



Adaptive Fire Management USFS PNW Case Study

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Increasingly large wildfires

Since 2011, all but 4 of the units listed in PNW have received at least 1 of their top 3 largest fires dating back 50 to 70 years. What is more significant is several units have experienced their top 2 or 3 fires. (Stratton | 11.15.2018)

	Individual Fire Name	"Historical" Rank (Top 3 only)	Year	Size Estimate (Unit specific acres only)
Colville NF	Stickpin	#2	2015	48,782
Columbia River Gorge SA	Eagle Creek	#1	2017	25,583
Deschutes NF	Pole Creek	#2	2012	26,579
Fremont-Winema NF	Watson Creek	#1	2018	45,896
	Barry Point	#2	2012	43,133
Gifford Pinchot NF	Cascade Creek	#1	2012	20,296
Malheur NF	Canyon Creek	#1	2015	90,584
Mount Baker-Snoqualmie NF	Norse Peak	#1	2017	23,239
Mt. Hood NF	Eagle Creek	#1	2017	22,645
	Dollar Lake	#2	2011	6,286
	36 Pit	#3	2014	5,508
Ochoco NF	Corner Creek	#1	2015	29,660
Okanogan-Wenatchee NF	Diamond Creek	#3	2017	97,137
Olympic NF	Maple	#1	2018	3,312
	Big Hump	#2	2011	1,243
Rogue River-Siskiyou NF	Chetco Bar	#2	2017	173,225
	Klondike	#3	2018	170,426
Siuslaw NF	n/a	n/a	n/a	n/a
Umatilla NF	Butte Creek (Grizzly Complex)	#1	2015	71,285
Umpqua NF	Happy Dog	#1	2017	29,763
	Stouts Creek	#3	2015	14,824
Wilamette NF	Seperation	#2	2017	18,097
	Whitewater	#3	2017	11,501
Wallowa-Whitman NF	Cache Creek	#3	2012	56,845

