

# Protecting Source Water Planning for Wildfire

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Chuck Hersey, Forest Health Planning Section Manager

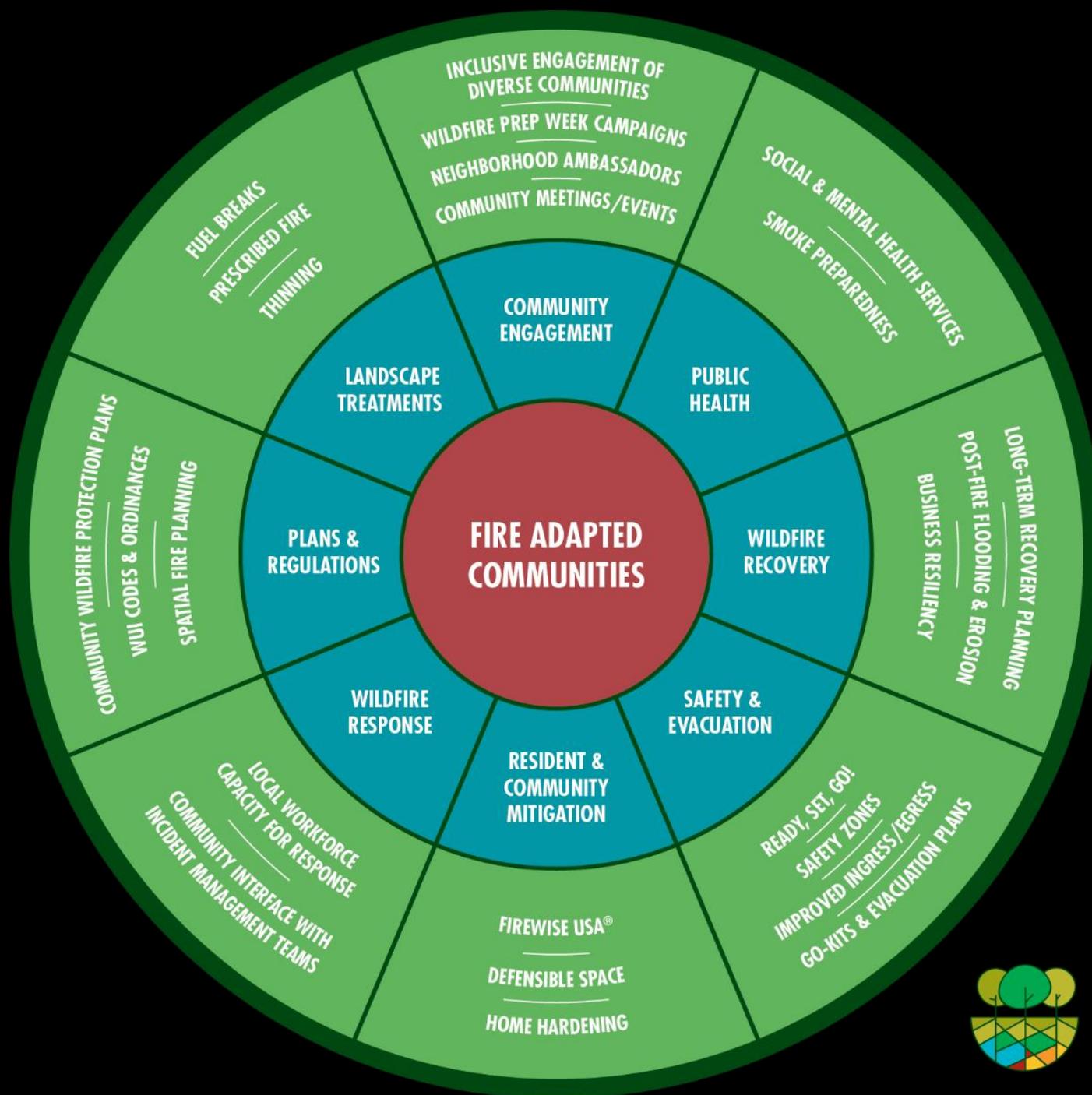
Washington State Department of Natural Resources

Webinar  
10/14/2020

# Forest Health and Resiliency Division

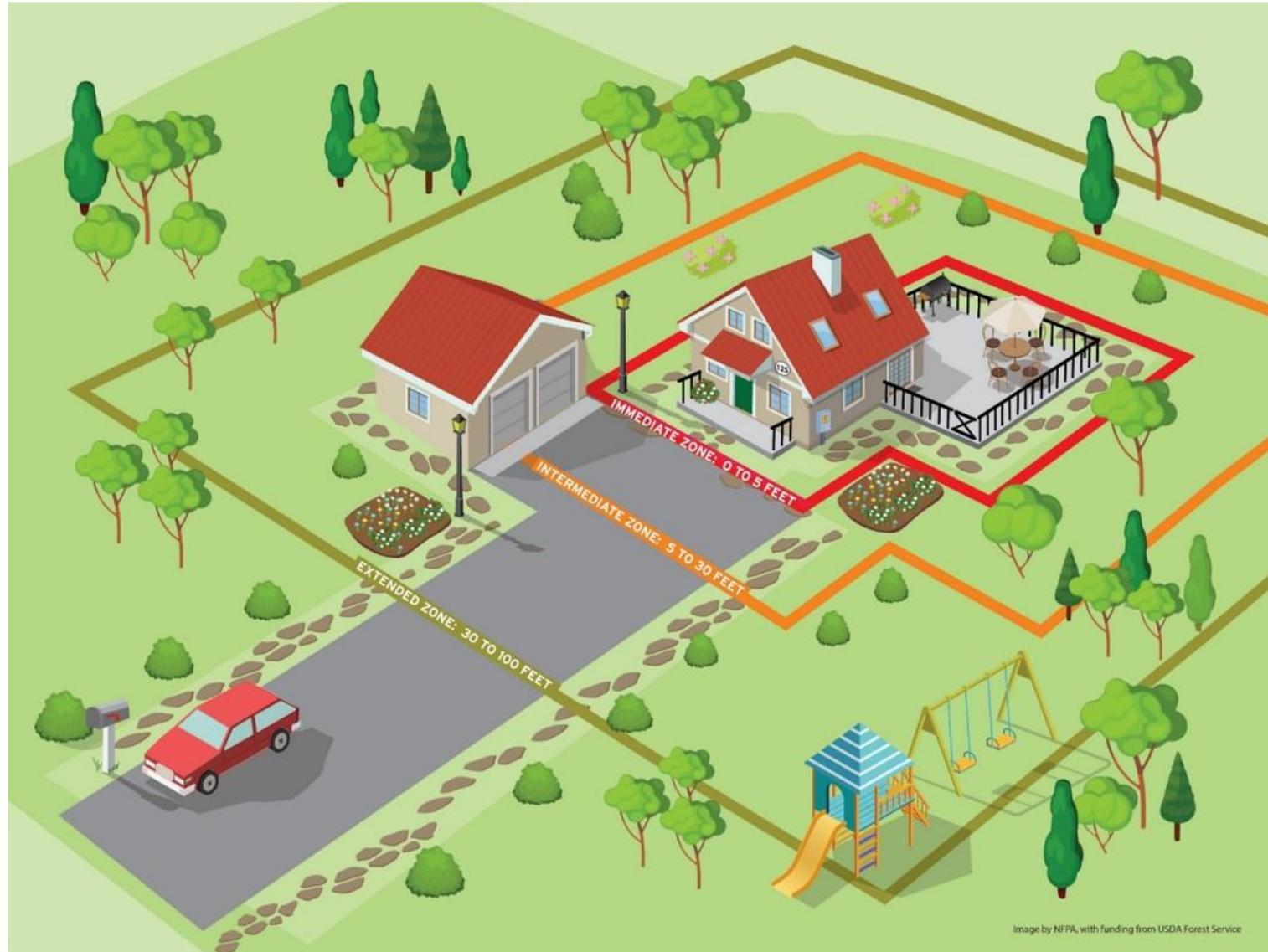
- Four Divisions:
  - Planning, Science and Monitoring
  - Community and Landowner Assistance
  - Prescribed Fire
  - Federal Lands Program
- Use science and data to plan for forest health in the near- and long-term future
- Work with partners (public and private) to coordinate efforts across ownership and sub-disciplines







