FIRE SAFE SONOMA

Living with Fire
And SOD
In Sonoma County
• Fire & Fire Behavior
• Creating Defensible Space

SOD: Issues of management and disposal
Factors That Influence Fire Behavior

- WEATHER
- SLOPE
- FUELS
WEATHER

- Relative Humidity
- Temperature
- Wind
PREVAILING WINDS

In Sonoma County:

• Afternoon westerly onshore winds.
• Land heats, air rises, cooler ocean air flows in underneath.
• On-Shore flow usually begins in early afternoon
• Know how the winds typically blow on your property.
Great Basin High & Pacific Low = Northeasterly Foehn Winds!

• Heats by Compression
  $5^\circ$ per 1,000’
TOPOGRAPHY
Flat to Gentle Slope: 0 to 20%

Moderate to Steep: 21 to 39%

Very Steep: 40% and greater
RIDGETOP LIVING—
The View is Great, but...
CHIMNEY
We can only affect fuel...
HOMES AT RISK - Defensible Space is Crucial
What Is Defensible Space?

A space where vegetation and fuels have been modified so that an approaching wildfire’s power is moderated.

Homes without defensible space are a danger to firefighters. Lack of defensible space may be reason enough for firefighters to choose not to defend your home in the event of a wildfire.
CALIFORNIA CODES
PUBLIC RESOURCES CODE
SECTION 4291-4299

4291. A person that owns, leases, controls, operates, or maintains a building or structure in, upon, or adjoining any mountainous area, forest-covered lands, brush-covered lands, grass-covered lands, or any land that is covered with flammable material, shall at all times do all of the following:

(a) Maintain around and adjacent to the building or structure a firebreak made by removing and clearing away, for a distance of not less than 30 feet on each side of the building or structure or to the property line, whichever is nearer, all flammable vegetation or other combustible growth. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to any building or structure.

(b) Maintain around and adjacent to the building or structure additional fire protection or firebreak made by removing all brush, flammable vegetation, or combustible growth that is located within 100 feet from the building or structure or to the property line or at a greater distance if required by state law, or local ordinance, rule, or regulation. This section does not prevent an insurance company that insures a building or structure from requiring the owner of the building or structure to maintain a firebreak of more than 100 feet around the building or structure. Grass and other vegetation located more than 30 feet from the building or structure and less than 18 inches in height above the ground may be maintained where necessary to stabilize the soil and prevent erosion. This subdivision does not apply to single specimens of trees or other vegetation that is well-pruned and maintained so as to effectively manage fuels and not form a means of rapidly transmitting fire from other nearby vegetation to a dwelling or structure.
Creating Defensible Space:

Step I: Determine Distance

Steps One, Two, and Three

Step One: Determine Recommended Defensible Space Distance

Step Two: Remove Dead Vegetation

Step Three: Break-up Continuous Vegetation
Determine Percent of Slope

- Measure the percent of steepest slope from building to 150 feet.
- The slope on the downhill side of the building(s) is usually most critical.
- Also consider topographic features: chimneys, ridge tops, etc.
3. Determine Dominant Vegetation
### Defensible Space Recommended Distances

#### Step One:

**How Big is an Effective Defensible Space?**

<table>
<thead>
<tr>
<th>Vegetation Type</th>
<th>Steepness of Slope</th>
<th>Flat to Gently Sloping 0 to 20%</th>
<th>Moderately Steep 21% to 40%</th>
<th>Very Steep 40% +</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grass</td>
<td>Minimum Distance</td>
<td>30 Feet</td>
<td>50 Feet</td>
<td>100 Feet</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Wildland grass, weeds, and widely scattered shrubs with grass understory.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shrubs</td>
<td>Minimum Distance</td>
<td>50 Feet</td>
<td>150 Feet</td>
<td>150 Feet</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Includes shrub dominant areas such as chaparral, manzanita, coastal scrub, etc.</td>
<td>Includes vinyards.</td>
<td></td>
</tr>
<tr>
<td>Trees</td>
<td>Minimum Distance</td>
<td>30 Feet</td>
<td>50 Feet</td>
<td>150 Feet</td>
</tr>
<tr>
<td></td>
<td>Description</td>
<td>Includes forested areas such as oak woodland, conifer types, bay, eucalyptus.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Defensible Space Zones:

Concentrate first in the zones nearest structures.
Step Two: Remove All Dead Vegetation
Remove:

- All dead shrubs
- Standing dead trees
- Down dead trees
- Dead material in the crowns of trees and shrubs.

Ground litter: needles, leaves, branches. Reduce thick layers of pine needles and leaves. Do not disturb duff layer.
Standard Poodle Test
Mowing and Weed Whipping

- Dried Grasses and Wildflowers: Once grasses and wildflowers have dried out, mow to three inches.

