

# CalFire's Vegetation Management Program: A Field-Based Training Summary, Reflections, and Next Steps First Stop: Trabing Fire Area

On Friday February 27<sup>th</sup>, a group of forest and fire agency personnel, researchers, protected lands managers, and regulators spent the day touring and discussing CalFire's techniques employed by the agency's Vegetation Management Program and the regulations that affect implementation of this program. This document reviews what happened at the first stop that day. There were two presentations at the site:

*Incident and local response, Greg Estrada, CAL FIRE Battalion Chief*  
*Local Fire District Vegetation Management Needs, Tom Crosser, Aptos LaSelva Fire Chief*

Other information in this document is attributed below, or the product of group exploration and discussion.

## Site Overview

### ***Fire History***

The Trabing Fire started on June 20, 2008 and burned 590 acres before it was contained 2 days later. The fire destroyed 75 structures and damaged 12. The fire began from Highway 1 in grass and small pine trees. It quickly spread through eucalyptus stands and created spot fires ahead from torching eucalyptus tree firebrands. An estimated \$999,309.00 was spent on fire suppression.

According to CalFire, there are no historic fires on record for the site. The long time interval since prior fire may have contributed to the fuel loading and fire intensity.

### ***Natural History***

It should be noted that the region where this fire took place consists of large groves of blue gum Eucalyptus, extensive stands of other weedy vegetation including French broom, cape ivy, acacia, and jubata grass, patches of ruderal grassland and pasture, as well as small remnant areas of maritime chaparral.

This area of Santa Cruz County has sandy soils and a long history of disturbance, and so weeds such as blue gum and acacia are well-established and spreading into larger and larger areas of the landscape, presenting quite a challenge to the private landowners who mostly control this land. The area's main sensitive habitats include maritime chaparral, 'San Andreas oak woodland' and Santa Cruz long-toed salamander habitat.

A planner with the group noted the presence of Hooker's manzanita (*Arctostaphylos hookeri hookeri*), which was the target of various mitigation requirements in the fire area, including some planting of the species along a roadway we visited. Scientists touring with us noted that this manzanita species is narrowly distributed, naturally occurring only from the Trabing fire zone to just south of Carmel along the coast. This species is joined

by three other sensitive maritime chaparral species in the Trabing fire area, Monterey Ceanothus (*Ceanothus cuneatus rigidus*), Monterey spineflower (Federally 'threatened' *Chorizanthe pungens pungens*), and Robust spineflower (Federally 'endangered' *Chorizanthe robusta robusta*). Parcels in the vicinity have been required by the County to mitigate for impacts to the Monterey Ceanothus and Monterey spineflower.

It was unclear during the trip if the fire affected areas of known Santa Cruz long-toed salamander habitat, though the species is known from the general vicinity. We did learn from experts on the trip that this endangered salamander uses ponds to breed in and then lives in maritime chaparral and oak woodland as adults. It especially prefers areas with large woody debris on the oak forest floor.

### ***Jurisdictional Geography***

The fire took place within the planning and permitting jurisdiction of the County of Santa Cruz, but outside of the area also overseen by the California Coastal Commission, known as the Coastal Zone. It is in a "State Responsibility Area" area, and so CalFire is the agency 'in charge' for fire-related issues.

### **Fire behavior and response**

Greg and Tom explained to participants about how the fire progressed and behaved. The following points are of particular interest:

- There were no other major fire incidents in the state when this one broke out
  - So, no real competition for fire fighting resources
- Probably started by hot carbon particles blown out by engine along the highway
- Very unusually hot temperatures and low humidity, not high wind
  - 108°F and 4% humidity in nearby Corralitos at 2 pm, right before the fire started
  - Wind from west
- Unusual fire behavior due to blue gum Eucalyptus
  - Huge fuel loads on ground
  - Convection from heat of historic proportions, carrying ¼" flaming debris 2,000 feet up in air
  - 200 spot fires almost immediately started due to flaming debris
- Response time was unusually quick
  - Air support already in air
  - Command already in route
- Even houses that had good clearance caught on fire
- Roadside vegetation somewhat hampered action

### **Vegetation Management**

We discussed two aspects of vegetation management: first, what could have taken place to improve the situation prior to the fire; second, what was taking place in advance of the fire that can help inform future action.

### ***Could Have....Prior to Fire***

There were a host of suggestions about what could have been done to improve the situation before the fire. These include, in order of importance:

- Improved vegetation management along the Highway 1 corridor
  - large amounts of dead branches shed from Eucalyptus onto the ground near the highway allowed quick spread of the fire
  - reducing the amount of dead material on the ground within 100 feet of the highway as well as reducing ladder fuels within that buffer would have possibly allowed enough time for firefighters to have arrived on the scene before the fire got explosively out of hand and spread to adjoining properties
- Improved vegetation management along Trabing road, which fronts Hwy 1
  - Firefighters arriving initially were deterred from driving along Trabing road and assessing the extent of the fire
- Improved design, maintenance, and materials of structures
  - Structures burned because embers entered them into vulnerable spots such as eaves, etc
- Improved vegetation management around structures
  - Many structures that were destroyed had inadequate vegetation management

### ***Was Happening...Prior to the Fire***

Two homes we saw had performed adequate vegetation management prior to the fire, allowing fire fighters to remain at the homes and protect them. These homes were a short distance from Trabing Road, and a short distance from the original ignition points of the fire. One house, despite good preparation, had to have fire extinguished on its deck and perhaps one other place.