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Restoration Needs

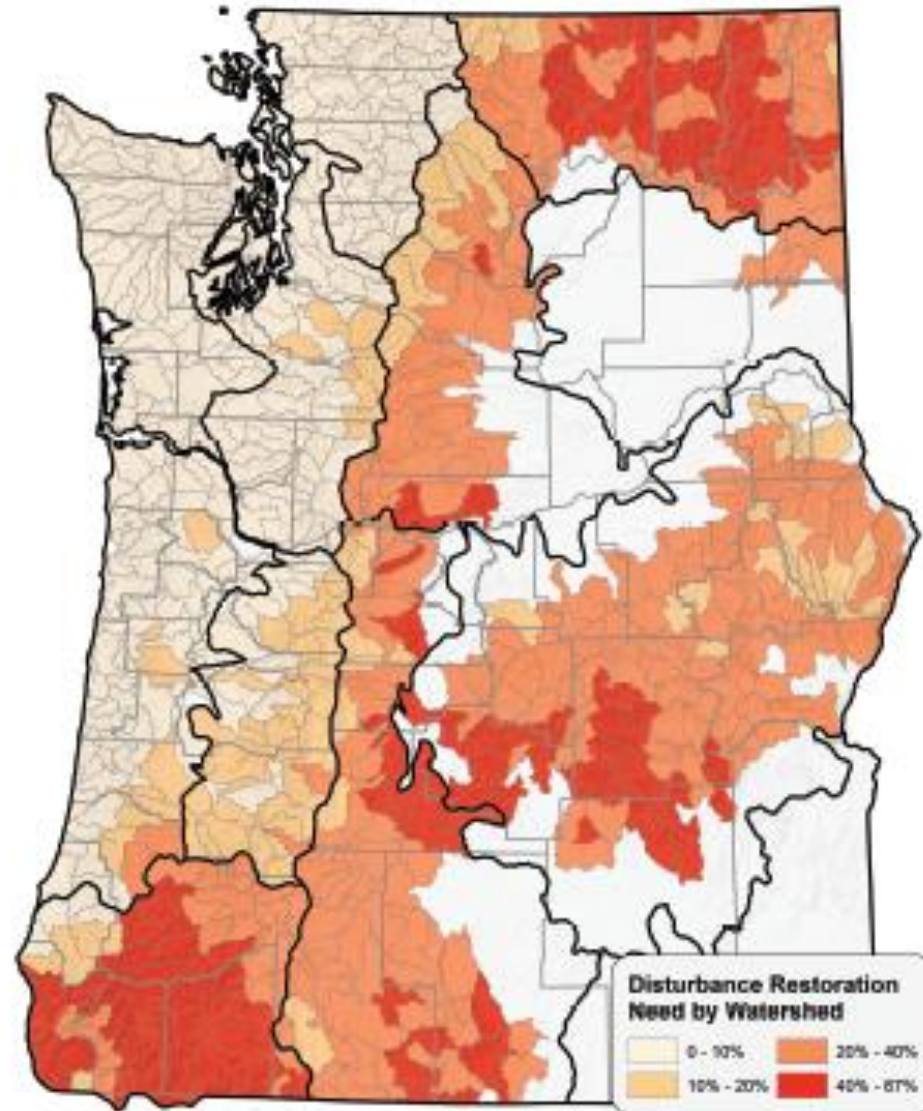
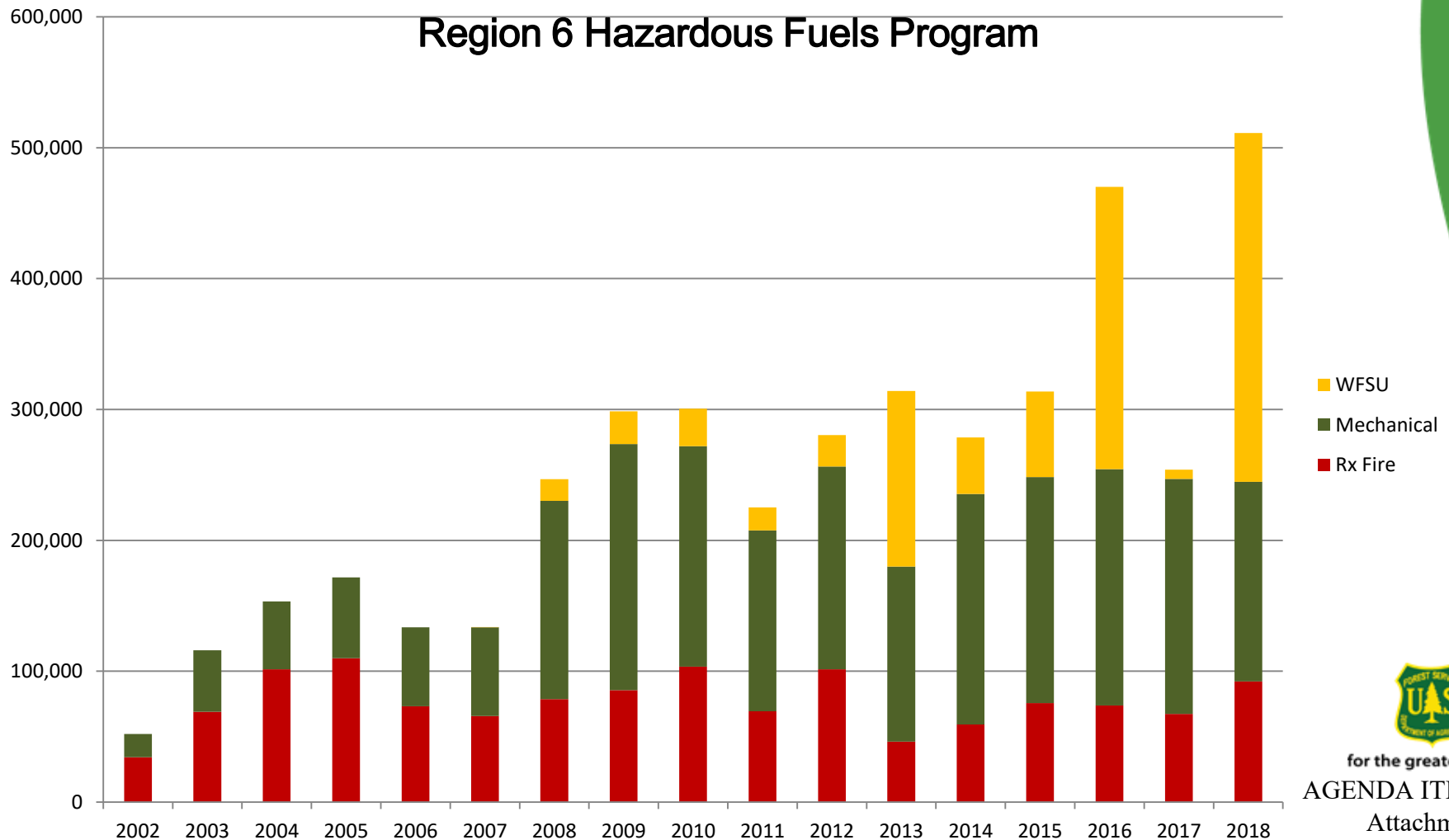


