Firewise Communities

An introduction to Firewise concepts for local communities





Mary Lavin

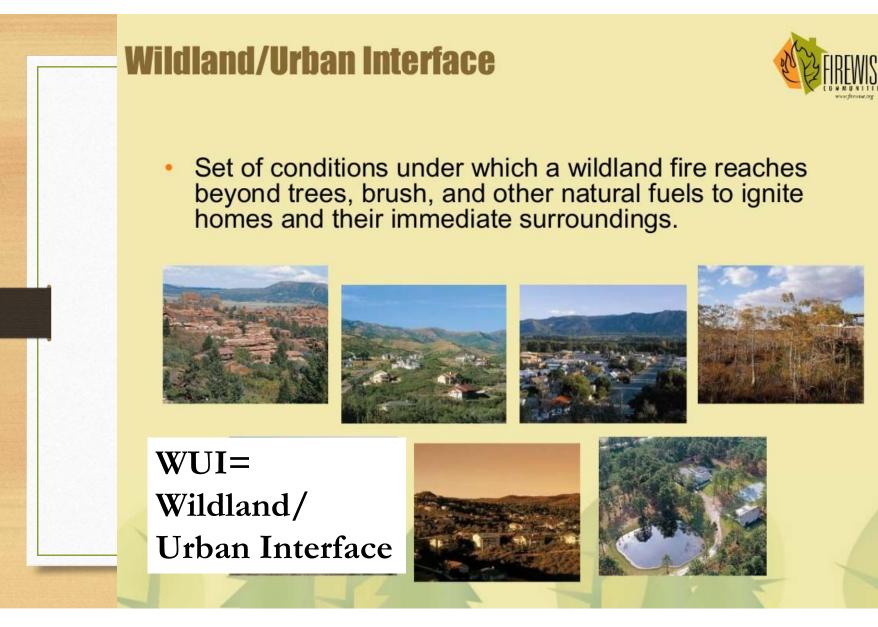
WUI cost-share grants (thinning), technical assistance: forest health, conservation, environmental education, fire prevention, Firewise coordinator Timber Management Officer NM Forestry Division (575) 339-3605 mary.lavin@state.nm.us

