

# How can I help the central coast community increase resilience to fire?

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# What is a *Fire Advisor*?



UNIVERSITY OF CALIFORNIA  
Agriculture and Natural Resources

Cooperative Extension

# Community Driven



# Potential Focus Areas

- Defensible space (home ignition zone) and home hardening
- Community collaboratives
- Prescribed fire
- Fire effects and fire ecology
- Monitoring to determine treatment effectiveness
- Policy issues
- Indigenous practices surrounding fire like cultural burning

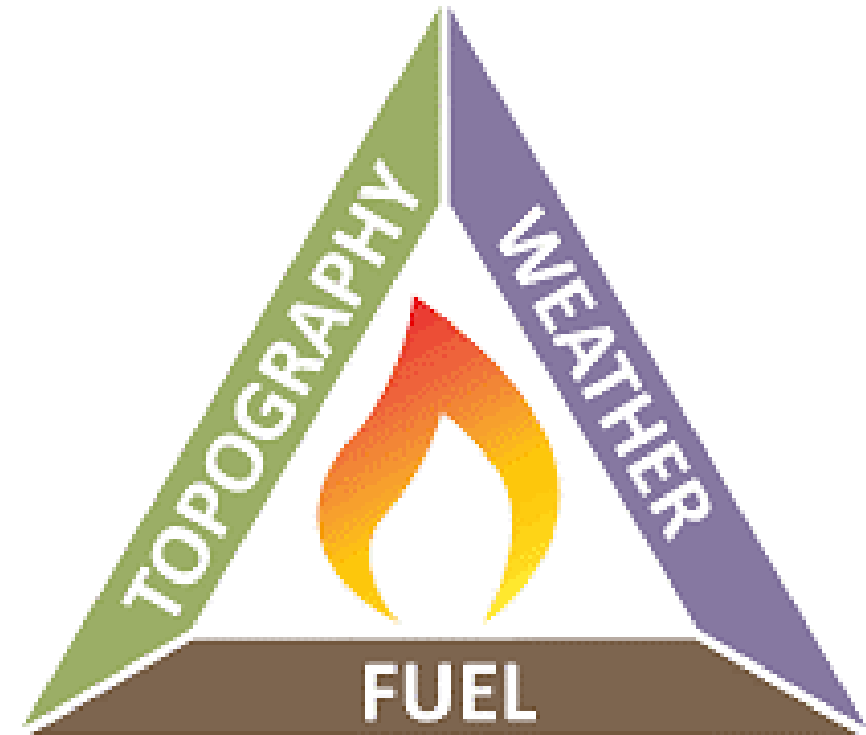
# Defensible space

## 1. Fire exposers

- Direct flame contact
- Radiant heat
- Embers

## 2. Defensible Space

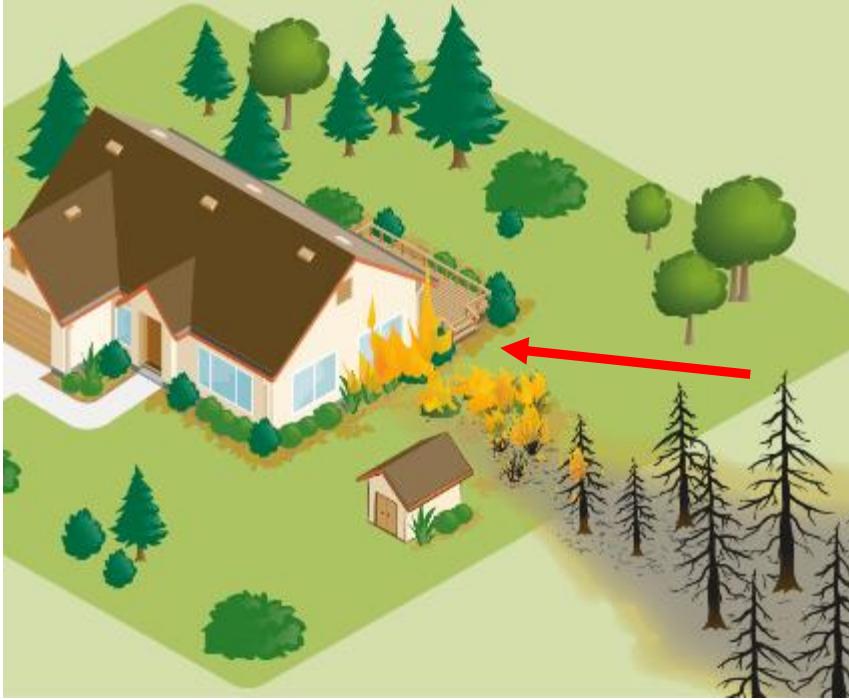
*Fire behavior triangle*



