Fire, Fuels & Hazard Reduction Around Your Home & Woodlands

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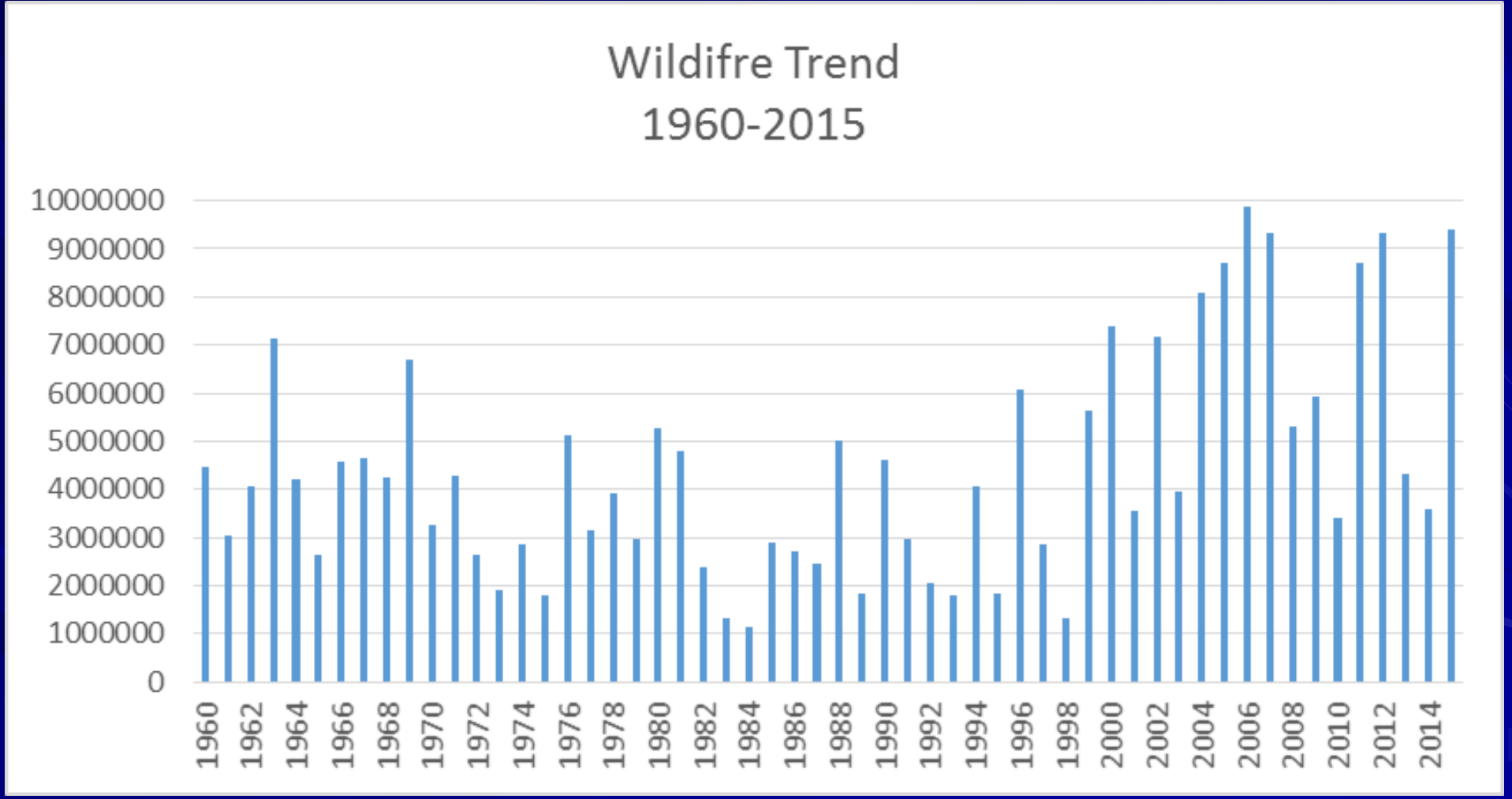
Presentation will cover

- Historic wildfire patterns
- Why you should be concerned about wildfire
- Fire behavior 101
- Fuel reduction around home
- Fuel treatments in woodlands
- Water sources
- Access
- Fire Plans
- Summary

Historic Fire Regimes

Forest Type	Fire Return Interval (Yrs)	Fire Regime/ Severity
Willamette Valley Oak	2-20	Low
Ponderosa Pine	4-25	Low
Dry mixed conifer	10-40	Low
Wet mixed conifer	40-80	Mixed/Mod.
Coastal Forests	100-450	High
Lodgepole Pine	80-200	High
Subalpine Forests	100+	High

Fire Risk Appears to be Increasing



Expanding WUI

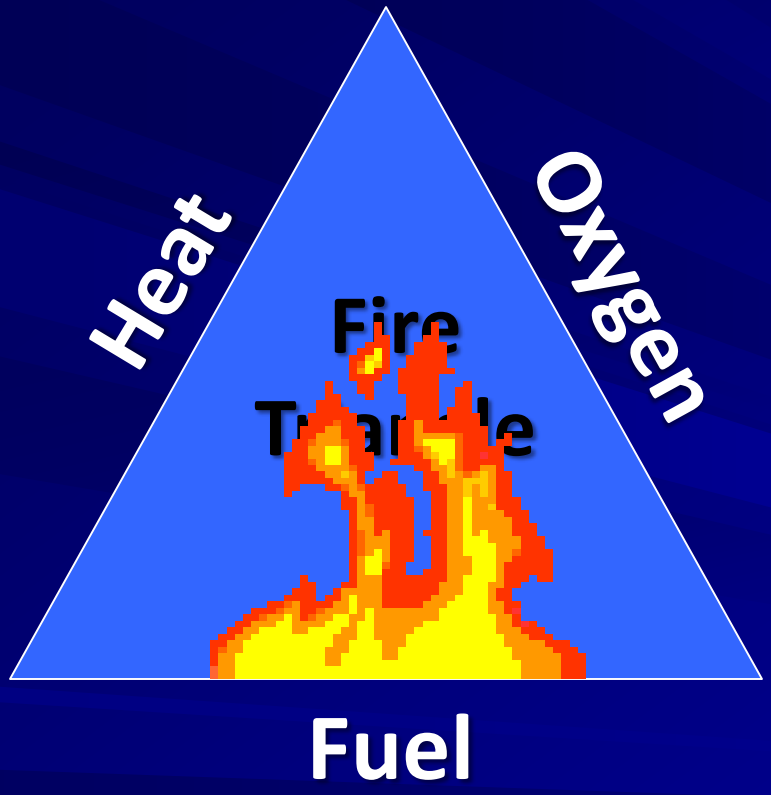
- More and more home with more and more people
- Increase risk of ignition
- High dollar values at risk.

