Prioritizing for dual benefits of forest health and wildfire response

Integrating the requirements of HB 1784 into the Forest Health Assessment and Treatment Framework

Forest Health and Resiliency Division
Washington State Dept. of Natural Resources

WASHINGTON STATE DEPARTMENT OF NATURAL RESOURCES

Wildfire Advisory Committee
March 18, 2021

Agenda

1. Forest Health Assessment and Treatment Framework
2. HB 1784 Pilot Project: Prioritizing for dual benefit
3. Dual Benefit Prioritization
4. Applications for forest health and fire operations

Forest Health Science and Planning Team

- Ana Barros, Fire Scientist
- Derek Churchill, Forest Health Scientist
- Aleksandar Dozic, GIS Analyst
- Chuck Hersey, Forest Health Planning Section Manager
- Garrett Meigs, Forest Health Scientist
- Amy Ramsey, Forest Health Planner
- Annie Smith, Forest Health Scientist
- Andrew Spaeth, Forest Health Planner

Forest Health Assessment and Treatment Framework

Legislative context

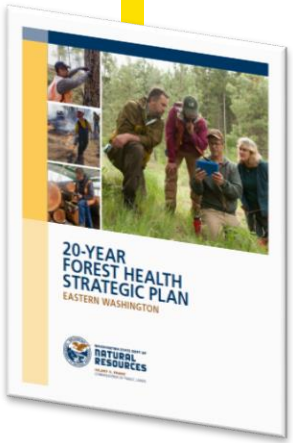
Forest health

Fire response

RCW 76.06

Main forest health law for the state of Washington

2017

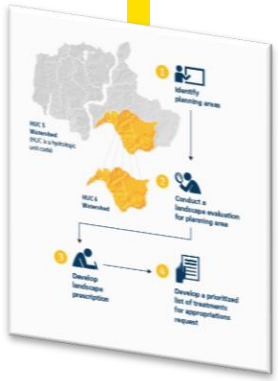


SB 5546

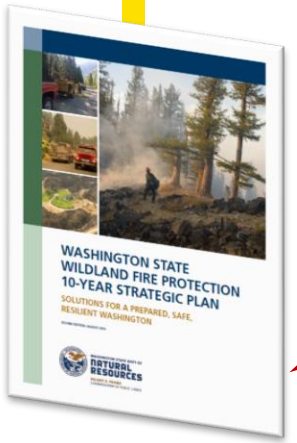
Forest health landscape evaluations across all lands for priority planning areas

RCW 76.06.200

Forest Health Assessment and Treatment Framework



2019



HB 1784

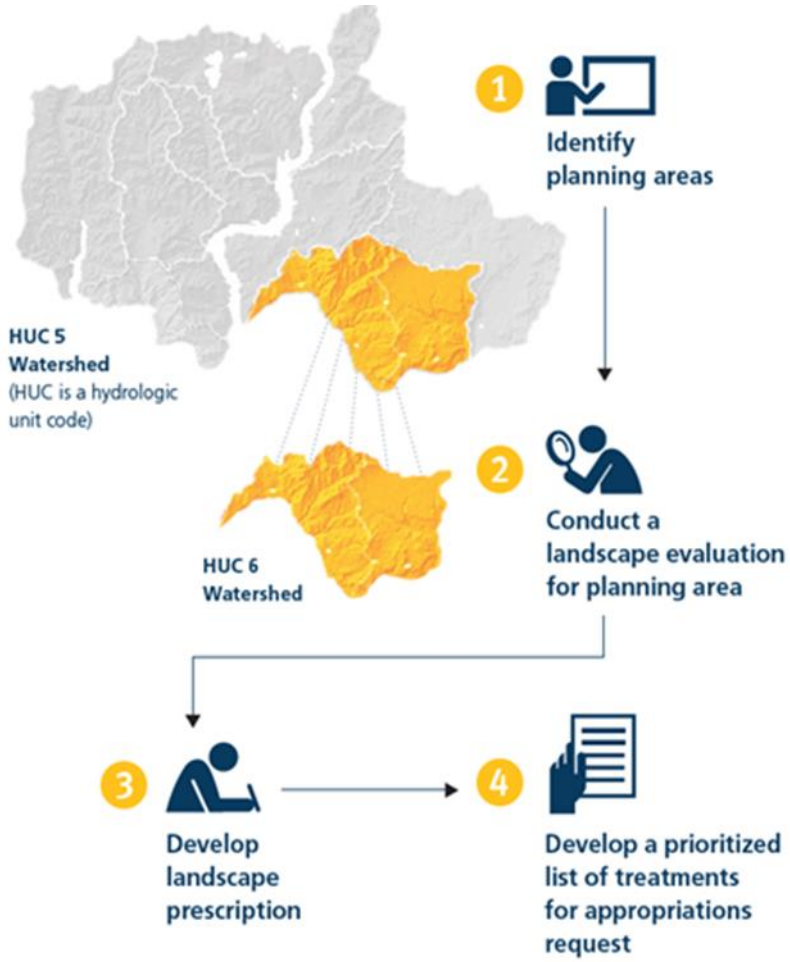
Dual benefit: forest health and fire response

PODs as a strategy for safe and effective fire response

Forest health assessment

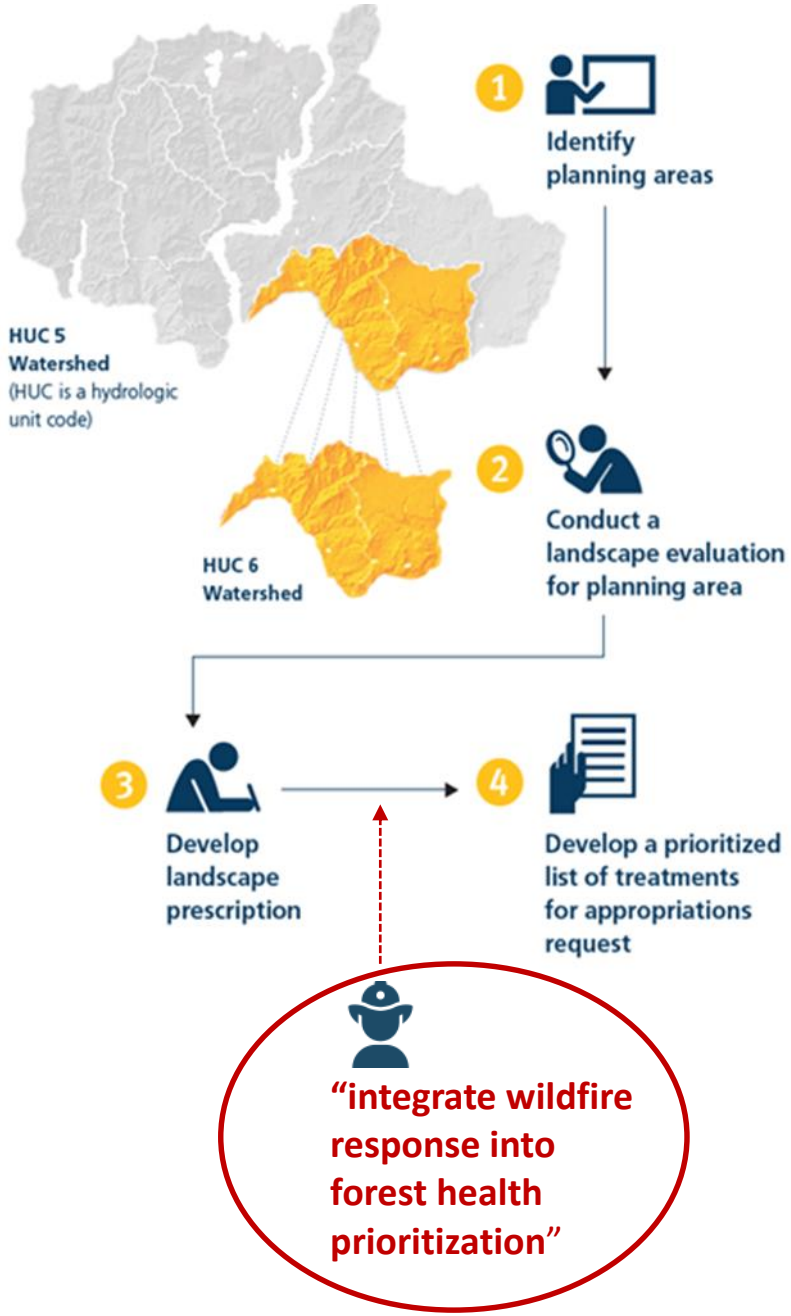
Assess a minimum of 200,000 acres/biennium across all lands.

1. Identify planning areas
2. Conduct landscape evaluations
3. Develop landscape treatment targets
4. Prioritize treatment needs