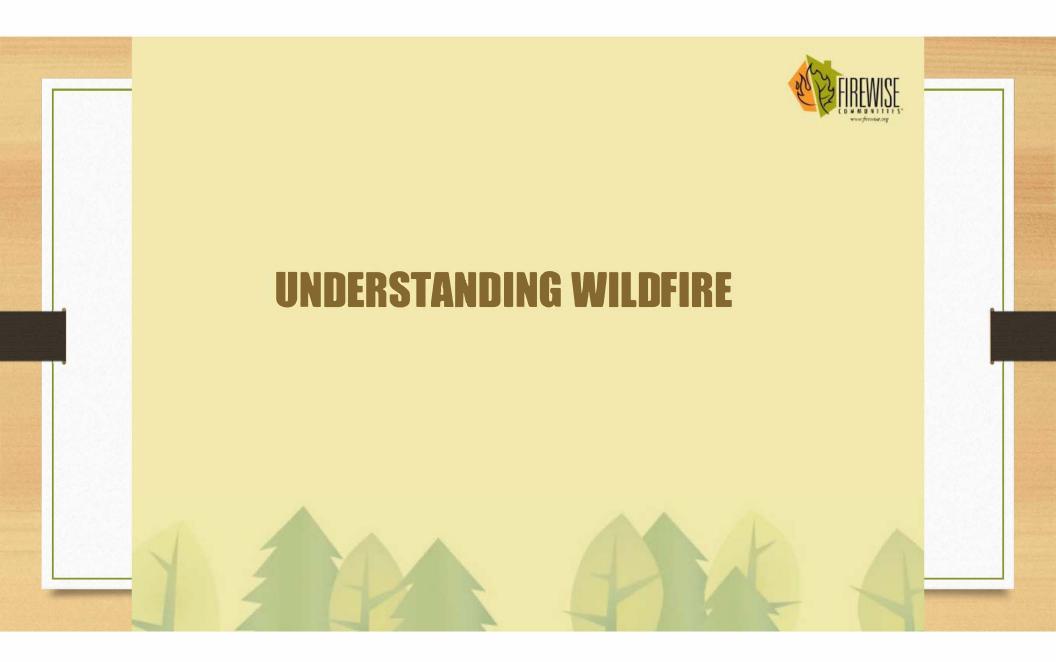


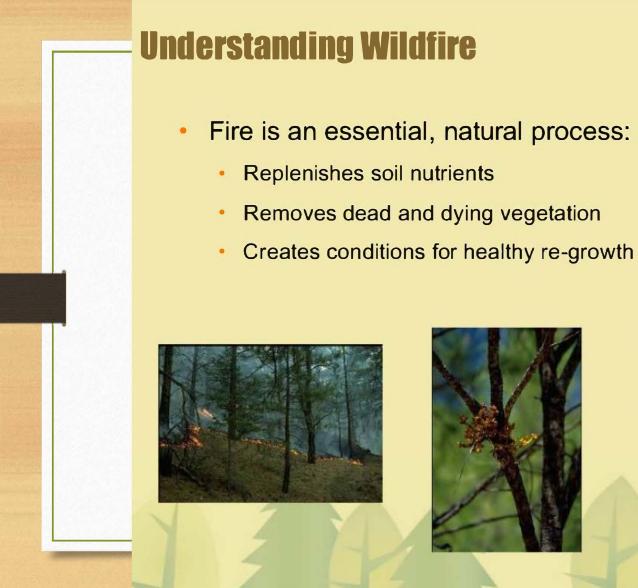




- Wildfires can put dozens (even hundreds) of homes at risk simultaneously.
- Firefighters may not have the resources to protect each home.
- Residents <u>can take action</u> to increase their homes' chances of surviving a wildfire.















Moon Mountain Fire -- March 28, 2016

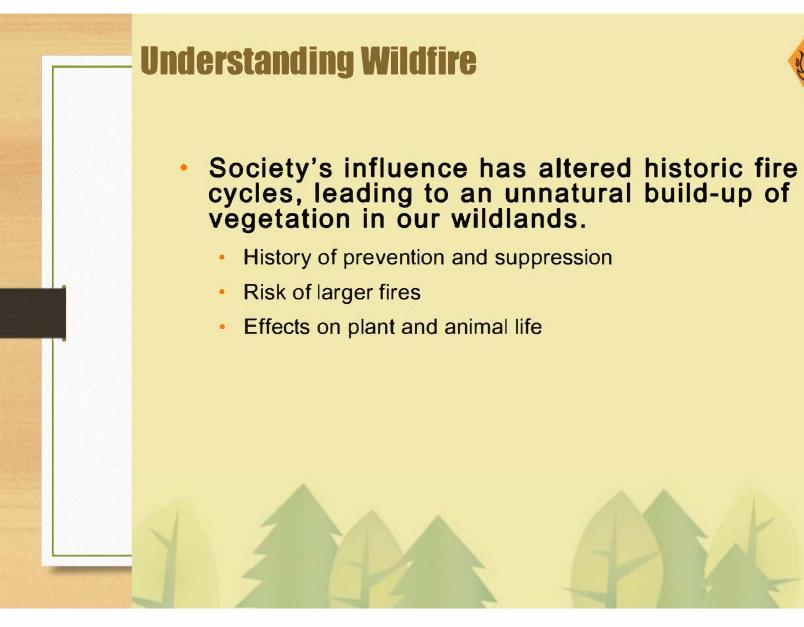


The Moon Mountain Fire. Ruidoso High School is lower left, Moon Mountain behind it. Because of previous management work done (mastication), the fire stays on the ground, not in the trees.

Moon Mountain -- April 4, 2016



One week later – From a distance you can't tell that there even was a fire. Up close, the ground under the trees is blackened, but the trees are healthy and green.





