

# Planning to Live with Fire

## Planning Tools and Best Practices

*Carol L. Rice*

*Wildland Resource Management, Inc.*

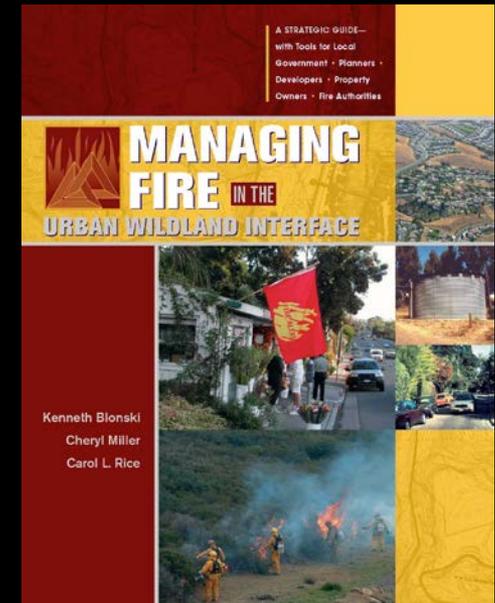
*December 4, 2013*



# Introduction

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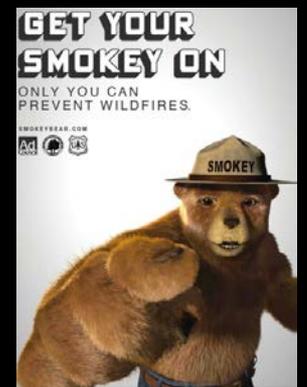
- Carol Rice, Wildland Resource Management, Inc.
- Overview of planning tools
- Examples of best practices
- Based on *Managing Fire in the Urban Wildland Interface*
  - Thanks to Cheryl Miller, Ken Blonski and Solano Press



# The Role of the Community/Fire Planner

## YOU can Prevent Wildfire Damage!

- Hazard Assessment
- Land Use Planning
- Community Design
- Conditions of Approval
  - Fire Protection Plans
  - Fuel Management
  - Biotic Protection



# Types of Community Planning and Fire Plans

- General Plans
- Specific Plans
- Fire Protection Plans
- Regional fire plans
- CAL FIRE Unit Plans
- Local Hazard Mitigation Plans
- CWPPs Community Wildfire Protection Plan

Yellow = Local Plans (future), Red = Operational, Green = Existing Communities

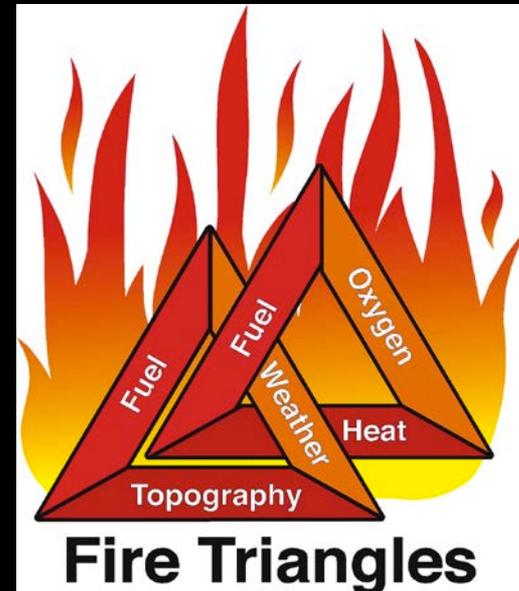




# Elements of Fire to Address Through Planning

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- Topography
- Fire Weather
- Fuel
  - Structure
  - Vegetation
- Utilities
- Fire Response & Recovery