Figure 3. Disturbance restoration needs (disturbance only plus disturbance then succession) in forested areas of the Pacific Northwest.

USFS Fuels Accomplishments in the PNW 2002-2018



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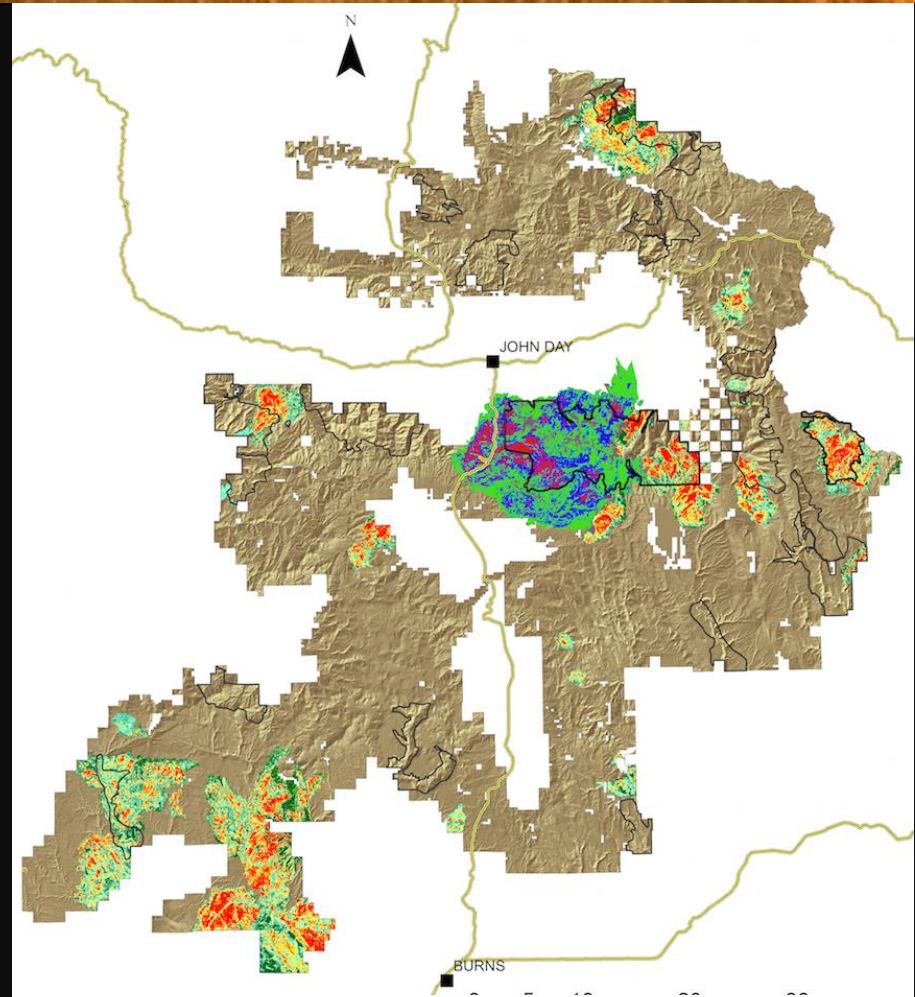
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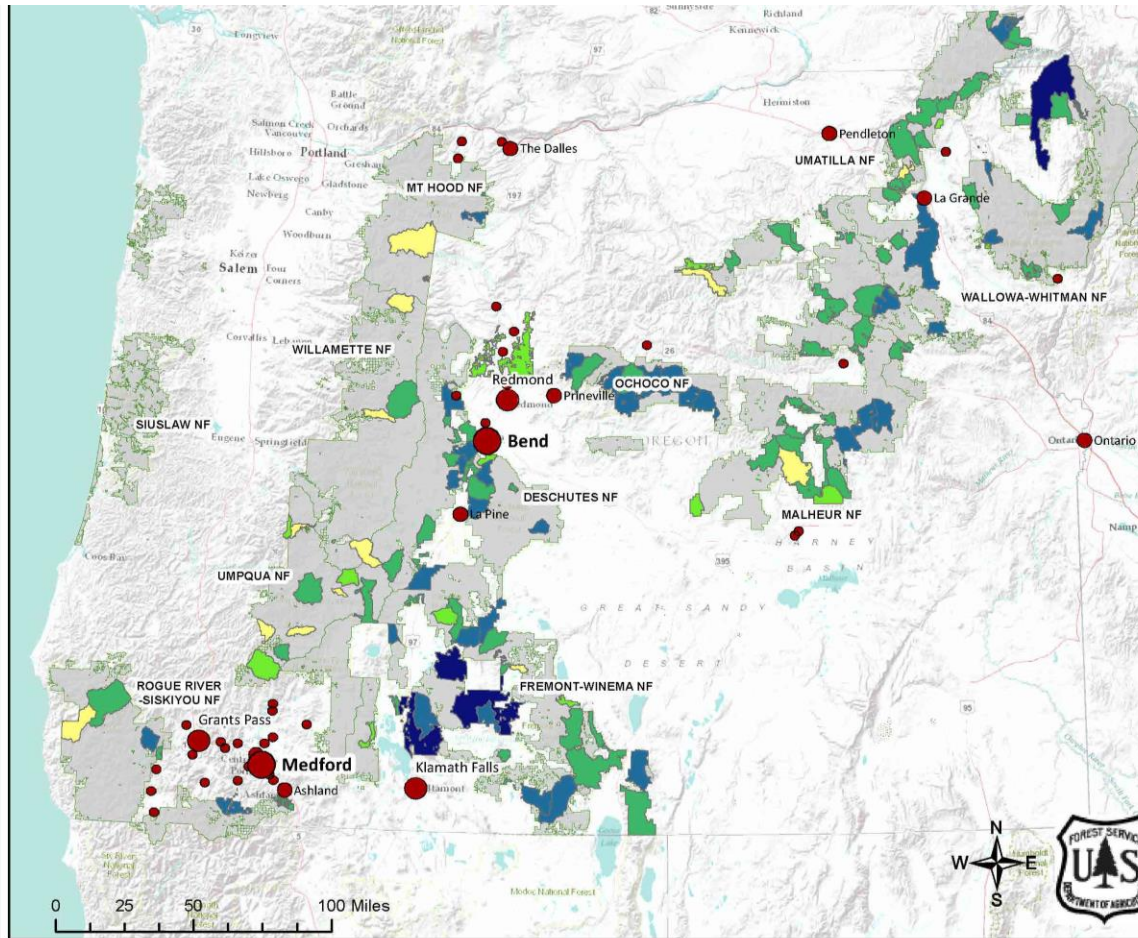
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Are we treating enough?