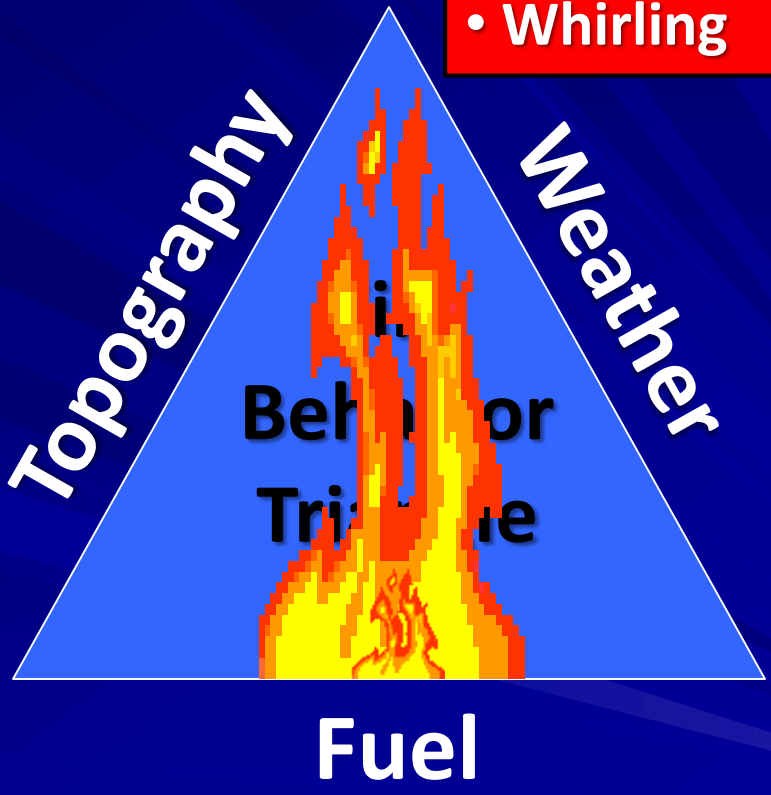
Values at Risk

- Homes and lives
- Watersheds
- Threatened & Endangered Species
- Timber and other resources
- Wilderness and special places

Fire Behavior 101

- Rate-of-spread
- Flame length
- Torching
- Crowning
- Spotting
- Whirling

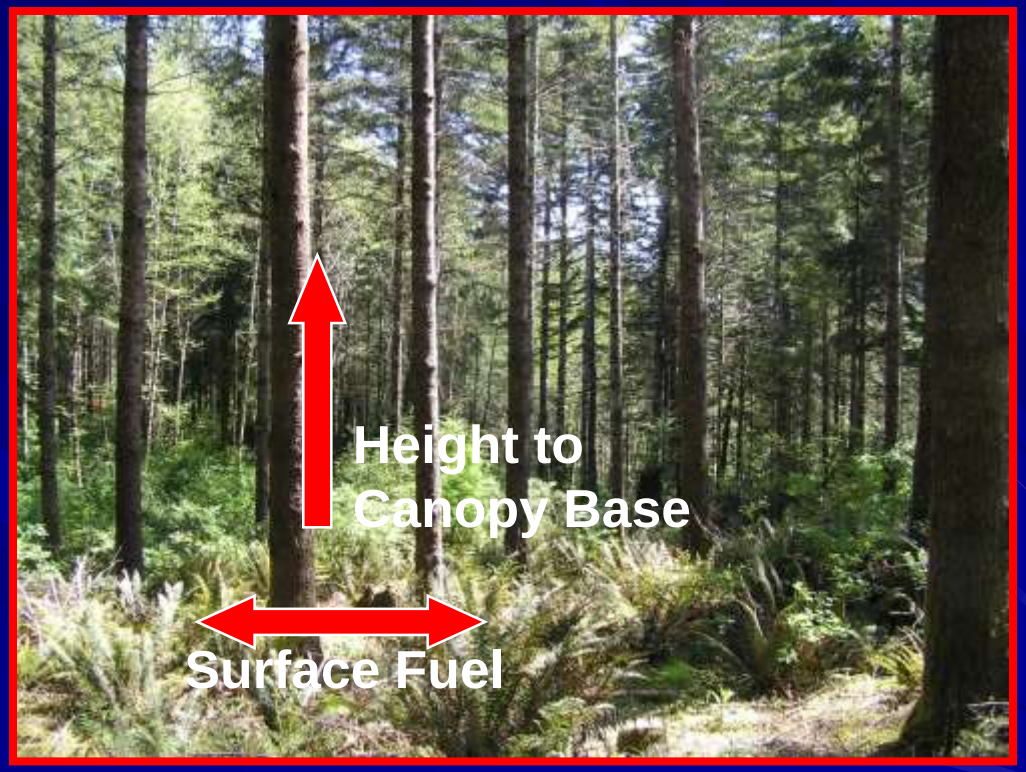




Fuel is the common denominator!

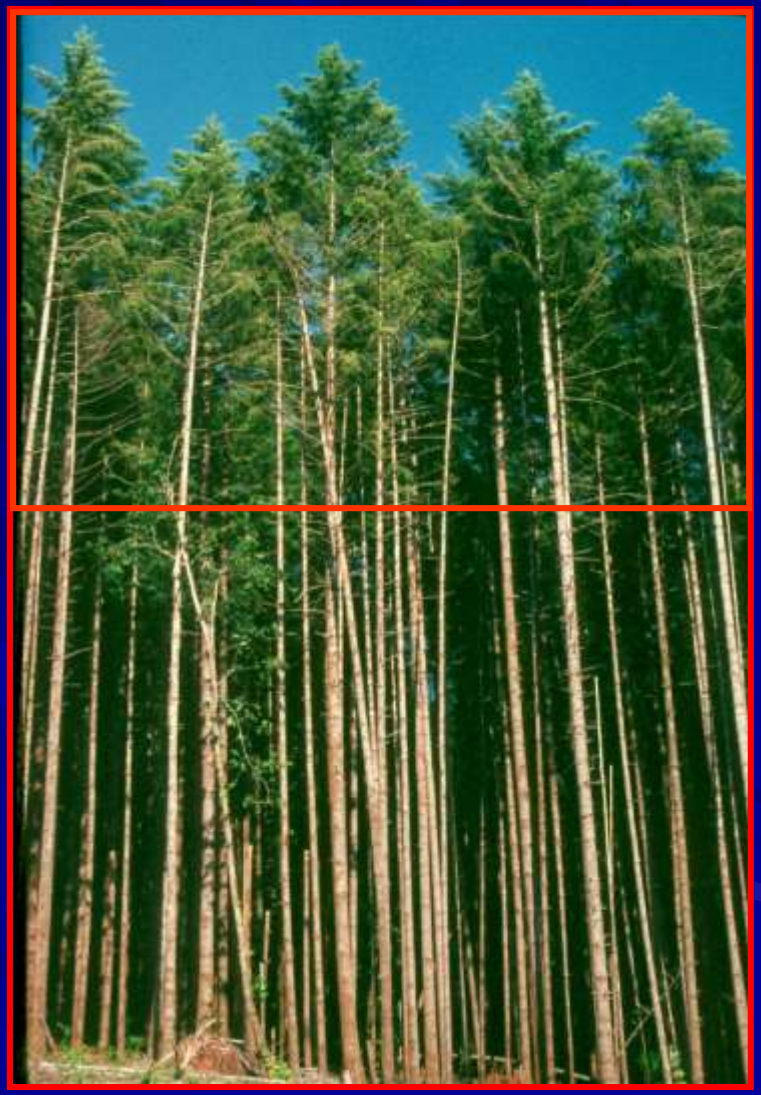
Factors That Affect a Surface Fire's Transition to a Crown Fire

