

Fire Behavior and Fuel Best Management Practices



UPPER SALINAS-LAS TABLAS
RESOURCE
CONSERVATION DISTRICT

Fire and Fuels Best Management Practices

NOT ALL FIRE IS BAD FIRE

- Native California flora is adapted to low and medium intensity fire events occurring at regular intervals.
- Don't make plans to stop fire completely, but you can lessen the intensity and severity of the event.
- Fire return interval is variable and based on many factors including elevation, vegetation class, and aspect.



- Our native oak species have thick, fire-resistant bark. An abundance of fuel built up within the drip line of native oaks may still allow for a ground fire to superheat and engulf the crown.
- Most of the native brush/chaparral species sprout from root balls and can survive low-medium intensity fire events.
- It is normal for small "sanitation fires" to burn annual fuels, thatch, duff, small brush, dead downed large wood. These are healthy fires which re-introduce nutrients into the soil and reduce resource pressure by culling weaker growth.
- Many fire-adapted pine species have serotinous cones (need fire to open and spread seed).



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Grass fire is typically a low height/intensity fire in annual fuels.

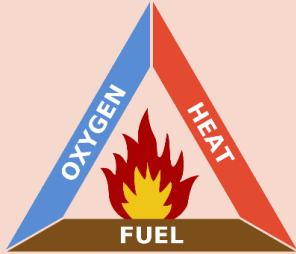
Brush fire is typically a medium height/intensity fire in perennial brush.



Crown fire is a high intensity fire and difficult to control.



Fire and Fuels Best Management Practices



Fire triangle: Oxygen, Heat, Fuel. We can control fuel to some extent. This is where appropriate proactive measures can lessen the intensity of fire.

- Fire can burn quickly up a slope. Convection heat prepares fuels by drying them in advance of flames.
- Typically, fire burns slowly down a slope.
- Recurring low intensity fire will increase self-pruning in native trees keeping canopy high enough to withstand regular low intensity fires.
- Decades of fire suppression in the west have allowed fuels to accumulate, resulting in very hot and very intense fire which is difficult to control.
- Manual treatment coupled with prescribed herbivory can emulate low intensity sanitation fire.
- Reducing ladder fuels means creating vertical separation between fuel on the ground and the canopy.
- Prescribed fire can be a useful tool.
- Prescribed burns can act like a vaccination against a dangerous wildfire.



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- Limb up standing live trees to increase clearance between the ground fuels and limbs.
- Practice strategic prescription thinning of living trees and brush.
- Remove standing dead trees (exception for habitat trees).



- Remove or lop and scatter large, downed wood (exception for habitat logs).
- Use a chipper or masticator to break down woody material on a site.
- Do not “sweep” the forest floor – the duff layer is vital to the ecosystem. No treatment should end with bare soil.

- Follow manual treatments with prescribed herbivory for maintenance. Return to the treatment area every 2-3 years for removal or chipping of larger debris, as necessary.
- Avoid removing 100% of any native species. All native plant species are there for a reason and serve an ecological purpose.



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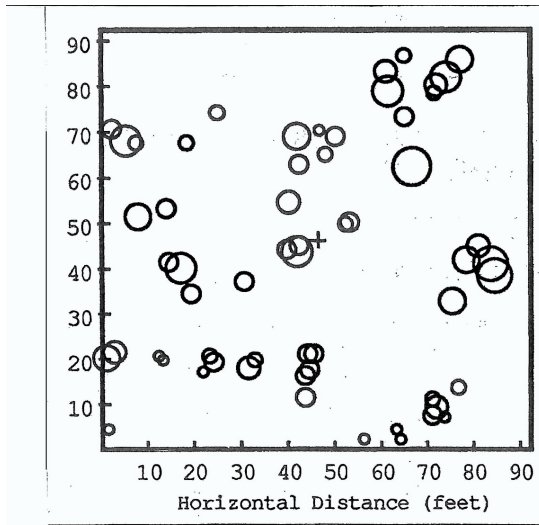


Figure 1a—Stem map for Plot 2-3 before thinning (about 240 ft²/ac).

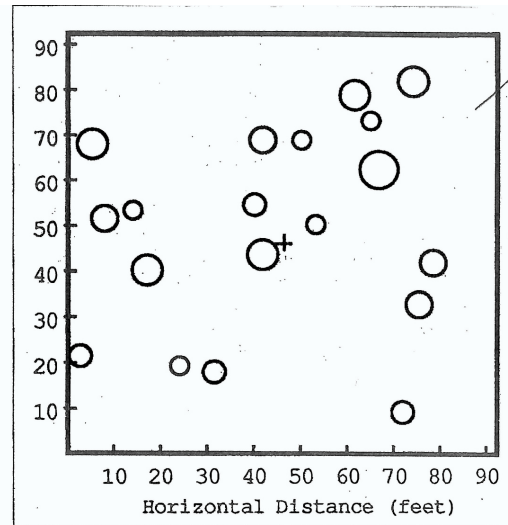
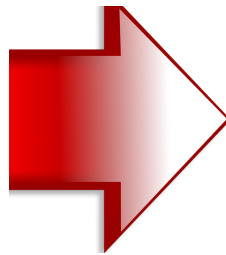


Figure 1b—Stem map for Plot 2-3 after thinning (about 100 ft²/ac).

This stem map plot is an example of thinning to reduce horizontal fuel continuity. Note the diversity of stem diameters remaining. Reducing the fuel loads from the forest floor while removing low hanging limbs from live trees will reduce vertical continuity of fuels.



High vertical fuel continuity
(ladder fuels)



Reduced vertical fuel
continuity

**Upper Salinas-Las Tablas
Resource Conservation
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Firesafe Council, or CAL FIRE
office for more wildfire
preparedness tips or for
technical assistance on site.