- Current research on the Malheur shows a fire return interval of 12-28 years, even in moist mixed conifer stands
- Dry forest types account for approximately 1 million acres on the Malheur and have been on the frequent end of this range.
- Freely extrapolating, this translates to treating 83,000 acres per year in dry forest types alone to approximate HRV.



Are we treating where we need to?



Legend

OR Top 50 Communities At Risk

of Exposed Housing Units

- >0 - 5,000
- 5,000 - 10,000
- 10,000 - 25,000
- 25,000 - 50,000

National Forests in Oregon

US Forest Service Planned Fuels Projects

Acres of Shelf Stock

- <500
- 500-1,000
- 1,000-10,000
- 10,000-50,000
- 50,000-135,000

National Forest	Planned Prescribed Fire	Planned Mechanical Fuels Reduction	Total Shelf Stock
Deschutes	121,738	141,448	263,186
Fremont-Winema	535,349	113,201	648,550
Malheur	154,700	175,172	329,872
Mt. Hood	4,800	14,000	18,800
Ochoco	176,086	166,955	343,041
Rogue River - Siskiyou	68,465	38,447	106,912
Siuslaw		12,368	12,368
Umatilla	156,063	26,632	182,695
Umpqua	2,000	5,500	7,500
Wallowa-Whitman	157,000	72,000	229,000
Willamette	4,997	13,443	18,440
Columbia River Gorge NSA	14,000	12,000	26,000
TOTAL	1,395,198	791,166	2,186,364