- Foliage moisture content.
- Surface flame length sufficient to initiate torching of tree crowns.
- Height to the base of the canopy.



Factors That Affect Crown Fire Behavior

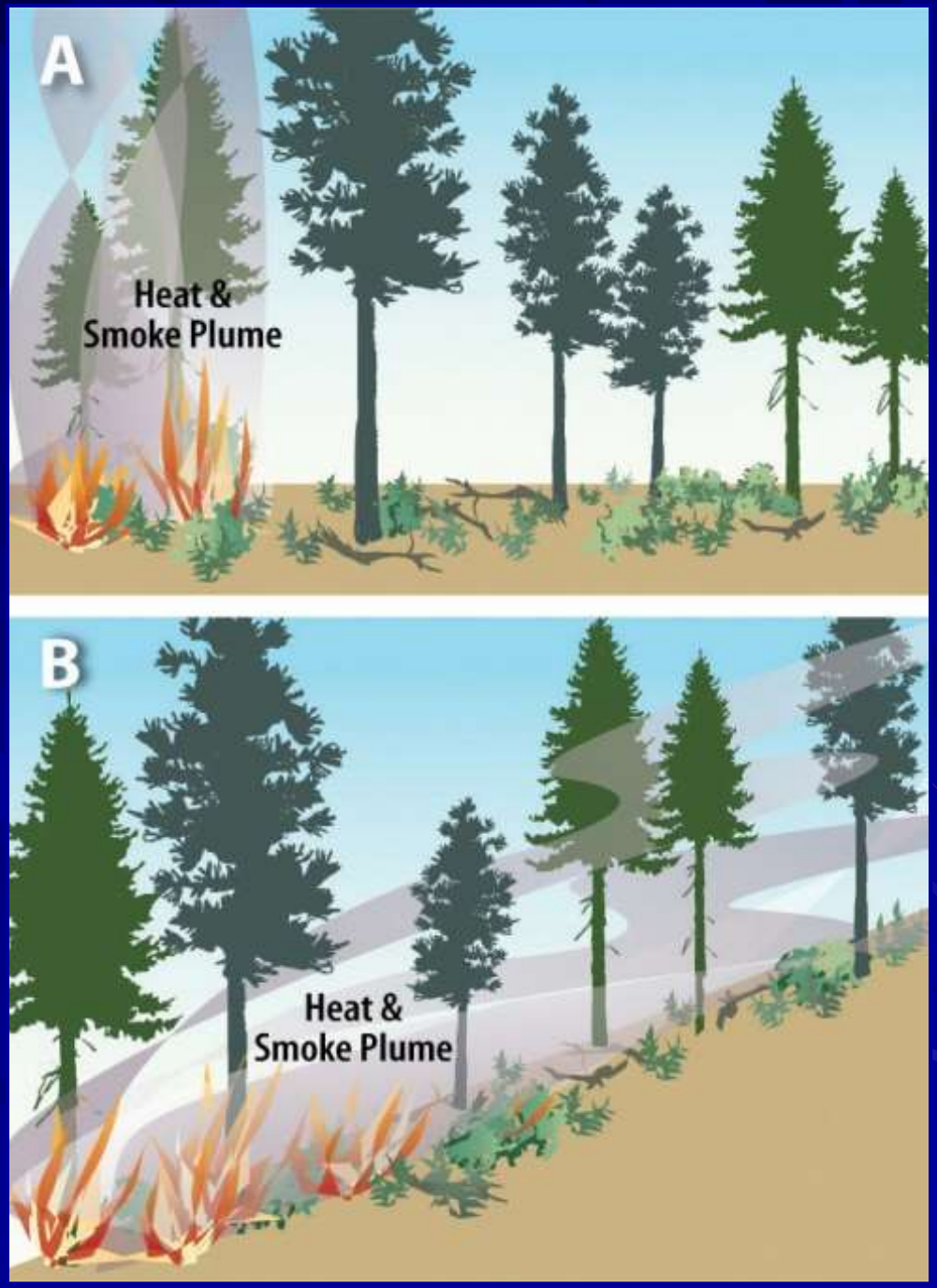
- Crown Fire is dependent on:
  - **Rate-of-spread** of the fire, which is influenced by weather and topography
  - **Crown density**