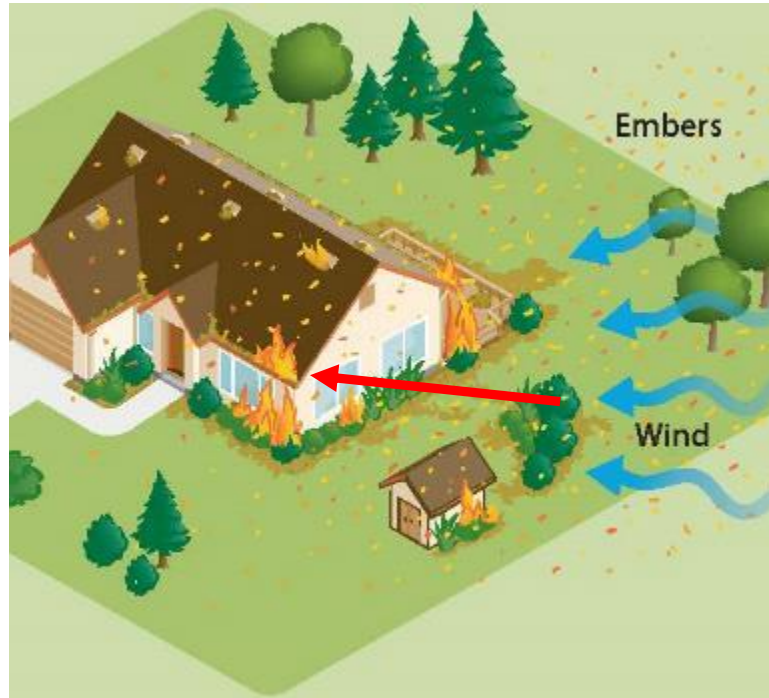


# Three types of fire exposures

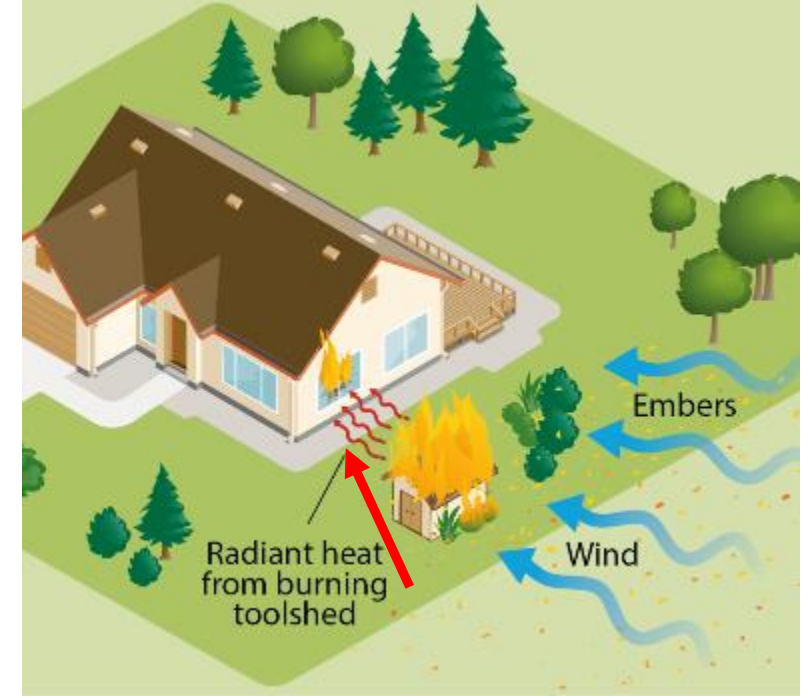
## Direct flame contact



## Embers



## Radiant heat



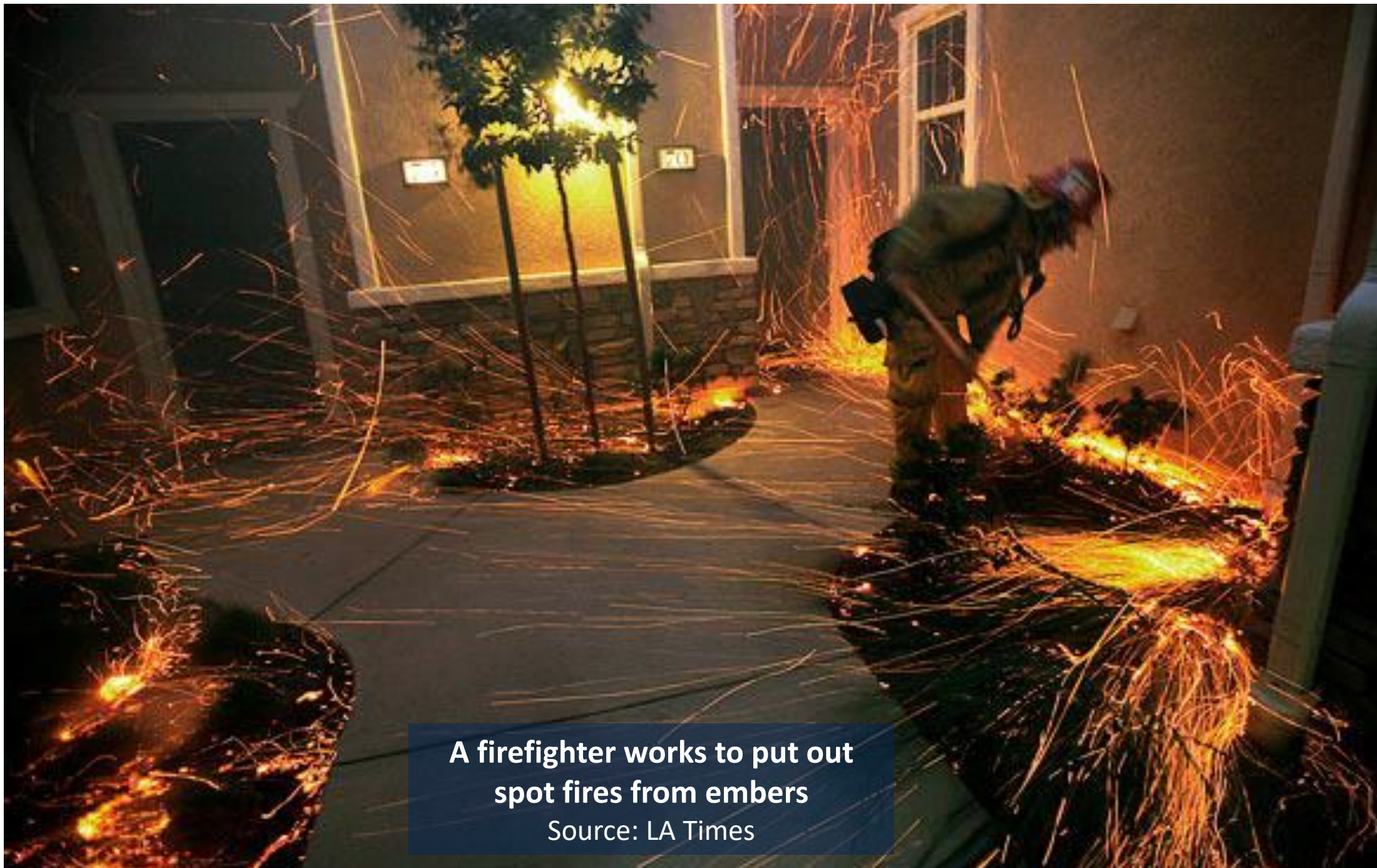
- Educational messages have mostly focused on how to reduce direct flame contact through defensible space.
- **Preparing for embers and radiant heat exposures takes a different approach.**