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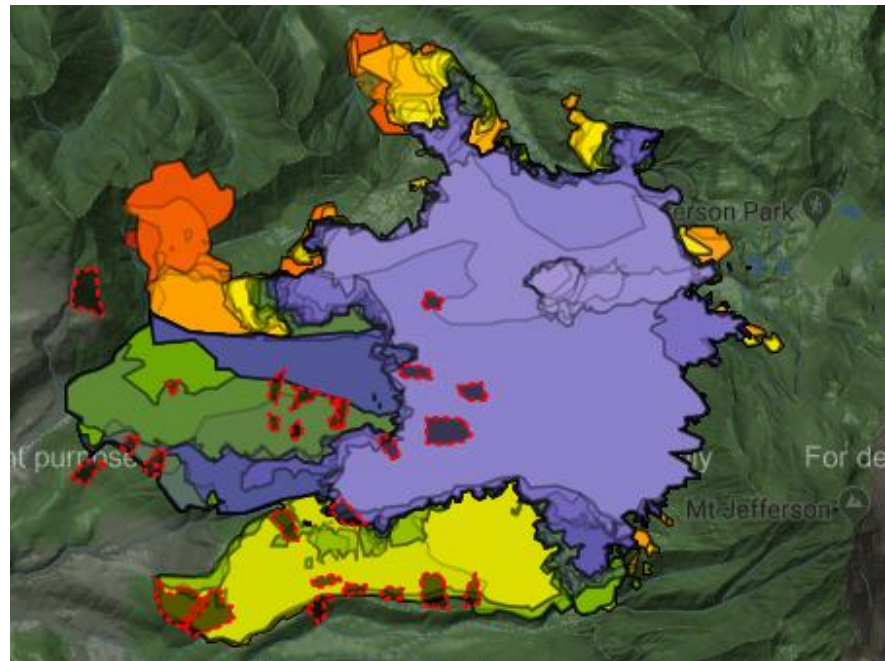
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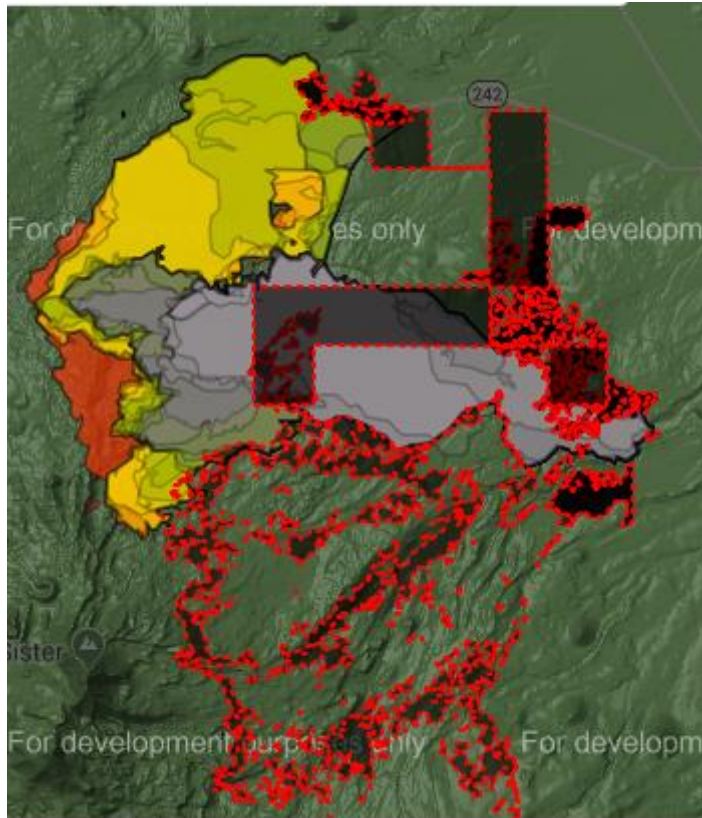
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Are we treating where we need to?