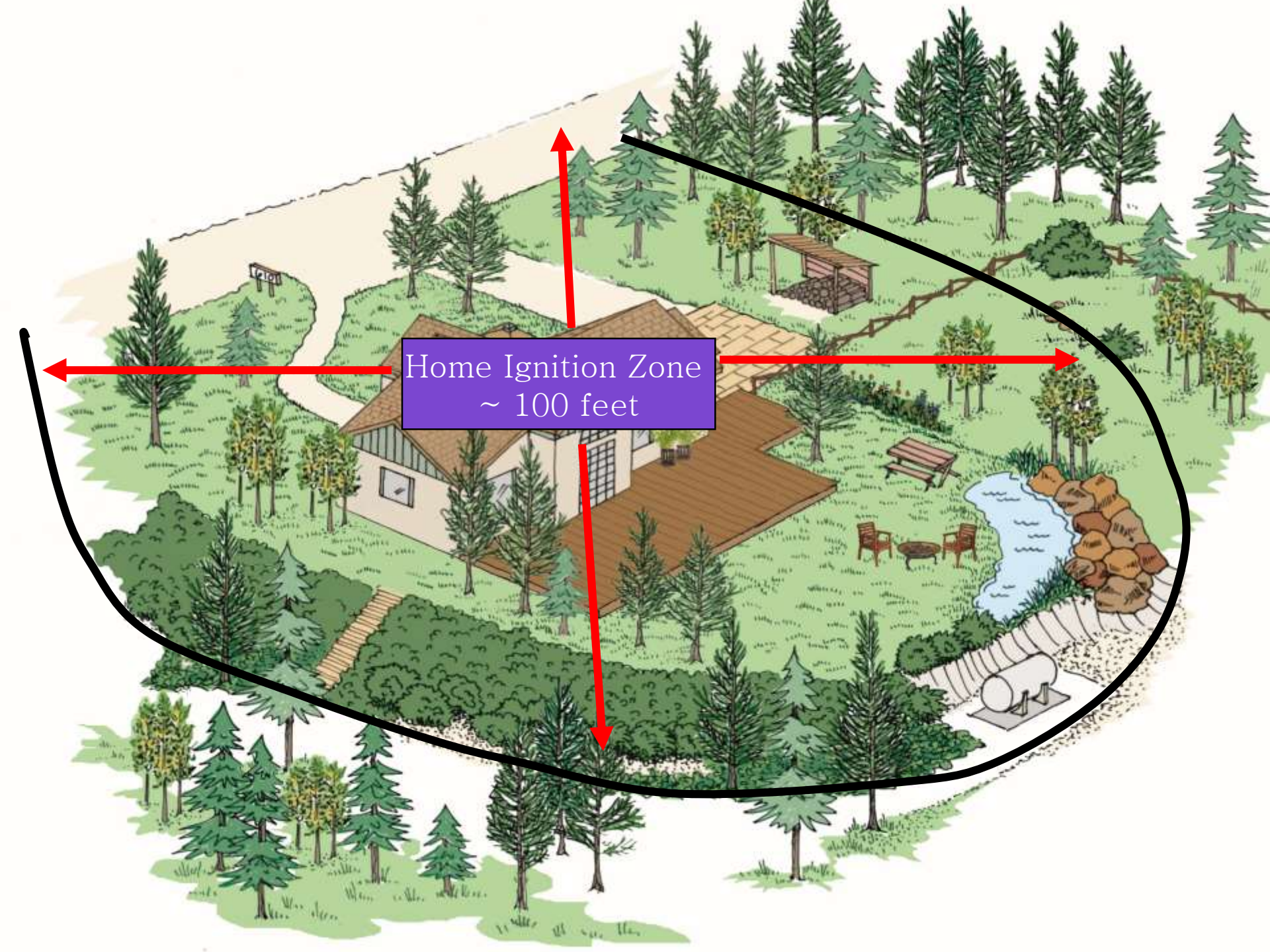
Fuel Arrangement & Fire Behavior

Topography

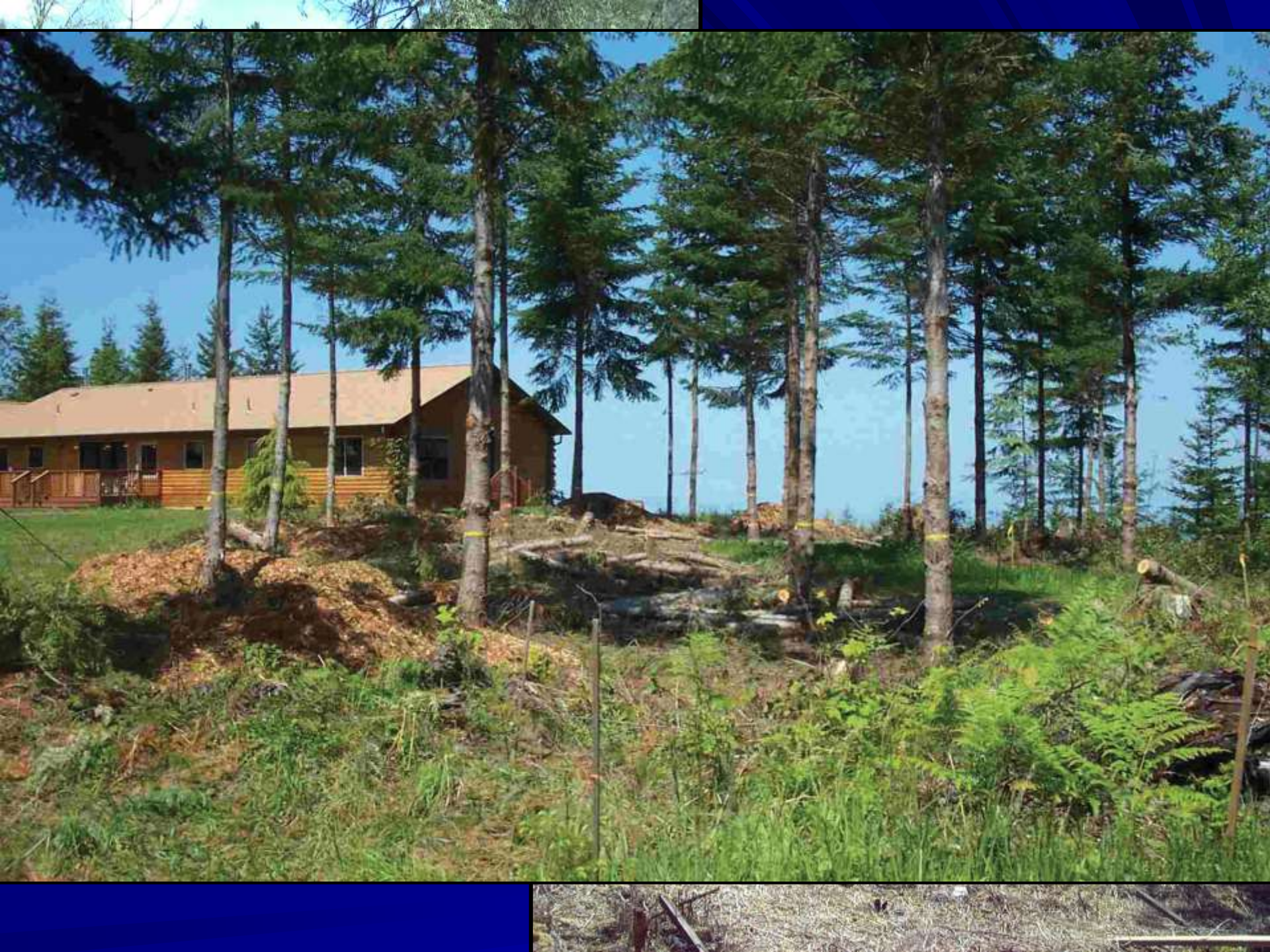
- Flames are tilted toward the slope and preheats fuel.
- Fire literally “runs” uphill.



