



Preliminary Report

# Wildfire Prevention, Preparedness, and Expenditure Review

## LEGISLATIVE AUDITOR'S CONCLUSION:

DNR's long-term approach to wildfire prevention and preparedness is supported by science and best practices. The approach requires coordination with other entities and may reduce fire severity, which can impact costs to suppress fires.

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Casey Radostitz | Rebecca Connolly | Suzanna Pratt

December 2020





**JLARC  
direction  
to staff  
(2019)**

Review DNR’s wildfire prevention and preparedness activities and related expenditures.

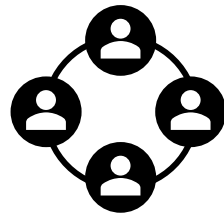
Identify if evidence exists about how effectively these types of activities reduce the impacts and costs of wildfire.

Evaluate DNR’s progress in implementing recommendations from the 2018 JLARC report.

# Presentation Overview



Long-term  
approach



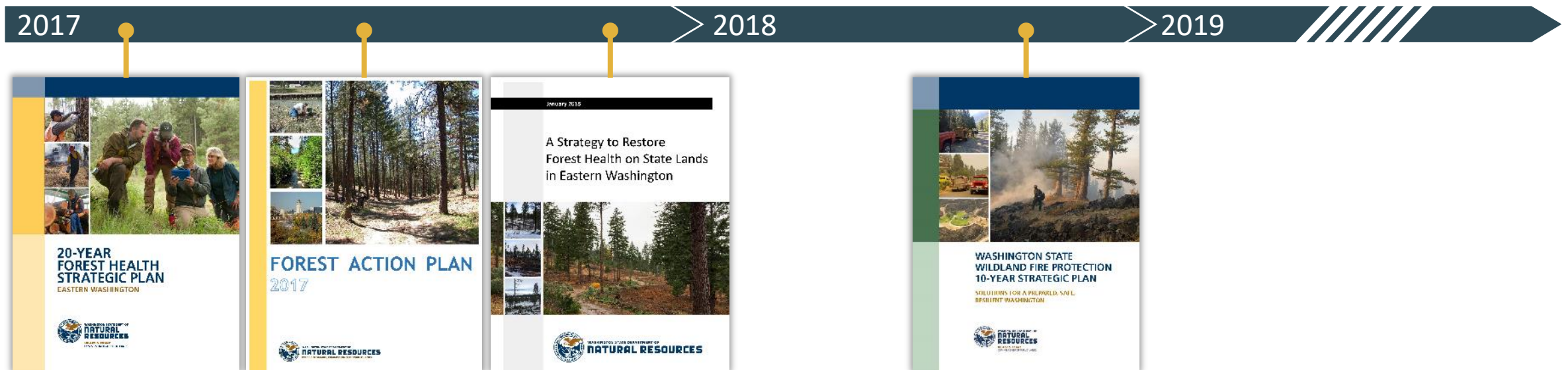
Coordination  
with others



Effect on fire  
severity & cost

# DNR plans have a long-term, strategic approach to prevention & preparedness

- 10- to 20-year implementation timelines



# PREVENTION

Reducing human-caused fires