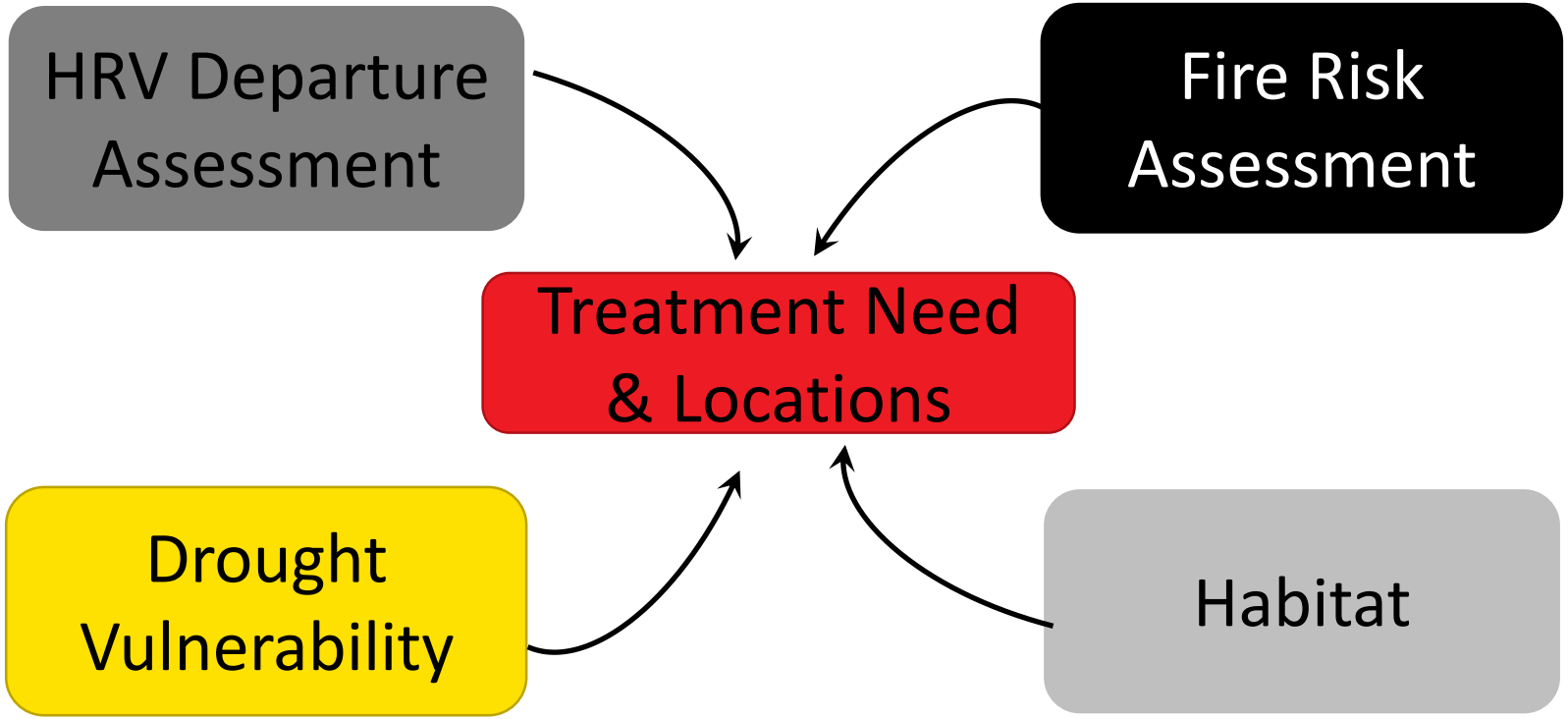


Forest health assessment

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



Landscape evaluations



Economics & Feasibility

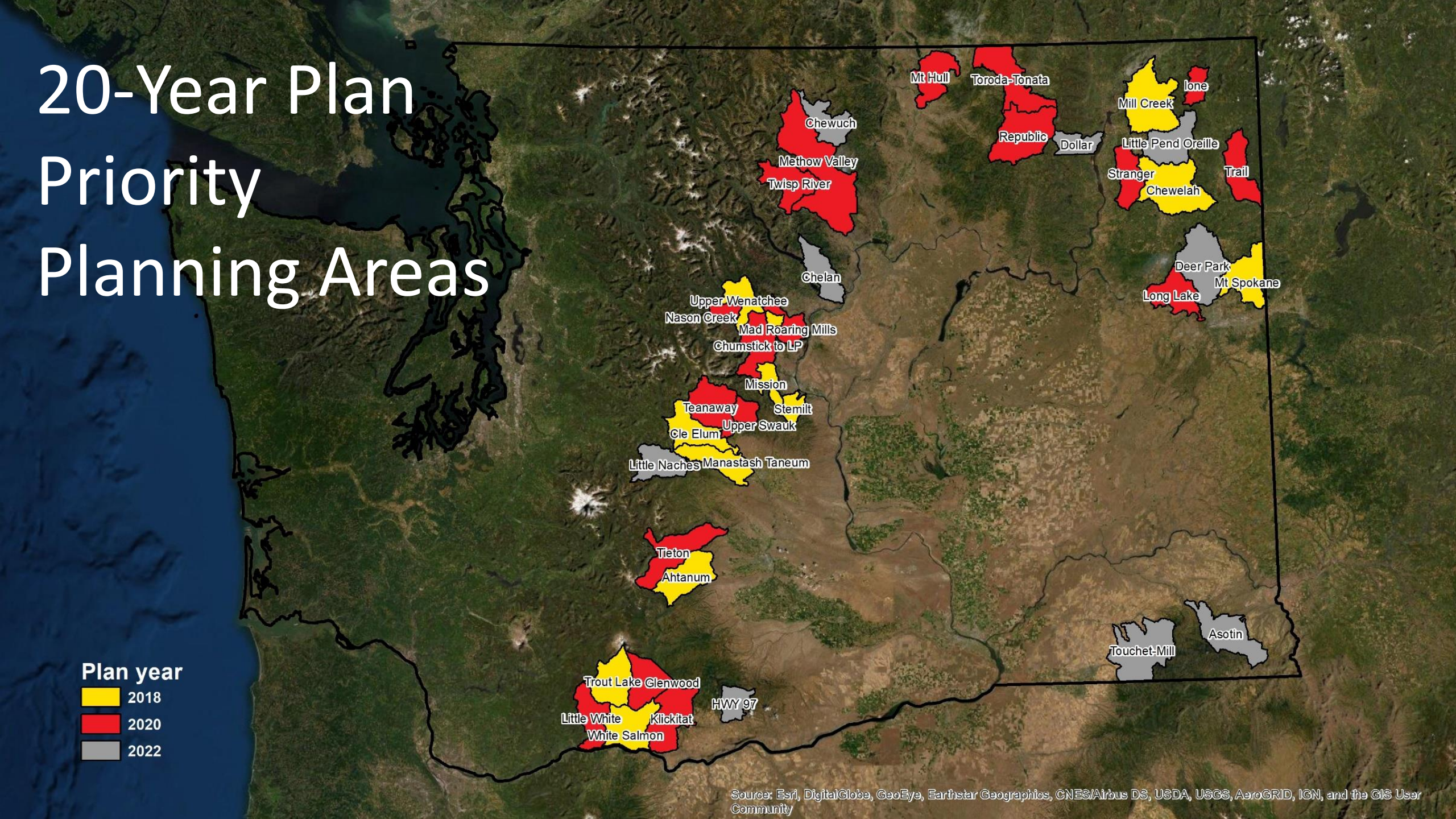
Diverse Landowner Objectives

Aquatics

Landscape evaluations

1. Identify ownership types and management objectives
2. Map vegetation and forest types
3. Map current forest structure and species composition
4. Assess departure of forest structure
5. Assess wildfire risk
6. Analyze drought vulnerability
7. Map habitat for focal species
8. Evaluate aquatic functions
9. Estimate treatment targets
10. Evaluate operational feasibility and economics
11. Map dense forest, large tree sustainability
12. **Prioritize landscape treatments**
13. **Prioritize wildfire response benefit**
14. **Prioritize for dual benefit using the PODs framework**

20-Year Plan Priority Planning Areas



Landscape evaluations

12 planning areas Completed in **2018**

18 planning areas Completed in **2020**

(**8** with the full 14-step dual benefit process)

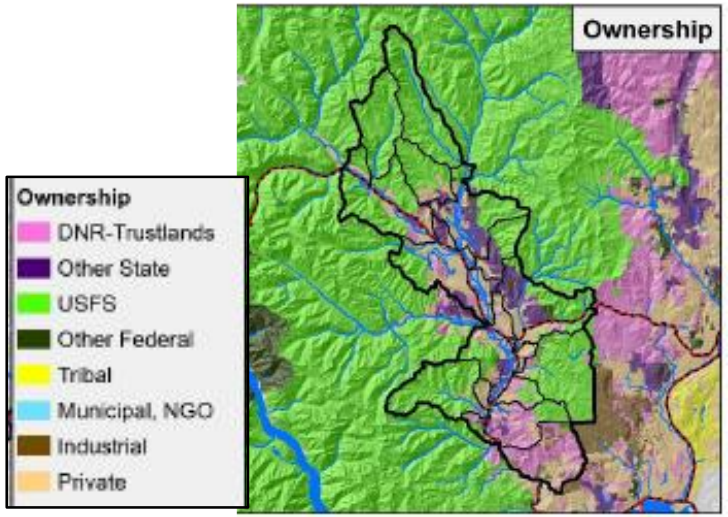
9 planning areas To be analyzed by December 2022

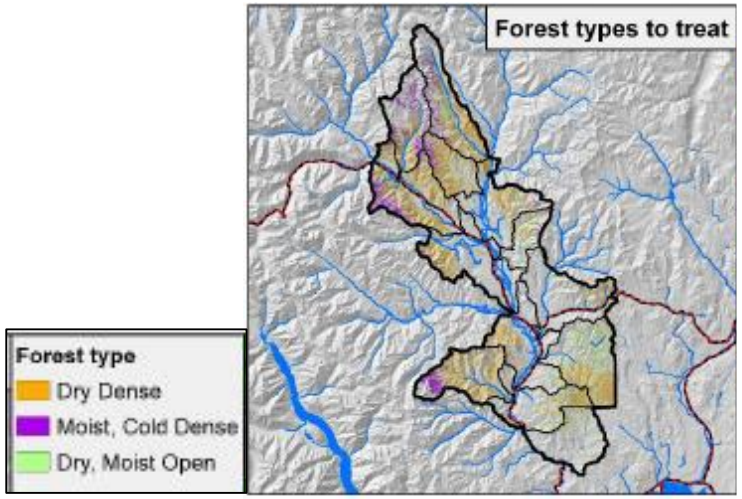
(**31** for dual benefit)

3.4 million **acres assessed for forest health need and**

1 million **acres for dual benefit**

Treatment need (e.g. Methow Valley)





Treat 27-41% of forested acres
Range of treatment types

Forest conditions to treat		Treatment need (acres)	Current acres by major landowner*				
Type	Size class		USFS	Private	DNR-Trust	WDFW	Other Fed.
Dry Dense	Medium-Large	32,000 - 47,500	61,427	6,925	2,588	1,764	640
Moist + Cold Dense	Medium-Large	1,500 - 3,000	7,749	70	15	11	0
Dry + Moist Open	Medium-Large	16,000 - 24,500	24,460	3,613	3,163	1,064	267
Total		49,500 - 75,000	*These are current acres, not targets*				
Anticipated treatment type		Noncommercial thin plus fuels treatment. May be fire only (prescribed or managed wildfire).					
		Commercial thin plus fuels treatment if access exists. May be noncommercial, fire only (prescribed or managed wildfire), or regeneration treatment.					
		Maintenance treatment: prescribed fire, managed wildfire, or mechanical fuels treatment. *Target range corresponds to 50-75% of dry open and 25-50% of moist open forests.*					

Assessed forest health treatment need for 2018 and 2020 planning areas (30 planning areas)

Treatment need across 30 planning areas:

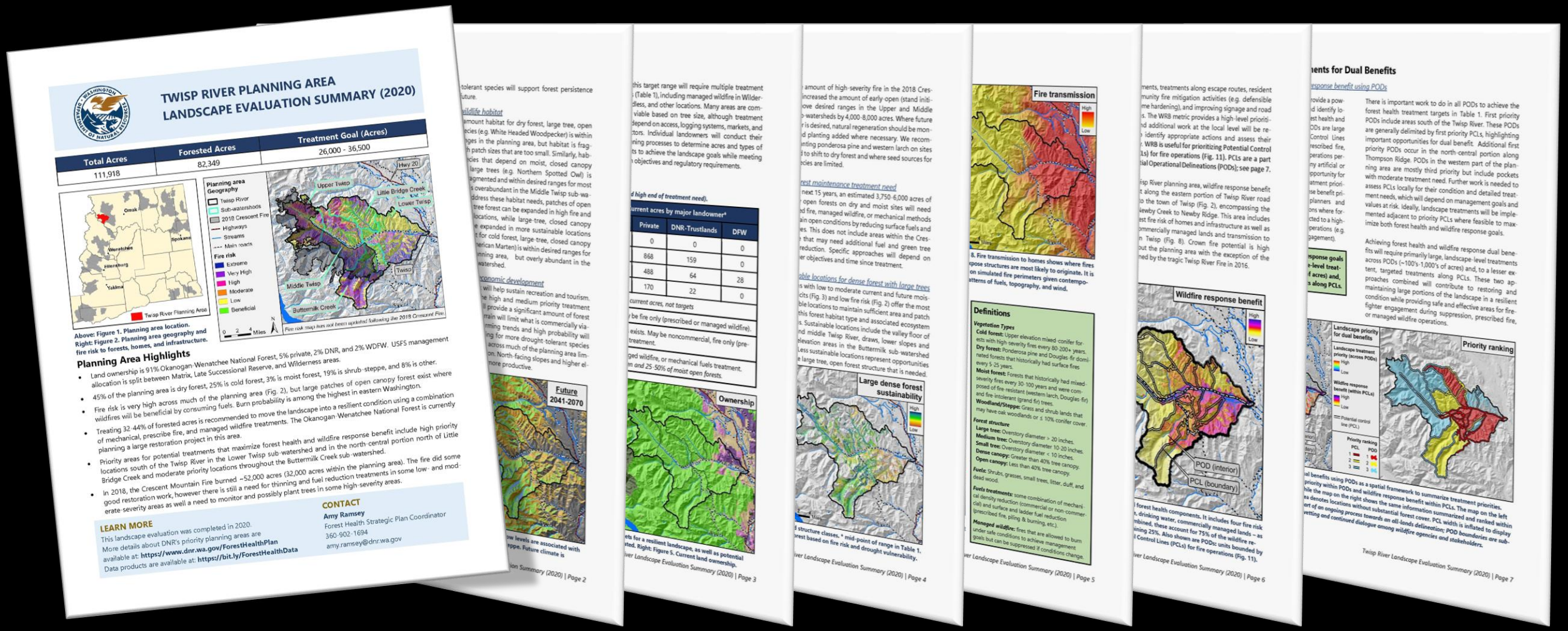
807,720 acres

to

1,162,620 acres

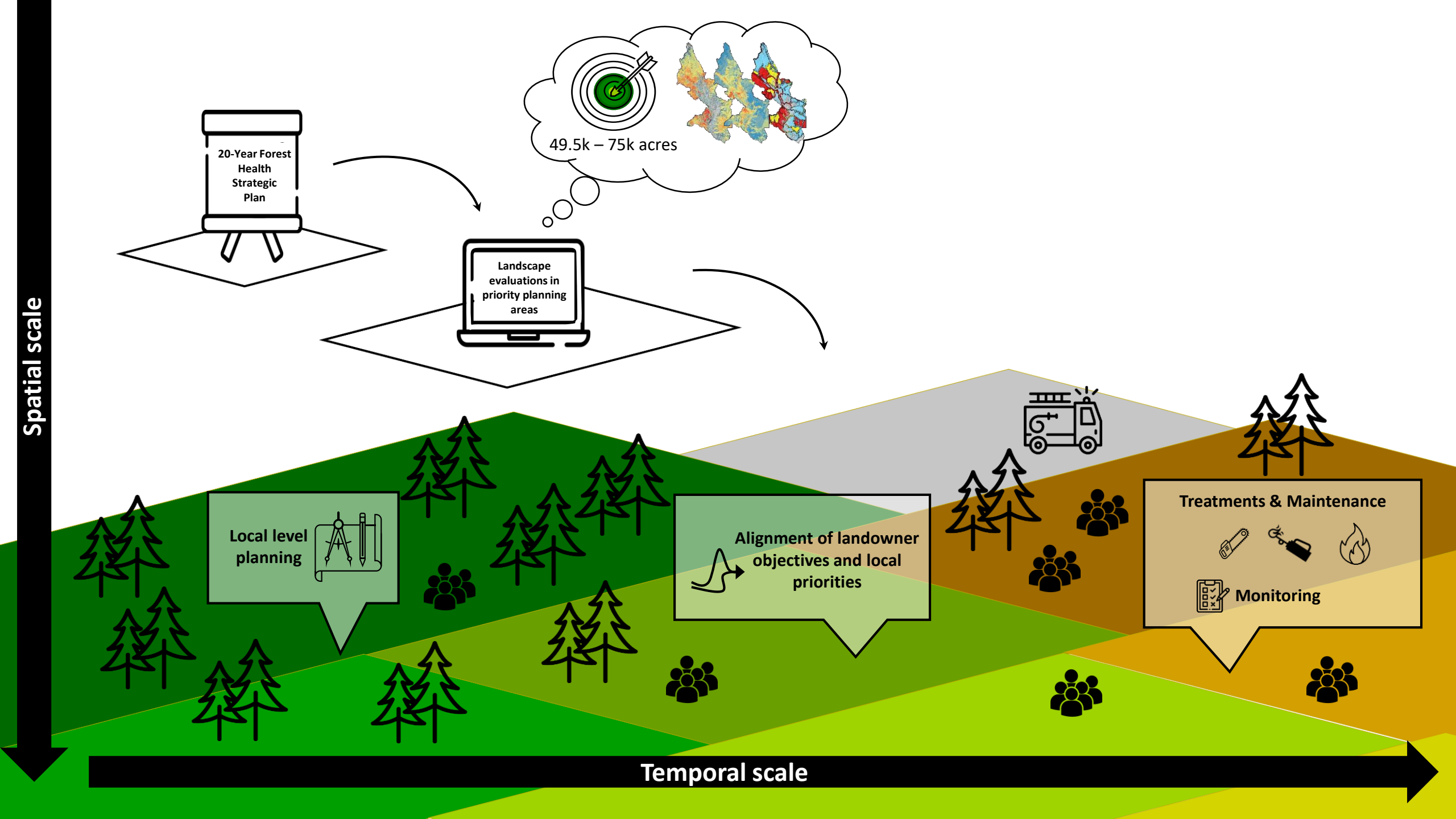
Planning Area Totals (Year)	Forest Structure Class (acres)		
	Small Dense[1]	**Medium-Large Dense[2]**	**Medium-Large Open[3]**
2018 Structure Class Total	**9,500 - 16,500**	**238,200 - 338,400**	**32,500 - 65,200**
2018 Total	**298,220 - 438,120 acres**		
2020 Structure Class Total	**17,750 - 30,900**	**378,500 - 516,100**	**113,250 - 177,500**
2020 Total	**509,500 - 724,500 acres**		
Grand Total (2018 and 2020 areas)	**807,720 - 1,162,620 acres**		
Anticipated Treatment Type	[1] Noncommercial thin plus fuels treatment. May be fire only (prescribed or managed wildfire).		
	[2] Commercial thin plus fuels treatment if access exists. May be regeneration treatment or fire only (prescribed or managed wildfire).		
	[3] Maintenance treatment: prescribed fire, managed wildfire, or mechanical fuels treatment. Target range corresponds to 50-75% of dry open and 25-50% of moist open forests.		
Notes	2018 Total includes acres from planned USDA Forest Service treatments in the Tillicum and Mission Maintenance planning areas that are not in the Structure Class Total.		

Legislative report



More information:
https://www.dnr.wa.gov/ForestHealthPlan

Data: https://bit.ly/ForestHealthData


20-Year Forest Health Strategic Plan
49.5k – 75k acres
Landscape evaluations in priority planning areas
Local level planning
Alignment of landowner objectives and local priorities
Treatments & Maintenance
Monitoring
Spatial scale
Temporal scale

HB 1784 Pilot Project:

Prioritizing for dual benefit

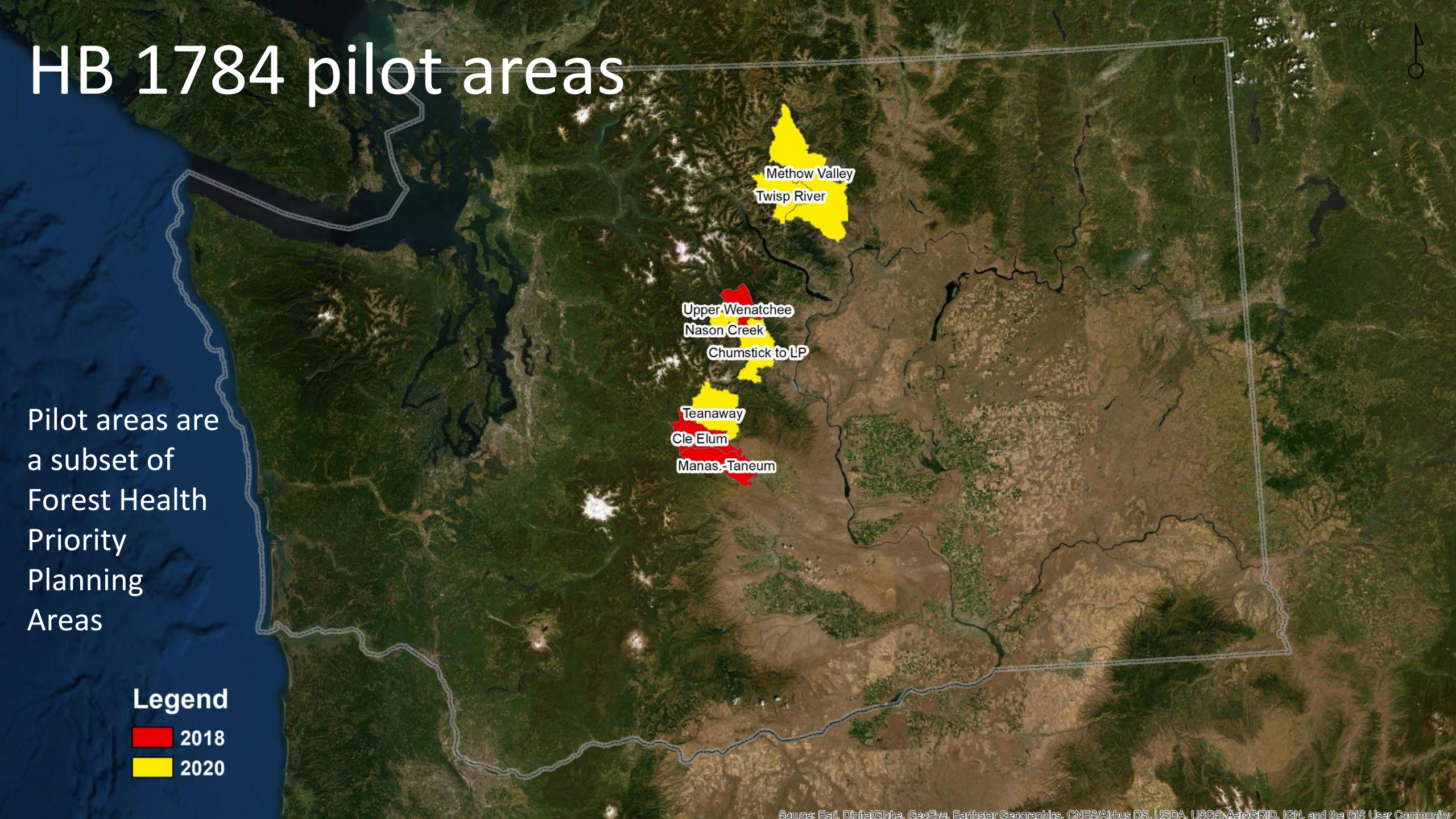
HB 1784 Bill Language

Amends RCW 76.06.200 Forest Health Assessment and Treatment Framework

"**Prioritize**, to the maximum extent practicable (…), forest health treatments that are strategically planned to serve **dual benefits** of forest health while providing **geographically planned tools** for wildfire response."

