

Fire in Oregon's Forests:

Risks, Effects & Treatment Options

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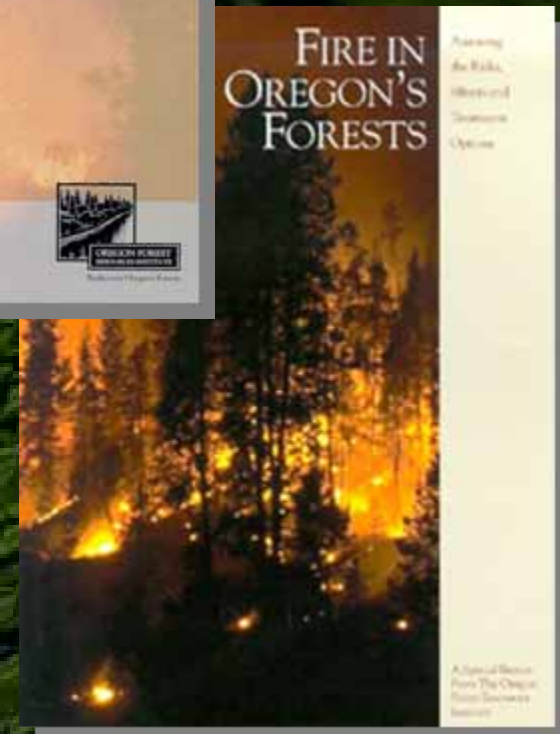
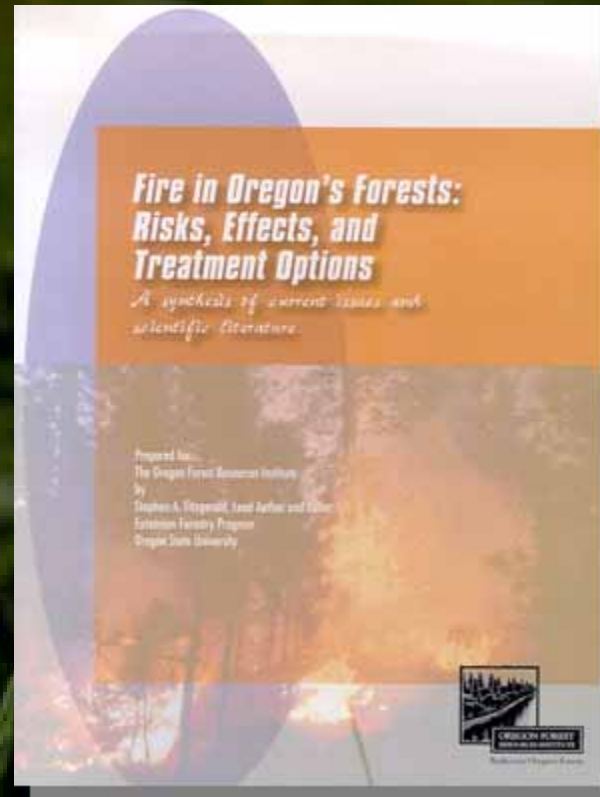
Special Science Report

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Presentation Will Cover...

- Historic and recent fire history
- Scope of fuel buildup
- Fire behavior basics
- Options for creating fire-resilient landscapes



Historic Fire Regimes

<u>Forest Type</u>	<u>Fire Return Interval (Yrs)</u>	<u>Fire Regime/Severity</u>
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

Low-Intensity: Ponderosa Pine

- Frequent fires
- Low intensity
- Non-lethal
- Open, park-like
- Maintain large, fire-resistant trees