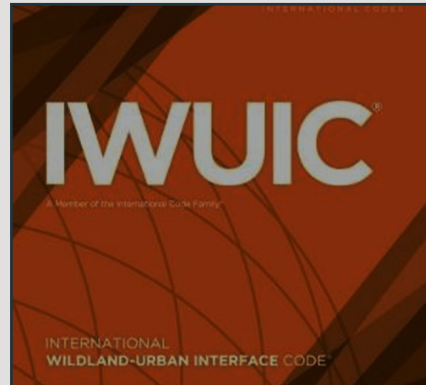


# PREPAREDNESS

Improving landscapes through forest health



Helping communities adapt to wildfire



# DNR's plans and activities are consistent with national guidance

**National  
Cohesive  
Strategy  
Goals**

Restore and  
maintain landscapes

Fire adapted  
communities

Wildfire response

Resilient landscapes

Fire adapted  
communities

Safe, effective  
response

Capable, integrated,  
sustainable systems

**DNR  
Wildfire  
Strategy  
Goals**

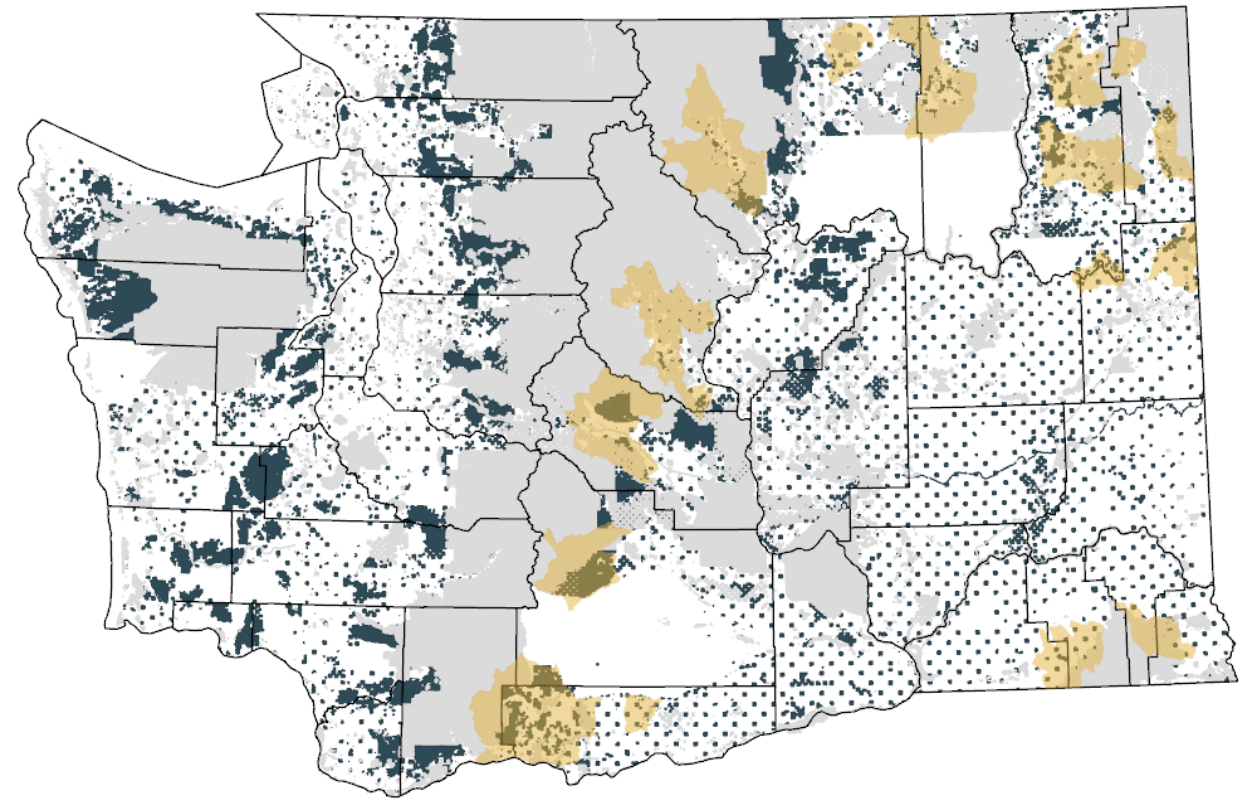


State law requires DNR to assess and treat 1 million acres of forest land by 2033.

Photo: Ed Suominen

# DNR identified 33 priority areas to focus efforts.

Based on fire risk, wildland urban interface, water, habitat, timber, more...



■ DNR Land    ■ Federal Land    □ Other Ownership

**\$70** million

Spent on preparedness & prevention  
FY 2018 through 2020

**Accounting codes  
provide details such as  
activity type, project, region**



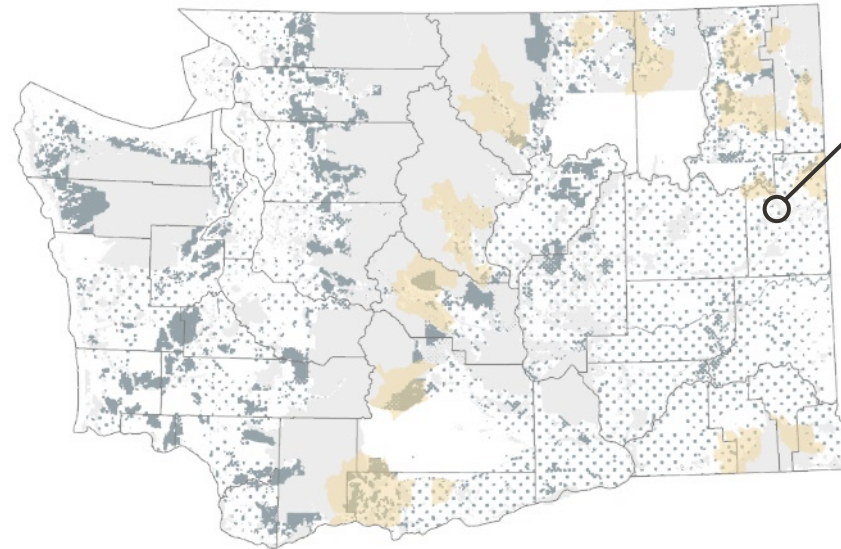
**Currently, DNR cannot systematically show how much it has spent on forest health in specific priority areas**