In the same vicinity as above, we witnessed 3 sites where homes were completely destroyed due to the fire. None of these homes had adequate vegetation management, which may have contributed to their demise, along with the speed of the fire and impossibility of adequate response time.

At one of these burned home sites, we discussed a vegetation management project that was pursued prior to the fire and then completed after the fire. The homeowner was working prior to the fire with the County of Santa Cruz Planning Department's Bob Loveland.

Bob explained to us aspects of his department's permitting process and discussions with the homeowner. Highlights of his talk included information about the permitting process (see Appendix 1), as well as the following:

- the landowner at this location had worked with the County to get approval for
  - land clearing permit (cost ~\$650)
    - size of the project was greater than one acre
    - permit did not require planting of native vegetation, etc., as there were many native species in the understory so Bob considered the site to be self-restoring
  - erosion control plan (cost varies, depending on contractor's price)
- the barrier to this project moving forward was that the landowner was not able to afford the removal of the Eucalyptus trees

Additional information, including the exact language of Santa Cruz County planning codes regarding land clearing can be found in Appendix 1.

#### Future Directions, Thoughts, Discussion

The group spoke about several things in response to the presentations:

- What are the vegetation management rules and regulations; who enforces those?
- Some way of creating a more affordable way to control Eucalyptus
- Emerging permit coordination programs for vegetation management

CalFire discussed what was required under current state guidelines for vegetation clearance for structures. The guidelines are included at:

[http://www.fire.ca.gov/cdfbofdb/PDFS/4291finalguidelines2\\_23\\_06.pdf](http://www.fire.ca.gov/cdfbofdb/PDFS/4291finalguidelines2_23_06.pdf)

Inspections are ongoing in different areas by different agencies, it depends on what is the lead fire response agency in a given geographic spot. Not all municipalities have adopted the most current state fire marshal guidelines of 100' of vegetation management. When CalFire inspects structures under their jurisdiction, they refer to the current standards and staff with varying levels of experience interpret the guidelines with varying perspectives. CalFire can fine those not in compliance. CalFire does not require homeowners to remove trees, even when there are dense stands such as in the Eucalyptus forests that surrounded this field location. Rather, CalFire requires homeowners to clean up understory dead biomass, reduce live fuels, and create a vegetation structure to reduce fuel ladders and continuity.

The group discussed the often very expensive, sometimes prohibitive costs of Eucalyptus removal. Various people reflected on past and present cost savings programs, where, when scale and economy permit, various businesses were/are able to control Eucalyptus cheaply because of the revenue they were able to generate by selling the biomass for energy or paper production. Participants suggested the need for a decentralized and perhaps portable biomass energy producing system to reduce trucking costs of Eucalyptus chips.

Kelli Camara of the Santa Cruz County Resource Conservation District discussed incorporating vegetation management for fuels reduction practices and projects into the next round of the RCD's permit coordination program for the areas surrounding the Santa Cruz long-toed salamander. This would allow landowners a much easier process to manage vegetation in this much-regulated geographical area.

## Appendix 1: Santa Cruz County Code Citations

### 16.22.080 Land clearing approval.

Land clearing shall be kept to a minimum. *Vegetation removal* shall be limited to that amount necessary for building, access, and construction as shown on the approved erosion control plan. The following provisions shall apply:

(a) When no land development permit has been issued, the following extents of land-clearing require approval of an erosion-control plan according to the procedures in Chapter 18.10; Level III:

1. Any amount of clearing in a sensitive habitat, as defined in Chapter 16.22.
2. One-quarter acre or more of clearing in the Coastal Zone if also in a least-disturbed watershed, a water supply watershed, or an area of high erosion hazard.
3. One acre or more of clearing in all areas not included in Items 1 and 2.

(b) When a land development permit has been issued, land clearing may be done according to the approved development plan.

1. For land clearing in the Coastal Zone which will be more than that shown on the approved erosion-control plan, a new land-clearing approval is required if the land is located in a least-disturbed watershed, a water supply watershed, or an area of high erosion hazard.

2. For land-clearing in any area which will include more than one acre in excess of that shown on the approved plan, a new land-clearing approval is required.

(c) Approval of land clearing shall meet the following conditions. All disturbed surfaces shall be prepared and maintained to control erosion and to establish native or naturalized vegetative growth compatible with the area. This control shall consist of:

1. Effective temporary planting such as rye grass, barley, or some other fast-germinating seed, and mulching with straw and/or other slope stabilization material;
2. Permanent planting of native or naturalized drought resistant species of shrubs, trees, etc., pursuant to the County's Landscape Criteria, when the project is completed;
3. Mulching, fertilizing, watering or other methods may be required to establish new *vegetation*. On slopes less than 20 percent, topsoil shall be stockpiled and reapplied.

The protection required by this section shall be installed prior to calling for final approval of the project and at all times between October 15 and April 15. Such protection shall be maintained for at least one winter until permanent protection is established.

(d) No land clearing shall take place prior to approval of the erosion control plan.

*Vegetation removal* between October 15 and April 15 shall not precede subsequent grading or construction activities by more than 15 days. During this period, erosion and sediment control measures shall be in place.

(e) Land clearing of more than one-quarter acre that is not a part of a permitted activity shall not take place on slopes greater than 30 percent. (Ord. 2982, 9/2/80; 3337, 11/23/82; 4496-C, 8/4/98)