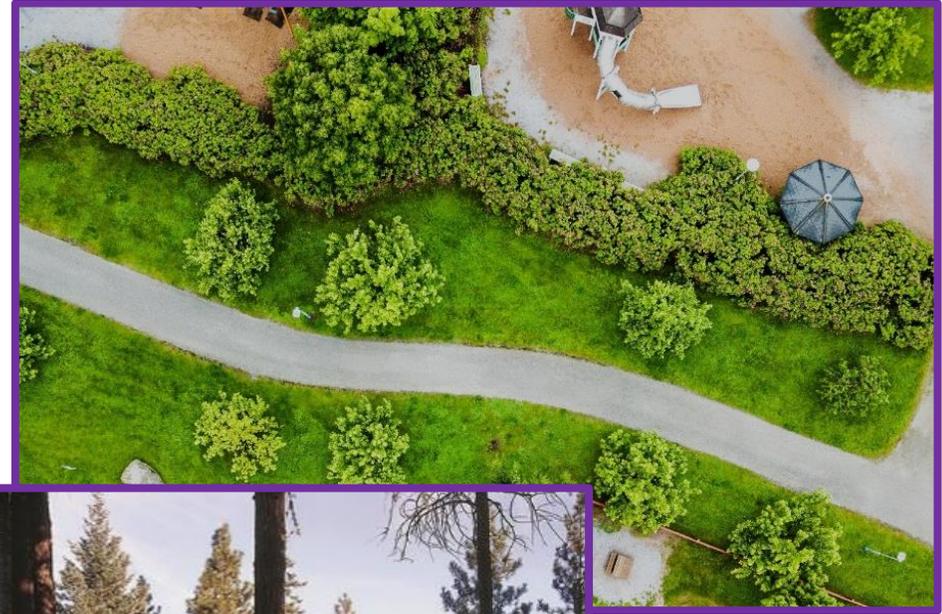
# Home and Community Assessments



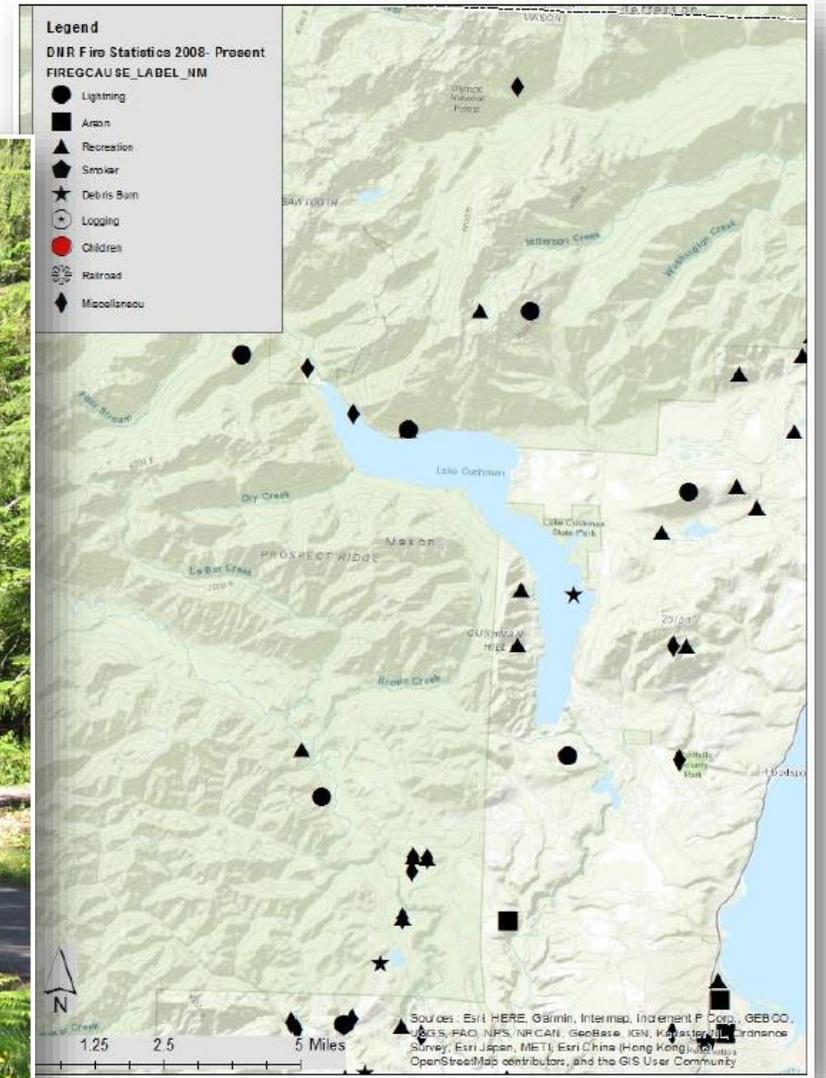
# Home and Community Assessments



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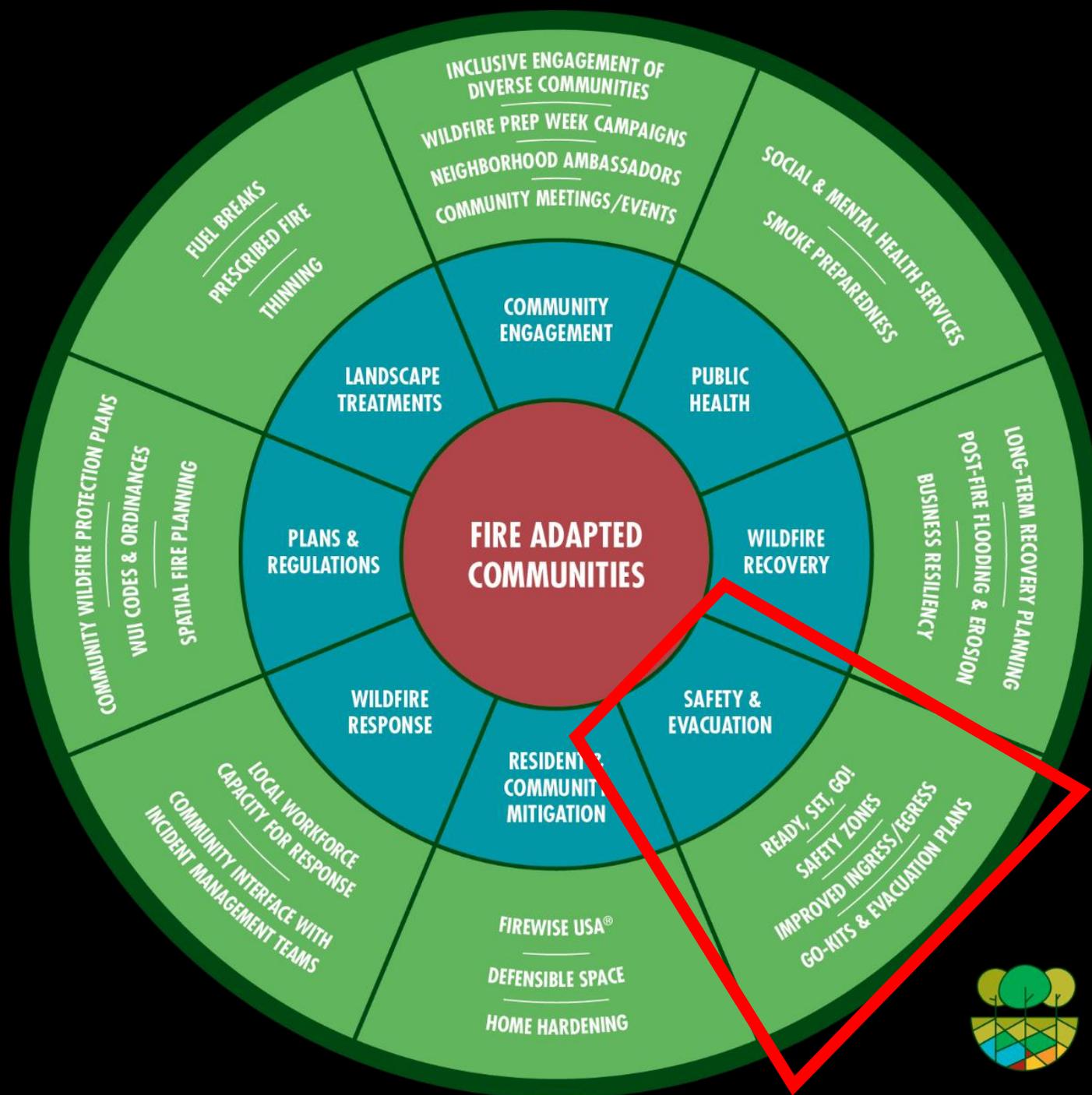




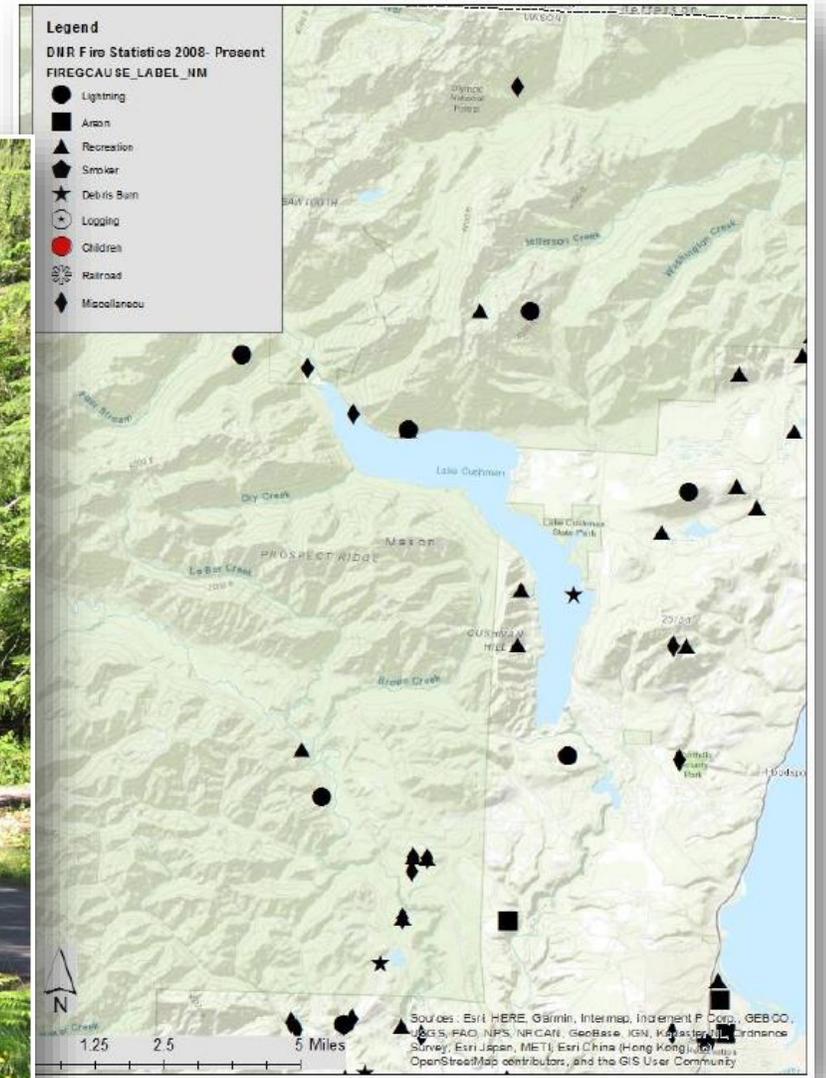
**FIREWISE USA**<sup>®</sup>  
RESIDENTS REDUCING WILDFIRE RISKS

1. Complete a neighborhood assessment
2. Create a committee
3. Develop an Action Plan
4. Have an annual Firewise Day
5. Invest one hour per dwelling unit
6. Submit application for recognition