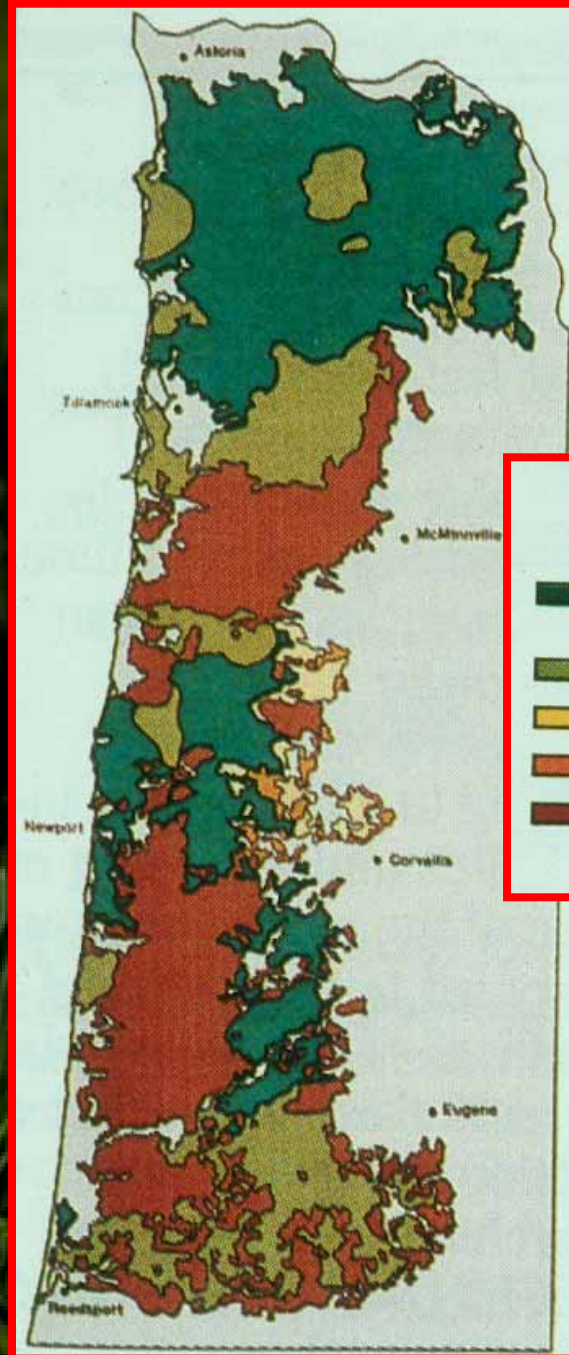


High-Severity: "Crown Fire"