-- Section 1, subsection (3)(b)

HB 1784 pilot areas



Pilot areas are a subset of Forest Health Priority Planning Areas

HB 1784 Pilot Participation

-Three pilot areas: Cle Elum, Leavenworth and Methow Valley

-Over 150 people participated in the pilot

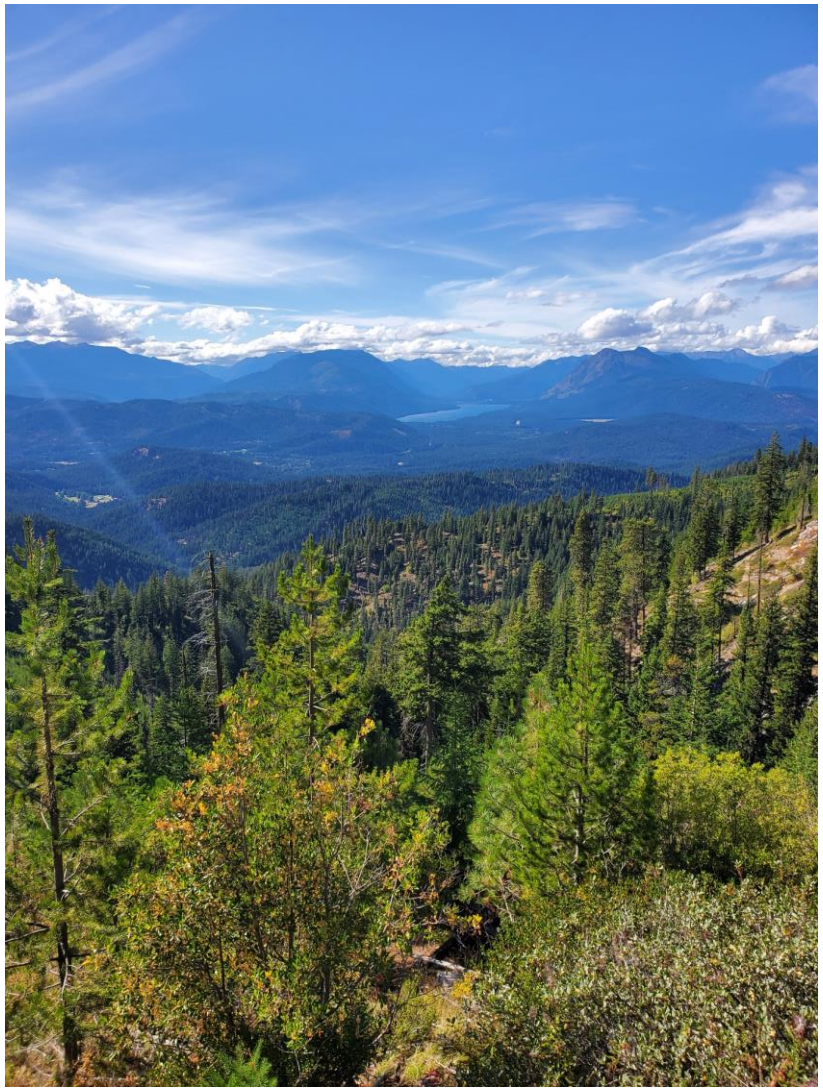
-Technical Team

-US Forest Service, DNR, tribes, fire districts, PUD, universities, conservation districts, fire adapted communities and conservation organizations.

-Four meetings from March 2020 to December 2020

-Three local pilot area meetings in August and September 2020

-DNR Management Team



HB 1784 Pilot Participants

Chief Cody Acord, Okanogan County Fire District 6
Alan Ager, USDA - Forest Service
Michael Barajas, USDA - Forest Service
Ashley Blazina, DNR
Chad Bowman Chelan Public Utility District
Assistant Chief Glenn Brautaset, Chelan County Fire District 3
Nolan Brewer, DNR
Scott Chambers, DNR
Derek Churchill, DNR
Trevor Contreras, DNR
Ben Curtis, USDA - Forest Service
Michelle Day, USDA - Forest Service
Chris Dunn, Oregon State University
Chief Rich Elliott, Kittitas Valley Fire and Rescue
Matt Ellis, USDA - Forest Service
Jason Emsley, DNR
Walter Escobar, DNR
Nancy Farr, Methow Valley Fire Adapted Communities
Chris Furr, USDA - Forest Service
Patrick Haggerty, Cascadia Conservation District
Jake Hardt, DNR
Corina Hayes, Department of Health
Kathryn Heim, Methow Valley Fire Adapted Communities
Paul Hessburg, USDA - Forest Service
Mike Kaputa, Chelan County
Allen Lebovitz, DNR
Mike Liu, Conservation Northwest
Reese Lolley, The Nature Conservancy
Brian Maier, USDA - Forest Service
Austin Marshall, DNR
Daniel Montano, DNR
Chief Phil Mosher, Chelan County Fire District 6
Chief Kelly O'Brien, Chelan County Fire District 3
Jim Passage, Lake Wenatchee Fire Adapted Community
Susan Prichard, University of Washington
Amy Ramsey, DNR
Chad Rissman, Chelan Public Utility District
Jeff Rivera, USDA - Forest Service
Rose Shriner, Washington Resource Conservation & Development Council
Liz Smith, DNR
Andrew Spaeth, DNR
Mike Starkovich, USDA - Forest Service
Cary Stock, USDA - Forest Service
Chief David Walker, Lake Wenatchee Fire and Rescue
Dave Werntz, Conservation Northwest

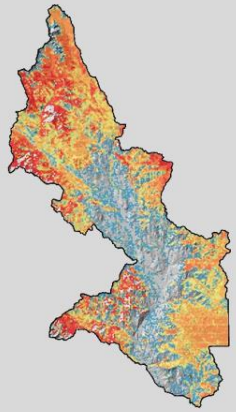
Management Team
Technical Team
Participants in our local meetings

Thank you!

Dual benefit prioritization

Forest fire risk

Drought vulnerability



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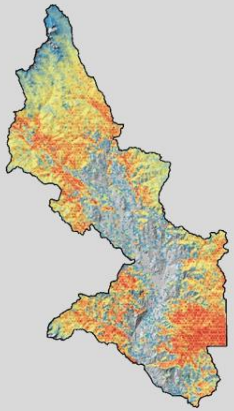

Overabundant forest structure

Wildfire transmission to homes

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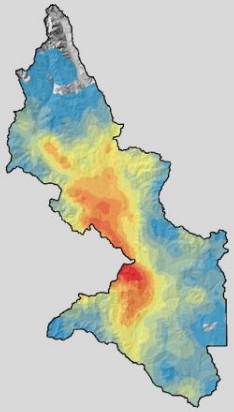
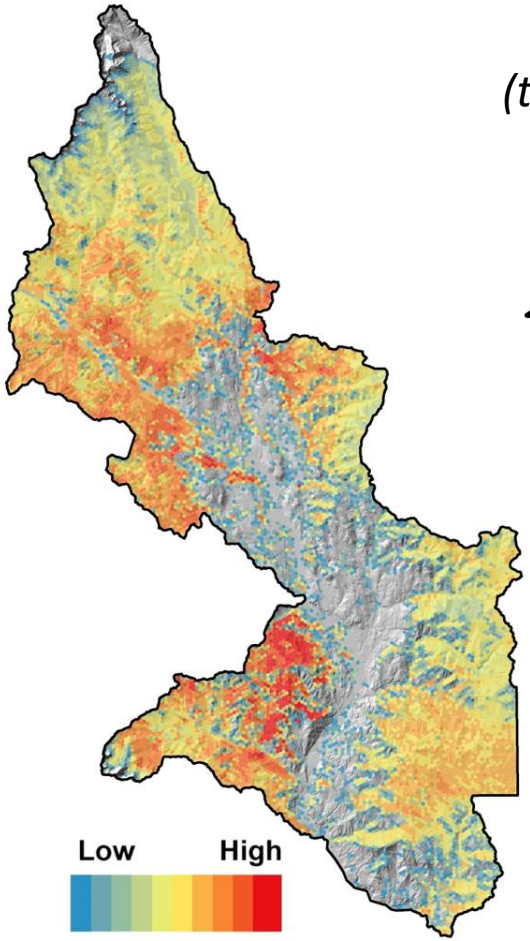


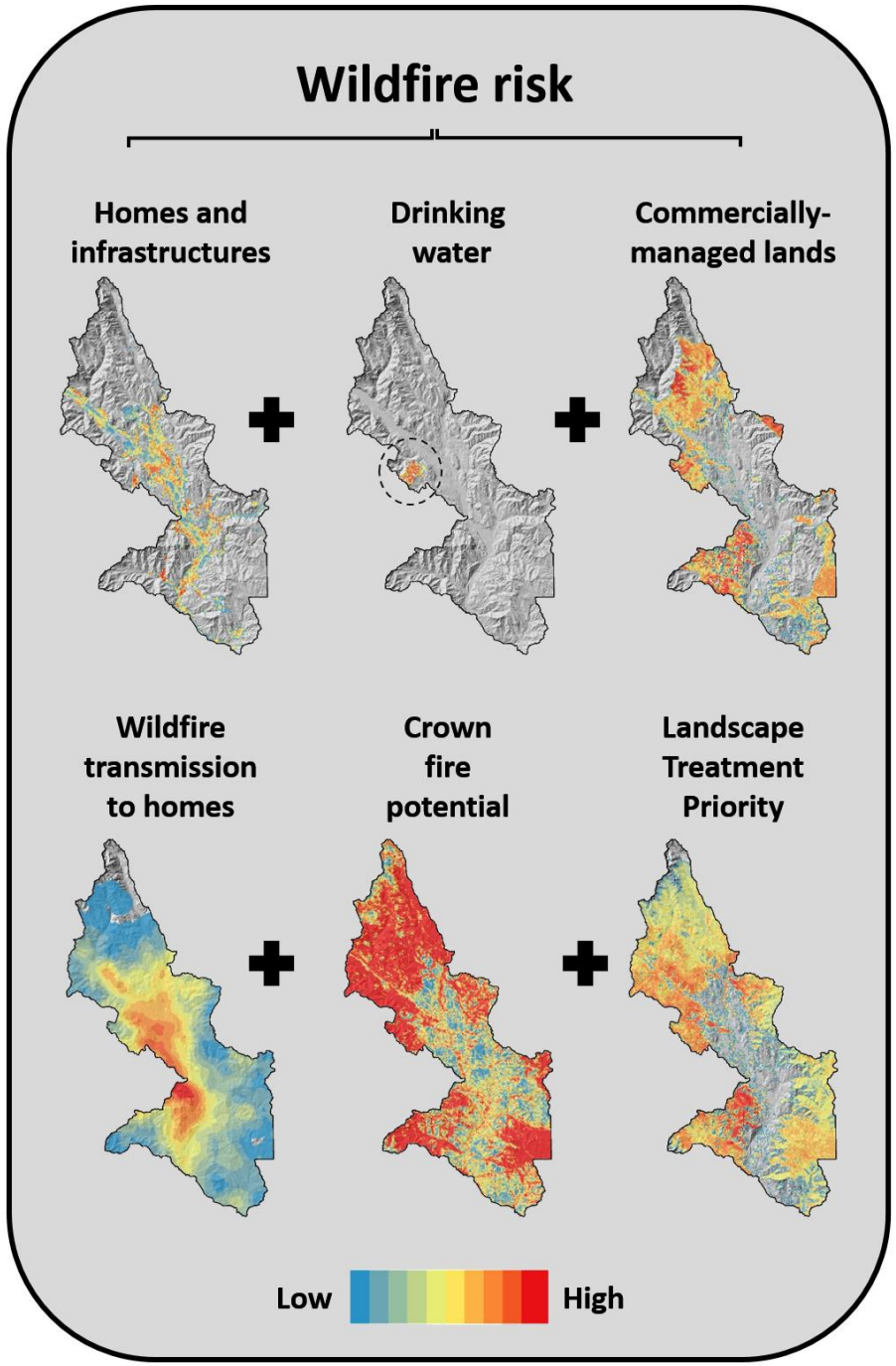
Low High

=

Landscape Treatment Priority



(think forest health)