## FINANCIAL DATA

Fund source

Project name & code

Amount spent



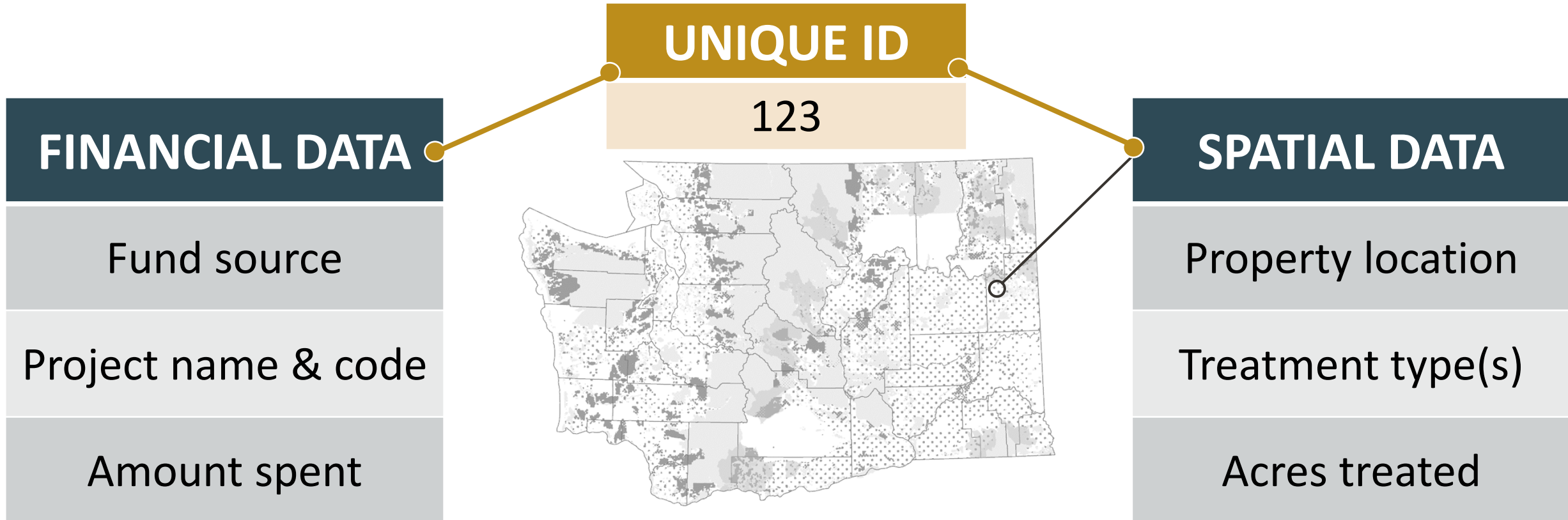
## SPATIAL DATA

Property location

Treatment type(s)