Fuel Reduction Around Home


Home Ignition Zone
~ 100 feet

Defensible Space

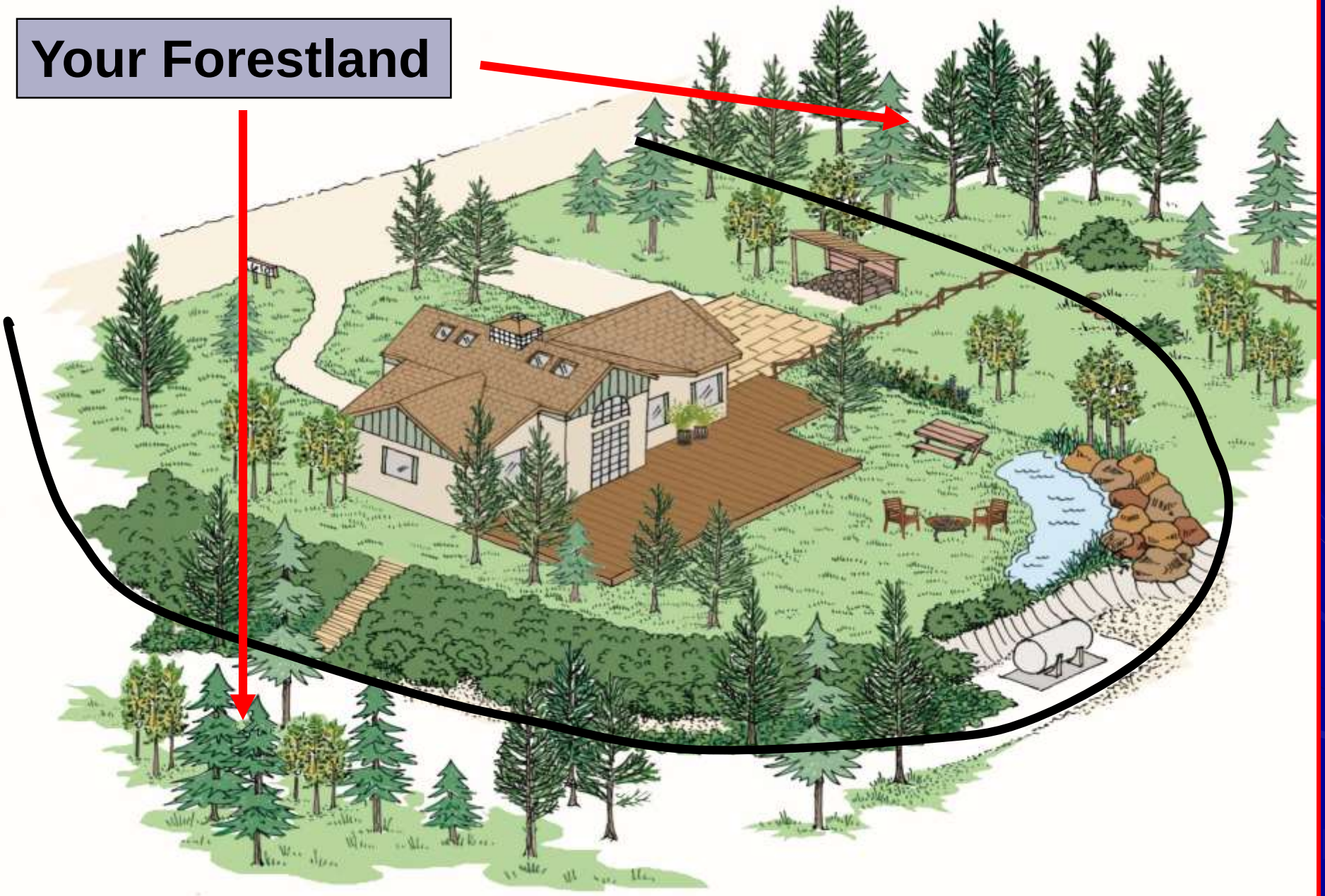


Suggested Distances for Modifying & Reducing Fuels Around Homes

Percent Slope	Up Slope Distance	Down Slope Distance
Flat	30’	30’
10	35	40’
20	40	50’
30	45’	60’
40	50	75’
50+	55	100+’

Home Construction is Important!