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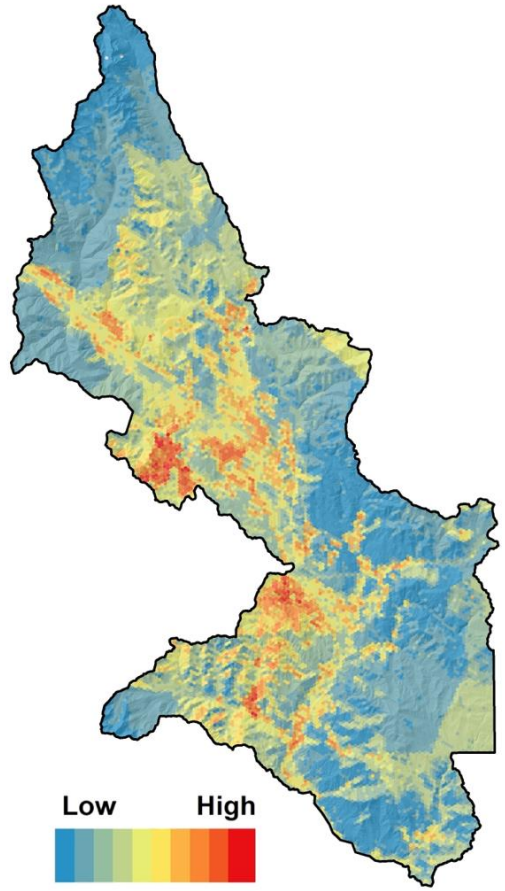
Wildfire Response Benefit Priority

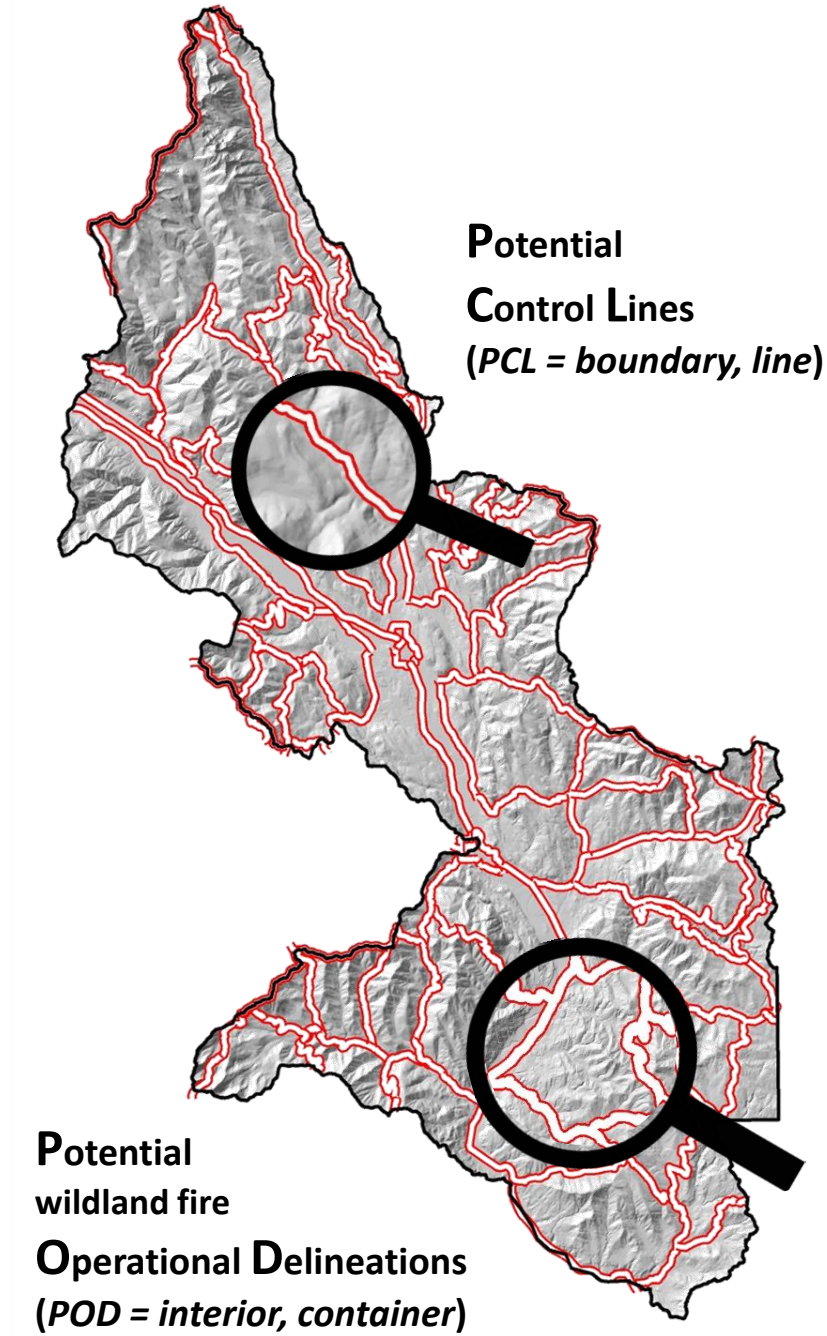


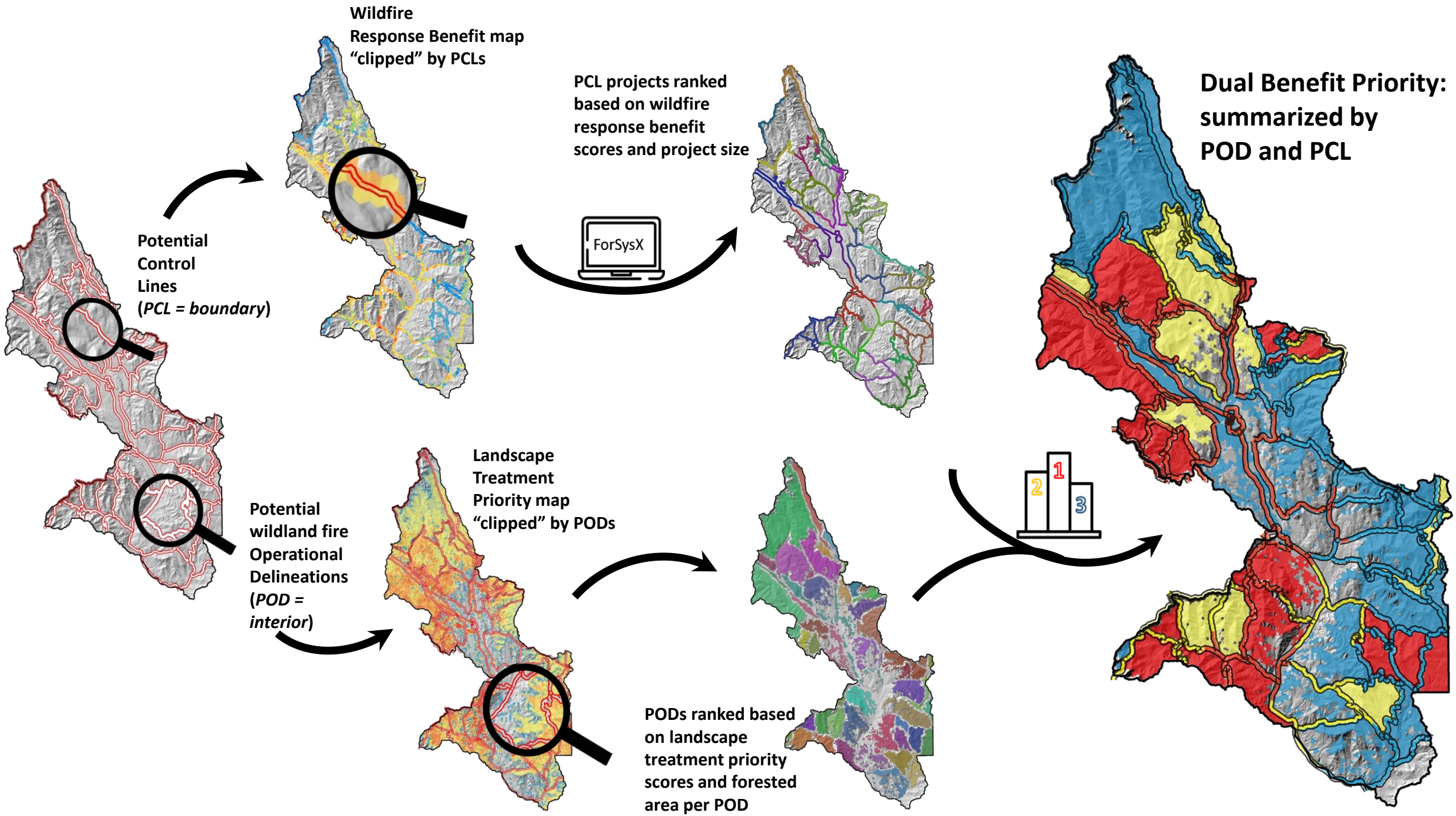
(think fire operations)

PODs, PCLs, fuelbreaks

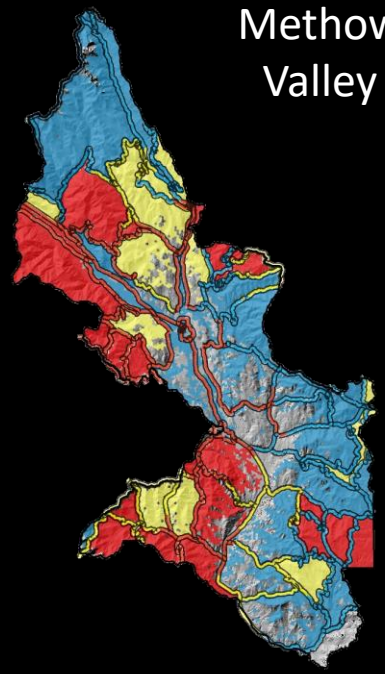
- All PCLs are fuelbreaks but not all PCLs will require a fuelbreak treatment