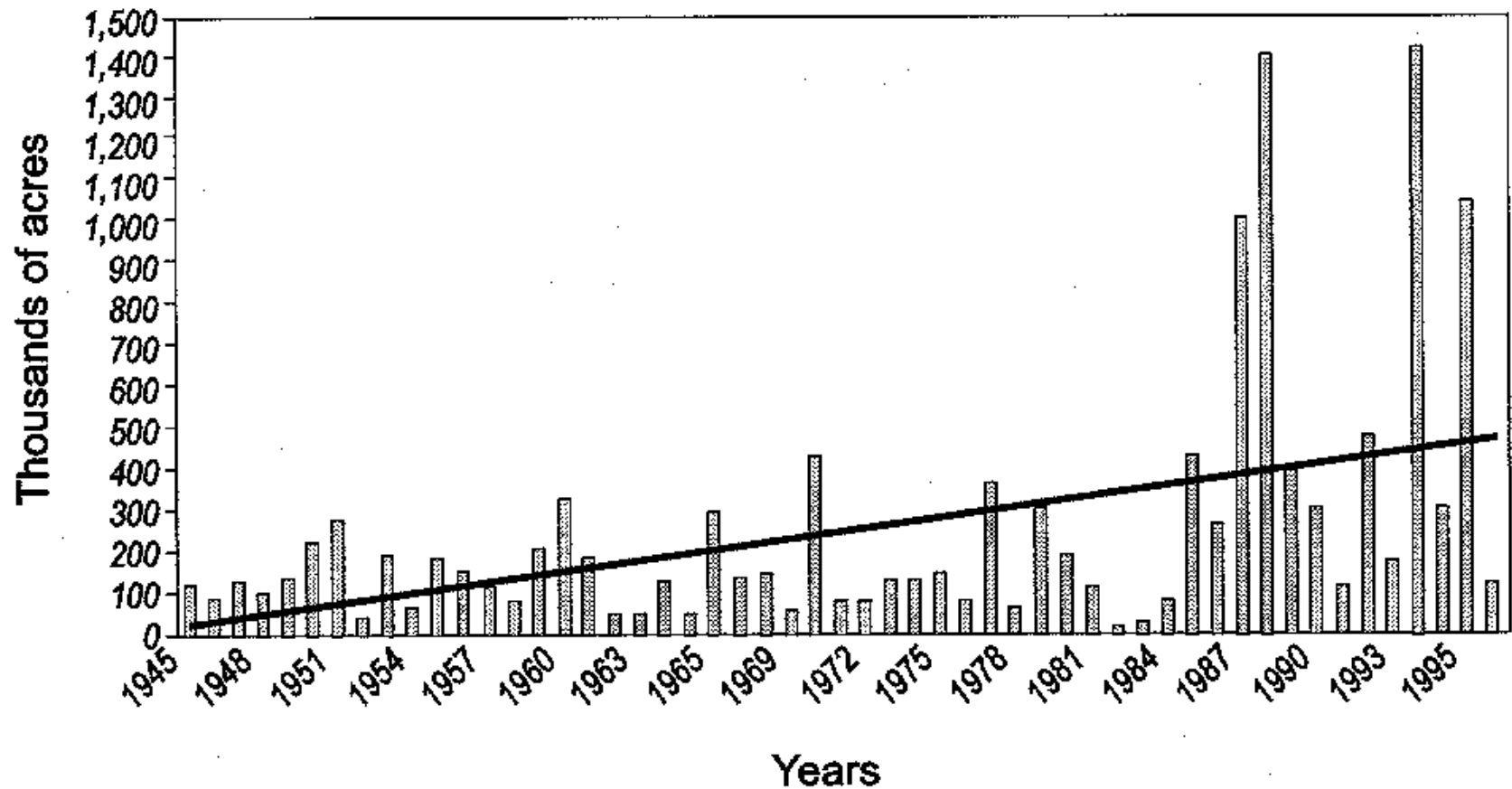


High-Intensity: Douglas Fir

- Long interval between fires
- Large in size
- High intensity/lethal
- In 1850, 42% of north coast forests were 200 years or older



Recent Fire History



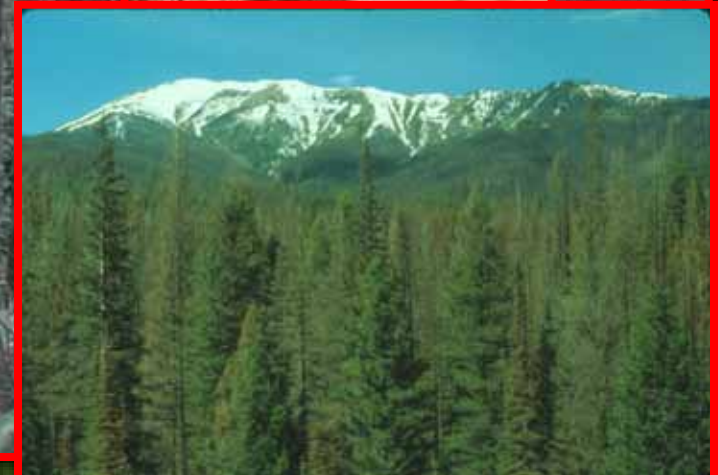
Fuels Have Increased in the Last Century

- Grazing
- Successful fire suppression following 1910
- Selective logging of large fire-resistant trees
- Urbanization

