



# LIVING WITH WILDFIRE

House and Homesite Assessments  
DATE, 2010




## Focus on the Home Ignition Zone



- Create sustainable, fire-wise environments for our homes by starting from the house out rather than from the wildland in
  - Building materials and design
  - Landscape maintenance
  - Personal responsibility
  - Community cooperation

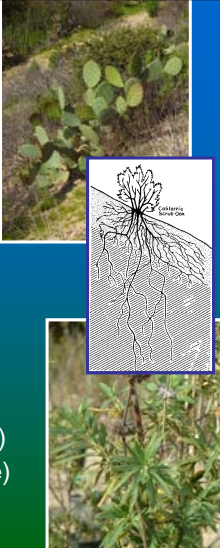
## Mediterranean Climates

- Mild, wet winters and hot dry summers
- “Spring green” starts when it rains (about October)
- Rains stop (about May)
- Drought and heat extend until next rainfall (October)



## Drought Adaptations

- Succulents
  - Absorb water quickly; shallow roots
  - Retain water with waxy leaves
- Drought avoidance
  - Annuals germinate after rain
  - Short life cycles
- Drought tolerance
  - Deep roots (oak)
  - Tolerate high water stress (Ceanothus)
  - Drought-deciduous leaves (black sage)



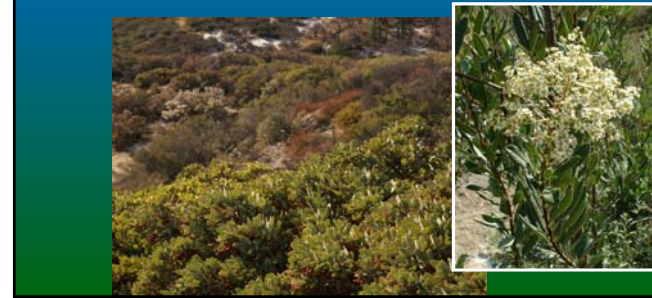
### Coastal Sage Scrub

- Low widely-spaced shrubs
- In wildfire, shrubs burn to the ground
- Maintain with thinning and heavy pruning



### Chaparral

- Larger shrubs, species vary by location and soils
- High-intensity fires, burn to the ground
- Grows at higher elevations and north-facing slopes
- Thin and prune to smaller umbrella-shaped trees



### Fire Survival Adaptations

- What is an “adaptation?”.....
  - Those that adapt, survive
- Two basic responses to fire....
  - Resprouters and reseeder
  - Need 15-20 years to regenerate



### Too-Frequent Wildfires

- Fires occurring less than 15-20 years apart can convert chaparral to weedy grasslands



## Defensible Space

- Refers to the area around a structure where the landscape is managed to reduce the intensity and spread of wildfire
  - Reduces heat that structure is exposed to
  - Removes places that embers can land
  - Reduces adverse effects on native habitats
- Part of the Home Ignition Zone
  - Includes the structure and homesite
  - Out to 100 feet... may include your neighbor's property!

## Defensible Space

- Provides firefighters a safer space to defend the house
  - If firefighters are not available, defensible space improves the likelihood a structure will survive without assistance
  - Prevents a fire in your house from spreading to the wildland
- Remember, YOU are the most effective firefighter by preparing your structure and homesite for the eventual wildfire

## How do houses ignite from the homesite?

1. Embers land on combustible materials, dead plant material and dry vegetation
2. If close to structure, heat from burning fuels and vegetation can ignite structure



## How do houses ignite from the homesite?

3. Flames contact the house only if something is burning within 30 feet of house
  - Plants, structures, furniture, trash
  - TV shows scary flames during wildland fires!



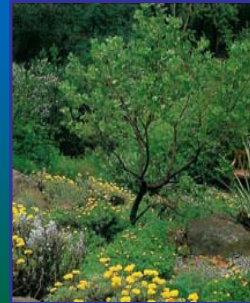
### What do YOU value in your homesite?

- Shade
- Privacy
- Place to socialize
- Place to garden
- Storage
- Wildlife habitat
- Reduced risks of house ignition by wildfire
- Low water and energy bills
- What else?