Acres treated

# DNR has proposed data standards to link financial and spatial data



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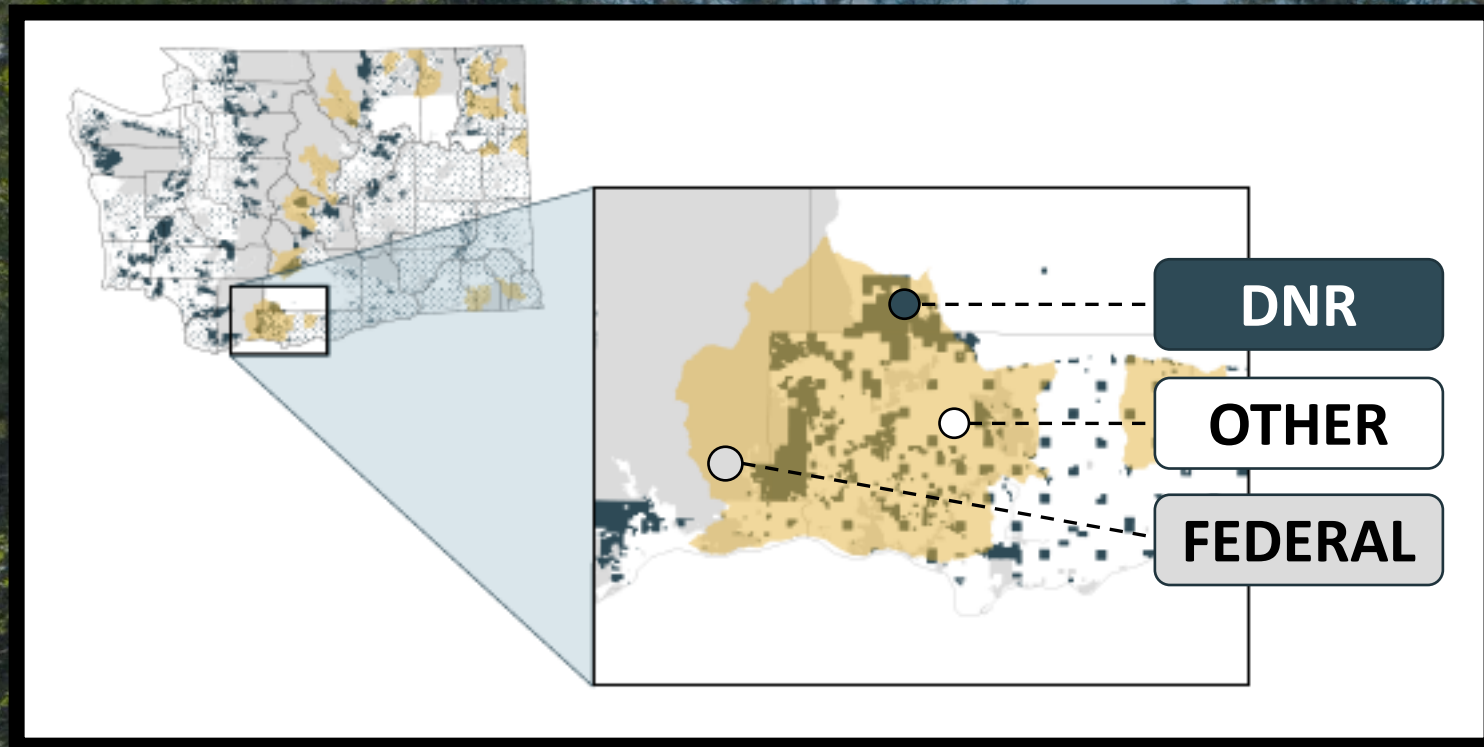
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# 22 million acres of forest land

LANDOWNERS INCLUDE: State agencies | Federal agencies | Tribes | Private

# The **priority areas** cross ownership boundaries



DNR owns or manages 500,000 acres in the priority areas. It must work with others to achieve goals.



## DNR and federal agencies use formal agreements to coordinate

**Good Neighbor Authority**

USFS and BLM reimburse DNR for forest health treatments done on federal land.



Photo credit: USDA Forest Service, Region 6, State and Private Forestry, Forest Health Protection

## Forest health collaboratives facilitate non-binding agreements about federal forest land management

- Federal and state agencies, Tribes, conservation groups, and others.



Photo credit: DNR



## DNR offers financial and technical assistance to small forest landowners



DNR is developing a forest health tracking system.

It will include data from multiple state, federal, and private partners.

foresthealthtracker.dnr.wa.gov

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES  
HILARY S. FRANZ | COMMISSIONER OF PUBLIC LANDS

Project Name or Description

ABOUT ▾ PROJECTS ▾ FINANCIALS ▾ PROGRAM INFO ▾ LOG IN HELP ▾

## Forest Health Tracker

**This site is currently in development**

This interactive online platform is being developed to gather and compile forest health treatment information across all lands in Washington to increase our shared awareness of what activities are planned on the landscape, and track progress of completed treatments.

We define forest health as the condition of a forest ecosystem reflecting its ability to sustain characteristic structure, function, and processes; resilience to fire, insects and other disturbance mechanisms; adaptability to changing climate and increased drought stress; and capacity to provide ecosystem services to meet landowner objectives and human needs.