Your Forestland



Treatments to Moderate Surface and Crown Fire Potential & Severity

- Pruning
- Mechanical
- Thinning
- Pile & Burn/Chip
- Prescribed fire

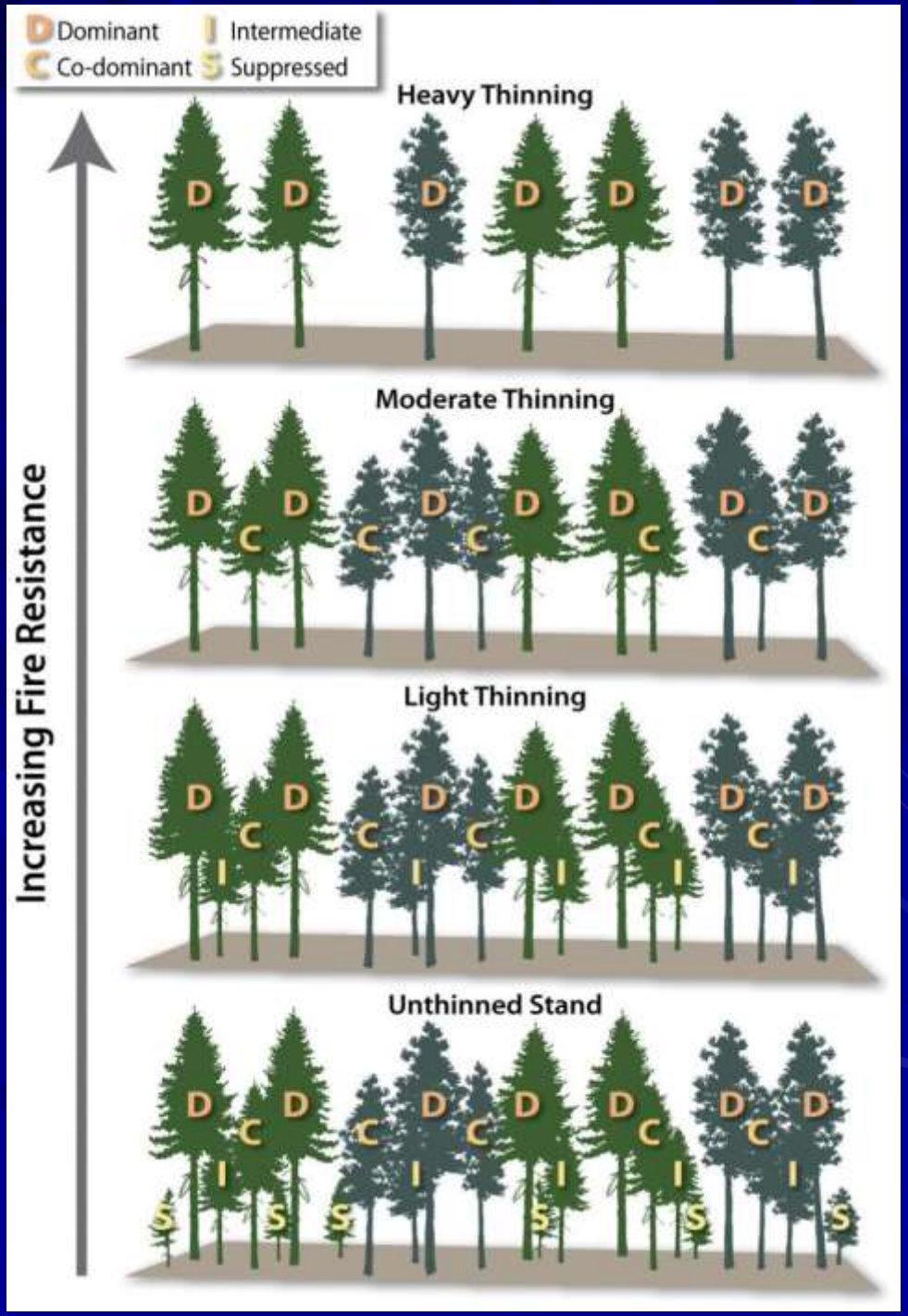
Pruning

- Pruning improves fire-resistance by raising the base of tree crowns and reducing the opportunity to convey fire into the canopy.

Mechanical Treatments

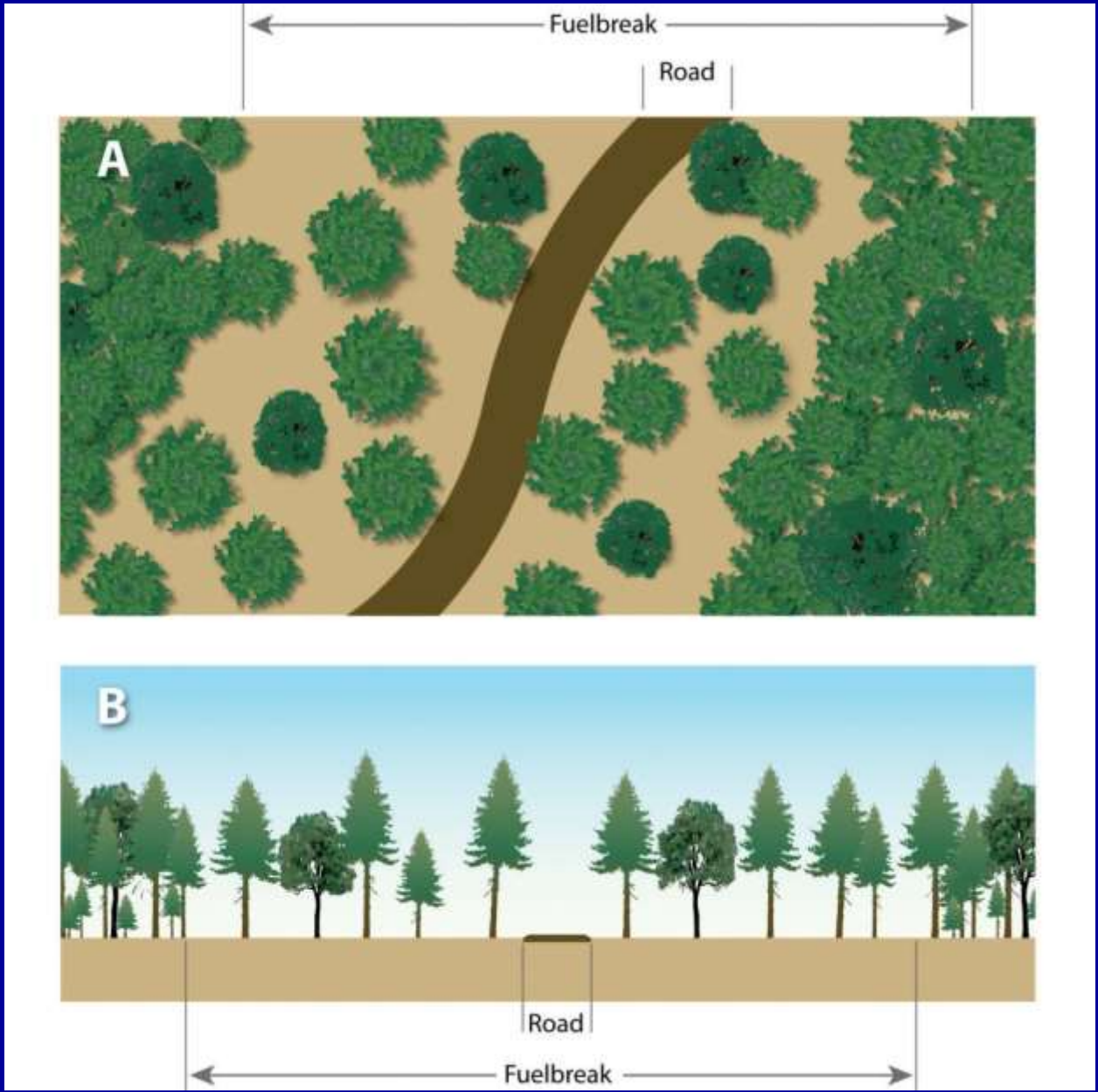
Thinning

- Thinning subordinate trees mimics natural stand mortality (and mortality caused by natural surface fires).
- The larger codominant and dominant trees are left, which are more fire-resistant.



Thinning Applied

Spatial Arrangement & Variation in Tree Spacing



Before

After

What About Slash?