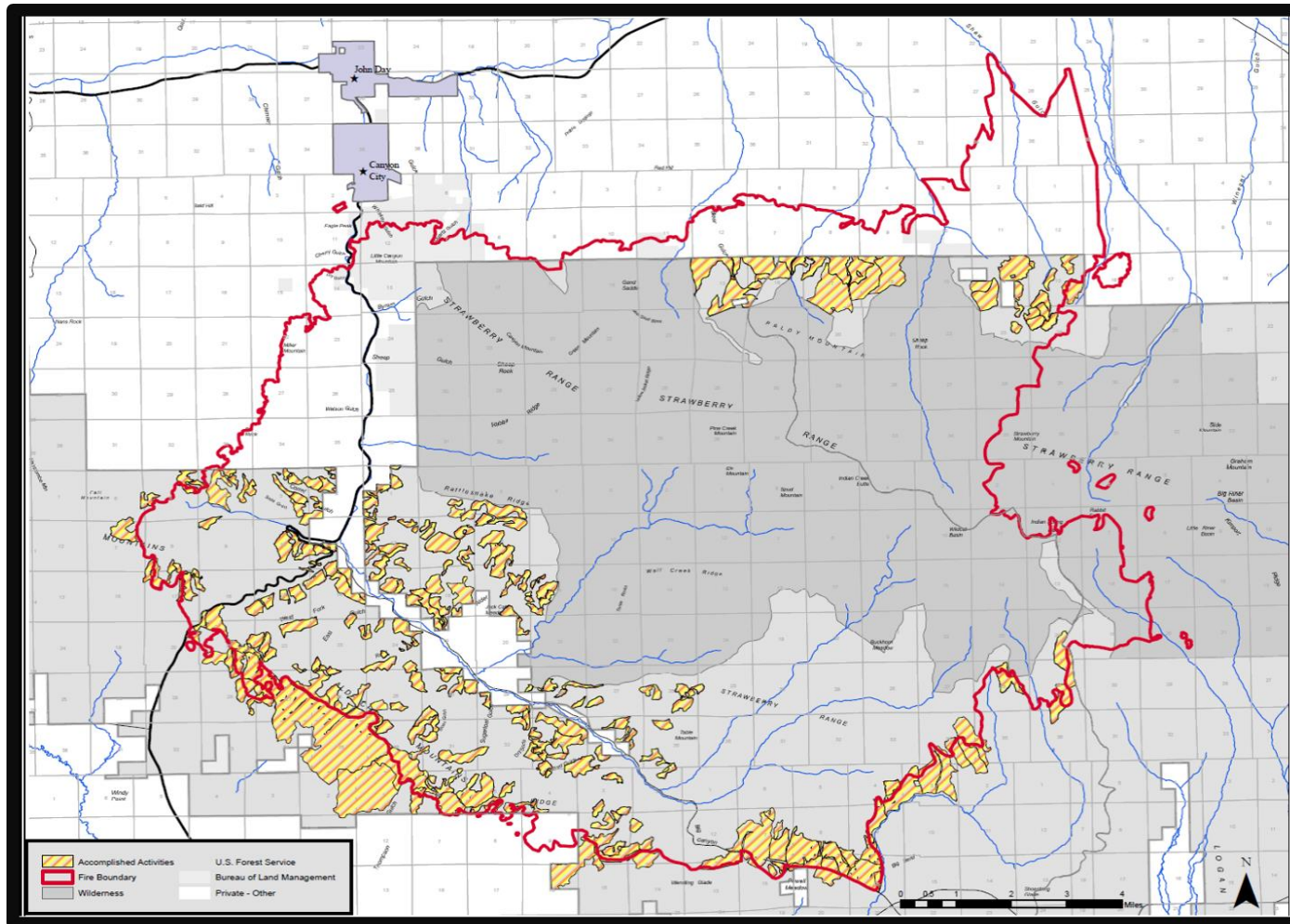
Whitewater Fire, 2017
Willamette