More than 22 million acres of Washington - half of the state - is forested, effecting clean air and water, fish and wildlife habitat, and our quality of life. The [2020 Forest Action Plan](#) sets out strategic goals and actions to address the most pressing threats to our state's forest ecosystems at a meaningful scale.

The Forest Action Plan integrates the [20-Year Forest Health Strategic Plan for eastern Washington](#), which in 2017 established a mission to restore and manage forested landscapes at a pace and scale that reduces the risk of uncharacteristic wildfires and increases the health and resilience of forest and aquatic ecosystems in a changing climate for rural communities and the people of Washington state. The first goal of the plan is for Washington Department of Natural Resources and our partners to conduct 1.25 million acres of scientifically-sound, landscape-scale, cross-boundary management and restoration treatments in priority landscapes to increase forest and watershed resilience by 2037. The initial focus of this Forest Health Tracker website will be to assist in tracking our progress towards this goal.

This website will be functional by June 2021, stay tuned for updates.

### Project Map

This map shows an overview of the approximate locations of projects. To zoom into a specific area, [view the comprehensive map page](#).



**Stage**

- Planned
- Cancelled
- Implementation
- Completed



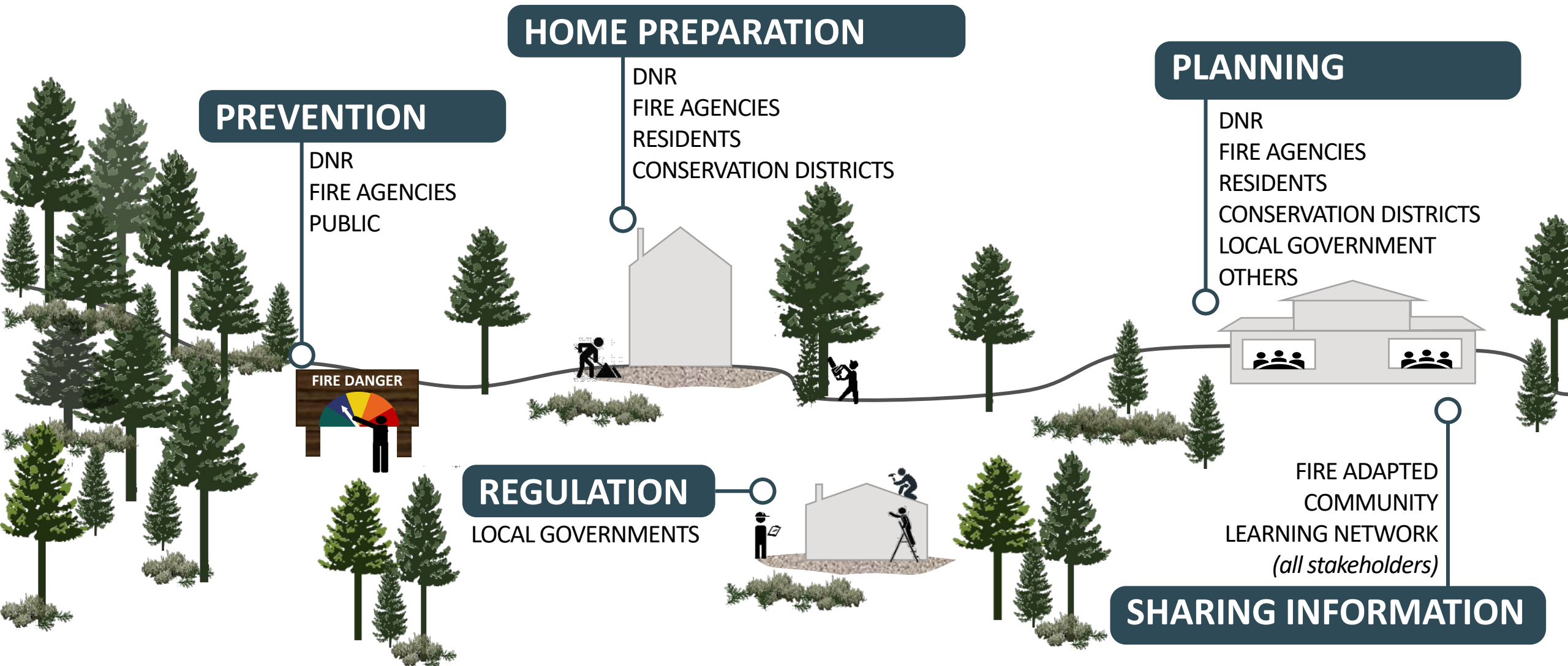
# Wildland Urban Interface (WUI)

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Area where homes are built near or among lands prone to wildland fire.