**What do you notice about this photo?**



Angora Fire – South Lake Tahoe  
2007





**A firefighter works to put out  
spot fires from embers**

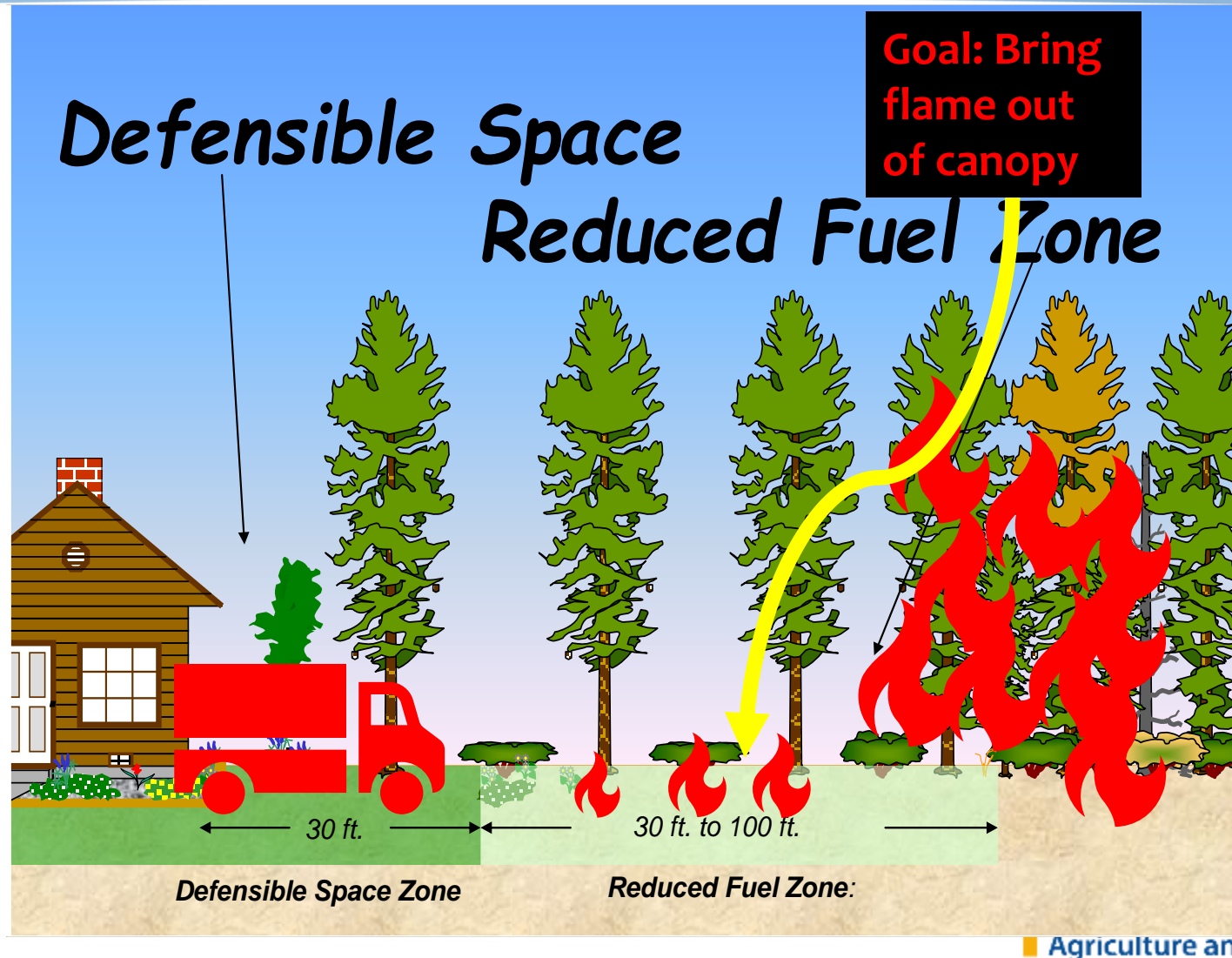
Source: LA Times





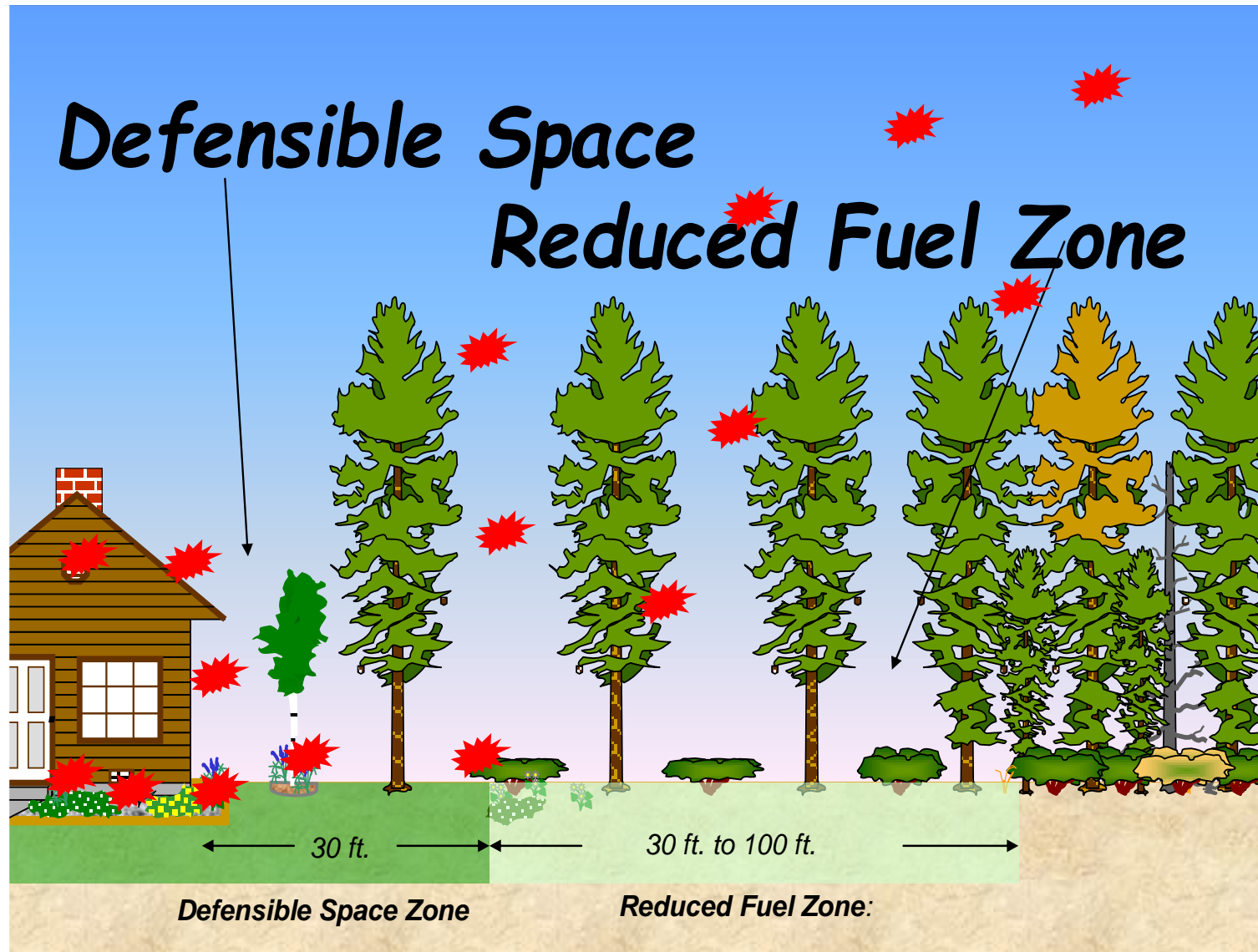
Insurance Institute for Business and Home Safety Fire Lab showing the ember generator.

# Defensible space guidance has been about creating a defendable space





# Ember defense requires landscape modifications and home hardening



# Neighborhood Effect:

73% of homes were  $\leq 18$  m of a destroyed structure



Photos courtesy of WaldoAir  
[www.waldoair.com](http://www.waldoair.com)

**Housing arrangement and vegetation factors associated with single-family home survival in the 2018 Camp Fire, California** by Knapp, Valachovic, Quarles and Nels G. Johnson is published in the journal *Fire Ecology* at <https://fireecology.springeropen.com/articles/10.1186/s42408-021-00117-0>.



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Embers to vegetation to vent