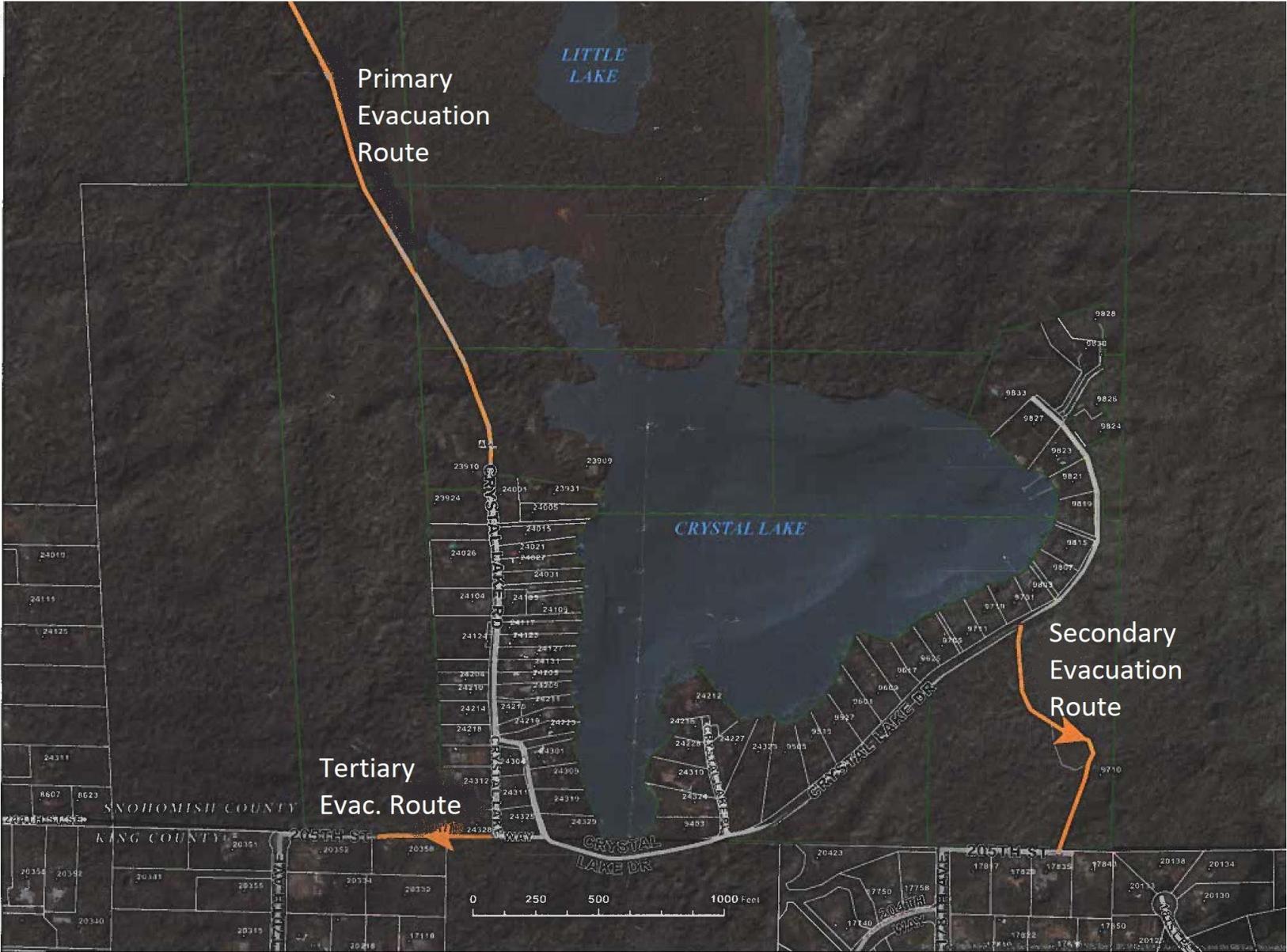




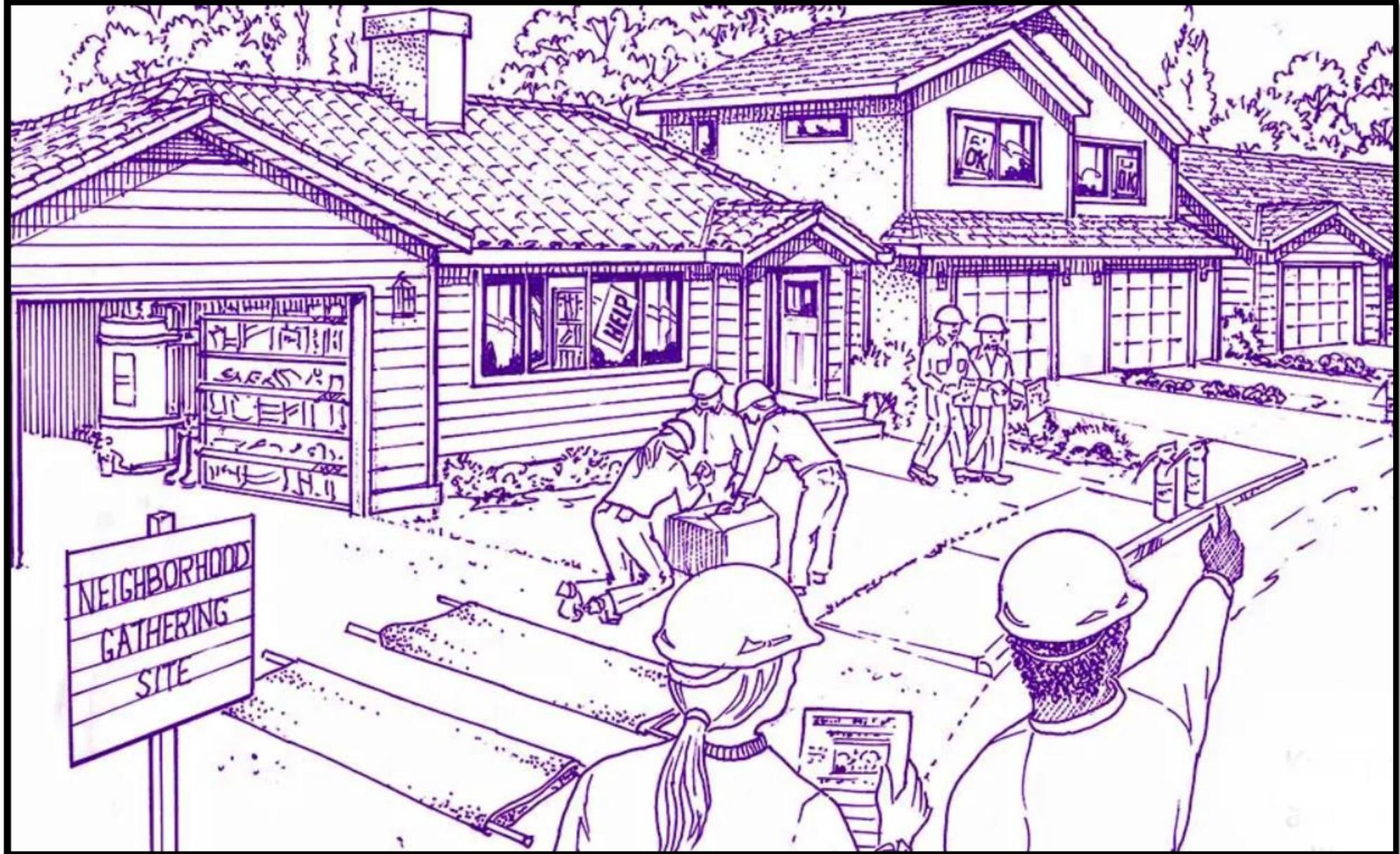
# Evacuation



# Evacuation

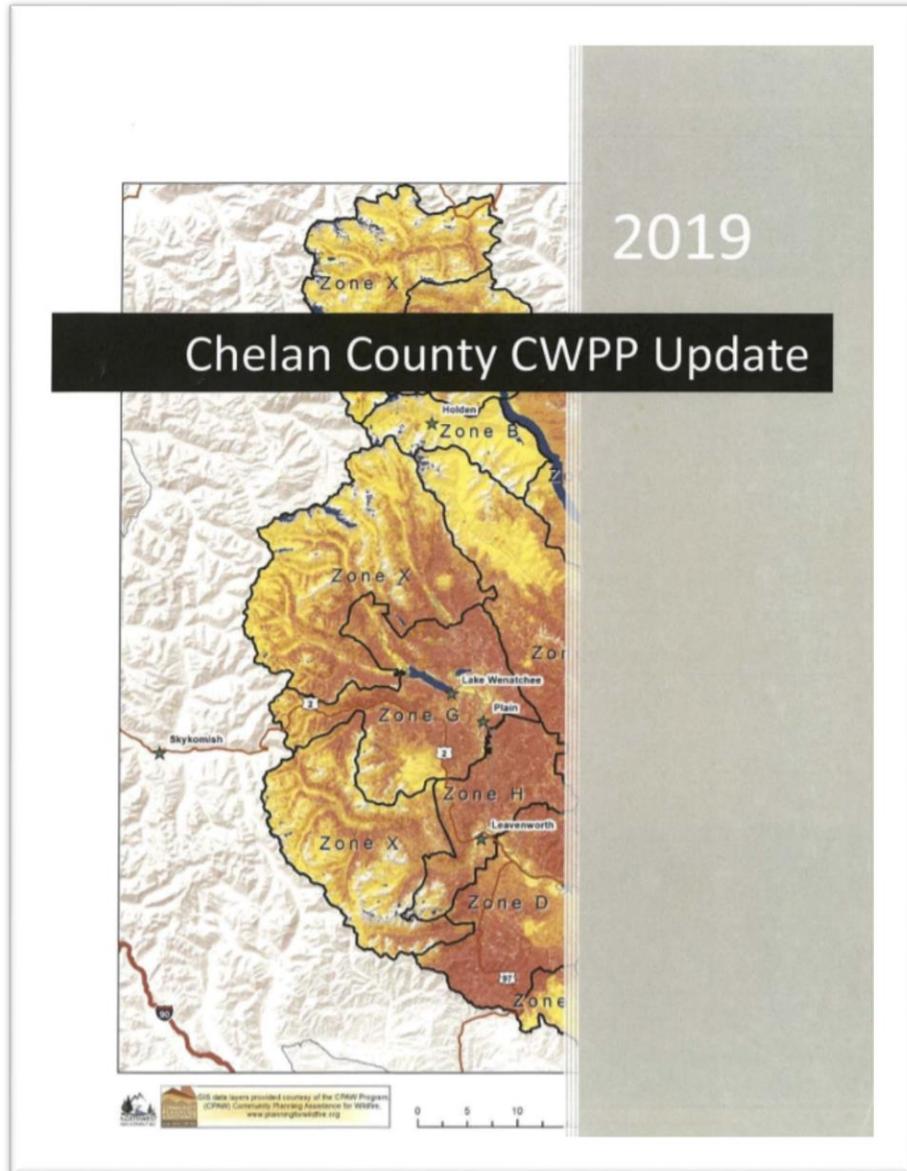


# Evacuation





# Community Wildfire Protection Plan



Chelan County Community Wildfire Protection Plan 2018 Update

## Acknowledgements

This Community Wildfire Protection Plan represents the efforts and cooperation of several organizations and agencies working together to improve preparedness for wildfire events while reducing factors of risk.

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Town of Entait Town of Manson Town of Lake Wenatchee	 <b>NATURAL RESOURCES</b>		
			
			
			

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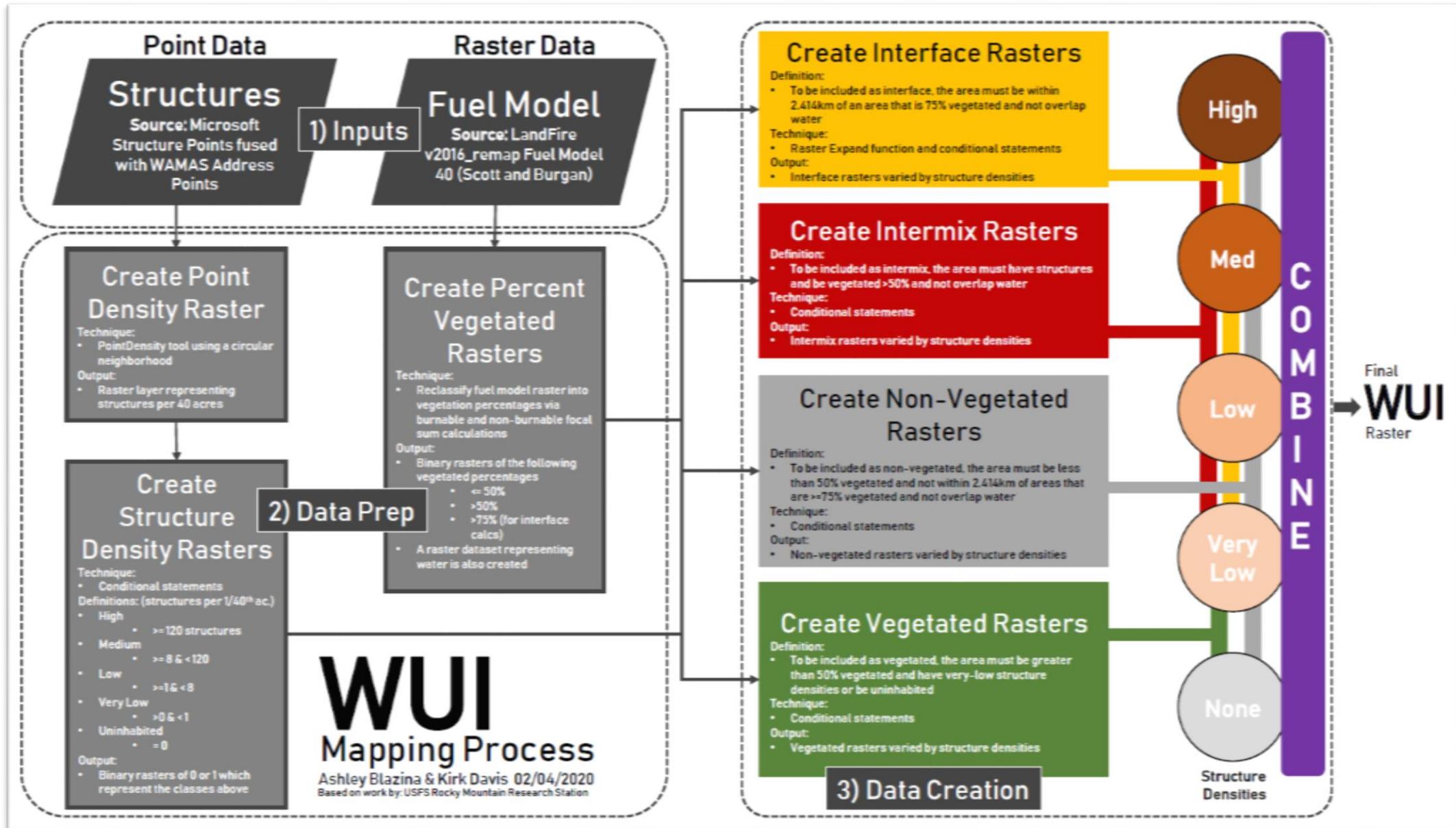
To obtain copies of this plan contact: Chelan County Natural Resources  
316 Washington St # 401  
Wenatchee, WA 98801