# Responsibility in the WUI is shared



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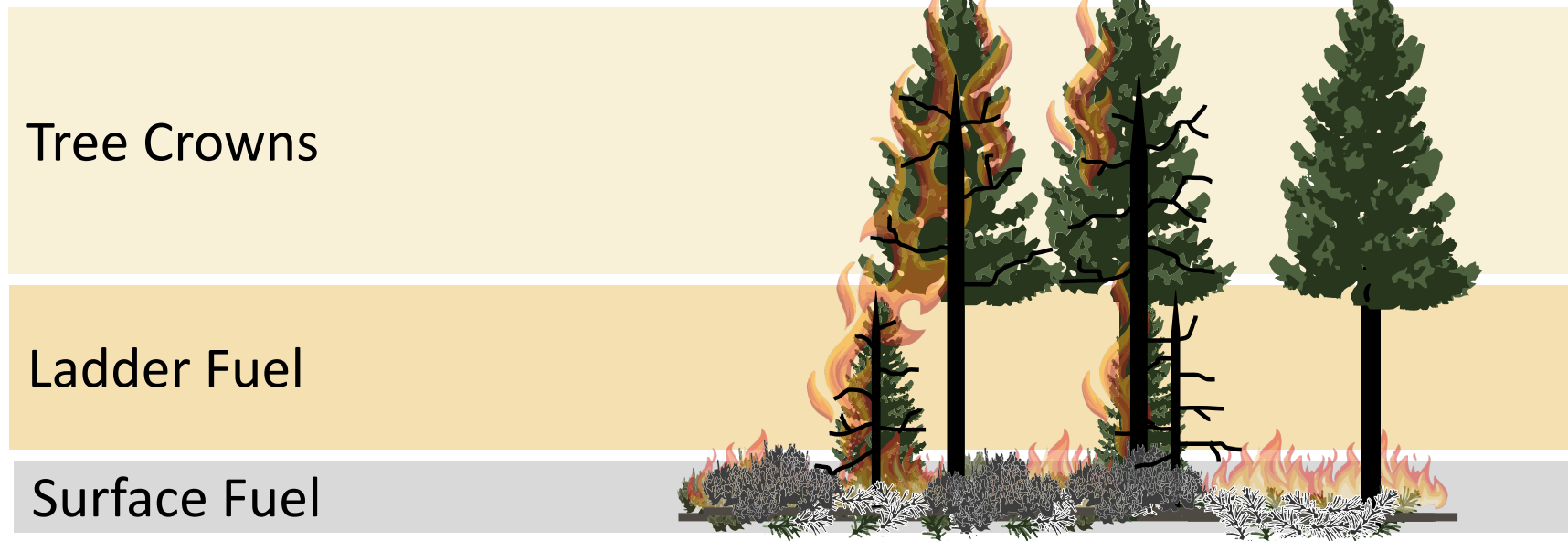
Research suggests removing fuels from the landscape has reduced the intensity and severity of individual fires

Source: Review of 300+ research documents

# BEFORE FUEL REDUCTION

**HIGHER INTENSITY:** Fire spreads from forest surface through ladder fuels to tree crowns.

**HIGHER SEVERITY:** Fire spreads through canopy and forest is more damaged by fire.



Research suggests removing fuels from the landscape has reduced the intensity and severity of individual fires