Embers to plant to soffit











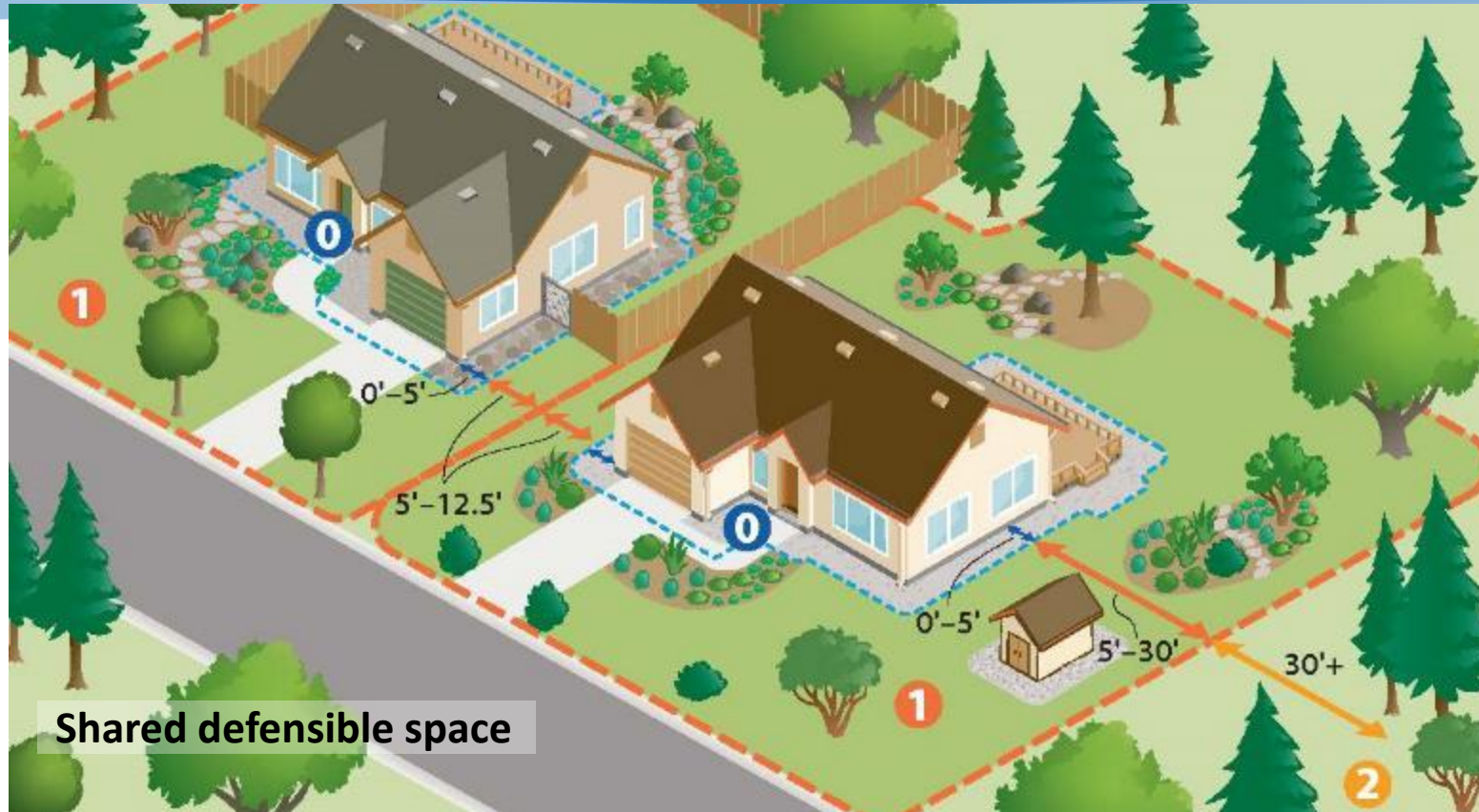








# Defensible space: Three Zones (work from the house out)



**0= Noncombustible Zone** 0-5' from the house and any attached deck + 6" vertical clearance around the house

**1= Intermediate Zone** 5-30' **2= Extended Zone** 30-100'+

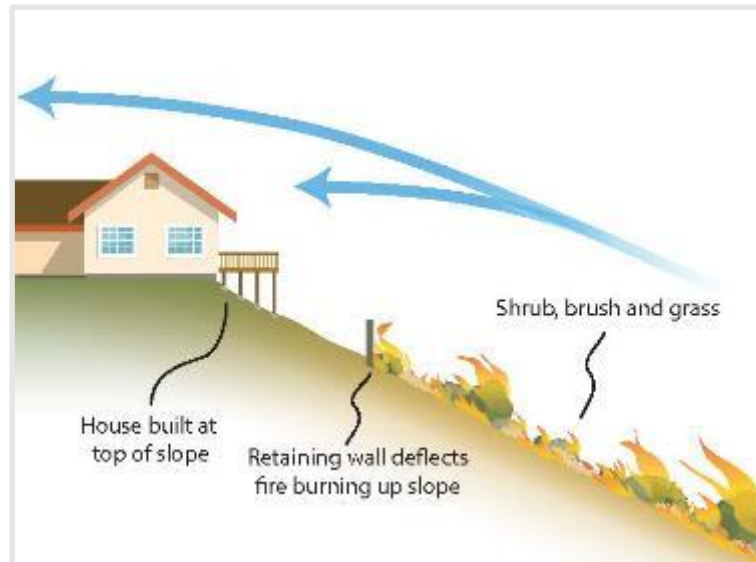
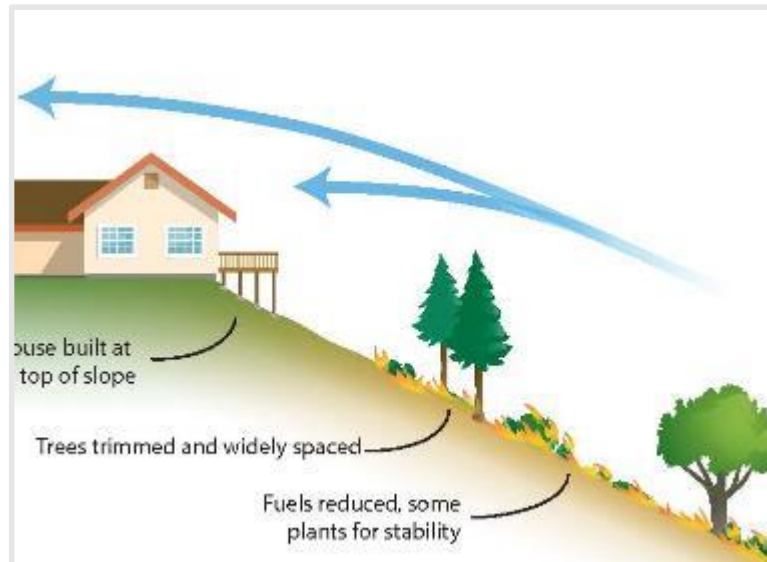
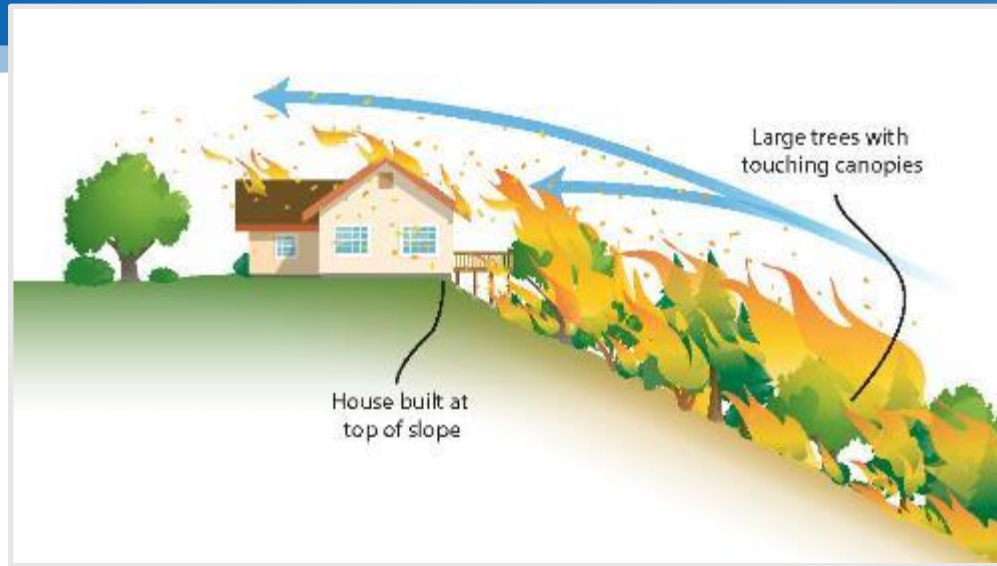




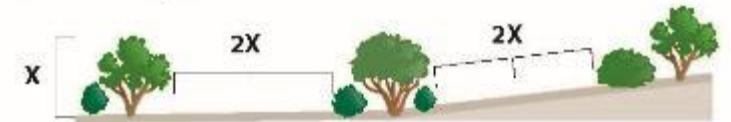
# Zone O will address these items

- Lawn
- Synthetic lawn
- Non-woody plants
- Decorative structures
- Gate or fence that attaches to the building
- Parallel fence
- Covered storage facilities
- Landscape materials
- Potted plants
- Garbage, recycling receptacles
- Vehicles
- HVAC, heat pumps
- Outdoor kitchens
- Attached patio covers
- Portable BBQs
- Pet and animal structures