# Scale and Element of Tools

ELEMENTS THAT CONTRIBUTE TO POTENTIAL DAMAGE FROM FIRE		TOOLS AVAILABLE TO THE VARIOUS PLAYERS					
		Individual	Neighborhood Groups	Local Govt	Regional	State	National
ELEMENTS OF THREAT	Topography	A	A	A	A	A	A
	Severe fire weather/fire history	A	A	A	A	A	A
	Fuel						
	Structure-related elements						
	Structure density	NTA	NTA	CD, Po	NTA	NTA	NTA
	Structure construction, design, and materials	CD	CD	CD, Po	CD, Pc, Po	CD, Ps, Pc	Ps
	Structure setback	NTA	NTA	CD, Po	NTA	NTA	NTA
	Landscape/wildland vegetation-related items						
Domestic landscapes/defensible space	CD	CD	CD, Po	Pc, Po	Ps, Pc	Ps	
Wildland vegetation	CD	CD	CD, Po	Pc, Po	Ps, Pc	Ps	

## Key to Tool Symbols

A = Awareness Through Ignition Prevention Programs (chapter 10)  
 Land Use Policy and Planning (chapter 11)

CD = Mitigation Action through Community Design (chapters 12–18)

NTA = No tool available

Ps = Standard

Pc = Code

Po = Ordinance

R = Responses to Fire (chapter 19)

NTA = No tool available

From: You Too Can Prevent Wildfires - Smokey Turned 65! Environmental Monitor, Fall 2010. by Miller, Blonksi and Rice, at [www.califaep.org](http://www.califaep.org)

# Scale and Element of Tools (2)

ELEMENTS THAT CONTRIBUTE TO POTENTIAL DAMAGE FROM FIRE		TOOLS AVAILABLE TO THE VARIOUS PLAYERS					
		Individual	Neighborhood Groups	Local Govt.	Regional	State	National
ELEMENTS THAT AFFECT THE ABILITY TO SUPPRESS FIRE	Utilities and infrastructure						
	Water supply for suppression services	Augment	Augment	Po	Local utility company	Ps, Pc	Ps
	Utility locations (gas/electric/propane)	NTA	Local utility company	Po	Pc, Po	Ps, Pc	Ps
	Community fire protection						
	Emergency access (fire suppression and evacuation)	R	R	Po, R	Pc, Po, R	Ps, Pc, R	Ps, R
	Level of suppression service	Augment	Augment	Po	NTA	NTA	NTA
	Community involvement and education	A	A	A	A	NTA	NTA

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From AEP article Miller et al

## Reduced Role of Planners in Helping Suppress Fires

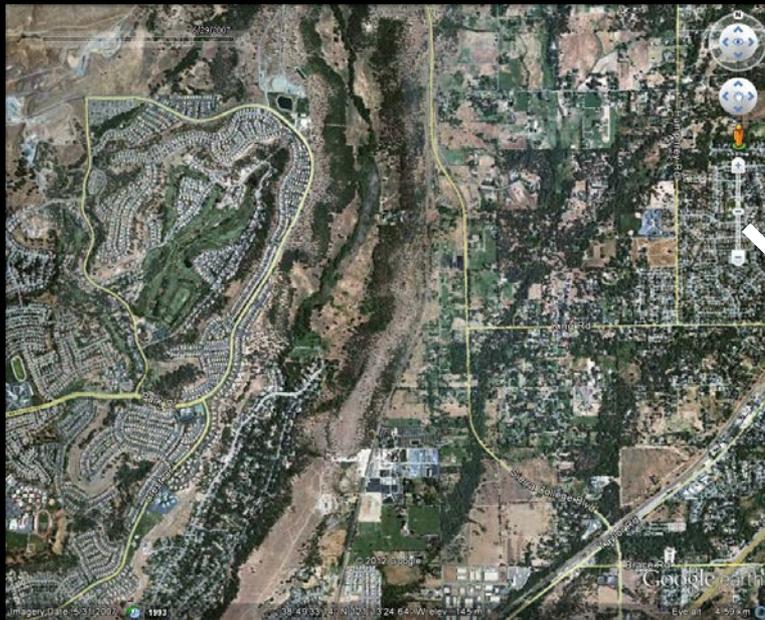
# Planning Processes & Practices

- Gather facts
- Create a vision
- Gather agreement



# Consistency is Required

**Assessment**



**Policy**



**Projects**

# Examples of Goals

## Vision /Desired Outcome

- Minimize the Number of Ignitions
- Install/maintain Defensible Space (Reduce Fire Intensity Next to Structures)
- Safe Access and Egress
- Limit Fire Size
- Promote Ecosystem Health
- Work Cooperatively on Projects
- Develop/update Wildfire Plan