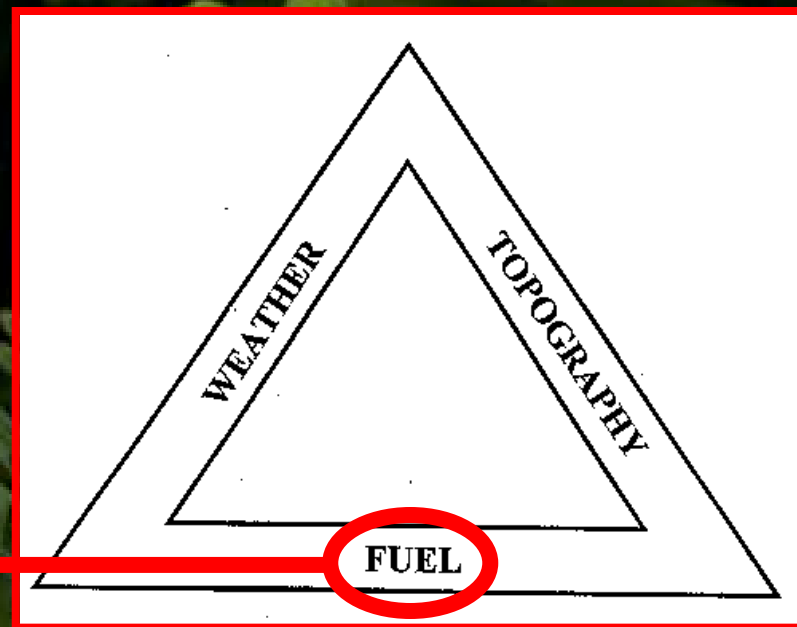
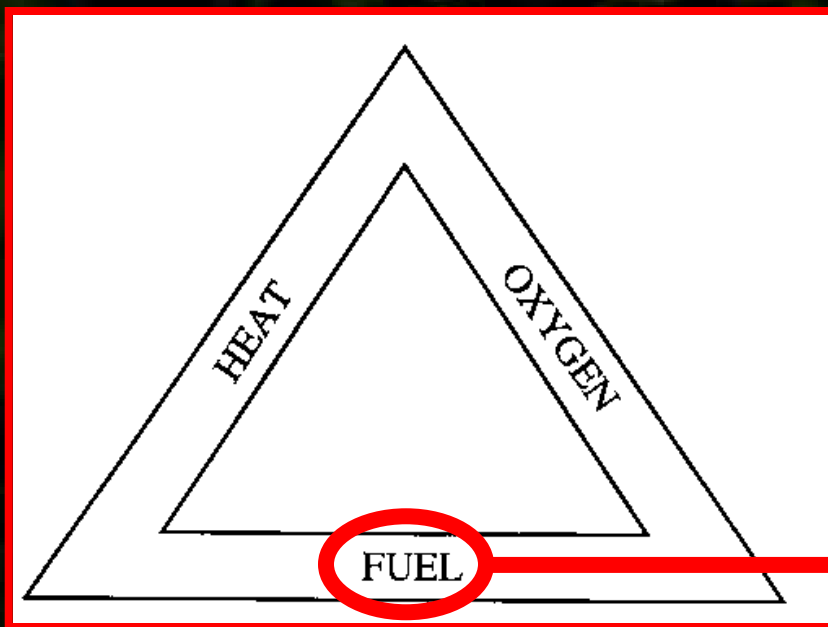


Values at Risk

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



Fire Behavior Basics



- Fuel is the common denominator.
- Changing the arrangement and amount of fuel correspondingly changes fire behavior.

