Construction and Maintenance of Fuel Breaks Basic Concepts

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Topics of Discussion

- Introduction
- Basic Wildland Fire Behavior
- Safety Verses Risk
- Fuel Models
- Tools of Vegetation Management
- Regulatory Considerations
- Available Assistance Programs

Introduction

- Registered Professional Forester and PCA
- 16 years CALFIRE Forester
- Bachelor of Science Forest Resource Management Cal Poly San Luis Obispo Go Mustangs!
- Returned Peace Corp Volunteer Guatemala 83-85

Basic Wildland Fire Behavior

Factors effecting Fire Behavior include:

- Weather
- Topography
- Fuel

Weather

Temperature
Relative humidity
Wind

Topography

Aspect and steepness

Fire burn faster uphill steeper the slope fast it burn

Hotter and dryer on south and west slopes

Fuel

Bulk Weight
Size- 1 hour to 1000 hour
Vegetation type

Safety vs. Risk

- Never going to be completely safe from wildland fire living in the wildlands
- Only reduce risk fuel reduction will reduce risk

Fuel Models

- Grass
- Brush
- Timber
- Anderson Fuel Model Handout

Wildland Fire Types

- Wind Driven Fire
- Fuel Driven Fire

Tools of Fuel Reduction or Vegetation Management

Strategic vs Landscape

- Strategic fuel reduction usually along a dominate ridge, road or important infrastructure
- Landscape anywhere in a area
- One mans important infrastructure is another mans landscape fuel reduction

Mastication

Tractor Piling and Burning

Mowing and Pruning

Mowing

- Mostly Appropriate Grass fuel models
- Mow in the morning or duing period of low humidity

Pruning Methods

- Elevating the crown Exccurrent trees
- Raising a tree skirts- Decurrent type trees

Commercial Timber Operations

CAL FIRE regulates commercial timber operations which involve:

- Selling, bartering, or trading commercial tree species
- Converting timberland to other uses
- Common commercial species include:
  - Douglas fir, ponderosa pine, sugar pine incense ceadar Ca. black oak, Oregon white oak, madrone when growing on lands where above conifers species are naturally currently growing or have in the recorded past.

Herbicide Use in Fuel Reduction

- Bare ground applications
- Post treatment of sprouting and germinating brush after mechanical operations
- Treatment of vegetation prior to mechanical operations
- Post treatment of Noxious weeds

Bare Ground Applications

- Primarily conducted on critical infrastructure site such as substations, railroad facilities and power poles for compliance of the Public Resource Code
- Bare ground applications usually require the use of pre-emergent herbicide
- Going to need to consult with a Pest Control Advisor or Licensed Applicator

Post Treatment after Mechanical Operations

- No herbicide on reforestation site in Jerseydale after the Carstans Fire.
- Trees planted with no herbicide follow-up, very low survival rate

Treated Shaded Fuel Break

Treating Sprouting and Germinating Brush

- For many forestry applications a mix Triclopyr and Glyphosate will work.
- This mix will treat sprouting oak, germinating manzanita, Ceanothus and other common brush species.
- Will also treat noxious weeds such as French Bloom, puncturevine and Himalaya blackberry
- Available ‘over’ the counter at the hardware store

Best Practices

- Always follow the Label, the label is the law!
- Spray in the late spring, early summer when brush is actively growing.
- Do use when rain is forecast or when raining
- Do spray when wind is more than 10 miles per hour or less than 2