"In the summer of 1910, a devastating series of forest fires swept over Idaho, Montana, and Washington, culminating on August 20–21 in what is known as the "Big Blowup." Coming only five years after the U.S. Forest Service's establishment, this seminal event made a deep and lasting impact on the agency. Three future Forest Service chiefs were directly involved in the Big Blowup, as were several other men who would exert influence over the agency's fire protection policy following the fire. It pushed forest fire issues into the public discourse, and led to new fire prevention and suppression policies, policies that still influence fire management around the world today."

https://foresthistory.org/research-explore/us-forest-service-history/policy-and-law/fire-u-s-forest-service/famous-fires/the-1910-fires/

The aftermath of the Big Blowup, also known as the "Great Fire" of 1910, killed 86 people, most of whom were frontline firefighters, burned over 3 million acres of forested land, and destroyed several towns in its path.

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5444731.pdf

Fearing the worst after the Great Fire of 1910, federal, state, and local agencies made wildfire suppression a priority. For over 100 years, fire – once a natural part of forest ecology – was excluded from the landscape. Though well-intentioned, this fire suppression policy created unnaturally heavy fuel loads that built up over the years.

Now, when lightning strikes a dead tree, an abandoned campfire gets away, or another source of ignition starts a wildfire, the potential for a catastrophic event is much more likely....

Much more costly...

And much more dangerous...

The Dixie Fire: Most destructive fire in California's recent history:

Ignition source: A fallen tree on a powerline Burned: July 13-November 15, 2021

1300 structures destroyed

1+ million acres burned

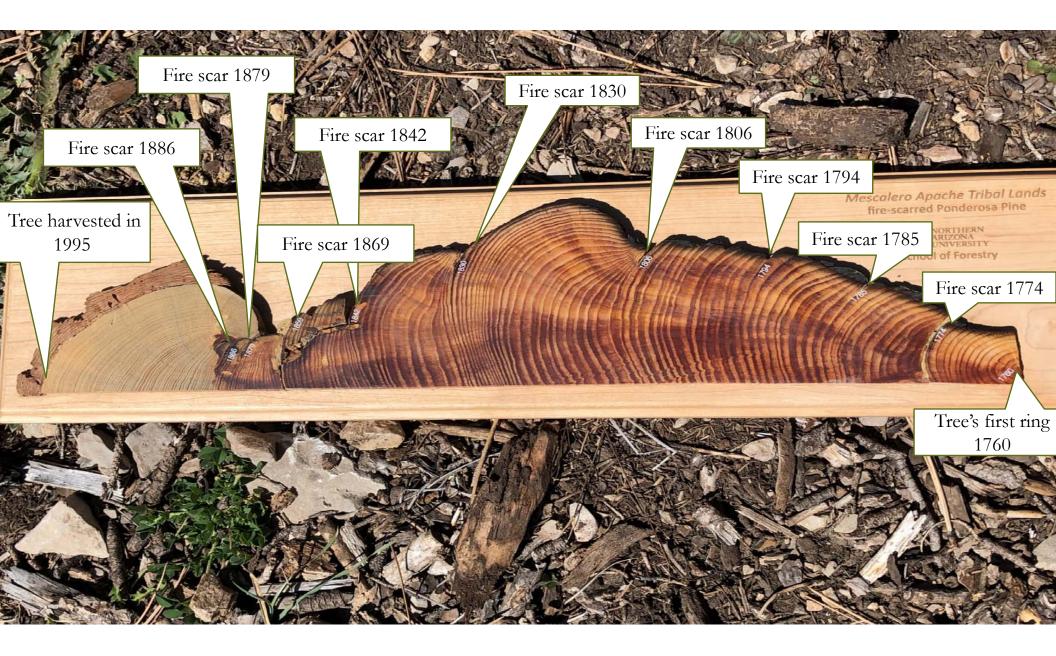
Estimated costs: \$1.15 billion

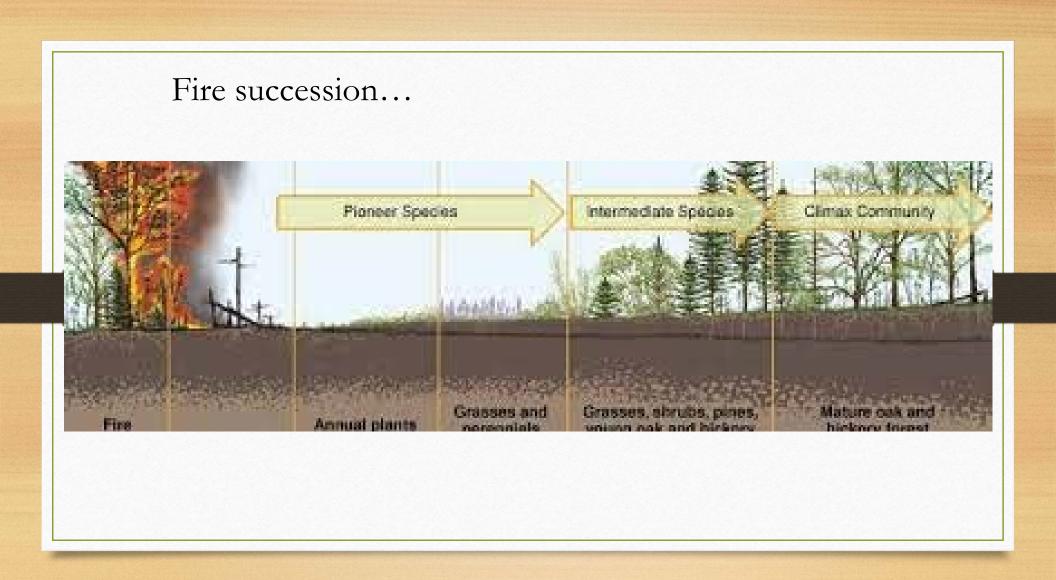
https://www.pressdemocrat.com/article/news/kent-porter-capturing-climate-change-on-the-front-lines-of-the-dixie-fire/

<u>As previously mentioned, fire has always played an important role in forest</u> <u>ecology.</u>

Recent studies have shown the following facts for US forested lands, pre-1900: In piñon-juniper (PJ) woodlands, low intensity fires occurred on average every 3-7 years In ponderosa pine stands, the average low-intensity fire frequency was every 3-5 years In mixed conifer stands, the average fire frequency was every 6-9 years Across the board, stand replacement fires (high intensity fires that killed almost all of the trees) occurred 1-3 years following an above average wet period, followed by drought.

https://www.fs.fed.us/rm/pubs rm/rm gtr191/rm gtr191 006 017.pdf





Immediately after the fire...



Early fire succession, one year later



In southwest forests, it can take hundreds of years for a forest to fully recover from a catastrophic fire.

So how do we move forward from here?

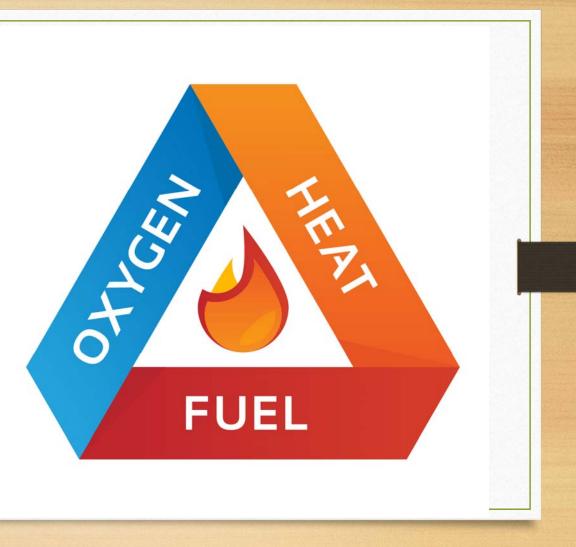
How do we get our forested lands back to a place of better health and fire resiliency?