- **Potential, potential, potential**

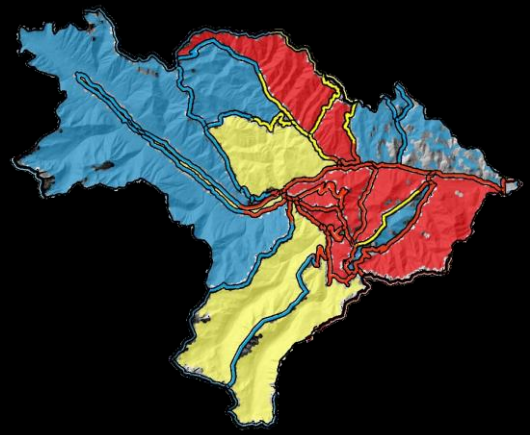



Wildfire
Response Benefit map
"clipped" by PCLs
PCL projects ranked
based on wildfire
response benefit
scores and project size
ForSysX
Dual Benefit Priority:
summarized by
POD and PCL
Potential
Control
Lines
(PCL = boundary)
Potential
wildland fire
Operational
Delineations
(POD =
interior)
Landscape
Treatment
Priority map
"clipped" by PODs
PODs ranked based
on landscape
treatment priority
scores and forested
area per POD
2
1
3

Methow Valley

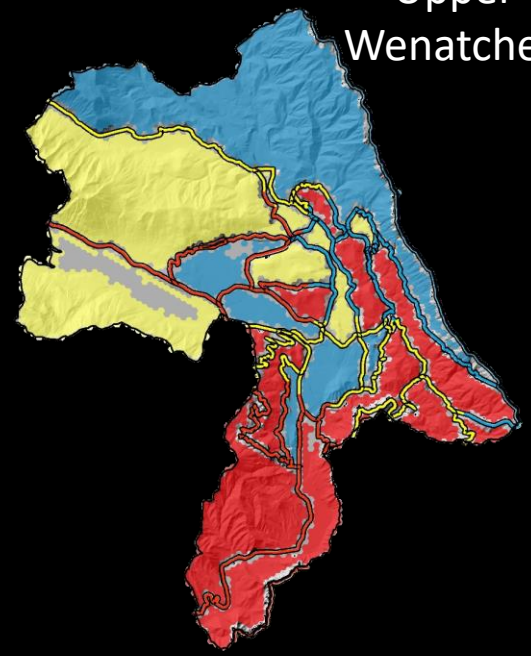


Twisp River

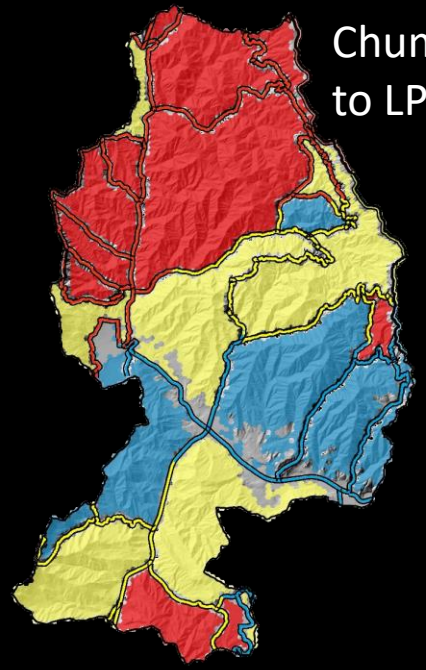


Nason Creek

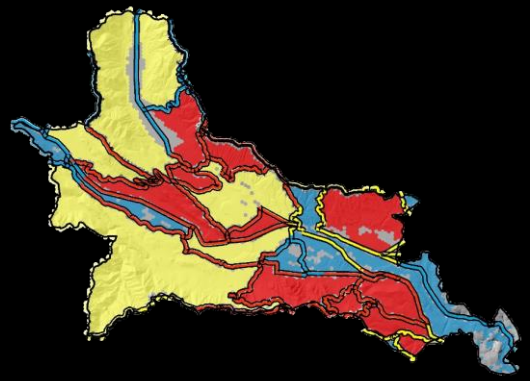
Upper Wenatchee



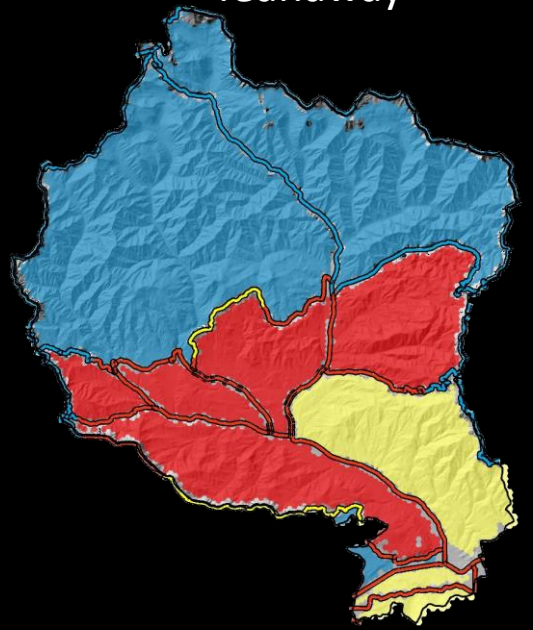
Chumstick to LP



Cle Elum



Teanaway



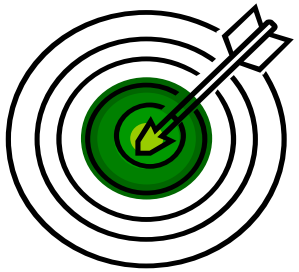
Manastash-Taneum

Applications for forest health and fire operations

Essence of dual benefit: Forest health treatments can help support safe and effective fire management operations and in turn fire management operations are critical to helping achieve our forest health goals.

Landscape treatments

Forest health treatment **goals** will primarily be achieved with **large**, **landscape-level** treatments



49.5k – 75k acres

Recently completed 700-acre forest health treatment on DNR trust lands in the Methow Valley priority planning area. Credit: John Marshall.

Landscape treatments

Landscape-level treatments should intersect with potential control lines wherever possible

Example of a landscape-level treatment melding with a potential control line. Credit: John Marshall

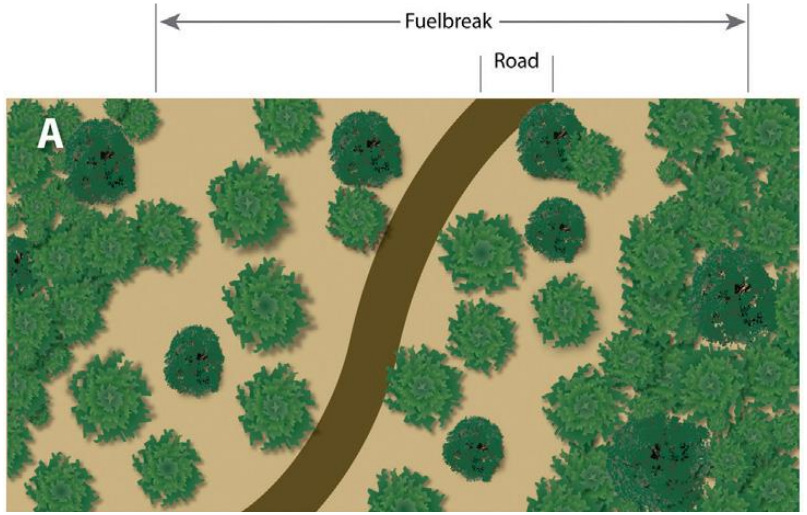
Forest health toolbox

A variety of **forest health treatment types** will be needed to achieve forest health treatment goals in a priority planning area.


Credit: John Marshall

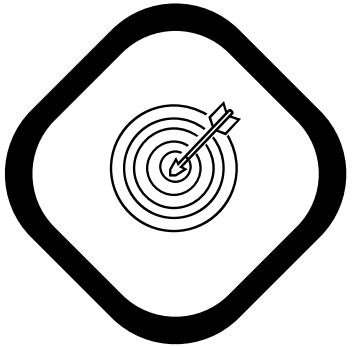
Treatments along PCLs

- Provide safe zones for firefighter engagement
- Provide opportunities for prescribed fire and managed wildfire
- Do not greatly alter fire risk and fire effects
- Can increase probability of fire containment
- Do not act as stand-alone firebreaks
- Can have negative ecological consequences
- Integrated into large landscape treatments



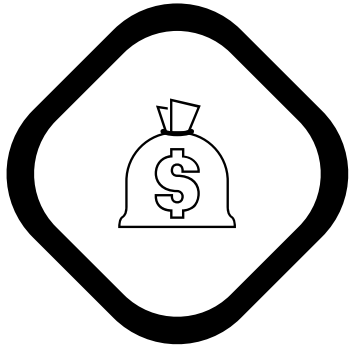
Credit: Kara Karboski\TREX

How DNR and Partners can use information from the Forest Health Assessment and Treatment Framework



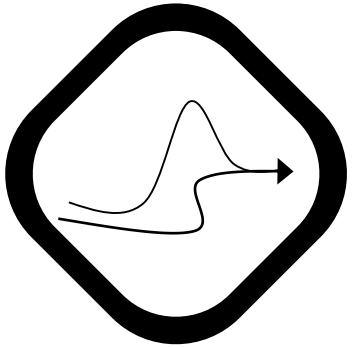
PRIORITIZE

Focus resources in high-priority areas to achieve work at needed scales



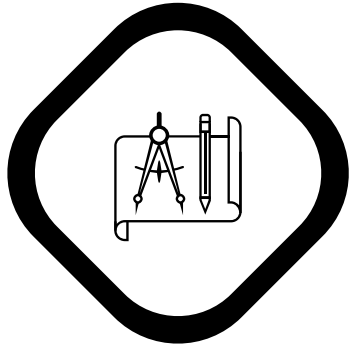
FUNDING

Focus limited treatment dollars in high-priority areas



ALIGNMENT

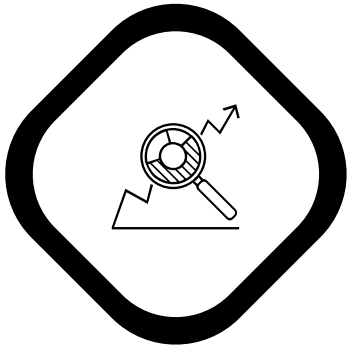
Align state, federal and local forest health efforts to achieve maximum impact



IMPLEMENTATION

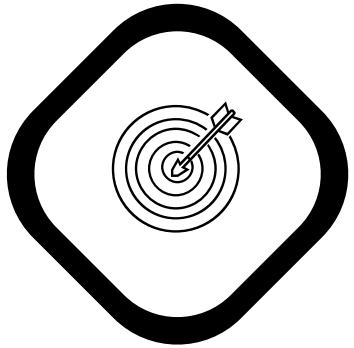
Information can be incorporated into local planning, e.g. NEPA & CWPP

How DNR and Partners can use information from the Forest Health Assessment and Treatment Framework



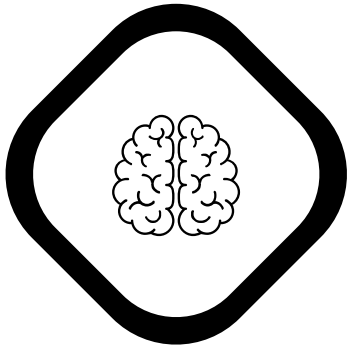
MONITORING

How are forest health conditions changing over time?



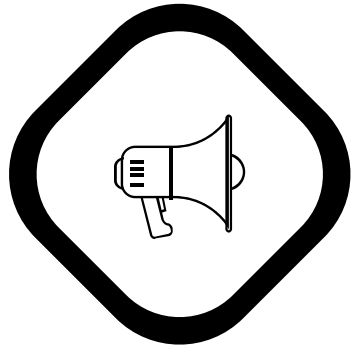
ACCOUNTABILITY

Are we achieving our goals?