iii

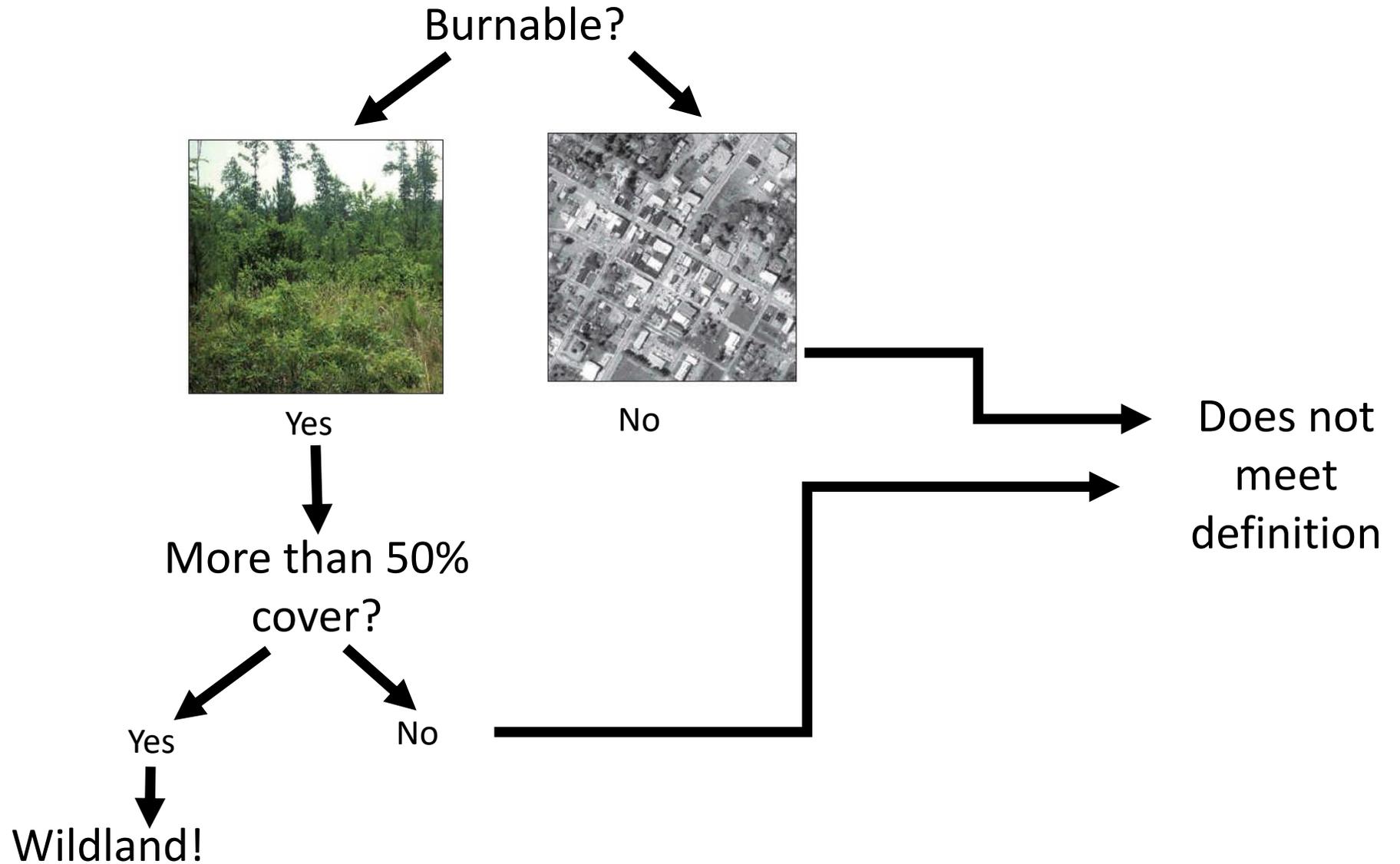
# Wildland-Urban Interface Map



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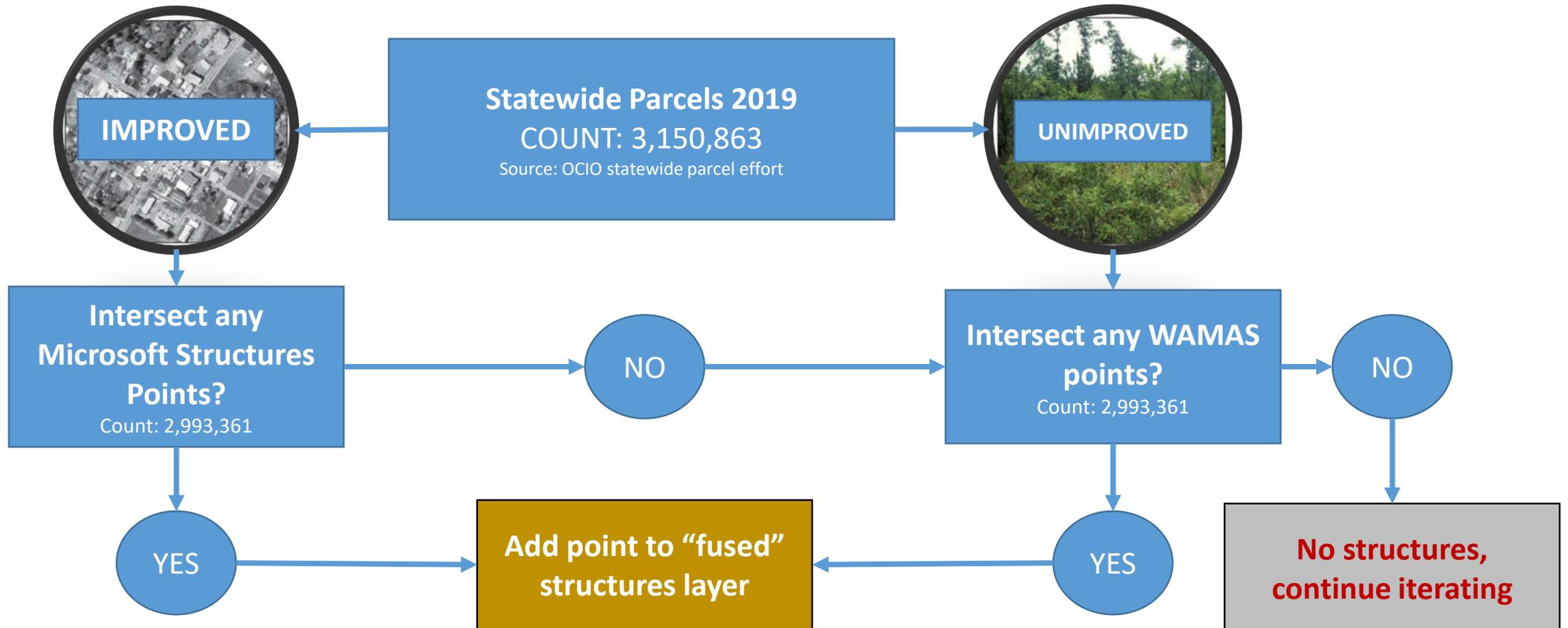


# Vegetation Cover



# Improved Structures Approach

USE IMPROVED PARCELS TO FUSE BOTH STRUCTURE LAYERS



# WUI Code Changes

- Roof covering
  - Able to preclude entry of flames OR
  - Made of ignition resistant materials (see 2018 ICC WUI Code).
- Exterior walls
  - Noncombustible materials OR
  - Heavy timber or log construction OR
  - Fire retardant-treated wood.
- Unenclosed Accessory Structures (ex. Decks)
  - When attached to buildings with habitable spaces:
    - Must be constructed with methods and materials in accordance with the 2018 ICC WUI Code
- Driveways
  - If >150 feet from a fire apparatus access road: driveway must be provided.
  - Driveways > 300 feet long must be constructed in accordance with the 2018 ICC WUI Code.

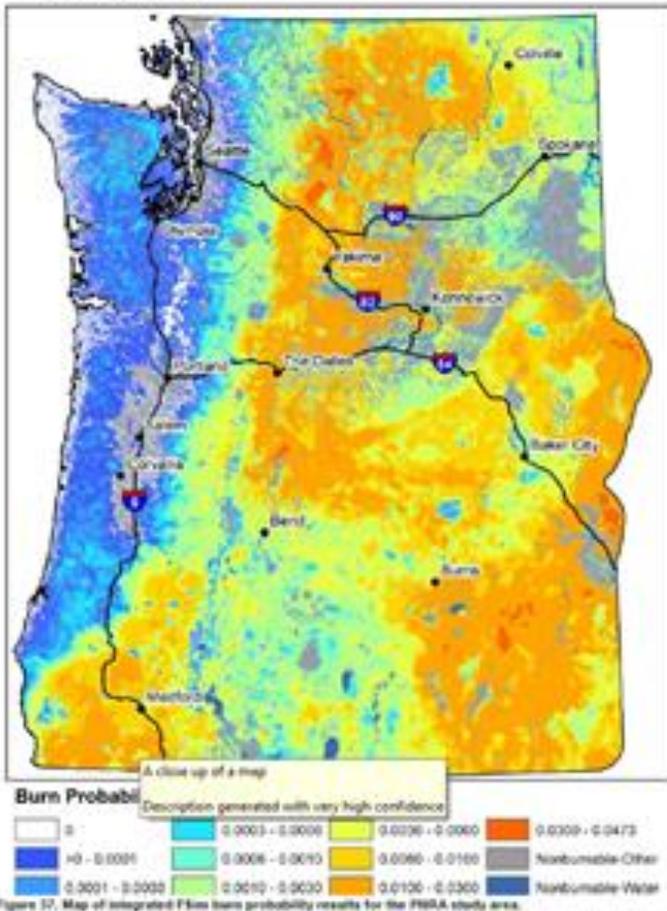
# Key Distinction

**WUI  $\neq$  Wildfire Risk**

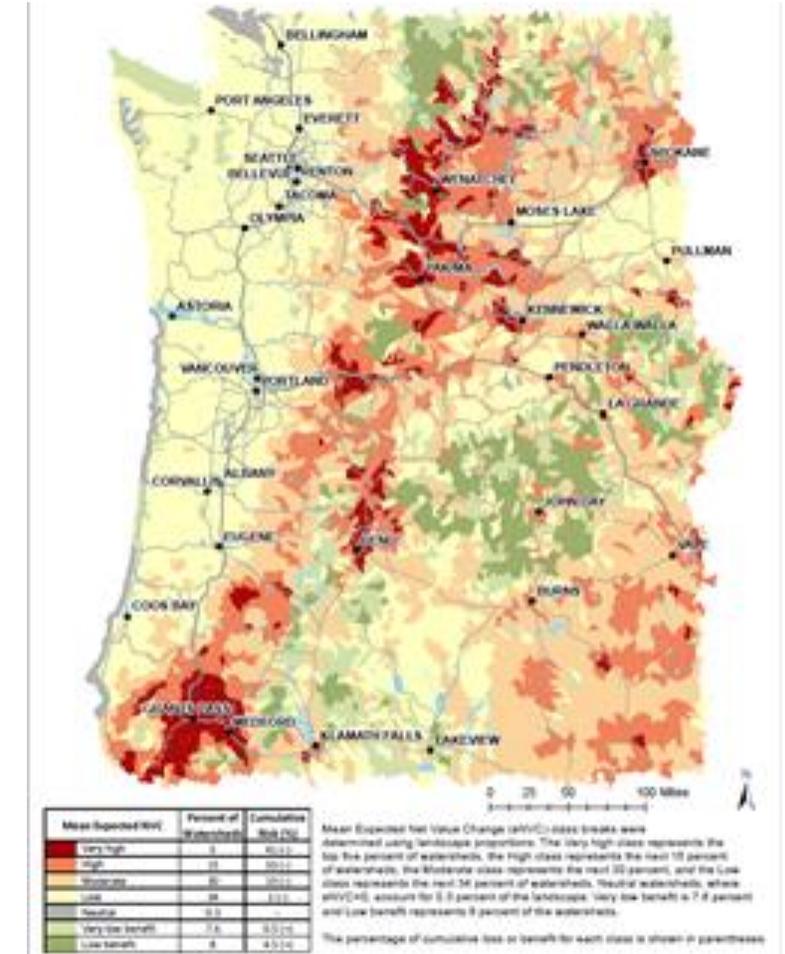
# Quantitative Wildfire Risk Assessment (US Forest Service and Pyrologix)

## Burn Probability

4.2.1 Burn Probability



## Risk (expected net value change)



## Wildland Fire Protection Strategy

### VISION:

All Washington—safely managing and living with wildland fire.

*Working collaboratively across jurisdictional boundaries and with engaged communities, we safeguard what we value. All of Washington is adapted and prepared, and our landscapes are healthy and resilient. We prevent wildland fire, use fire where allowable, and safely suppress unwanted fire.*

### GOALS

1. Washington's preparedness, response, and recovery systems are fully capable, integrated, and sustainable.
2. Landscapes are resilient. In the face of wildland fire, they resist damage and recover quickly.
3. Communities are prepared and adapted for current and future fire regimes.
4. Response is safe and effective. There is zero loss of life, of firefighters or the public, from wildland fires.

### FOCUS AREAS

- All of Washington
- All landscapes (including smaller, fragmented ownerships and non-forested landscapes)
- Wildland fire risk management and reduction

## 20-Year Forest Health Strategy

### VISION:

*The goals and strategies outlined in the plan will reduce wildfire hazards to state trust lands and private forest owners, leverage additional funding, increase confidence for businesses, and accelerate the development of resilient forest ecosystems for the benefit of current and future generations.*

### GOALS

- Accelerate the pace and scale of Forest Health Treatments.
- Strategically focus work to protect communities and values.
- Promote Rural Economic Development and the use of restoration by-products.
- Respect and integrate diverse landowner objectives.
- Monitor progress and adapt strategies over time to ensure treatment effectiveness.