Education, understanding, and action...

Fire Triangle

It takes heat, oxygen, fuel and an ignition source for fire to occur.

Take away any of the three "legs" of the fire triangle and the fire goes out.



Fire Behavior Triangle



What's the only part of the Fire Behavior Triangle we can impact?

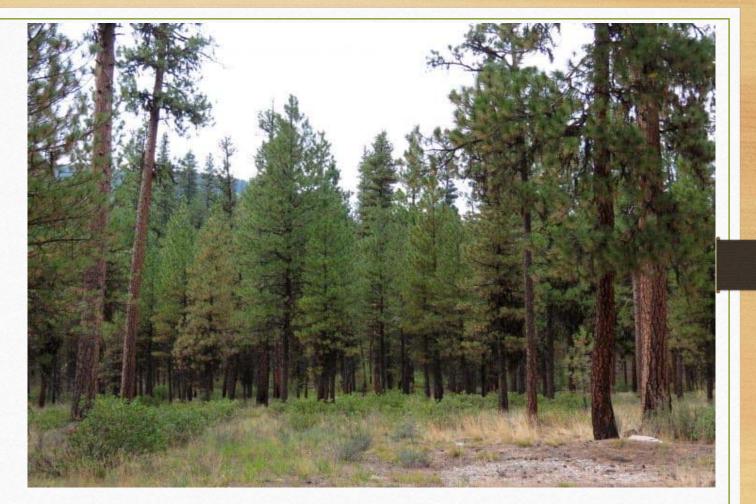
Fuel amount and fuel arrangement



Ground fire (medium intensity): When the duff is deep enough, even a lowmoderate intensity fire can kill the tree by "cooking" the roots. Ground fires burn hotter and deeper than surface fires, moving down into the roots of dead trees.



Crown fires (heavy-severe): Overstocked forests create unhealthy, stressed trees that are also primed for catastrophic wildfires.





How does a fire move from the ground to the crowns of trees?

Ladder Fuels:

Dense understory creates fuels that can carry fire from the forest floor into the canopy.



The fire moves from the ground up into the crowns of the trees



The Ball Park Fire, June, 2021 (Ski Run Road).

The official acreage of this fire: 25 acres. The area was thinned in 2001.

-on the east side, the slash was piled in places (2001) and left in other places. This area had not been treated again. **80-90% mortality**

-on the west side, the slash had been completely removed 20 years ago. This area had also recently been re-thinned and the slash removed. **0% mortality**