**NEVER** mow when it is hot and dry!!!
Step Three: Break up Continuous Vegetation
HORIZONTAL CONTINUITY - CROWN TO CROWN
Recommended Separation Distances for Shrubs:

- Flat to Gently Sloping (0-20%): 2x
- Moderately Steep (21-40%): 4x
- Very Steep (+40%): 6x

Separation distance is dependent upon the shrub height and steepness of slope.
Recommended Separation Distances Between Tree Canopies

- Separation between tree canopies is determined by the steepness of the slope.
Step 4: Remove Ladder Fuels.

Step Five: Lean, Clean, and Green
Remove branches within 15 feet of chimney.

Step Six: Maintain Defensible Space
VERTICAL ARRANGEMENT

LADDER FUELS
Ladder Fuels
Ladder Fuels:
Ladder Fuels
Recommended Separation of Ladder Fuels
If You Don’t Do Anything Else- ELIMINATE THE LADDER FUELS!!!
Got Trees?

- Separate trees appropriate distance.
- Remove dead wood.
- Raise crown 10 feet.
- Remove ladder fuels.
DISPOSAL?

Chipping

Burn

Lop and Scatter

Utilization: furniture; building products; firewood; fabrics; energy generation.
Issues: Chipping

- Danger of spreading pathogen
- Cost
- Accessibility
Issues:
Landscape Scale Infestation

Pile and Burn
Prescribed Burn
Lop and Scatter

Costs of treatment?
Prescribed Burn

- Planning and setup
- Help
- Costs
- Risk
Where’s the Money?

- Grants?
  - Not very many fuels management grant programs available for Sonoma County
  - Cost Shares
  - High cost of landscape-scale mitigation

- Local, State and Federal recognition of SOD fuels management problems
Step 5: Lean, Clean & Green

Steps Four, Five, and Six

Step Four: Remove Ladder Fuels

Step Five: Lean, Clean, and Green
Remove branches within 15 feet of chimney.

Step Five: Lean, Clean, and Green

Step Six: Maintain Defensible Space
STEP FIVE:

Make it LEAN, CLEAN & GREEN in a 30 foot radius surrounding your buildings.
Lean, Clean & Green
Lean, Clean & Green

- Emphasize the use of low growing, non-woody plants like lawn, clover, selected ground covers, bulbs & perennial flowers.
- Irrigate during fire season to keep it green.
- Minimize use of fire-prone plants.
A Few Local Pyrophytes

- Manzanita
- Juvenile Doug Fir
- Bay Trees
- Scotch/French Broom
- Pampas Grass
- Scrub Oak
- Juniper
Lean, Clean & Green

- Deciduous ornamental trees and shrubs are acceptable if they are kept green, free of dead plant material and ladder fuels, and properly separated.
Lean, Clean & Green

- Individual specimens or small groups of wildland shrubs and trees can be retained so long as they are healthy, free of dead wood, and pruned to reduce the amount of fuel and height, and ladder fuels are removed.
Lean, Clean & Green

• Make driveways, paths, and pools part of your defensible space plan.

• Emphasize use of non-combustible mulches, rock, and hard surfaces like concrete sidewalks, brick patios, driveways.
10 FOOT CRITICAL ZONE NEXT TO BUILDINGS

- Flammable vegetation next to buildings, and under windows, decks, eaves, and soffits provide a direct path for flame intrusion.
- Avoid flammable vegetation within ten feet!

- Take a critical look at your house: It’s fuel too. Unfinished projects? Time for new siding?
- Keep it as clean as you can.
MAINTAIN! MAINTAIN!

- Remember: The strongest offence is only as good as its weakest defense.
- Annual Maintenance is crucial.
Thank you.

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Fire Safe Sonoma: www.firesafesonoma.org
Additional Measures to Protect Your Castle
Leaves & Debris on Roof

- Remove pine needles, leaves or other debris from the roof of any structure on your property.

- Pay special attention to gutters.
Check or Provide a Chimney Spark Arrestor

- Every Chimney requires a spark arrestor or screen over the outlet.
- Have your chimney checked and cleaned every year.
Flammable Materials Stored around Structures

- Do not Store lumber, firewood or other flammable materials up against a structure.
Firewood 30 Feet Out!

One cord of firewood contains **20 million BTUs**— equivalent to 160 gallons of gas!

Store firewood well away from any buildings.
Don’t Let Your Trees Grow Into the Powerlines!
Enclose the Underside of Decks

- The undersides of decks and overhangs can be heat traps.
- Enclose to deflect heat.

If you can’t enclose it, keep it clean!
- Never store lumber, firewood or any other flammable materials under your deck.
Street Names & Numbers

- Are your street signs posted and clearly visible in both directions?

- House number: clearly visible in both directions, contrasting colors, and at least four inches high.
Overgrown access roads

- Make Sure Your Access Roads Are Open And Safe For Your Family & For Firefighters.

Keep vegetation cleared back from road edges, don’t let a canopy form overhead.
Single Lane Roads/Turnouts

• Maintain turnouts and off road parking

• Drive very carefully if there is a fire in progress. There will be both fire trucks and panicky people on the road too.