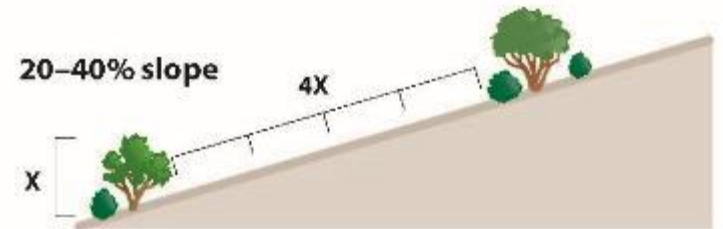
# Fire and steep slopes



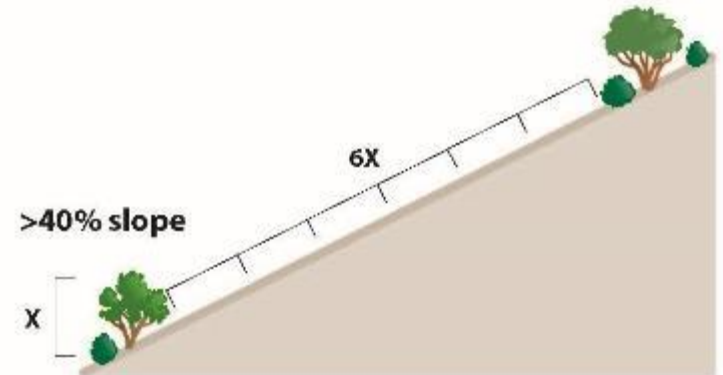
0–20% slope



20–40% slope



>40% slope

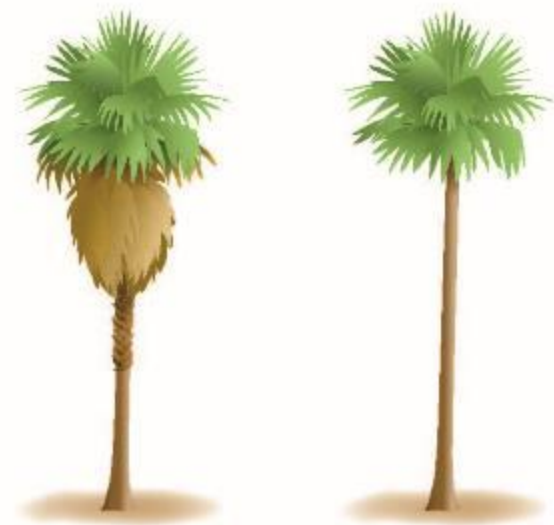




# Plant placement is more important than plant type

- ✓ All plants can burn regardless of how they are marketed
- ✓ Fire safe landscaping requires **maintenance** (pruning, irrigation, clean-up)
- ✓ Select low growing, open structured, less resinous, higher moisture content plants
- ✓ Native and drought tolerant can be options, if maintained well
- ✓ More info:

Research Literature Review of Plant Flammability Testing, Fire-Resistant Plant Lists and Relevance of a Plant Flammability Key for Ornamental Landscape Plants in the Western States (Bethke, et al 2016 UCCE San Diego)



# San Benito Fire Safe Council



- Get to know your neighbors! This project reduced fuels along San Juan Canyon Road

<https://www.sbfsc.org/>

- San Juan Canyon is officially a Firewise neighborhood!





# Resources

- <https://ucanr.edu/sites/fire/>
- <https://disastersafety.org/wildfire/>
- <https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA/Firewise-USA-Resources/Research-Fact-Sheet-Series>
- <https://firesafemendocino.org/homehardening/>
- [http://www.readyforwildfire.org/wp-content/uploads/Wildfire\\_Home\\_Retrofit\\_Guide-1.26.21.pdf](http://www.readyforwildfire.org/wp-content/uploads/Wildfire_Home_Retrofit_Guide-1.26.21.pdf)
- <https://humboldt.gov.org/2468/Fire-Safety-Resources>

## CA Building Code Chapter 7A WUI construction

- <https://osfm.fire.ca.gov/divisions/code-development-and-analysis/wildfire-protection/>
- <https://osfm.fire.ca.gov/divisions/fire-engineering-and-investigations/building-materials-listing/bml-search-building-materials-listing/>



<https://anrcatalog.ucanr.edu/pdf/8695.pdf>



<https://anrcatalog.ucanr.edu/pdf/8393.pdf>



<https://ucanr.edu/sites/fire/files/294538.pdf>