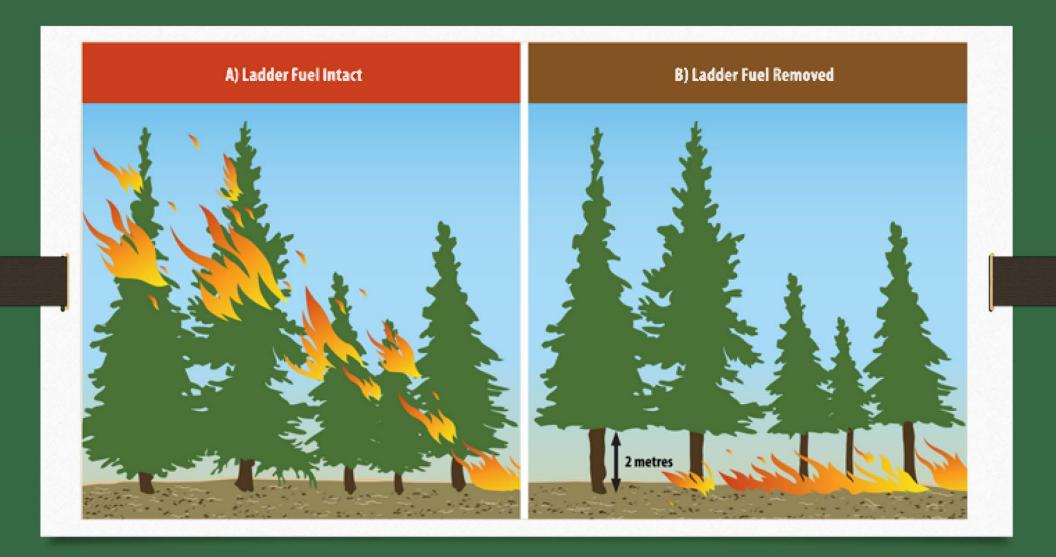


Dick Cooke, Ruidoso Forester, November 8, 2021

West side of the Ball Park Fire – slash from previous thinning had been 100% removed, the fire stayed on the ground with 0% mortality to remaining trees.

Dick Cooke, Ruidoso Forester, November 8, 2021

Kerne States



After the burn...

Heavily burned forests are at risk for severe erosion once the rains and snow return...



Heavy precipitation often follows a catastrophic fire, causing erosion that washes away nutrients and precious soil, making it even harder for the forest to recover.







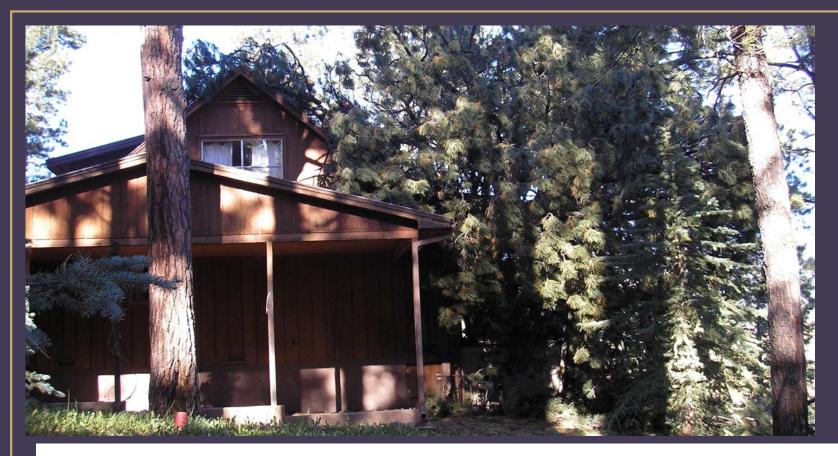




Becoming Firewise...

Individuals and communities can take proactive steps to "harden" the space around their homes and property – creating "defensible space" – reducing the risk of loss in the event of a wildfire.



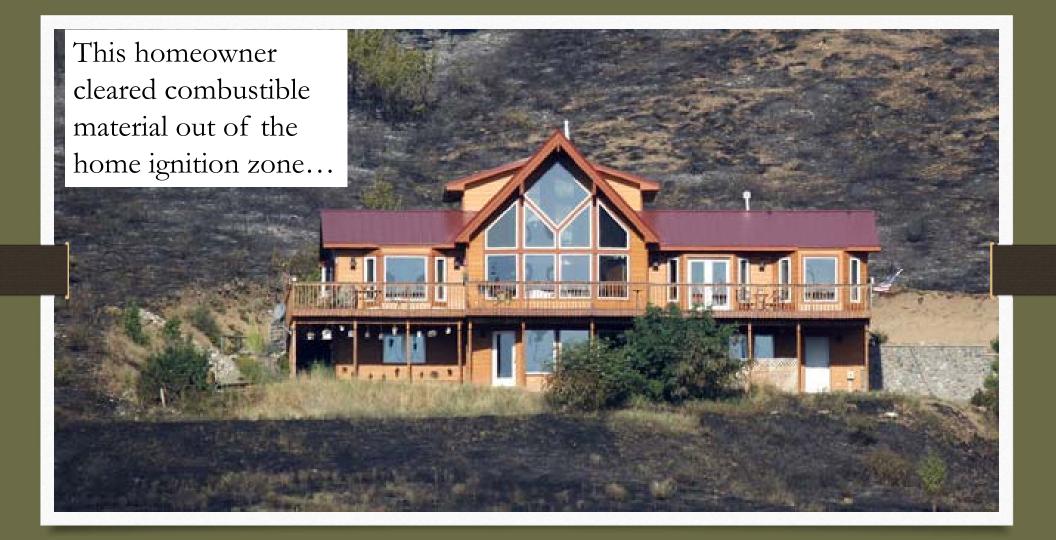


This is not a defensible space. The landowner would not clear trees, branches and other combustible material away from this home