Source: Review of 300+ research documents

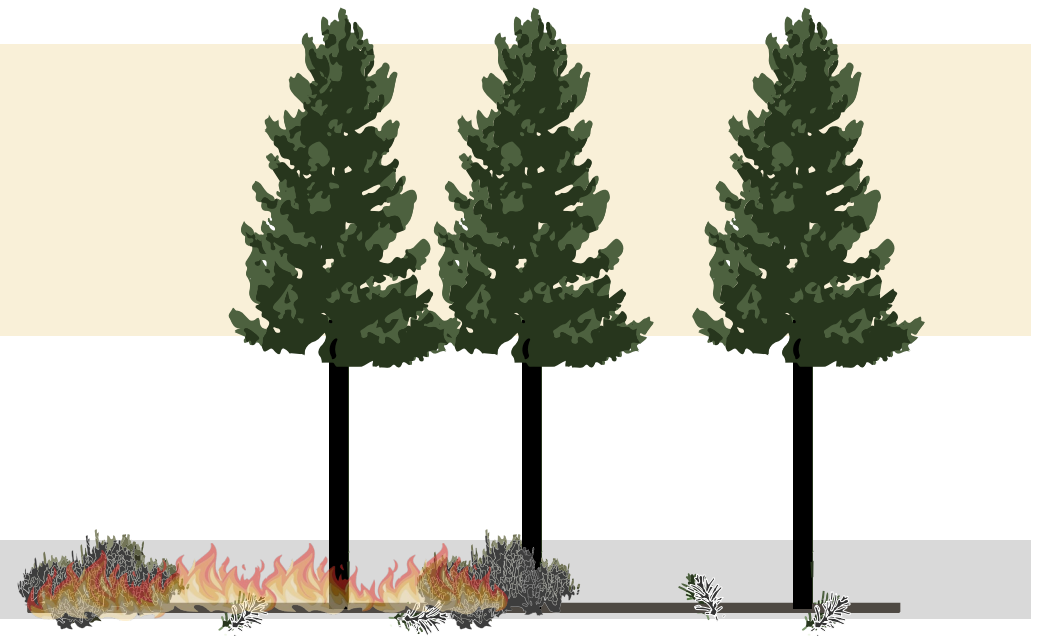
## AFTER FUEL REDUCTION

**LOWER INTENSITY:** Fire less likely to rise to tree crowns.

**LOWER SEVERITY:** Forest is less damaged.

Tree Crowns

Surface Fuel



# Thinning + Prescribed Fire is a best practice for removing surface fuels



**Treated with  
prescribed fire  
before 2015  
Lime Belt Fire**

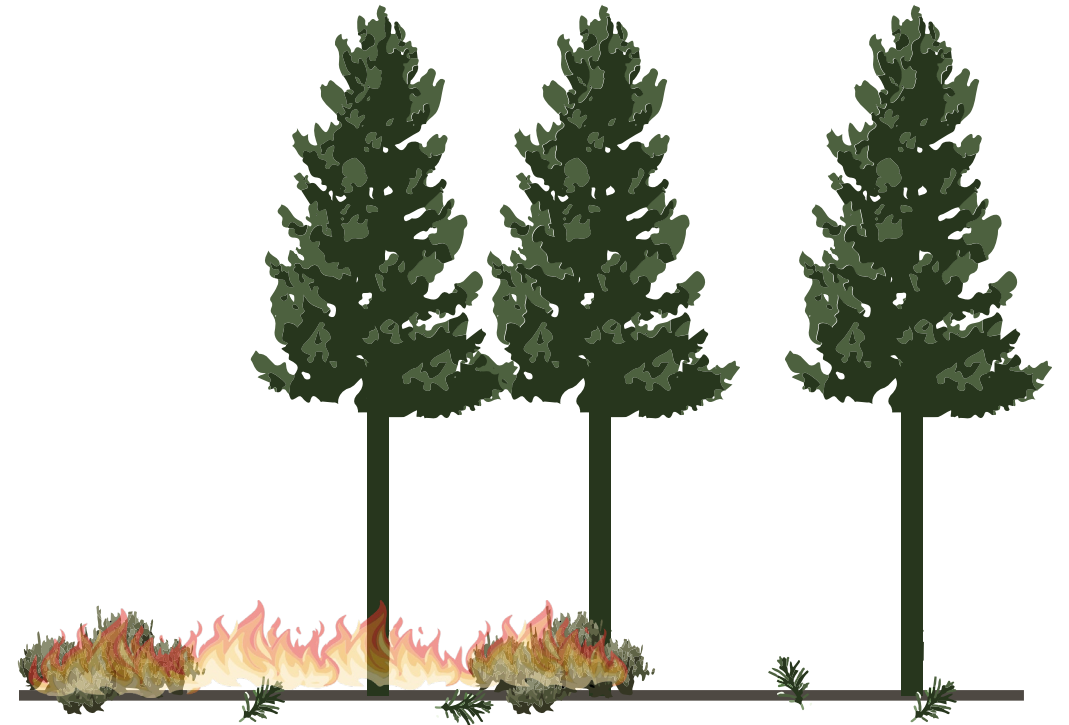
**Not treated with  
prescribed fire  
before 2015  
Lime Belt Fire**