# Linked Policy-Action Example

Policy	Action at Project level
<b><i>Reduce chance of ignition</i></b>	make human behavior fire-safe fuel reduction
<b><i>Minimize potential damage to live and property</i></b>	
	keep fire from crossing boundaries
	<i>Calm fire behavior through fuel reduction</i>
	<i>Increase firefighting efficiency</i>
	minimize damage to developed areas
	<i>Calm fire behavior through fuel reduction</i>
	<i>Increase firefighting efficiency</i>
	minimize damage to natural resources on park
	<i>Calm fire behavior through fuel reduction</i>
	<i>Increase firefighting efficiency</i>
<b><i>Comply with local regulations</i></b>	
	100 ft clearance around structures
	10-ft clearance along roads, 14.5 ft high

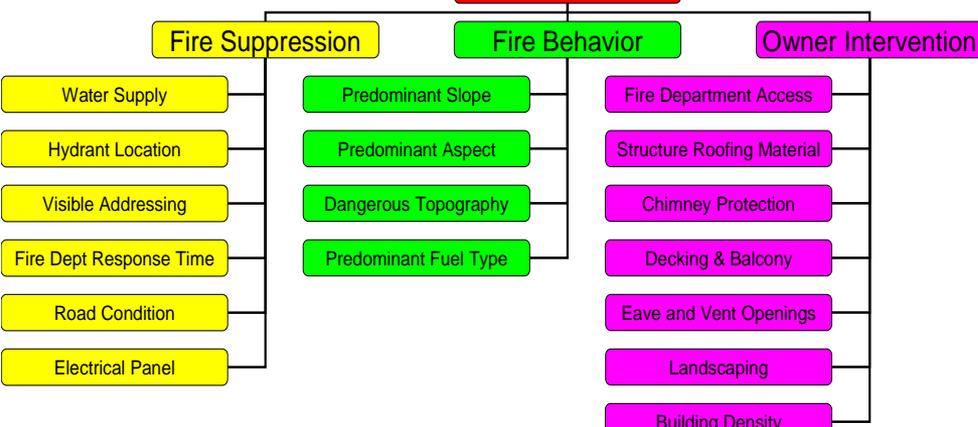


# Hazard and Risk Assessment

- Regional and Local Hazard Assessments
  - 2010 fire plan update
  - Very High Fire Hazard Severity Zones
- Community Risk Assessment
  - Parcel-based
  - Regional (NIST, USGS)



## Wildland Fire Risk

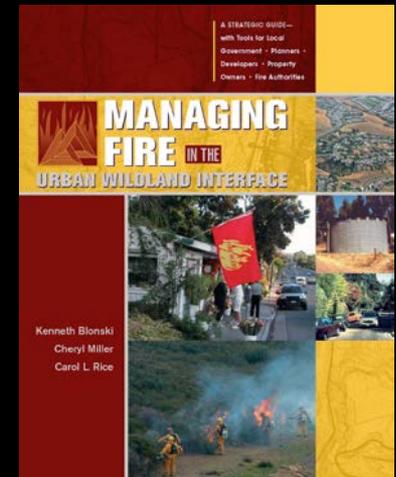


# Best Practices

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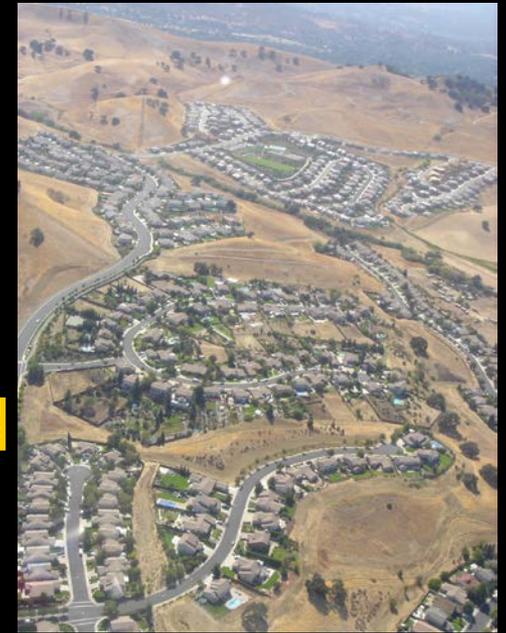
- General Plan
- Lot Layout
- Access
- Infrastructure
- Existing Developments