### FOCUS AREAS

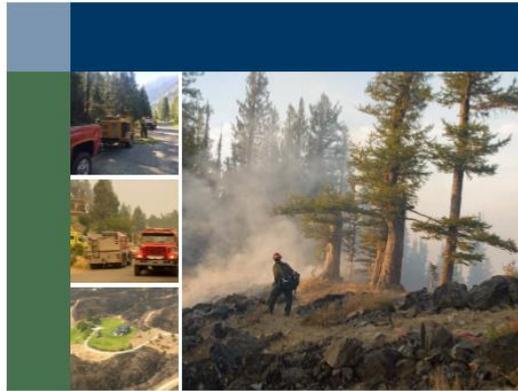
- Eastern Washington Forests
- Large, forested landscapes
- Forest health



### ALIGNMENT

Both plans:

- Identify and manage wildland fire risk.
- Protect communities and values.
- Maintain resilient landscapes.
- Integrate landowner community objectives and values.
- Recognize the appropriate role of fire on the landscape.



## WASHINGTON STATE WILDLAND FIRE PROTECTION 10-YEAR STRATEGIC PLAN

SOLUTIONS FOR A PREPARED, SAFE, RESILIENT WASHINGTON

SECOND EDITION | JULY 2018

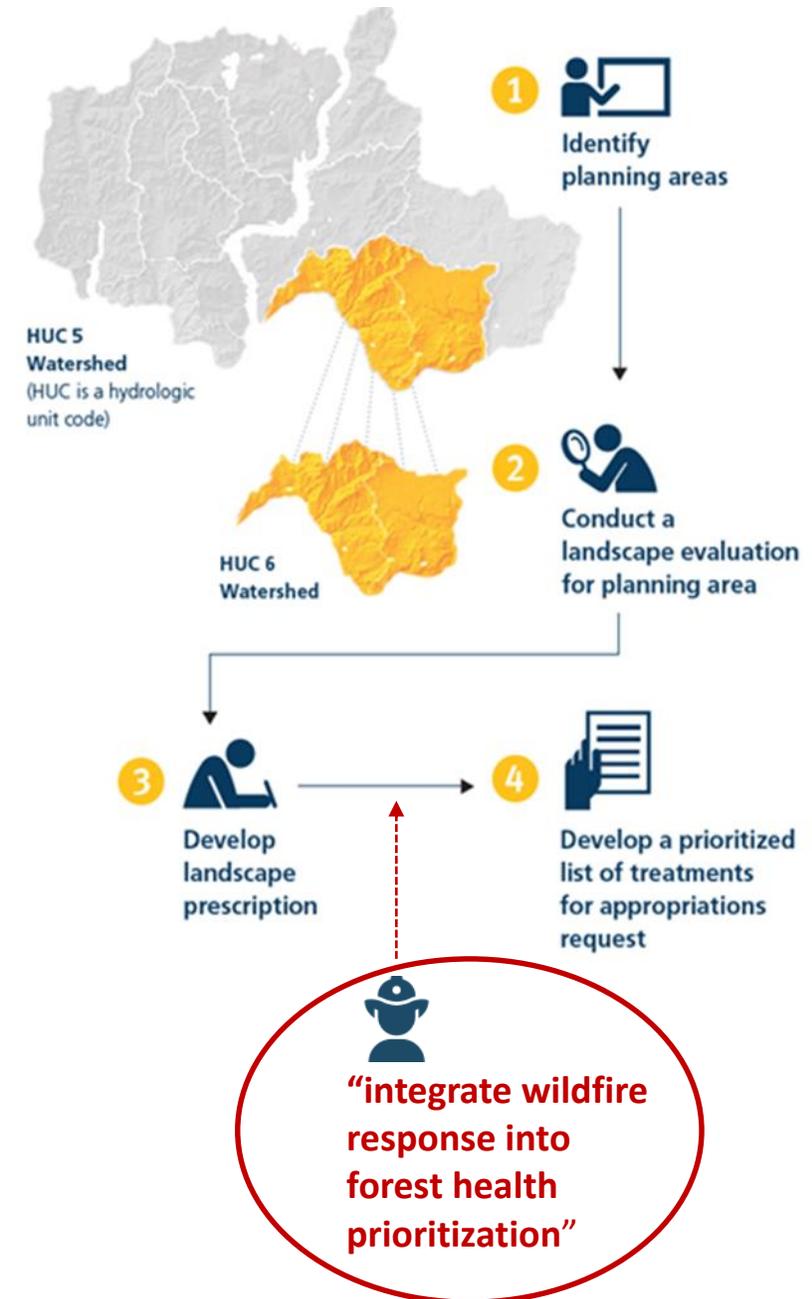


## 20-YEAR FOREST HEALTH STRATEGIC PLAN EASTERN WASHINGTON



# Forest Health Assessment and Treatment Framework

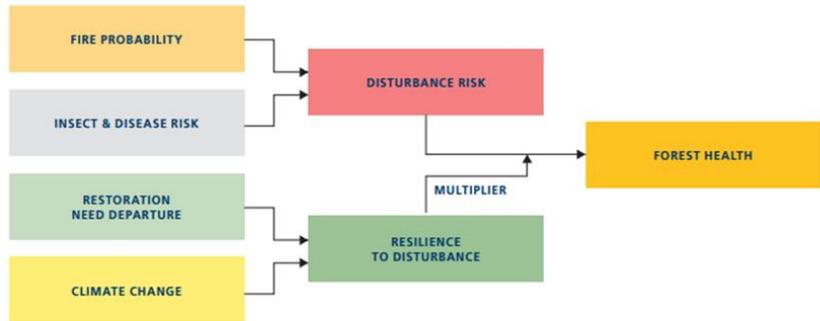
1. Identify planning areas
2. Conduct landscape evaluations
3. Develop landscape prescriptions
4. Prioritize treatments **with dual benefit**



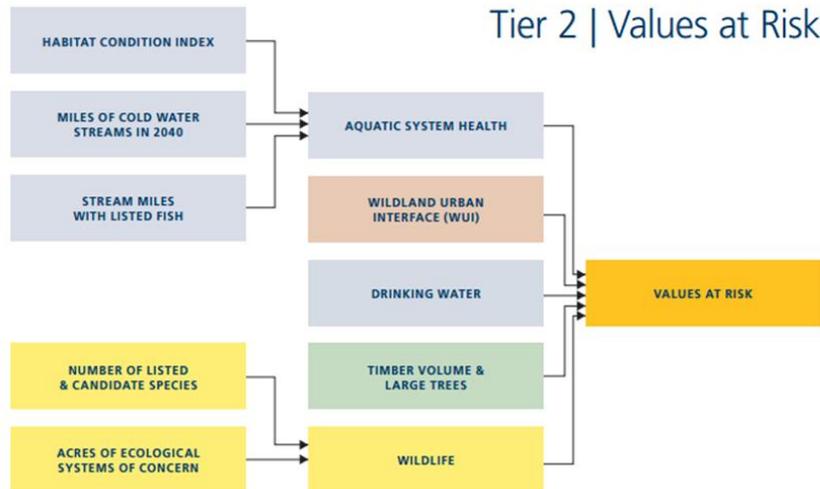
# E. Washington Forest Health Priority Watersheds

## Watershed Prioritization Metrics

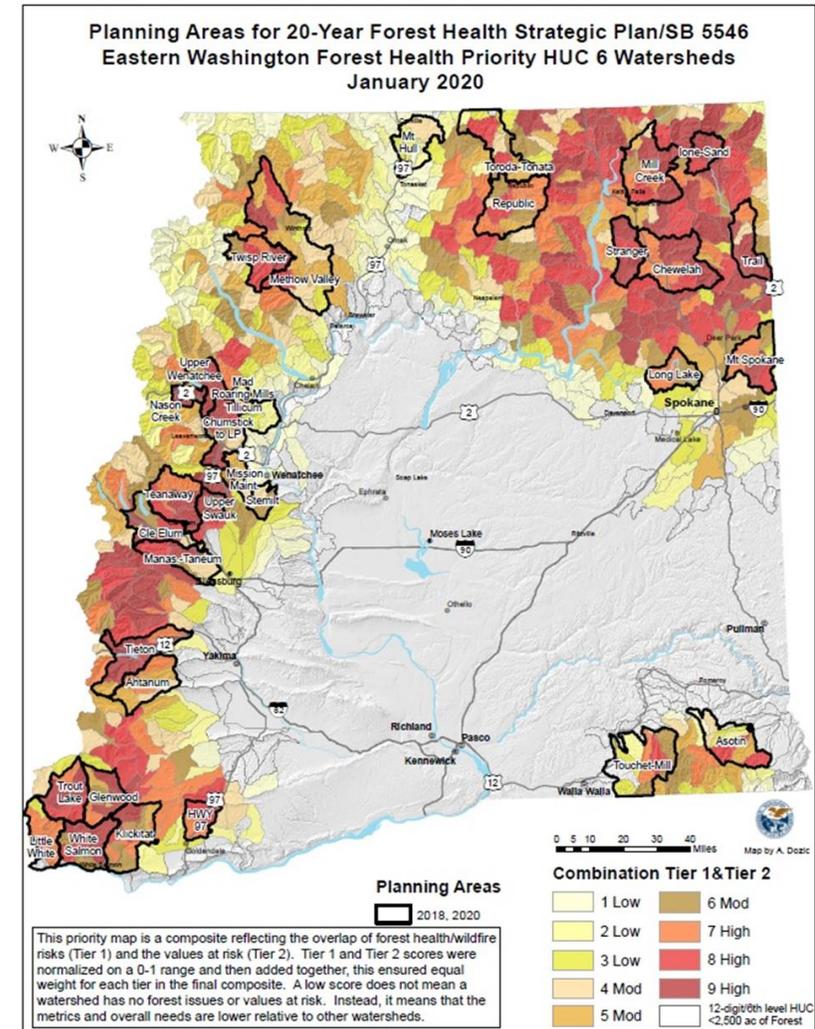
### Tier 1 | Forest Health



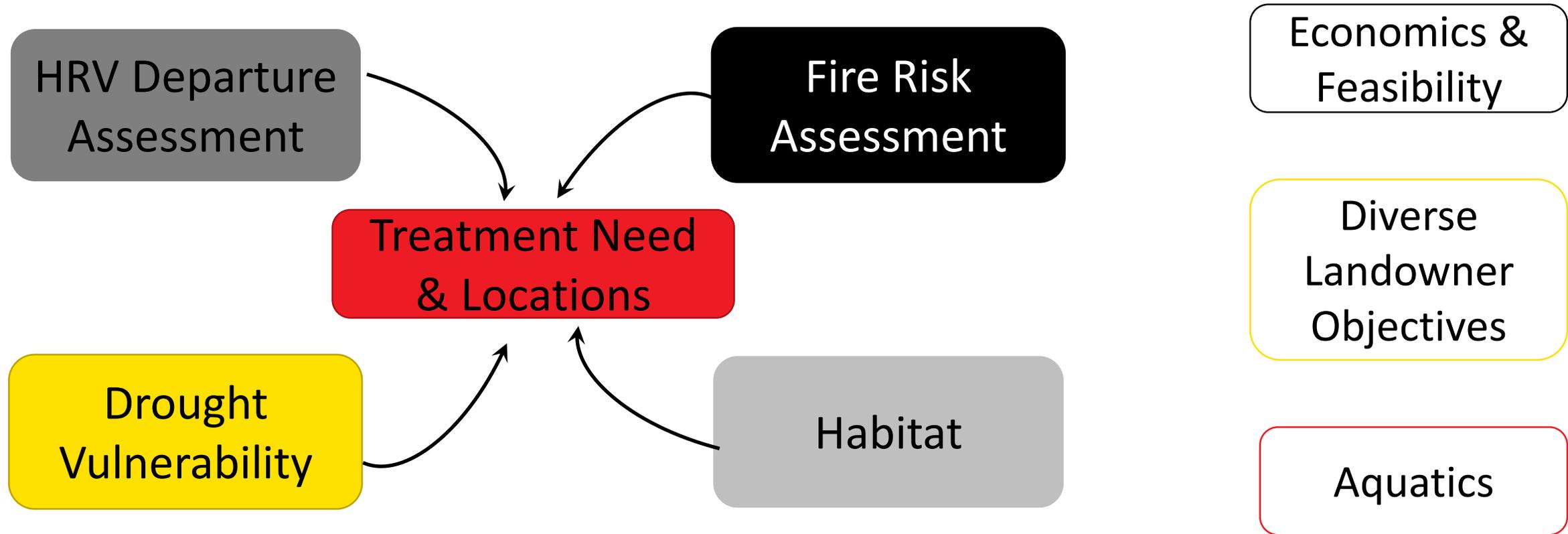
### Tier 2 | Values at Risk



## Priority Planning Areas



# Landscape evaluations



# Departure assessment



1934



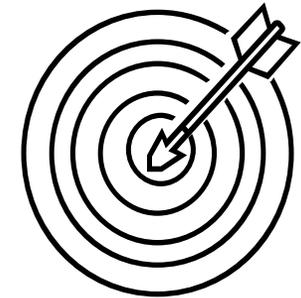
2010

Historical and contemporary  
views SW of Mission Peak, WA  
(courtesy Paul Hessburg)

