

# The Science of Wildfire Risk Mitigation

Steve Hawks, IBHS

Senior Director for Wildfire

[shawks@ibhs.org](mailto:shawks@ibhs.org)



A COLLISION COURSE:  
WILDFIRE & BUILT ENVIRONMENT  
CONFLAGRATIONS

# Built environment conflagrations follow:



**Humans**



**Drought**



**Wind**

# COMMUNITY WILDFIRE RESILIENCE

## EXISTING FACTORS

- **Environmental Conditions**
  - Topography
  - Climatology
  - Weather
- **Surrounding Vegetation**
  - Wildland Fuels
  - Urban Fuels
- **Community Structural Characteristics**
  - Density
  - Features and materials
- **Supporting Infrastructure**

## CONTROLLABLE FACTORS

- **Fuel breaks**
- **Parcel-level Mitigation Actions**
  - Defensible Space
  - Home Hardening
- **Fuels within the Community**
  - Fuel Breaks
  - Reducing Connective Fuels
- **Community Regulations**
  - Building Codes/Ordinances
  - HOA Covenants
- **Preparedness Programs**
  - Grant Programs



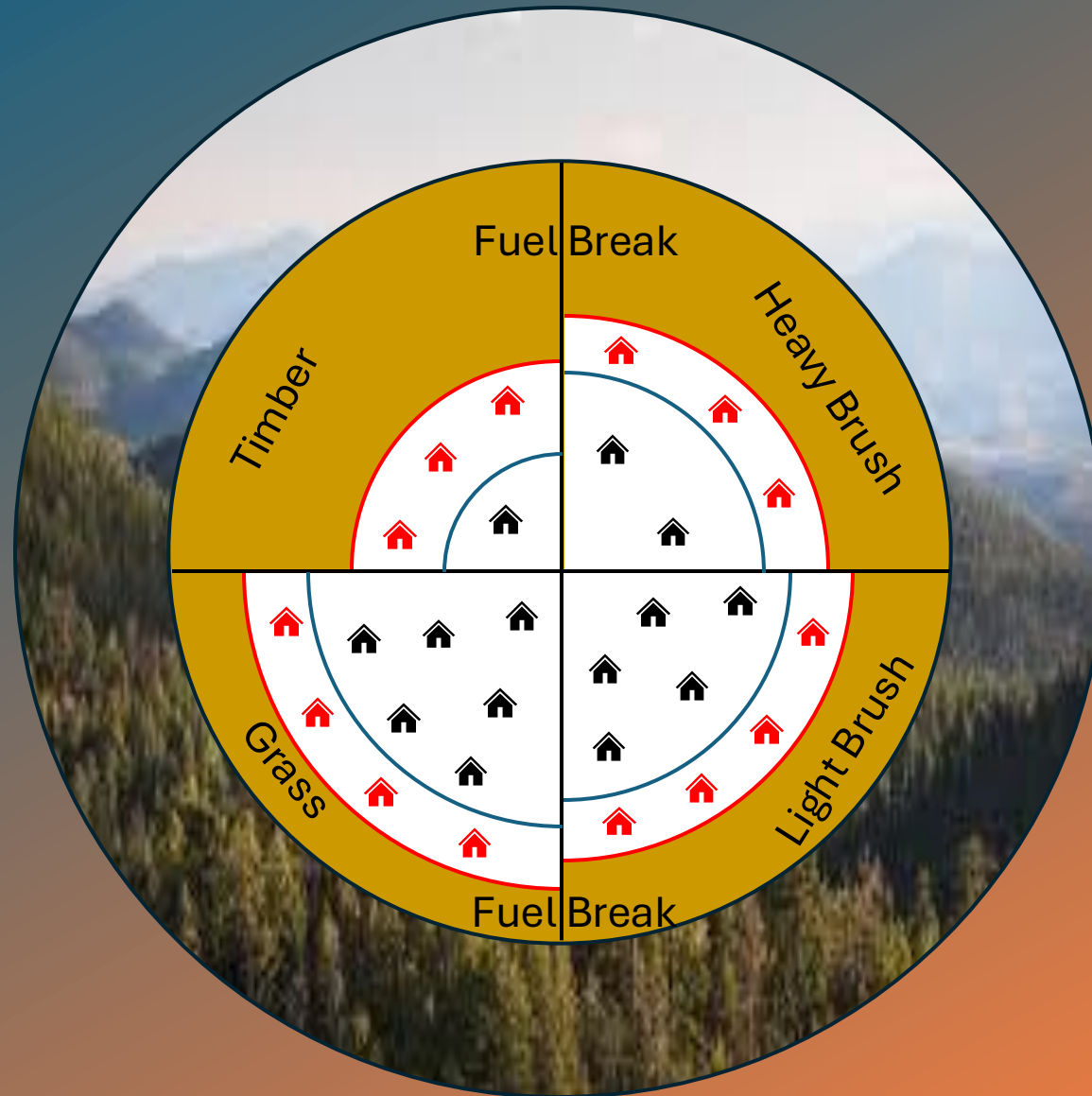
## ***CONFLAGRATION FACTORS***

***Structure Density***

***Connective Fuels***

***Building Materials***

# Wildfire Prepared Neighborhood



**Ground Fire in thinned area**

**Crown Fire in unthinned area**

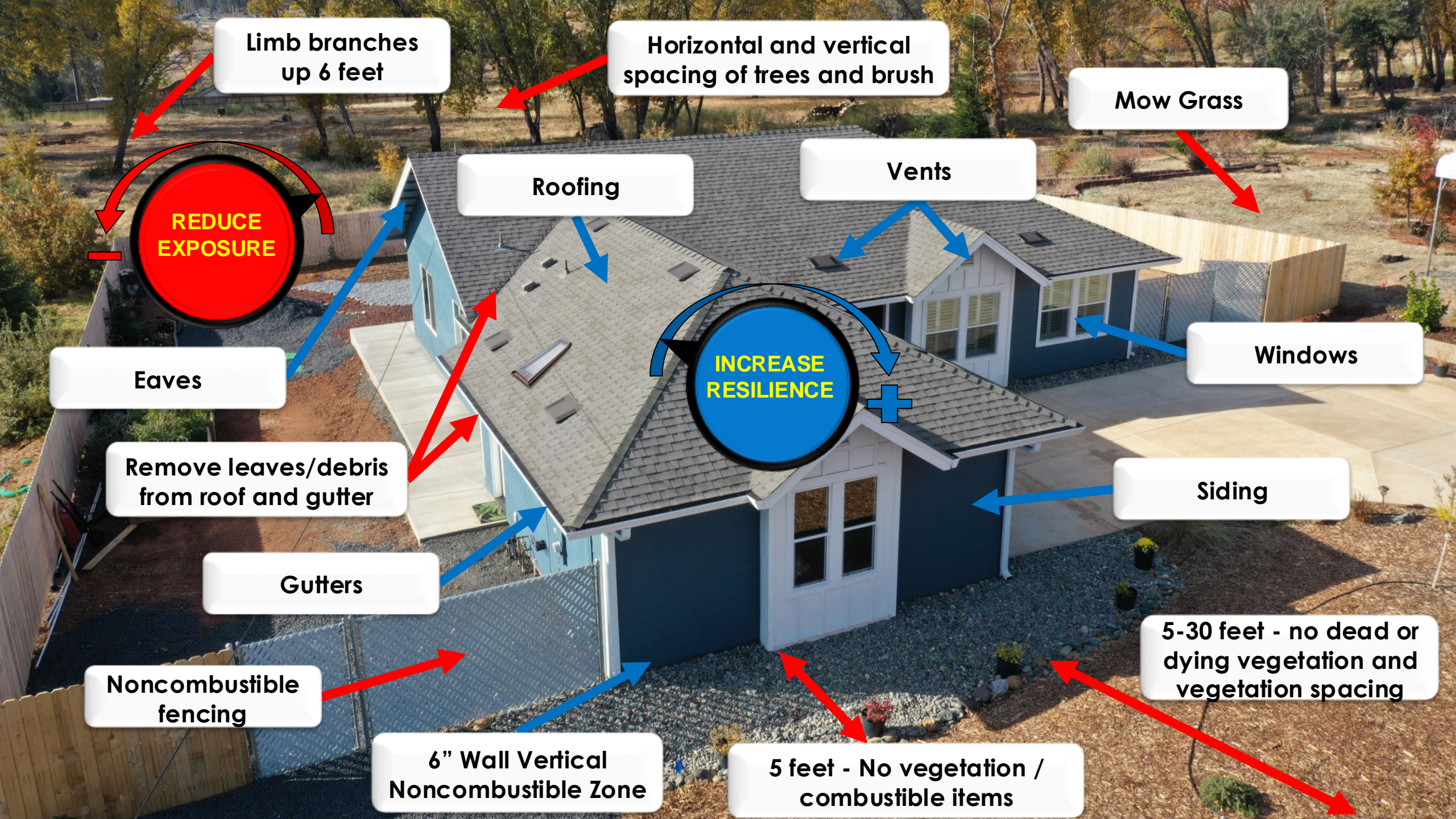