Source: Photograph taken by Justin Haug,  
Washington Department of Fish and Wildlife (WDFW)

# Models predict that preparedness activities may reduce suppression costs for individual fires

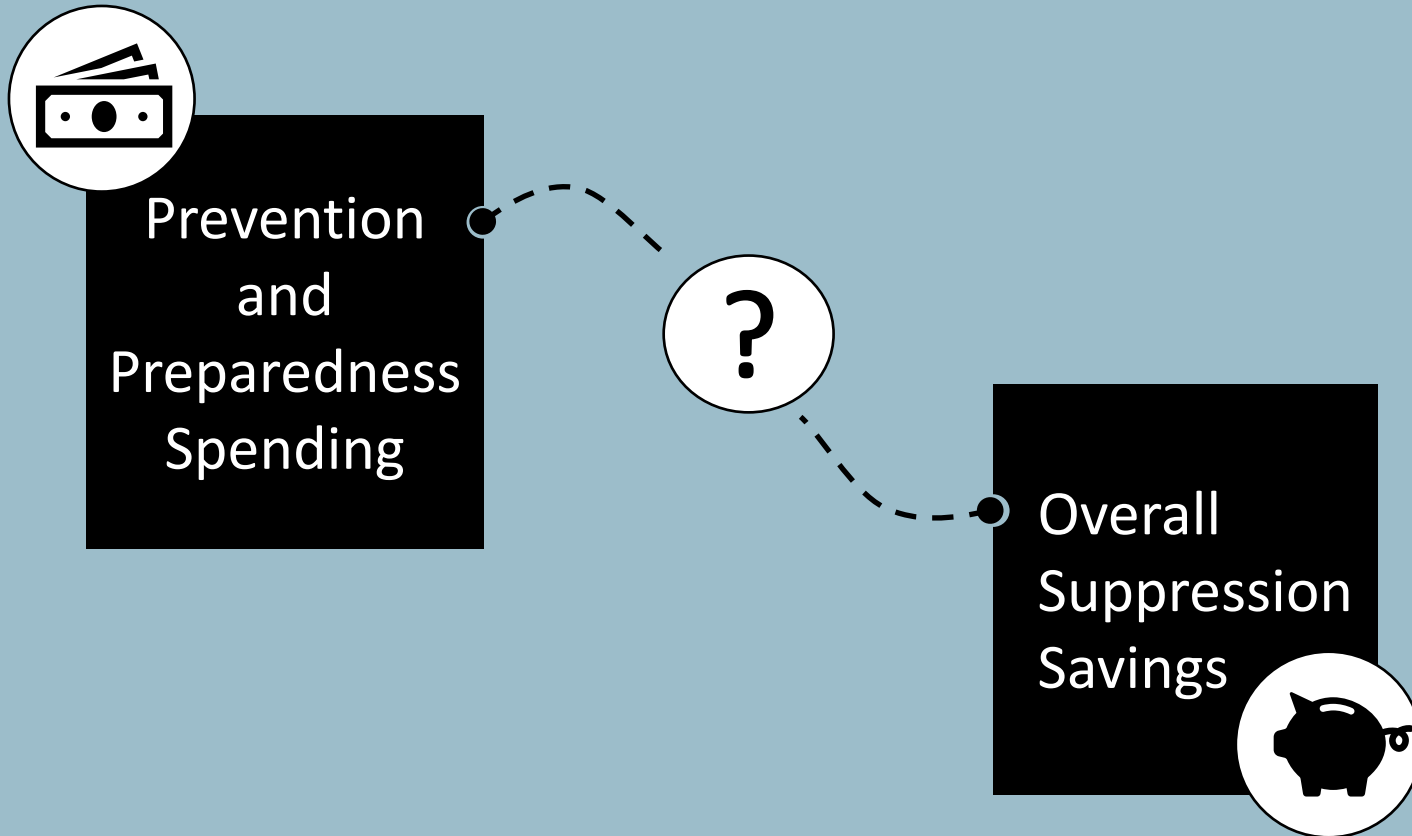
Fuel reduction may affect fire growth, behavior, and size.

Fire behavior and size may affect suppression response and costs.





# Relationship between preparedness, prevention, and suppression spending is complex



Many factors affect suppression costs

- Fire size and behavior
- Climate and weather
- Wildland urban interface



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The approach requires coordination with other entities and may reduce fire severity, which can impact costs to suppress fires.



## Next Steps

Proposed Final Report | January 2021

# Contact Us

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