Fuel Arrangement

& Fire Behavior



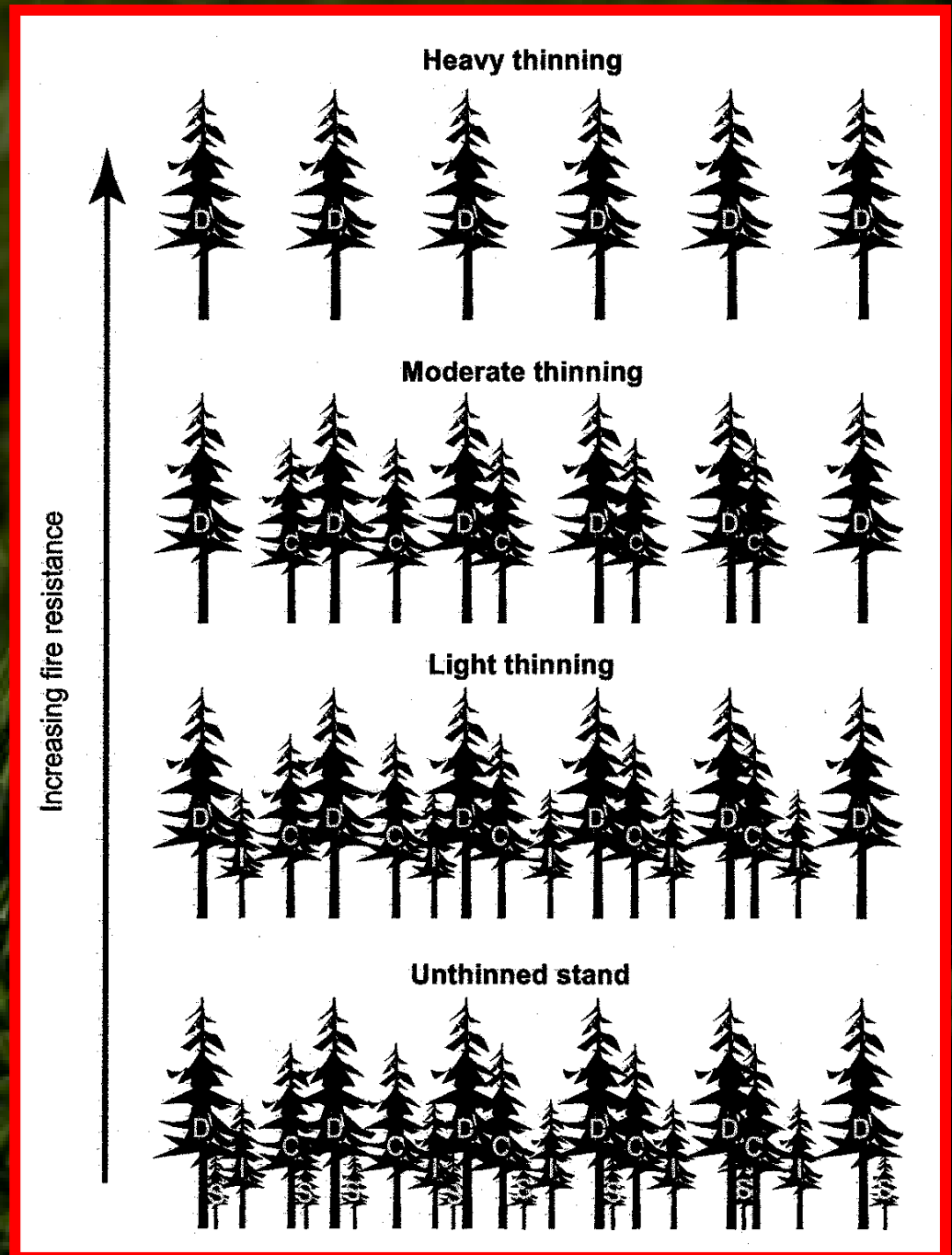
Treatments to Lessen Surface and Crown Fire Potential and Severity

- Thinning
- Pruning
- Mowing
- Prescribed fire



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.



Pruning

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



Mowing



Prescribed Fire

- More effective and safer if other treatments precede prescribed fire
- Prescribed fire can be used periodically as a maintenance tool to rid understory fuels.



Applying Fuel Reduction Principles



**Around
the Home**

Summary

- A significant amount of Oregon's forests are at risk – vulnerable to uncharacteristic wildfires.
- Modification of fuels can alter fire behavior and fire intensity. Elimination of fire from the ecosystem altogether is not the goal.
- Reducing fire intensity to historic norms allows forests to survive relatively intact and reduces impacts to other values.

Summary

- Using fire behavior science, we can design fuel reduction and post-fire restoration treatments.
- Not all forests need treatment. Those that do include forests that historically experienced frequent fire.
- Our focus for creating fire-resilient forests must be at the landscape level.

Summary

- Need to weigh the risks of treatments versus no-treatment against other resource values.
- Treating forests will be expensive. Thus, a combination of commercial thinning and allocation of tax dollars will be needed.

A scenic landscape featuring a dense forest of evergreen trees in the foreground, with snow-capped mountains in the background under a clear blue sky. The text "Thank You!" is overlaid in the center of the image.

Thank You!