# Forest health treatment needs (target/goal)

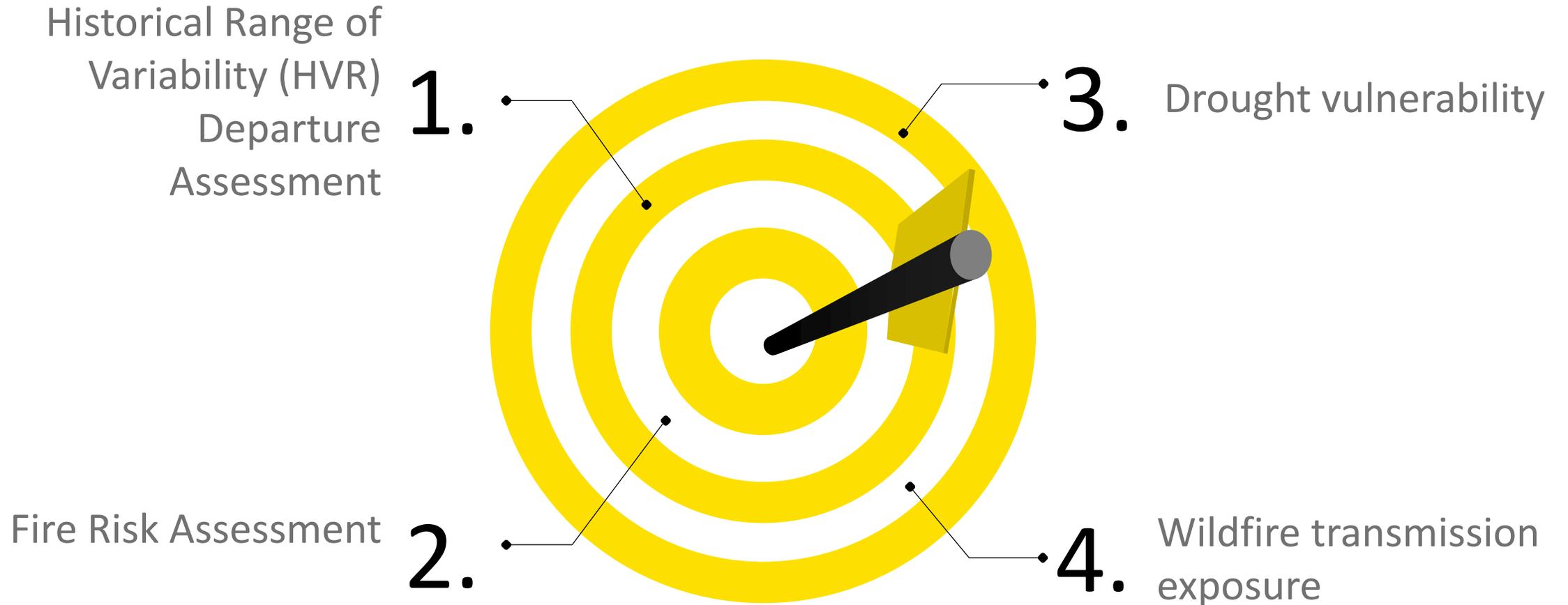
(Teardown)

Forest conditions to treat		Treatment Need Acres
Type	Size class	
Dry Dense	Small	1,500-3,000
	Medium-Large	23,000-32,000
Moist-Cold Dense	Medium-Large	3,000-6,000
Dry Open	Medium-Large	10,000-13,000
TOTAL		37,500-54,000



Typically treat  
30-40% of  
forested acres in  
a planning area

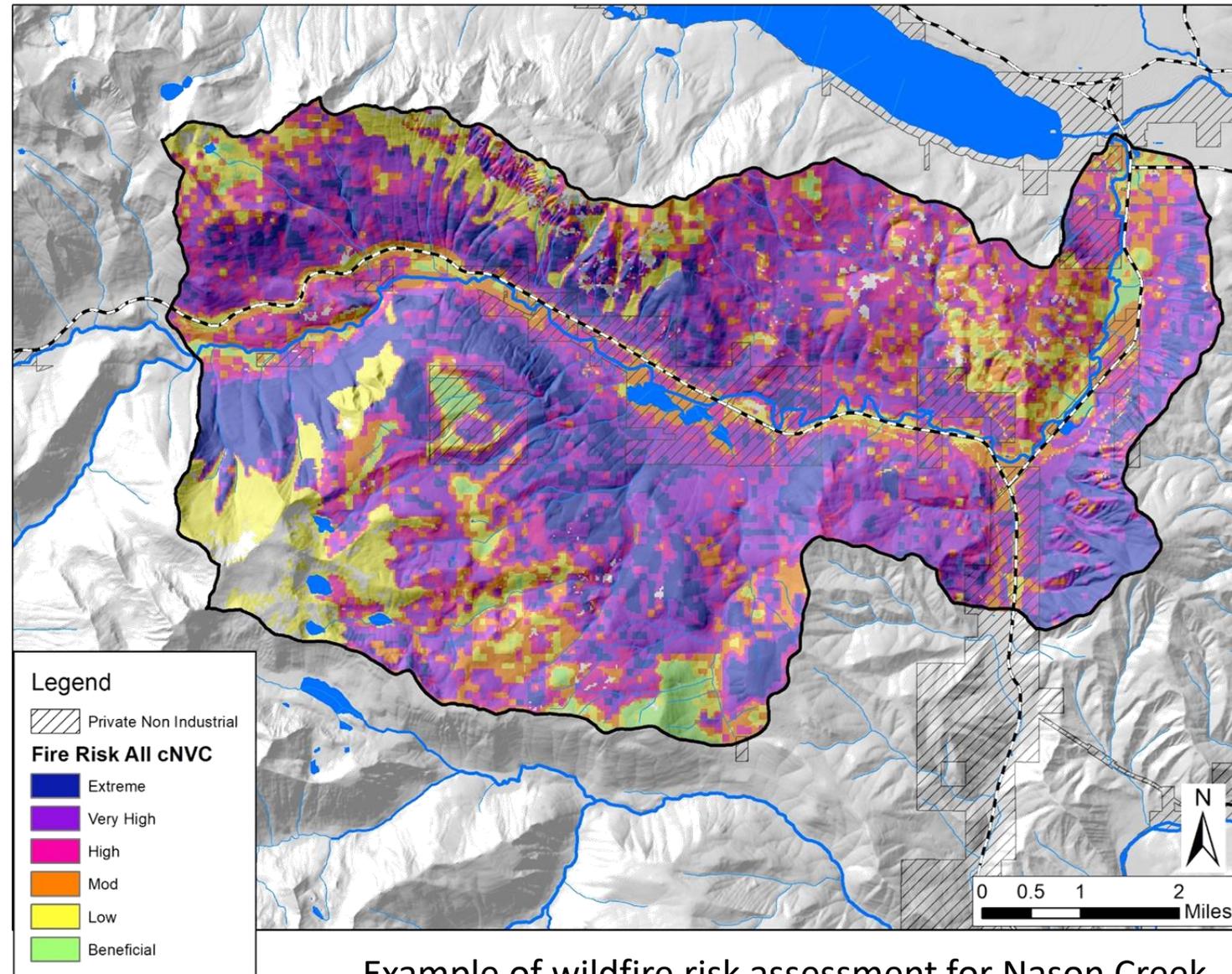
# Forest health treatment prioritization



# Wildfire risk

*Combines fire likelihood with the expected consequences (positive and negative). In places, some fires can be beneficial (green).*