Still Standing...



This landowner thinned and cleared his property, reducing flammable vegetation around his home and changed the roof to fire-resistant tiles.

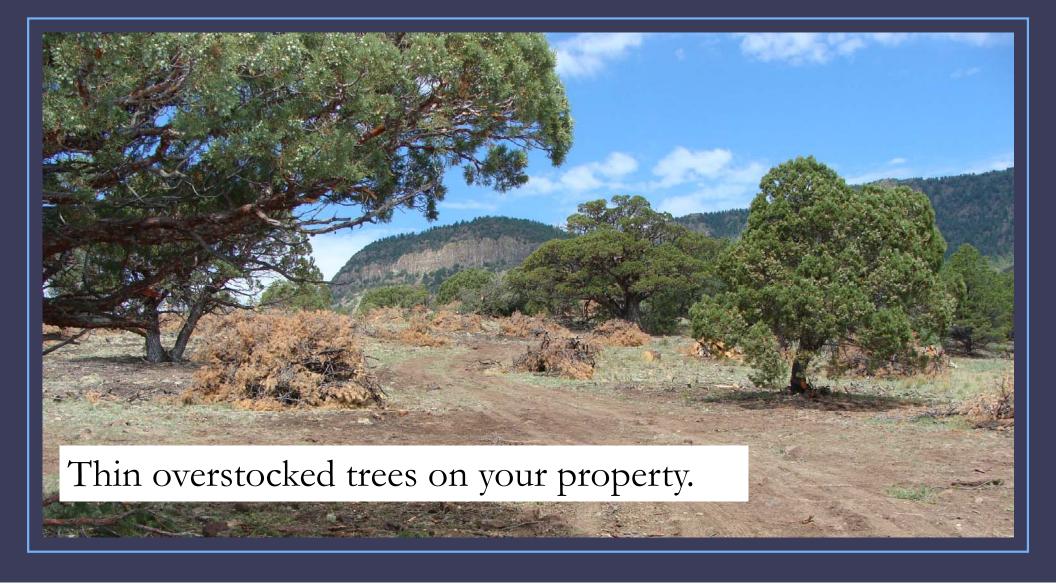




This homeowner created a noncombustible safe space around his home... This homeowner did not...



So...what can we do to protect our homes and our community from the threat of wildfire?



Narrow annual rings show tree's struggle to get enough nutrients, light and water- 70 years' growth 0

Harvesz

After thinning, annual growth rings show tree's favorable response –/ 10 year's growth

10

Before thinning...



Same area after thinning

Ponderosa pine forest before...and after thinning.

Thinning is an effective way to reduce the hazard of wildfire.







Home Ignition Zone



If it's attached to the house, it's considered part of the house (i.e., a deck)

Home Ignition Zone: The home in relation to its surroundings within 100 to 200 feet















Firewise Communities/USA Criteria Enlist a wildland/urban interface specialist to complete a community assessment and create a plan that identifies agreed-upon achievable solutions to be implemented by the community. Sponsor a local Firewise Task Force Committee, Commission or Department which maintains the Firewise Communities/USA program and tracks its progress or status. Observe a Firewise Communities/USA Day each year that is dedicated to a local Firewise project.



Questions and discussion...

Firewise USA website:

https://www.nfpa.org/Public-Education/Fire-causes-and-risks/Wildfire/Firewise-USA/Become-a-Firewise-USA-site

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