ADAPTABILITY

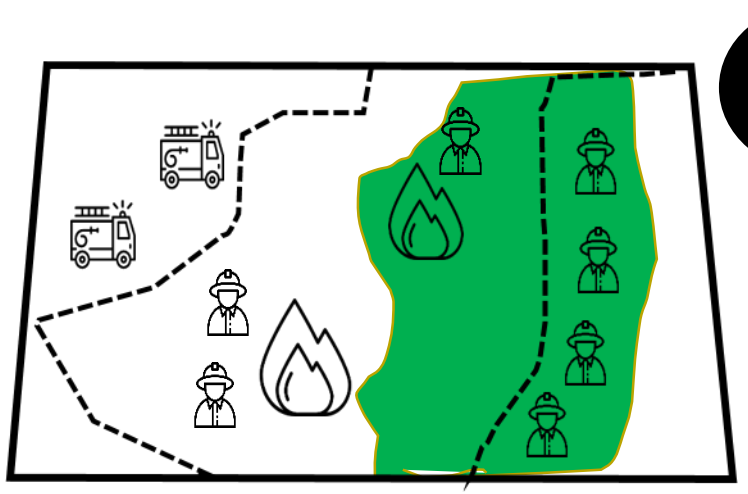
As conditions on the ground, science and priorities shift over time

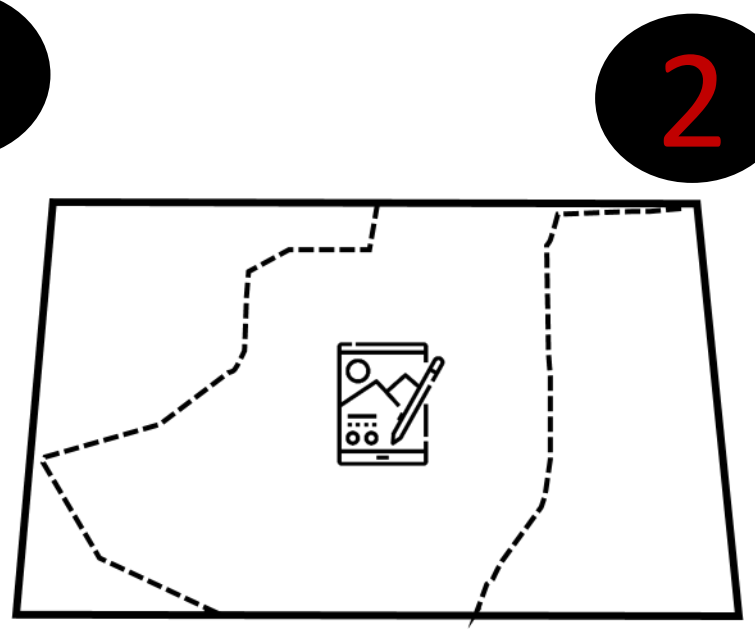


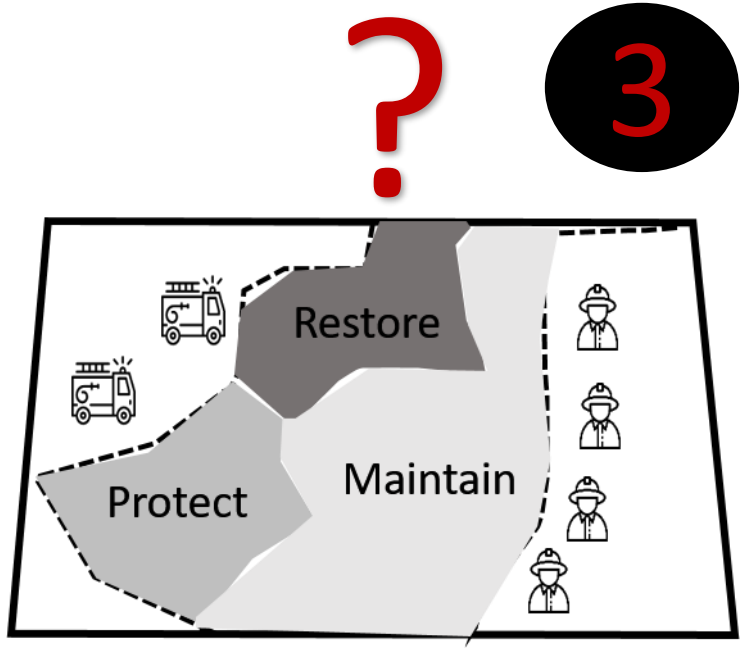
ENGAGEMENT

Educate communities so that they understand forest health priorities for their areas

POD Applications







"Boxes only" used to prioritize for dual benefit and help screen for treatment locations in high priority PODs

PCL attribution and integration into DNR's GIS database(s)

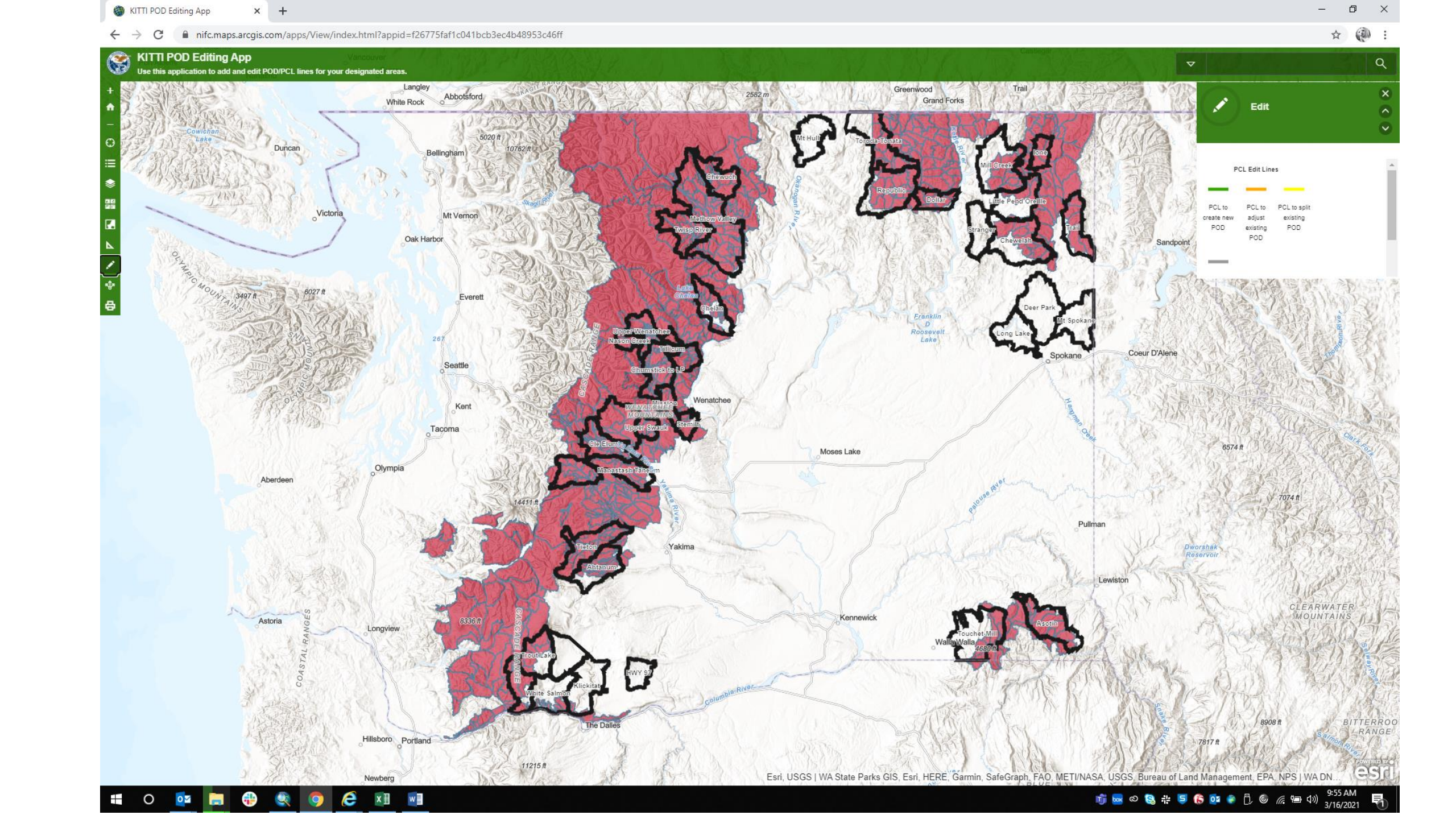
Combined with local expertise and spatial analysis to define strategic response zones taking ownership into account