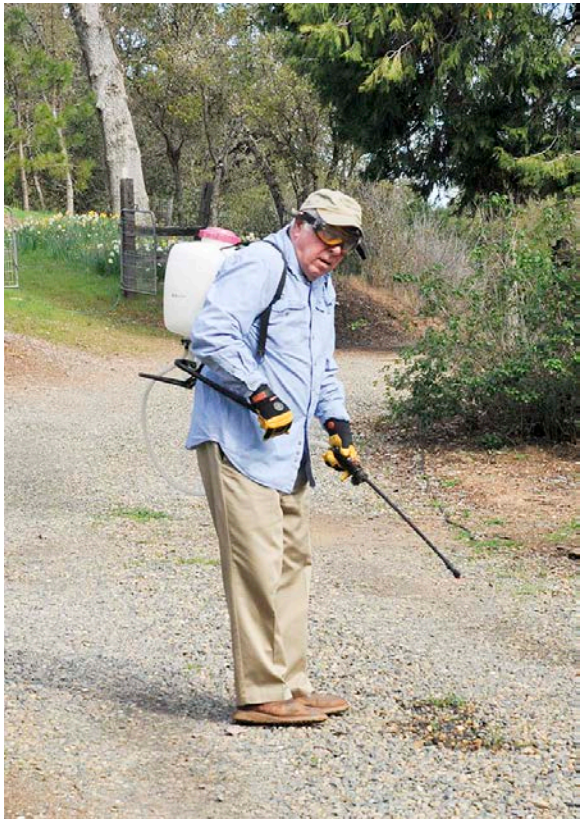
Best Practices cont.

- Do not apply when hot and dry. Temperature above 90 F RH below 25%.
- Do spray near water courses or open wells
- Keep animals and livestock out of spray until spray is dry on non cropland areas
- For cropland areas the worker Rentry period is 48 hours

Pre- treatment of Vegetation Prior to mechanical Operations

- Most common method is ‘Hack and Squirt”
- Used on mostly on Live Oaks
- Bark is hacked and the cambium layer is sprayed with Triclopyr.
- Can be unsightly and vegetation needs to treated soon after treatment

A well Dressed applicator



Regulatory Considerations

- Commercial harvesting may require timber harvest documents from CAL FIRE, even selling of firewood.
- Herbicide application is enforced by the County Ag Commissioner.
- Licensing of pesticide products, commercial applicators and advisors are regulated by Department of Pesticide Regulation.

Summary/random Thoughts

- Survey and Evaluate what needs to be treated and select most appropriate tools
- Seek consultation if Warranted
- After a mechanical fuel treatment plan to follow-up within year

BEFORE

AFTER

Musick Creek Fuel Treatment Project
(Fresno County near Shaver Lake)
Before and After Photos

Land Owner Assistance Programs

- NRCS- The Equip program (209) 966-3431
- CALFIRE- The CFIP Program Zsolt Katay (209) 754-2707

CFIP Eligibility

- Landowners must have 20 acres minimum, 5,000 acres maximum of forestland in CA.
- Must be nonindustrial private forestland that can support at least 10% native tree canopy.
- Landowner must agree to keep land in a compatible use (i.e., no conversion), and in forest management for a minimum of 10 years. Must record Land Use Addendum.
- $100,000 maximum project cost for first time landowners.

CFIP Eligibility

- Land must be zoned for Timber Production (TPZ) and/or for uses compatible with forest resource management.*
- Land in Agricultural Preserve (Williamson Act) also qualifies.
- Properties with Conservation Easements qualify if no restrictions on forest management practices are placed on it.

* Most qualify unless prevented by homeowner association Covenants, Conditions, and Restrictions (CC&Rs)

CFIP Eligibility

- Can not be used to complete requirements of other State programs (i.e., Timber Harvesting Plans, PRC § 4291 fire clearances).
- Eligible practices must comply with established rates.
- Requires the RPF and CAL FIRE Forestry Assistance Specialist (FAS) to work with the landowner.

CFIP Eligibility

- **<u>Eligible land owners include</u>**
  - Individual or married landowners
  - Multiple related or unrelated landowners
  - Corporations, LLC, legal partnerships
  - Public entities, agencies, non-profits
  - Trusts

The California Forest Improvement Program

To get started:

- Contact a Forestry Assistance Specialist (FAS) in your region to confirm eligibility.
- Contract the services of a Registered Professional Forester to plan treatments, write management plan, project description and supervise work.
- Submit a completed Project Agreement package

Eligible Treatment Types

- Land Management Plan
- RPF Supervision
- Site Preparation for Reforestation
- Tree Planting
- Mechanical Release
- Pruning
- Follow-up Slash Disposal and Herbicide

Questions?