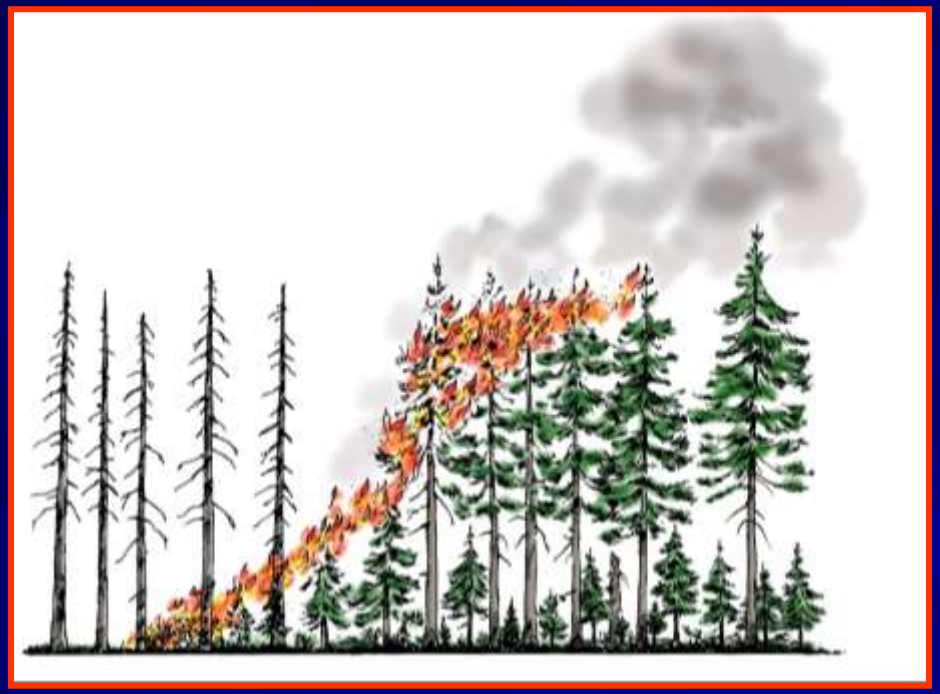
- Fire hazard
- Increases susceptibility to wildfire until it is either removed or when it decays.
- Thinning without slash treatment can leave your forest *more* vulnerable to wildfire.

Pile & Burn/Chip

Prescribed Fire (underburning)

- More applicable to SW and eastern Oregon forests
- Often requires other fuel treatments first before fire can safely be introduced
- Used as a maintenance tool.

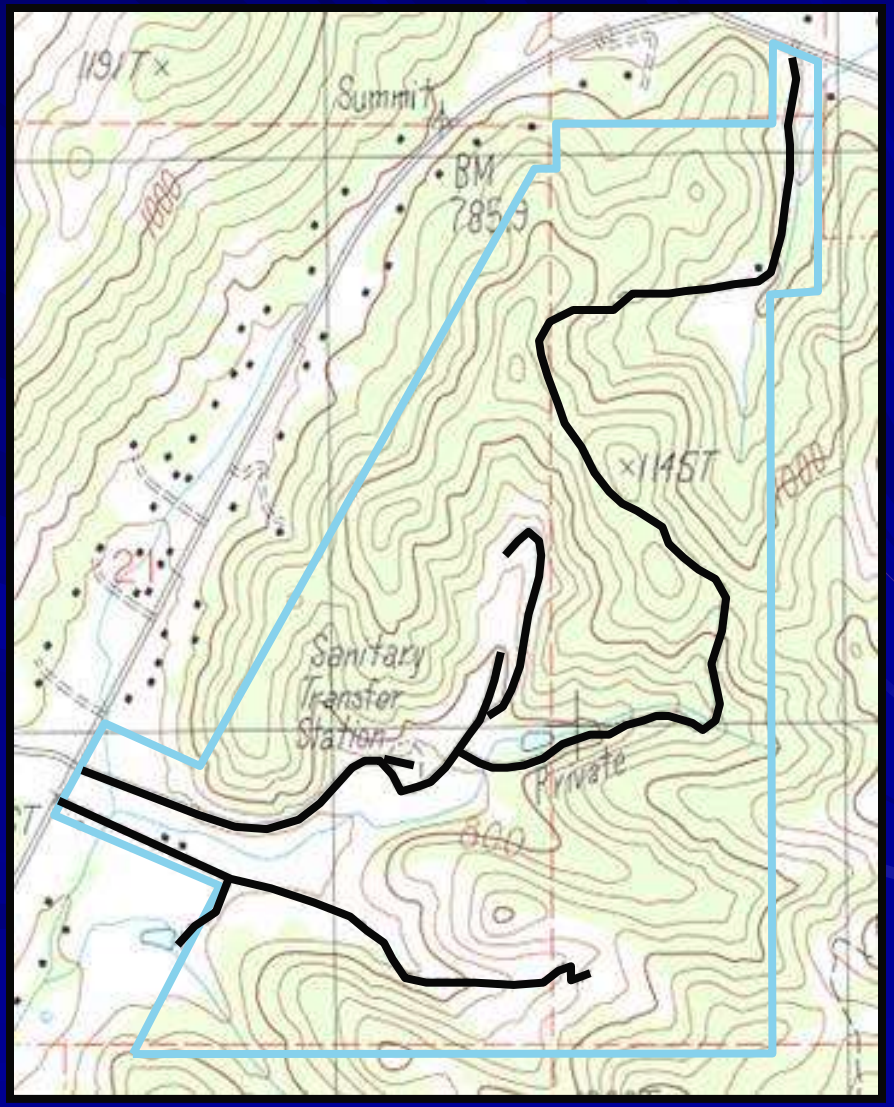
Change in Forest Structure & Continuity of Fuels



Access Considerations for Fighting Fires

Road Locations & Conditions

- Are there roads to all parts of your forest?
- Is the road clearing width & height adequate for trucks?
- Will bridges & culverts support heavy fire-fighting equipment? (e.g. 45,000 lbs)
- Minimum turning radius of 45 feet.



Controlling Access: Gates

- Restrict unwanted entry to your forest roads
- Does ODF / Fire Protection Association have a key?

Water Sources

- Where are they?
- Are they accessible to engines or helicopters?
- Are ponds weed-free?
- Will fire hose fittings match storage tank hook-ups?

Have ODF Out for a Look!