Complexity

Forest Health

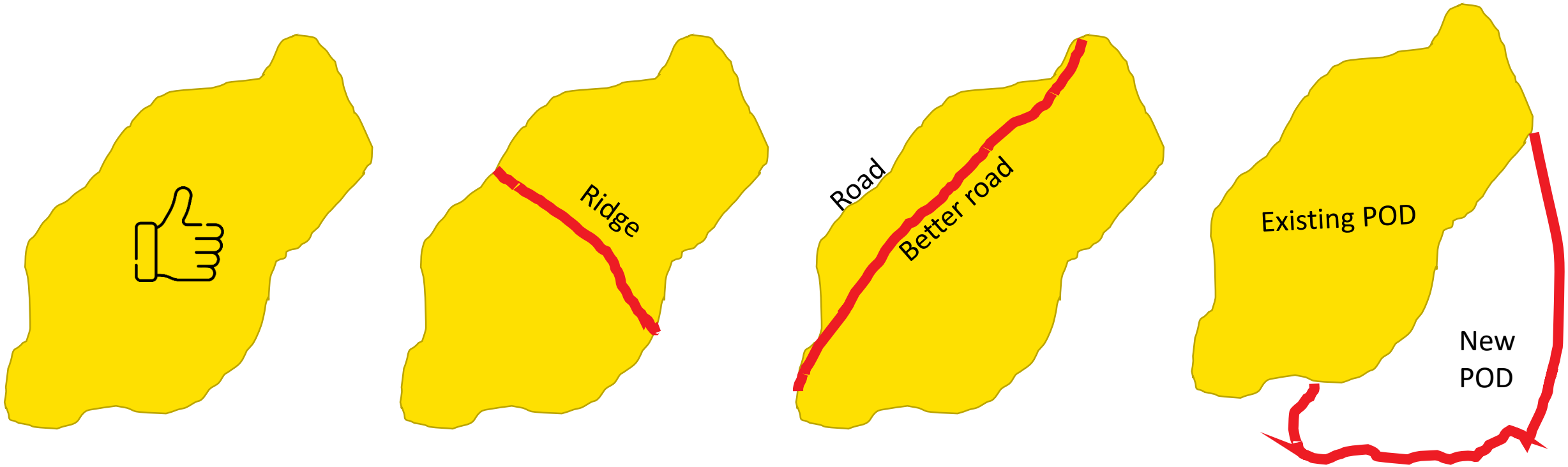
Leadership role

Wildfire


KITTI POD Editing App
nifc.maps.arcgis.com/apps/View/index.html?appid=f26775faf1c041bcb3ec4b48953c46ff
KITTI POD Editing App
Use this application to add and edit POD/PCL lines for your designated areas.
Edit
PCL Edit Lines
PCL to create new POD
PCL to adjust existing POD
PCL to split existing POD
Vancouver
Langley
Abbotsford
White Rock
Cowichan Lake
Duncan
Victoria
Bellingham
Mt Vernon
Oak Harbor
Everett
Seattle
Kent
Tacoma
Olympia
Aberdeen
Astoria
Longview
Hillsboro
Portland
Newberg
Greenwood
Grand Forks
Trail
Castlegar
Mt Hull
Toroda-Tonata
Republic
Doller
Mill Creek
Little Pend Oreille
Stranger
Chewelah
Sandpoint
Deer Park
Mt Spokane
Long Lake
Spokane
Coeur D'Alene
Chewuch
Methow Valley
Twisp River
Lake Chelan
Chelan
Upper Wenatchee
Nason Creek
Tillicum
Chumstick to LP
Mission
Wenatchee
Upper Swauk
Stemilt
Cle Elum
Manastash Taneum
Tieton
Ahtanum
Yakima
Moses Lake
Kennewick
Pullman
Lewiston
Touchet-Mill
Walla Walla
Asotin
Dworshak Reservoir
Franklin D Roosevelt Lake
Okanogan River
Columbia River
Palouse River
Yakima River
Hangman Creek
Clark Fork
Thompson River
Salmon River
Snake River
Skagit River
Trout Lake
Klickitat
White Salmon
HWY 97
The Dalles
CASCADE RANGE
COASTAL RANGES
OLYMPIC MOUNTAINS
SAINT HELENS
WENATCHEE MOUNTAINS
CLEARWATER MOUNTAINS
BITTERROOT RANGE
5020 ft
10762 ft
2582 m
3497 ft
6027 ft
267
14411 ft
6336 ft
6574 ft
7074 ft
4687 ft
8908 ft
7817 ft
11215 ft
Esri, USGS | WA State Parks GIS, Esri, HERE, Garmin, SafeGraph, FAO, METI/NASA, USGS, Bureau of Land Management, EPA, NPS | WA DN...
9:55 AM
3/16/2021

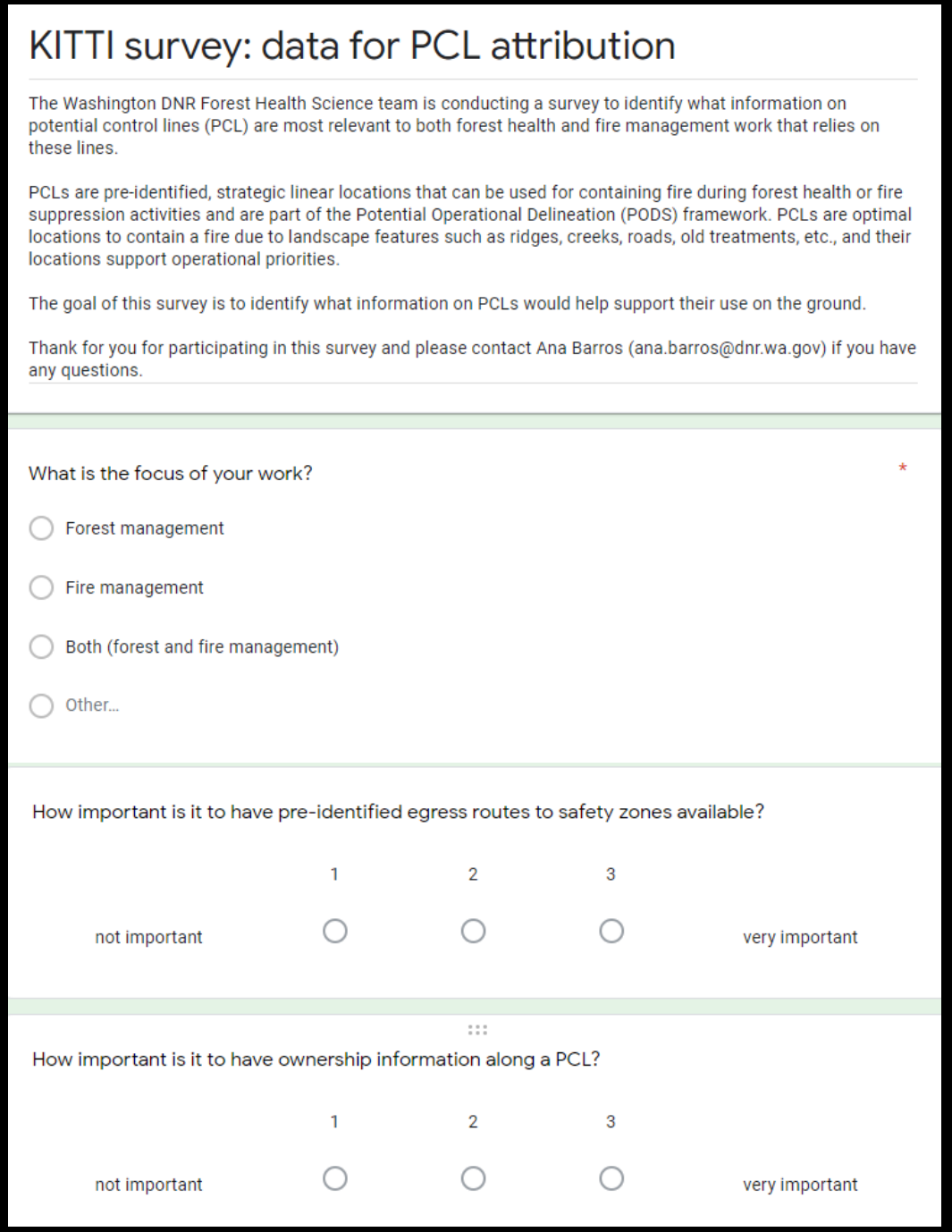
Using the KITTI app

1. Keep it or tweak it?
2. Split a big POD into smaller PODs
3. Adjust boundary of a POD
4. Add a new POD



KITTI survey

Survey to identify a wishlist of PCL attributes that are relevant to the work you do.



KITTI survey: data for PCL attribution

The Washington DNR Forest Health Science team is conducting a survey to identify what information on potential control lines (PCL) are most relevant to both forest health and fire management work that relies on these lines.

PCLs are pre-identified, strategic linear locations that can be used for containing fire during forest health or fire suppression activities and are part of the Potential Operational Delineation (PODS) framework. PCLs are optimal locations to contain a fire due to landscape features such as ridges, creeks, roads, old treatments, etc., and their locations support operational priorities.

The goal of this survey is to identify what information on PCLs would help support their use on the ground.

Thank for you for participating in this survey and please contact Ana Barros (ana.barros@dnr.wa.gov) if you have any questions.

What is the focus of your work? *

- Forest management
- Fire management
- Both (forest and fire management)
- Other...

How important is it to have pre-identified egress routes to safety zones available?

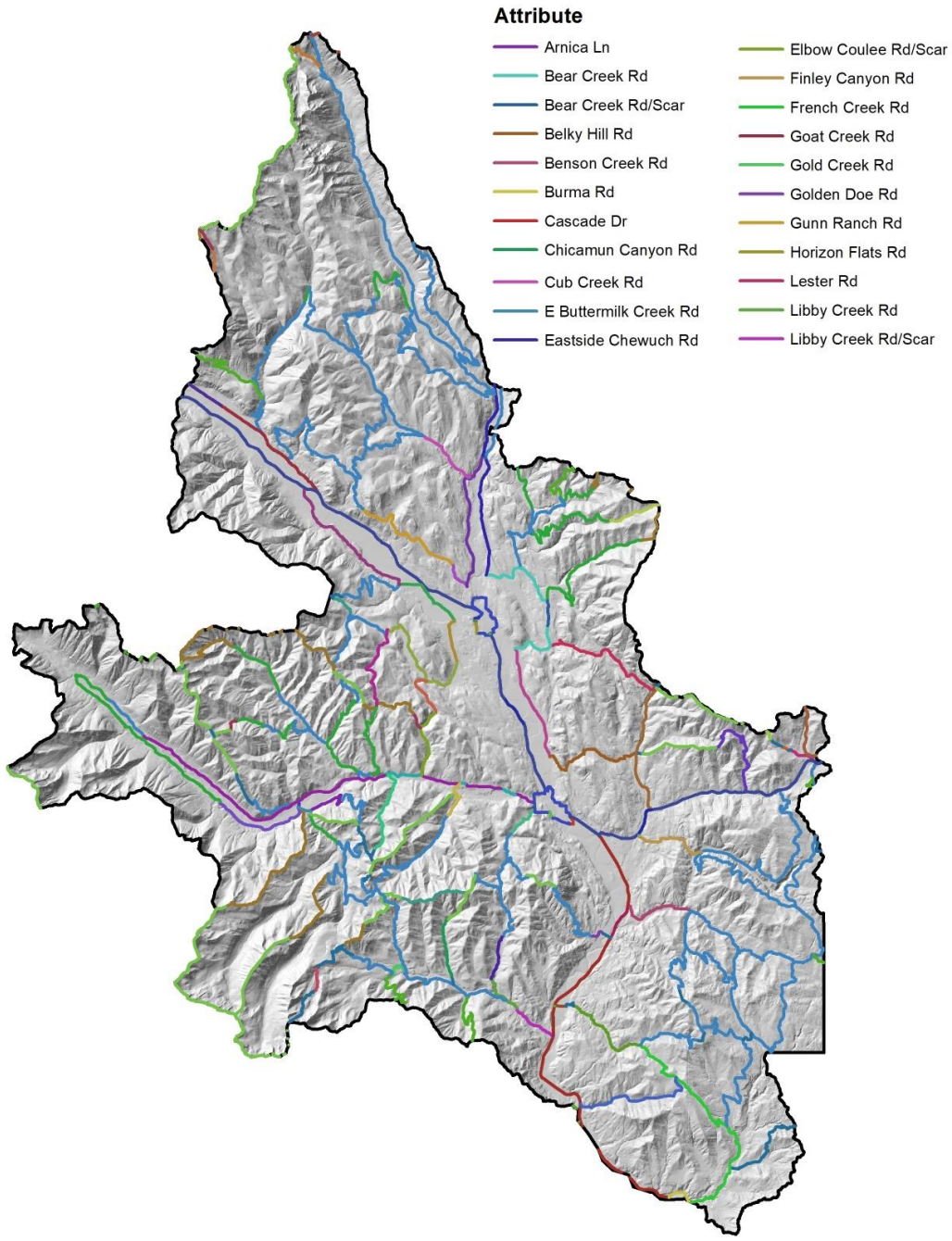
	1	2	3	
not important				very important

How important is it to have ownership information along a PCL?

	1	2	3	
not important				very important

PCLs attribution

- Attributes to support fire incident management (*fire manager hat*)
- Attributes to support treatment projects (*forester hat*)



Considerations

- How do Wildfire Division and their fire partners want to use PODs?
- Where do we need PODs?
- Who needs to be involved in POD delineation, attribution and objective setting? Who coordinates the process?
- What are forums and venues for collaboration?