# Best Practices: General Plan

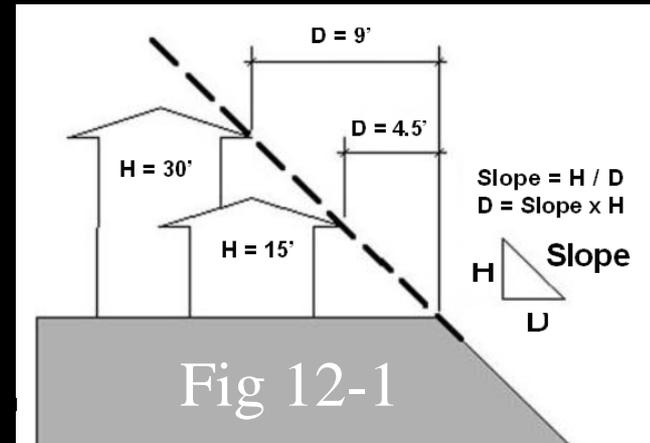
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- Have a good hazard assessment
- Use Safety Element to promote fire safety
- AND use Housing Element, Safety Element, Open Space Element, Circulation Element, Conservation Element to promote fire safety
- Identify issue of concern, policy and implementation measure
- Don't allow waivers!



# Best Practices: Lot Layout

- Avoid ridgetops
- Place structures away from slope edge
- Avoid structures at top of steep ravine
- Cluster lots (not too close)
- Have a break every 1000 ft between lots for access to open space



# Best Practices: Roads

- Design roads for simultaneous access and evacuation
  - Radii
  - Width
  - Grade
  - Surface
- Use roads as firebreaks (between homes & OS)
- Two access points – far apart
- Gates
- Signs
- EVAs



Support Your Local  
Firefighter

# Best Practices: Infrastructure



## ■ Water

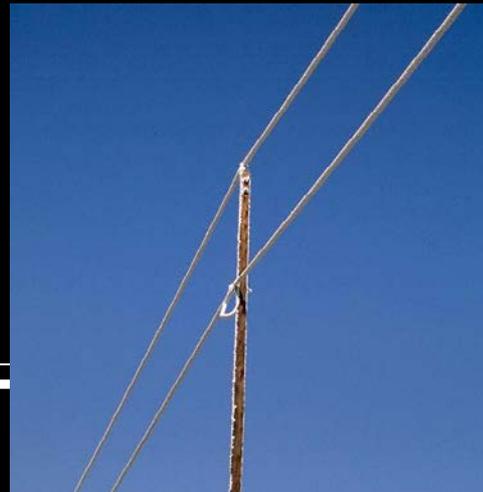
- Power or gravity
- Shutoffs
- Connections



## ■ LG Tanks

## ■ Electricity

- Backup
- Backup



# Best Practices: Existing Development

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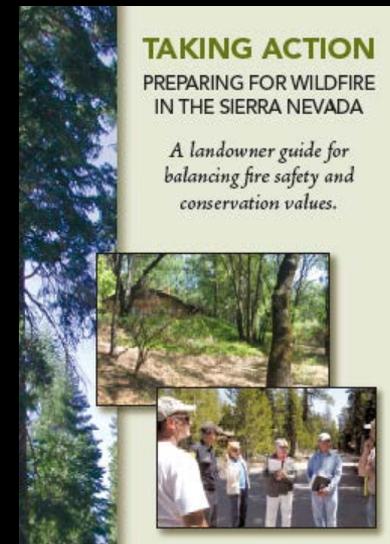
- Reduce fuels in yards and in open space
- Improve access (parking, turnouts, veg)
- Designate shelter in place
- Enhance water supply
- Change structure exteriors
  - Roofs
  - Vents
  - Decks
  - Siding



Develop a Community Wildfire Protection Plan!

