic planning and community preparedness can amplify the effects of vegetation management on wildfire risk reduction.
- The SoCal EcoServe Tool can help guide shrubland management by incorporating ecosystem services, including sediment retention, carbon storage, and water provision.

EFFECTS OF CHANGING FIRE REGIME IN CHAPARRAL

- Short interval fire reduces native woody regeneration and can result in local extirpation of obligate seeding species.
- The resilience of obligate seeding species to fire interval differs by species and geography.
- Nonnative flashy fuels often colonize frequently disturbed shrublands and can increase the likelihood of ignition.
- Further investigation is needed into the effects of long fire-free periods on chaparral and sage scrub.

STRATEGIES & GOALS FOR STEWARDING CHAPARRAL

- Developing clear measurable management objectives (e.g. wildfire risk reduction, enhanced forage production, cultural values) is the first step to successful chaparral management.
- Immaturity, senescence, and succession risk vary with chaparral type and should be incorporated into management decisions.
- Typically fuels reduction activities conflict with ecological goals, however, more monitoring is needed to inform when and where there may be alignment.
- Fuels reduction in chaparral may have negative effects locally where management occurs but may protect larger swaths from burning too frequently.
- Opportunities for engaging in prescribed fire are expanding in central and southern CA through TREX events and PBAs.

RESTORATION – APPROACHES & LESSONS LEARNED

- Re-establishing chaparral shrubs is challenging in areas that have type converted to nonnative species.
- Planting soon after disturbance greatly improves survival and restoration success.
- Restoration success is greater with sage scrub in comparison to chaparral species.
- Plant traits (acquisitive vs conservative) can be helpful in predicting re-establishment success. Generally, drought avoiders that shed leaves and grow rapidly (e.g. *Artemisia* and *Eriogonum*) experience the highest survival.



Strategies and goals for stewarding chaparral discussion panel

FIELD TRIP TAKEAWAYS:

- Burton Mesa's shaded fuel break exhibited many co-benefits by reducing flammable vegetation around Lompoc, CA, and providing strategic locations for firefighting while maintaining rare endemic species.
- Sedgwick Reserve provided firsthand opportunities to view prescribed fire experimentation in coastal sage scrub and oak woodland habitats, as well as training opportunities through TREX.



Field trip to visit a shaded fuel break at Burton Mesa Ecological Reserve in Lompoc, CA



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