Look at & discuss:

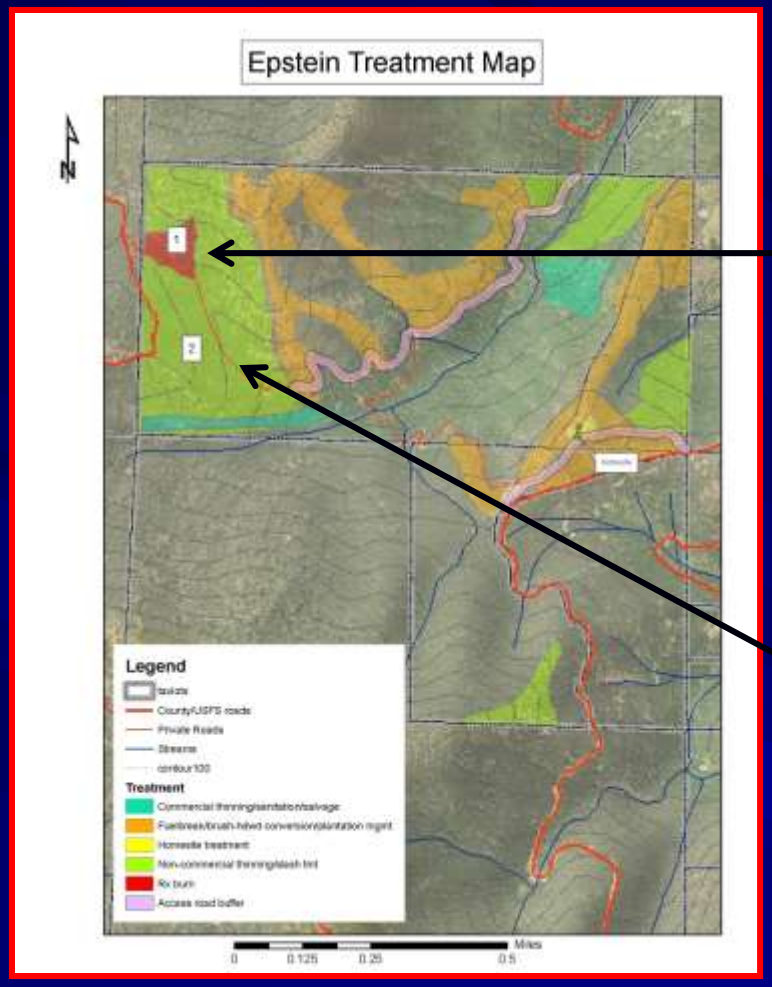
- Gates
- Special resources to protect
- Roads locations & conditions
- Water sources & access
- Fuel break locations

Fire Management Plan

- Part of your overall stewardship management plan.
- It should include:
  - Initial attack plan/information
  - Improve or create water sources
  - Improvement/create access around property
  - Fuels management activities: completed and planned.
  - Structure and home protection (defensible space)

Initial Attack Plan/Information

- 1-2 page document that informs ODF of everything you want them to know about your property/assets.
- Stimulates landowner and ODF interaction/cooperation.
- It should contain a map that identifies:
  - homes and other structures
  - power/utility lines.
  - fuel and chemical storage
  - roads and bridges (and their limitations)
  - creeks & water sources (and access limitations)
  - identified fuel breaks
  - gates and locks (combinations)
  - identified natural and created fuel breaks
  - slash accumulations/treatments by unit and year
  - list of fire-fighting and other equipment



Fire Management Plan

Area 1: Prescribed burn (1995)

Area 2: Non-commercial thinning, release, and slash treatment

Before

After

Summary

- We live in a fire environment. It's not about if a fire will occur, it's a matter of when? Are you prepared?
- Increased fire risk due to a increase fuel hazard and an expanding WUI and the potential increased ignitions.

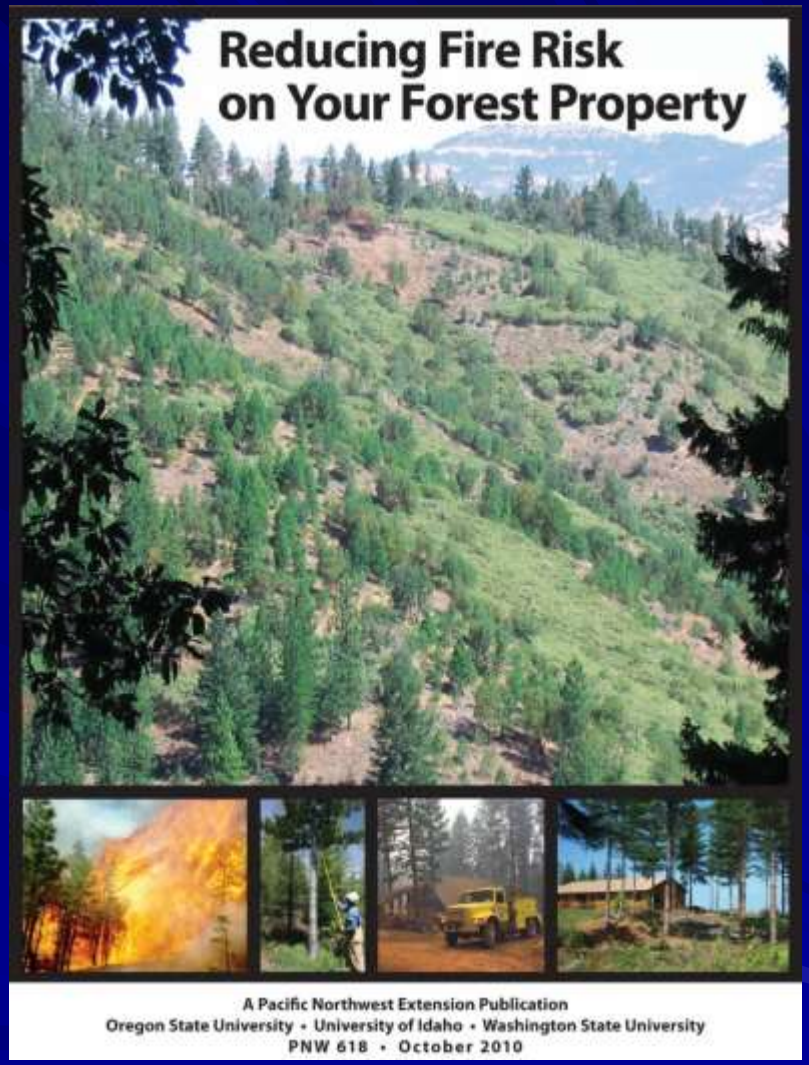
Summary

- You can reduce the potential for wildfire and it effects by creating fire-resilient forests and through improved access and water development.
- Developing and implementing a fire management plan can help you strategically think through and carry out fire management activities.

For more info:

Know Your Forest website:
http://www.knowyourforest.org/learning-library/reducing-fire-hazard

Firewise website:
http://www.firewise.org/



http://ir.library.oregonstate.edu/xmlui/handle/1957/19402