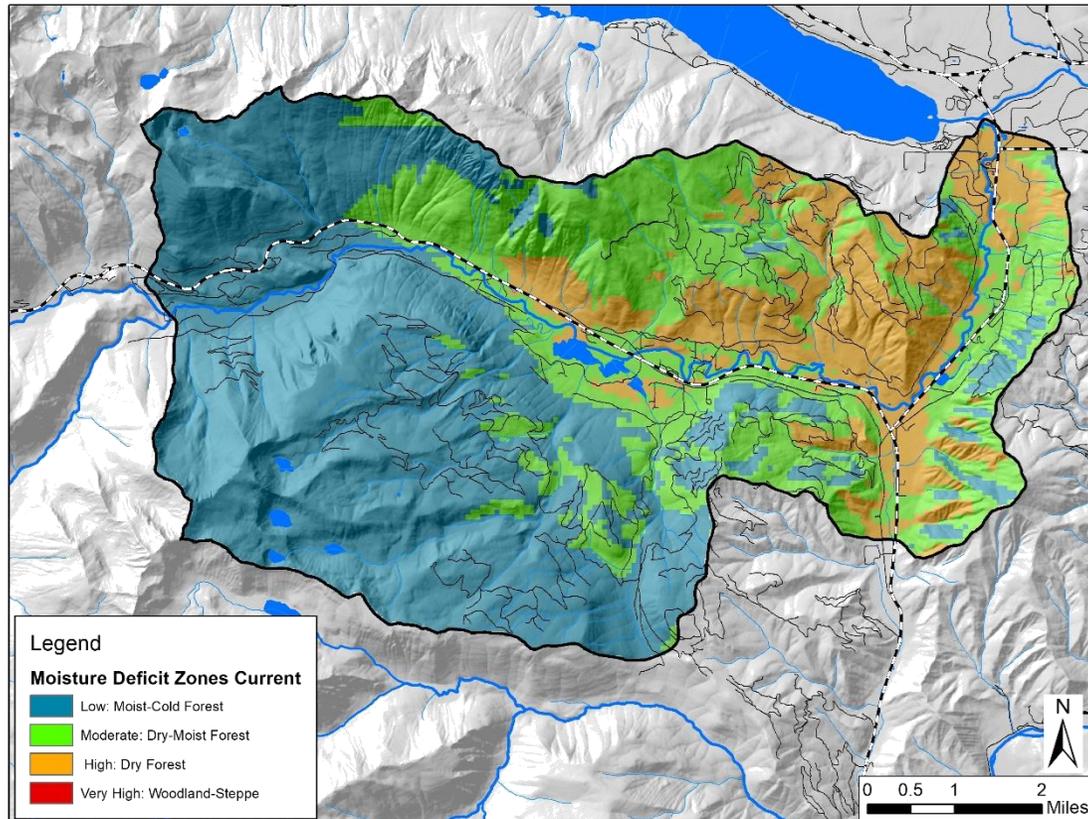
*eNVC= expected Net Value Change*



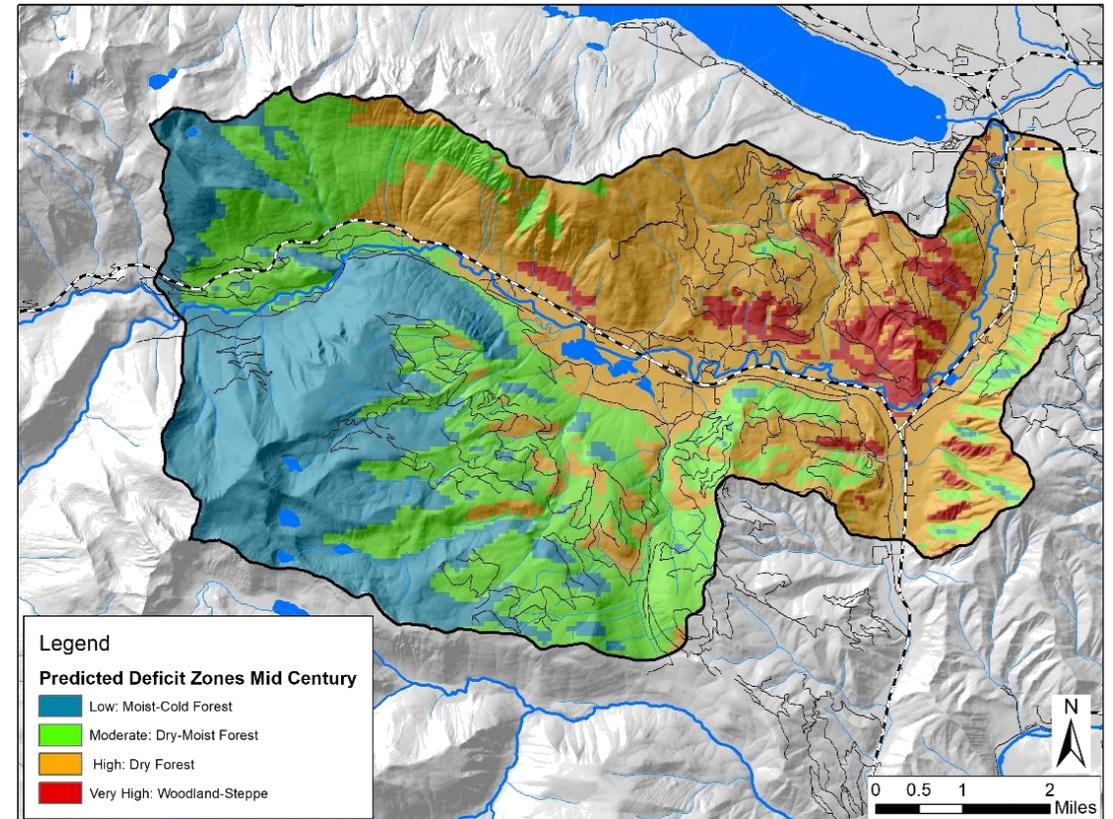
Example of wildfire risk assessment for Nason Creek

# Drought vulnerability

Climate Deficit Zones  
1981-2010 - *Draft*

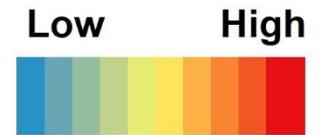
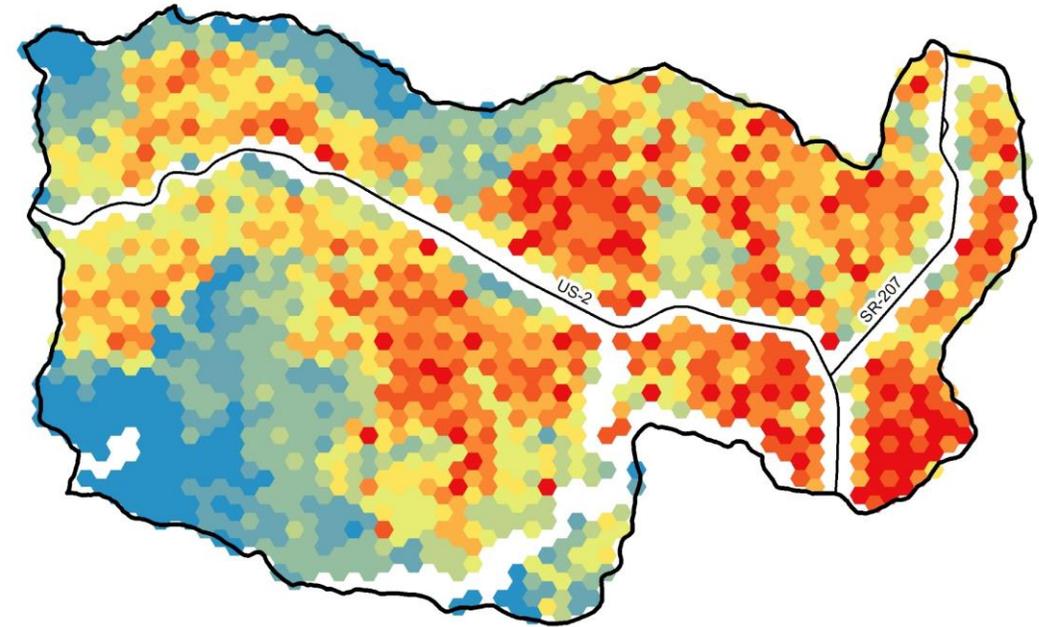


Climate Deficit Zones  
2055 - *Draft*



# Forest health treatment needs (Nason Creek)

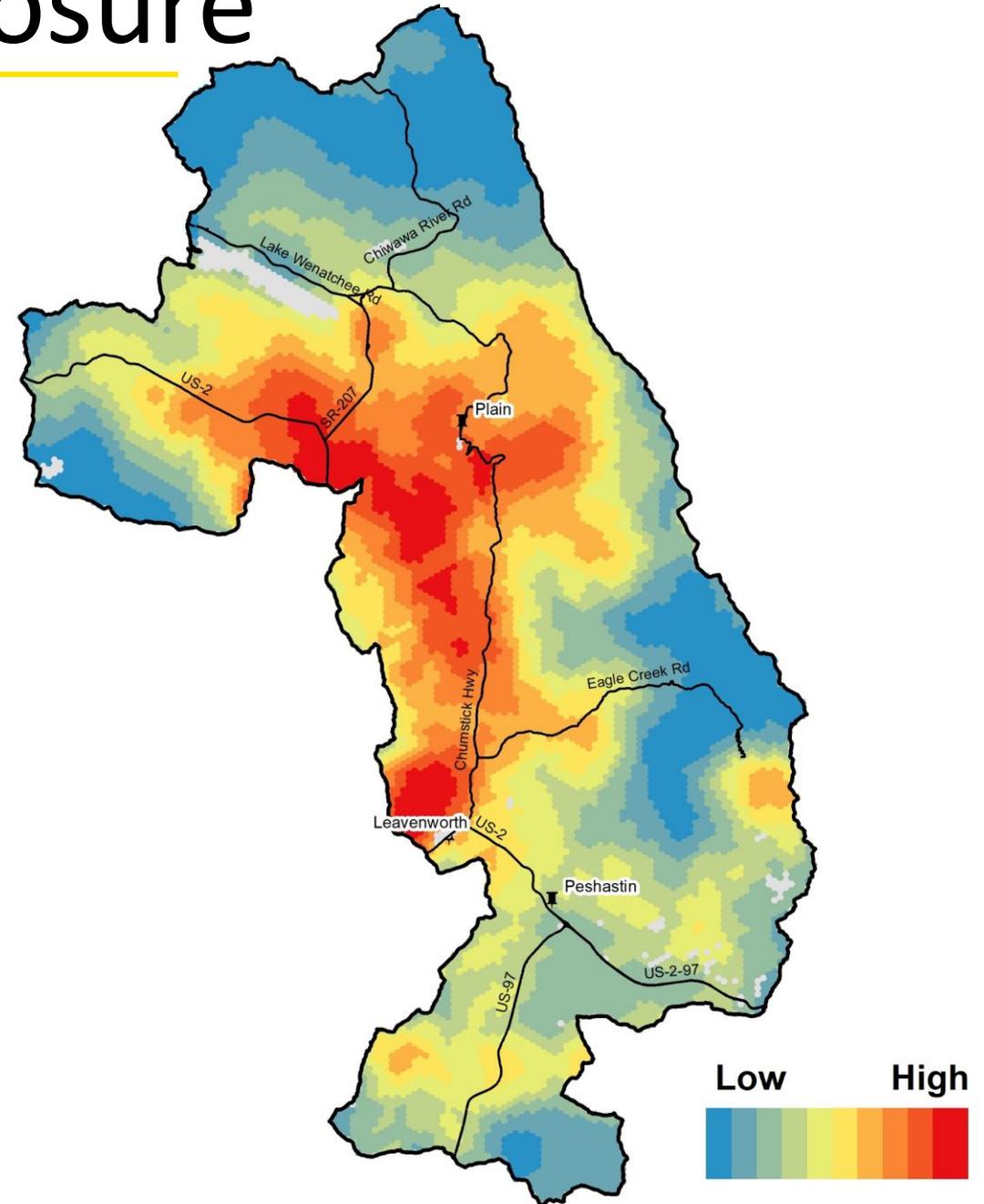
- Departure
- Risk to forest
- Drought vulnerability
- Wildfire Transmission Exposure



*Colors show score for forest health needs.  
Warmer colors => greatest need => higher priority*

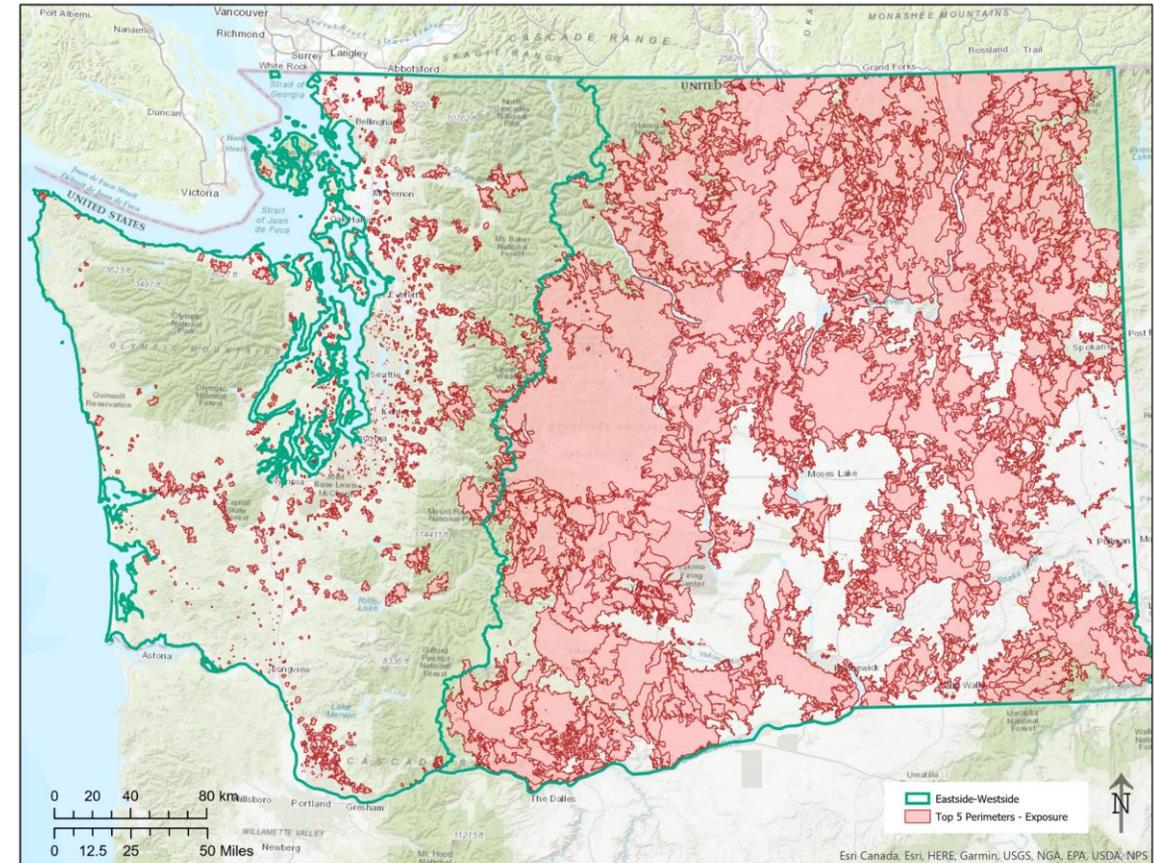
# Wildfire transmission exposure (source)

- Number of structures affected by fires expected to ignite in that location
- Structures can be many miles from ignition location
- Can be seen as a map of the “source of wildfire exposure to housing units”



# A sample of simulated fire perimeters

- Thousands of fire seasons
- Variability in ignition location and burning conditions
- Each perimeter has a known ignition