# Community Wildfire Protection Plans

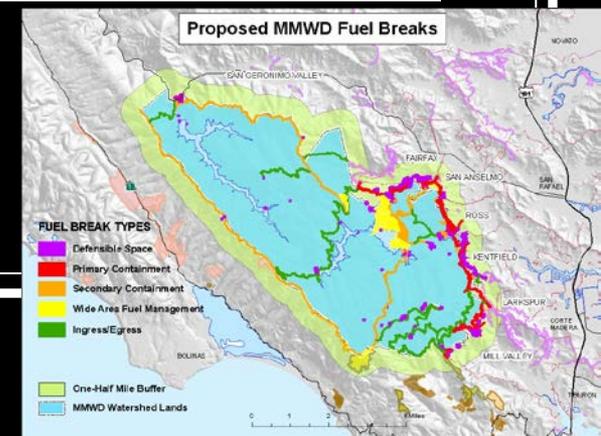
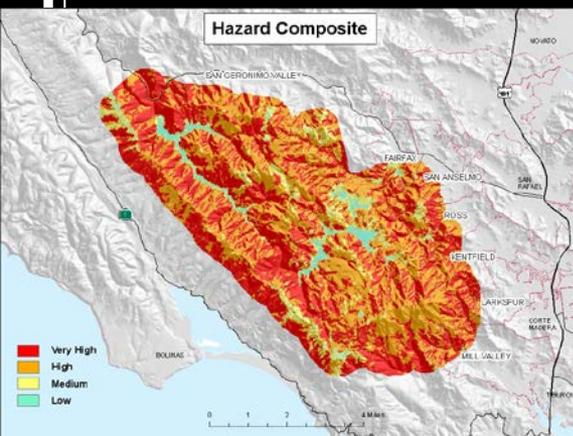
- Addresses existing communities
- Consider 4 phases of wildfire:
  - Prevention, Preparedness, Response & Recovery
- Many guides available (Society of American Foresters et al, ForEverGreen Forestry), California Fire Alliance
- Highlights:
  - Gathers affected residents
  - Establishes plan of work
  - Sets priorities
  - Requires monitoring



# Project-Level Planning: Creating a Fire Protection Plan

- Justification for action – existing conditions
- Context (physical and regulatory)
- Mitigations of unacceptable conditions
- Mechanisms for Implementation
- Process for update

For new construction  
or open spaces



# Project Design and Review Process (Fire Focused)

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- Planners and fire department meet early in process
- Include management actions in Project Description
- Incorporate fire protection issues into infrastructure and lot layout
- Consider fire ecology and maintenance to improve
  - Lot layout
  - Landscaping
  - Access (within open space)
- Meet with Project Proponent and their biologists
  - Consider cost & feasibility of maintenance of vegetation
  - Address native habitat & weeds in yards & common areas
  - Landscaping

# What you do matters!



- As effective as fire response in determining damage
- Lasting impact
- Affects more than structures and nearby environment

## The Board of Forestry and Fire Protection & SB 1241

Board of Forestry and Fire Protection  
November 7, 2013  
Chico, CA

# Useful Links :

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- **Sierra Nevada Community Conservation and Wildfire Protection Plan Guidebook =**  
<http://www.forevergreenforestry.com/SierraConservationCWPP.html>
- **Diablo FireSafe Council Best Management Practices Guidebook for Hazardous Fuels Treatments =**  
<http://www.diablofiresafe.org/publications.html#BMP>
- **CWPP Guidebook =**  
<http://www.stateforesters.org/files/cwpphandbook.pdf>
- **California Fire Alliance CWPP guidance =**  
<http://www.cafirealliance.org/cwpp/>
- **Living with Fire Program =**  
<http://www.unce.unr.edu/blogs/livingwithfire/about/>
- **Solano Press =**  
<http://solano.com/processxml.asp?tid=FM&StyleSheet=title.xsl>



Thank You!

Questions?