**Ground Fire in thinned area**

**Ground Fire in thinned area**

**Ground Fire in thinned area**

**Homes that survived South Fork Fire  
June 2024**





Limb branches up 6 feet

Horizontal and vertical spacing of trees and brush

Mow Grass

**REDUCE EXPOSURE**

Roofing

Vents

Eaves

Windows

**INCREASE RESILIENCE**

Remove leaves/debris from roof and gutter

Siding

Gutters

Noncombustible fencing

5-30 feet - no dead or dying vegetation and vegetation spacing

6" Wall Vertical Noncombustible Zone

5 feet - No vegetation / combustible items





## INCLUDED MITIGATIONS

- ✓ Roof
- ✓ Building Features
- ✓ Defensible Space (Zone 0)



## ADDITIONAL MITIGATIONS

- ✓ Remove back-to-back fencing
- ✓ Eliminate combustible siding
- ✓ Enclose eaves
- ✓ Enclose under bay windows
- ✓ Upgrade to a wildfire-resistant deck
- ✓ Upgrade windows & doors
- ✓ Cover gutters
- ✓ Move outbuildings at least 30 feet away

# Embers & Flames

# Preparedness Programs: Grant Funding

## California Wildfire Mitigation Program

Financial assistance to socioeconomically disadvantaged communities in high wildfire threat areas



## Wildfire Prevention

Local assistance grant program to fund fire prevention effort in and near fire-threatened communities



**ZONE 0: 0-5 FEET**

**ZONE 1: 5-30 FEET**

**ZONE 2: 30-100 FEET**