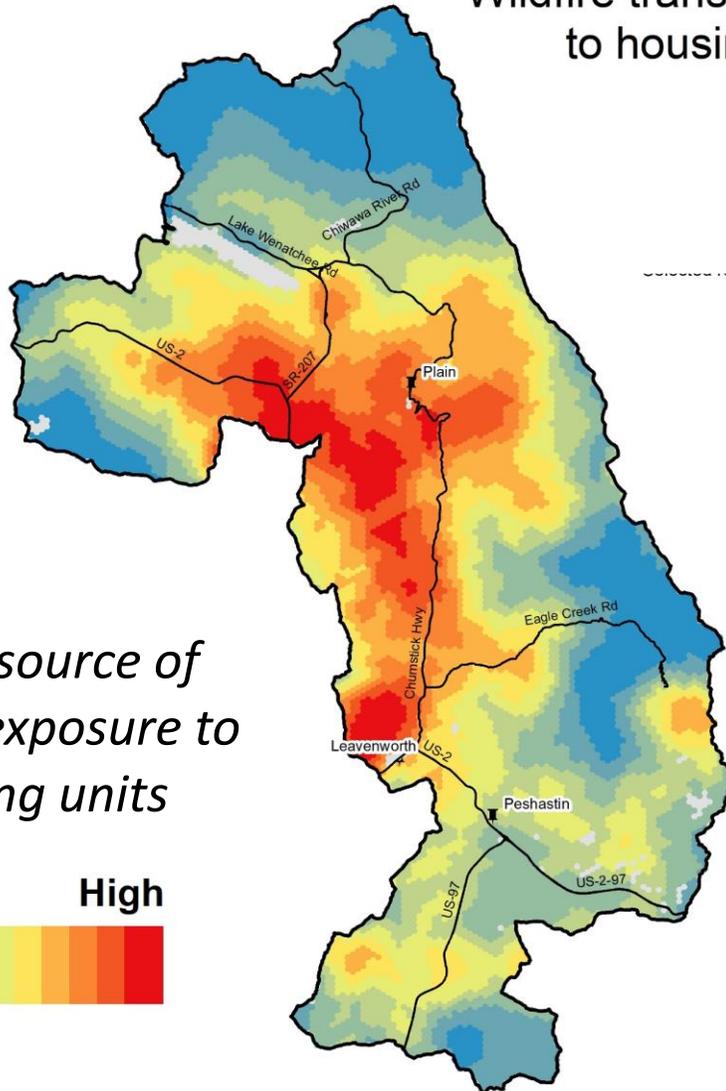


Analysis and map produced by the Rocky Mountain Research Station & Oregon State University

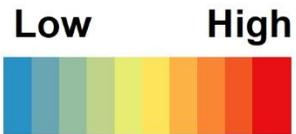
# Transmission

(where fire comes from)

Wildfire transmission  
to housing units



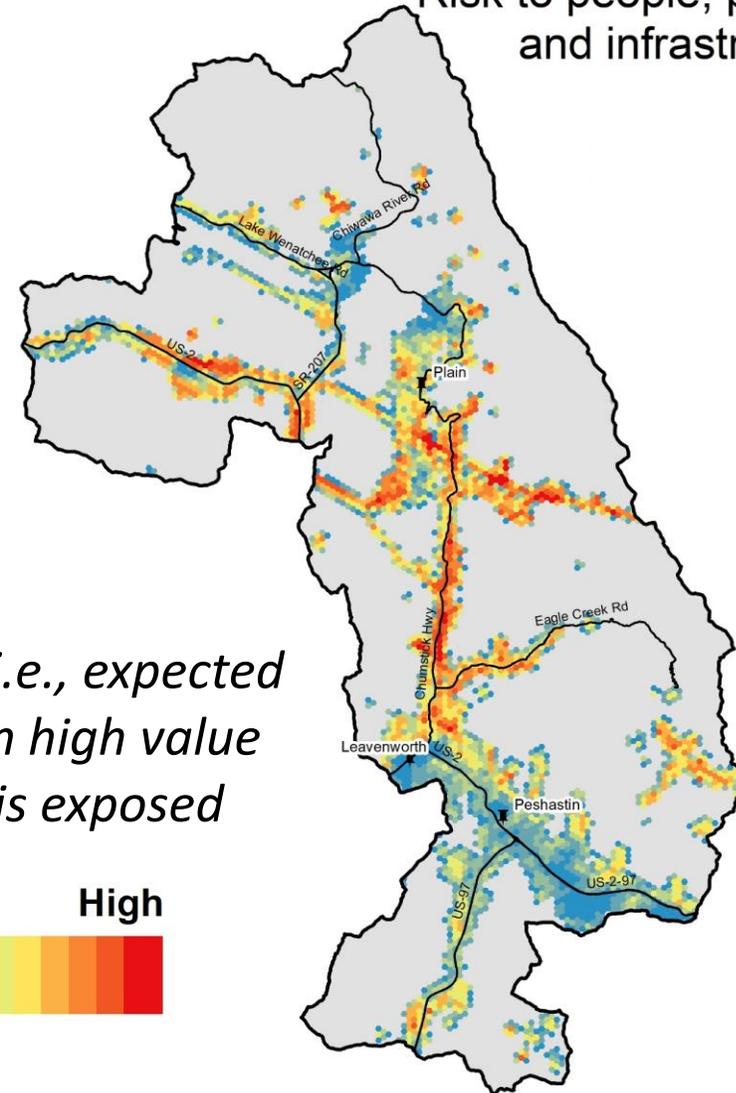
*Shows source of  
wildfire exposure to  
housing units*



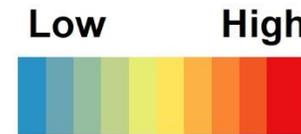
# Risk

(what happens when fire reaches high value resources)

Risk to people, property  
and infrastructures



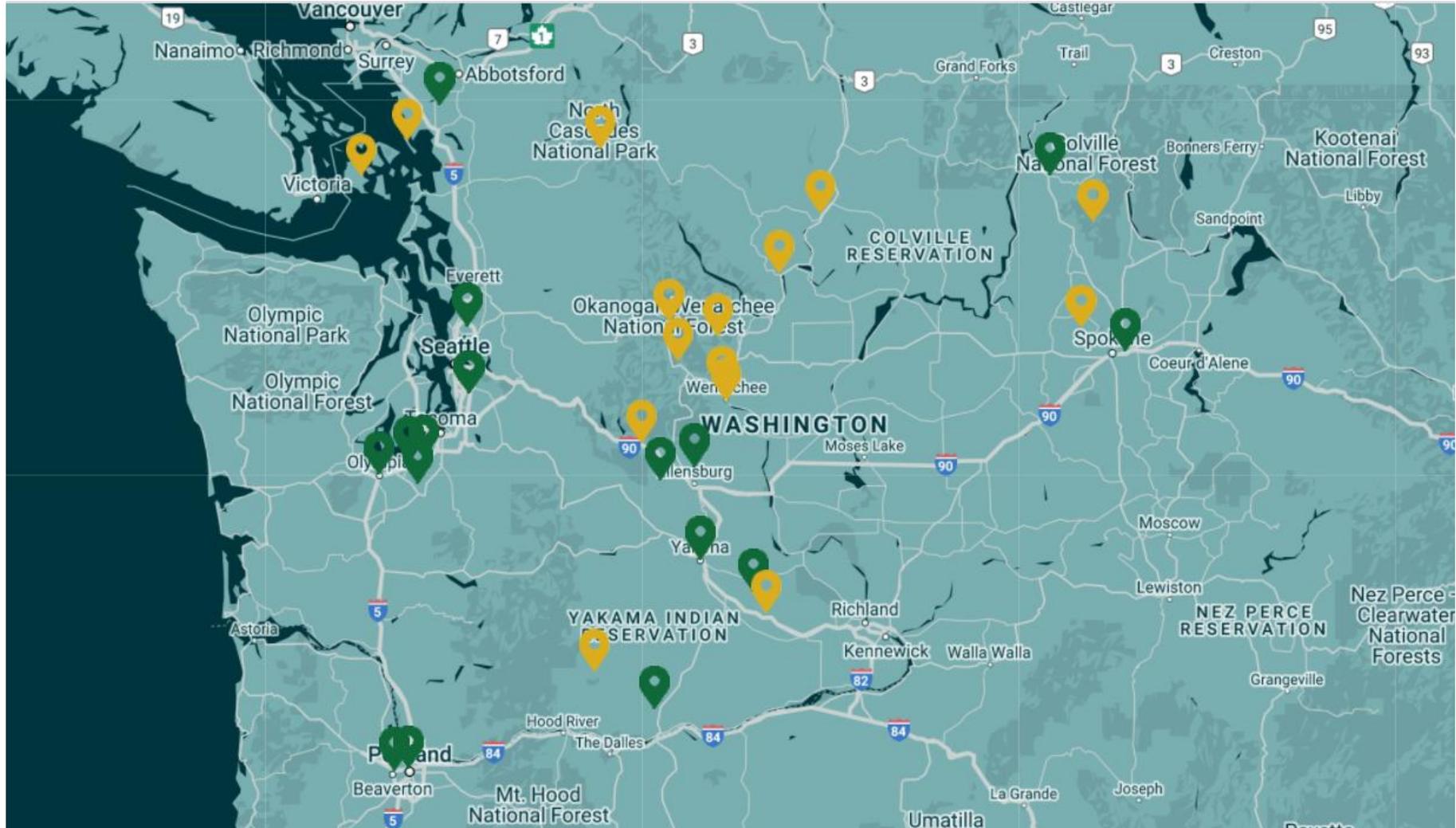
*Shows risk, i.e., expected  
effect when high value  
resource is exposed*



# Before, During, and After Fire



# Washington Fire Adapted Communities Learning Network



# Network Members

- Conservation Districts
- Fire Districts
- Latino Community Fund
- FEMA
- Conservation Commission
- Dept. of Natural Resources
- Dept. of Emergency Mgmt.
- Community Coalitions
- The Nature Conservancy
- Non-profit natural resource orgs.
- Community Advancement for Family Education
- Nuestra Casa
- Bureau of Land Management
- Utility Companies

# Seattle City Light



Seattle City Light Successfully Educates Community About Wildfire Mitigation Best Practices

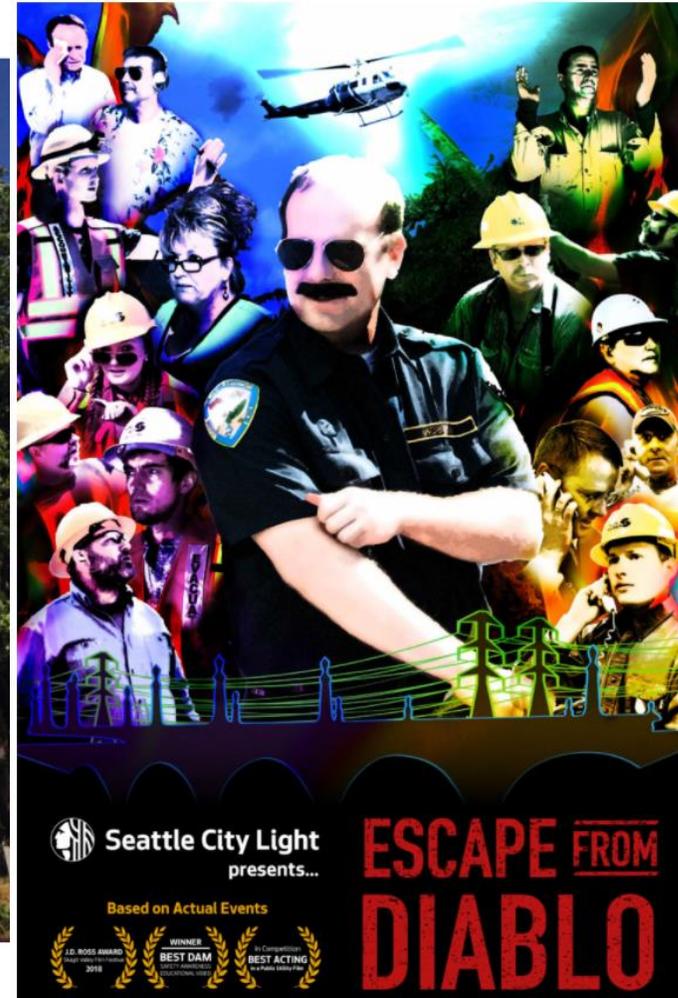


National Hydropower Assoc

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# Seattle City Light



# Thank you!!

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