### How do you reduce risks with “fire-wise” homesite design and maintenance?

- Where’s the vegetation?
- Pruning
- Plant selection
- Weeding
- Irrigation
- “The Built Landscape”



### Where is the vegetation?

- Within 6' of the windows? (W4)
- Under or within 6' of the deck? (D1d)
- Within 6' of the siding? (S6)
- Near the roof or roof edge (overhanging, underneath, or adjacent to)? (R10)



### What’s next to the structure?

Within 3 to 6 feet of structure

- No mulch, bark, or pine needles
- Use stones, decomposed granite
- Remove dead branches so embers won’t have fuel to burn
- Remove lawn furniture, woodpiles and trash



## How do I maintain my plants? Maintenance: Shrub Pruning

- Hand-prune to inside branches to reduce accumulated fuel, growth and costs
- (Hedging and shearing results in weak, fast growth and more fuel)
- Shear shrubs under trees (1 to 2 feet high)



## Maintenance: Tree Pruning

- Landscape plants can easily become ladder fuels for the fire
- Prune limbs of mature trees to reduce ladder fuels
  - 6 feet up from the ground
  - Or 1/3 of live-crown height
- Prune limbs 10 feet from chimney
- Prune limbs hanging over roof and gutters OR clean gutters
- Don't cut down trees unnecessarily!



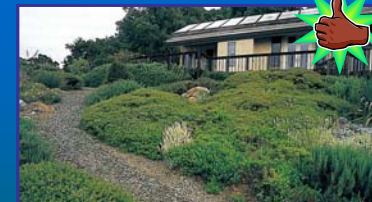
## Maintenance: Fan Palms!

- Embers ignite dead fronds
- Fronds "fly through the air" as monster embers
- Seeds spread through easily to canyons and other yards
- Must prune annually to remove flammable dead fronds—expensive!



## Maintenance: Irrigation

- Irrigation needs depend on species
- Low water plants may need ¼ the water of thirsty species for good health
- If dieback occurs, prune out dead branches or substitute plants



Coyote Brush well maintained (above) and poorly maintained (below).

## Maintenance: Weed Management

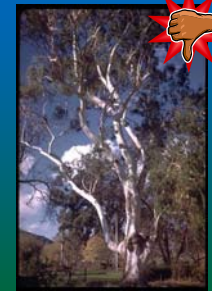
- Low-water native and Mediterranean plants require less irrigation and fewer weeds grow
- “Weed-whip” or hand weed before plants set seeds
- Use pre-emergent herbicides
- Mulch to reduce weeds



## Plant Substitution

Long-term, cost-sustainable maintenance

- Smaller, slower growing trees and shrubs need less pruning
- Plants that accumulate leaf and bark litter have greater fire hazard
- Old ice plant has dead fuel underneath, and must be replaced



## Plant Substitution

### Water

- **Choose** plants that require less watering to maintain healthy leaf moisture; they have the lowest maintenance costs
- **Limit** plants that need frequent water; they will dry out and die if deprived, creating a high fire risk

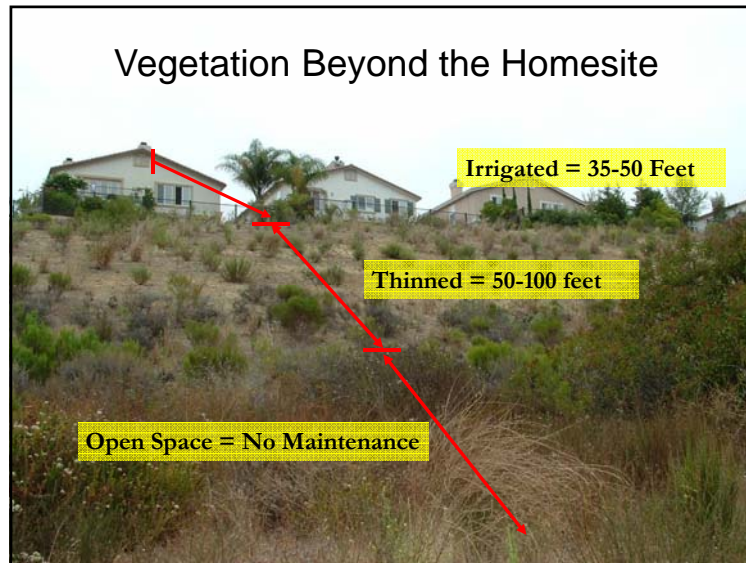


## Plant Substitution

Do not plant invasive plant species!

- Spread to parks, open spaces, and defensible space
- Tend to put out more growth, dry up earlier, and be MORE of a fire hazard
- Examples are fountain grass, pampas grass, Brazilian pepper trees, and some acacias
- Crowds out native plants and reduces animal habitat





### Vegetation Beyond the Homesite

- First! Remove dead plants, grasses and weeds
- Thin shrubs to required coverage (50%)
- Prune dead branches from shrubs
- Mulch or dispose of debris and trimmings
- Complete by July 1, each year
- Know and follow regulations on preserve lands

### Vegetation Beyond the Homesite

- Lean, clean and green!
- “Go thin, not nude!”

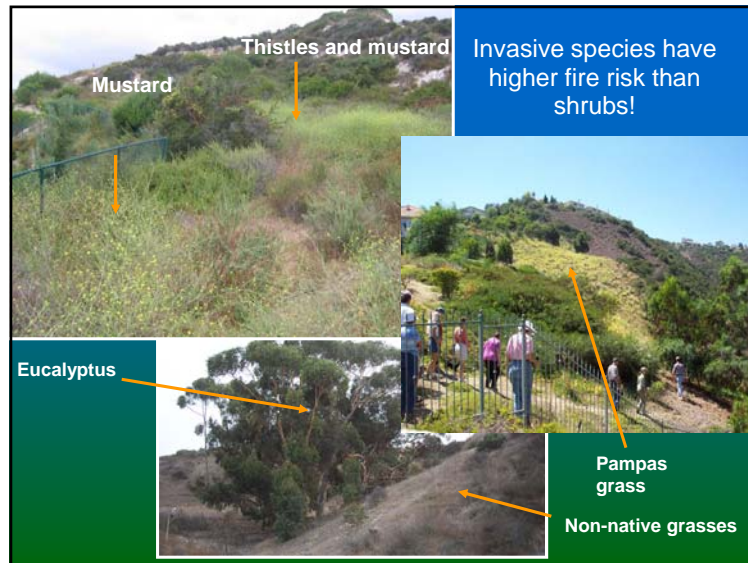
Before brush reduction      After brush reduction

Before brush reduction      After brush reduction

### Clean, don't clear!

- Erosion and downstream liabilities
- Slope instability
- Invasive weeds that dry and ignite quickly
- High annual maintenance costs
- Habitat destruction
- Restoration of native shrublands costs at least \$50,000/acre

After brush reduction



### “The Built Landscape”

- Fabric awnings
- Wooden furniture
- Outdoor cushions
- Shade structures
- Decks
- Storage sheds
- Fences
- Woodpiles, and more

### Are “man-made” fuels within 3' of windows? W3.

- Under or within 3' of the deck? (D1c)
- Within 3' of the siding? (S5)
- Move woodpiles to 30' or far from houses
- Get rid of trash and “treasures”
- Move lawn furniture into garage, during evacuation or October vacations

### Does the home have a deck or an exterior staircase? D1.

- Is there an open-frame deck attached to the house? (D1a)
- Is it difficult to access/maintain the area under the deck (will it be easy to keep the area clean of debris)? (D1b)
- Replace patio covers with heavy timber or non-combustible materials
- Enclose or stucco wood-framing under decks and balconies



### Is there a combustible fence or gate attached to the structure? S4.



- Use non-flammable materials for the last five feet of fence attached to the structure
- "Firewise" masonry wall is a heat and flame barrier



### Deck and Other Surfaces

- Install flashing between deck and siding
- Use approved composite deck products
  - Differ in the type and amount of plastic and fiber
  - Shape (solid, hollow, channeled)
- Consult WUI Products document by CalFire at <http://www.osfm.fire.ca.gov/strucfireengineer/pdf/bml/wuiproducts.pdf>



### Outdoor Sheds

- Combustible structures should be 30' from house or as far away as property permits
- May need to comply with Class "A" roof and other ignition-resistant material codes



### Outdoor Structures

- Near house, structures with heavy timber and approved non-combustible materials are OK
- Replace wooden plant support and shade lattices with non-combustible structures



### What should I do before leaving the house?

- Move all combustible materials at least 30 feet from house, or inside (lawn furniture, firewood, wood “scrap”, lawnmower)
- Connect the garden hose to outside taps, but DON'T turn on water
- Disconnect electric garage door(s) and gates from motors
- Close windows, vents, doors



When Santa Ana winds blow, check off these items early!

### Homesite Maintenance to Reduce Wildfire Risks



- Clear debris from areas around the house
- Move woodpile and “stuff” at least 30 feet away
- Replace combustible patio furniture
- Eliminate “ember-catchers” from landscaping
- Store fabric cushions indoors when winds or wildfires predicted

### Focus on the Home Ignition Zone



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  - Building materials and design
  - Landscape maintenance
  - Personal responsibility
  - Community cooperation

## LIVING WITH WILDFIRE

### House and Homesite Assessments

- Complete the checklist
- Start with maintenance and small improvements
- Help your neighbors!