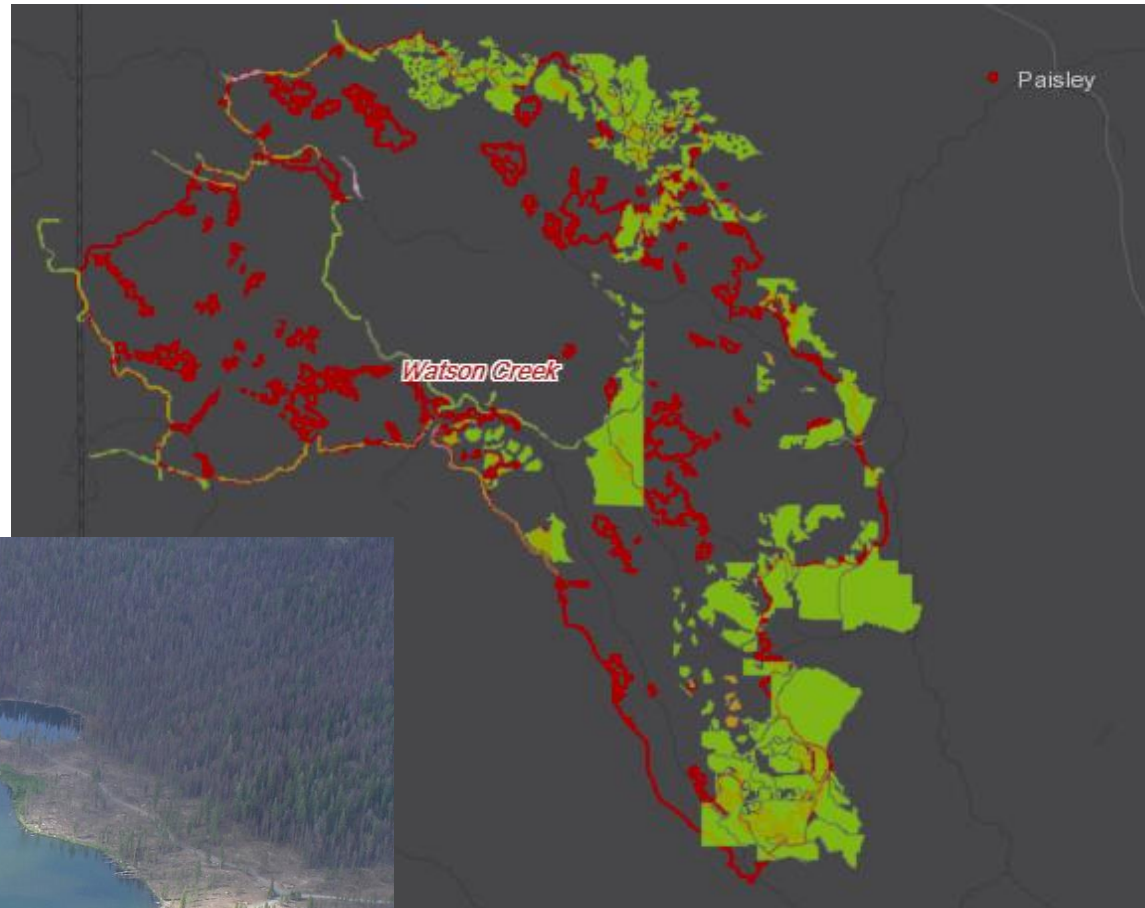
Milli Fire, 2017
Deschutes



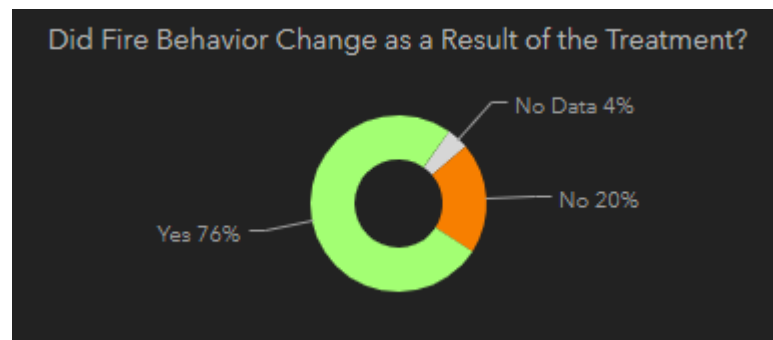
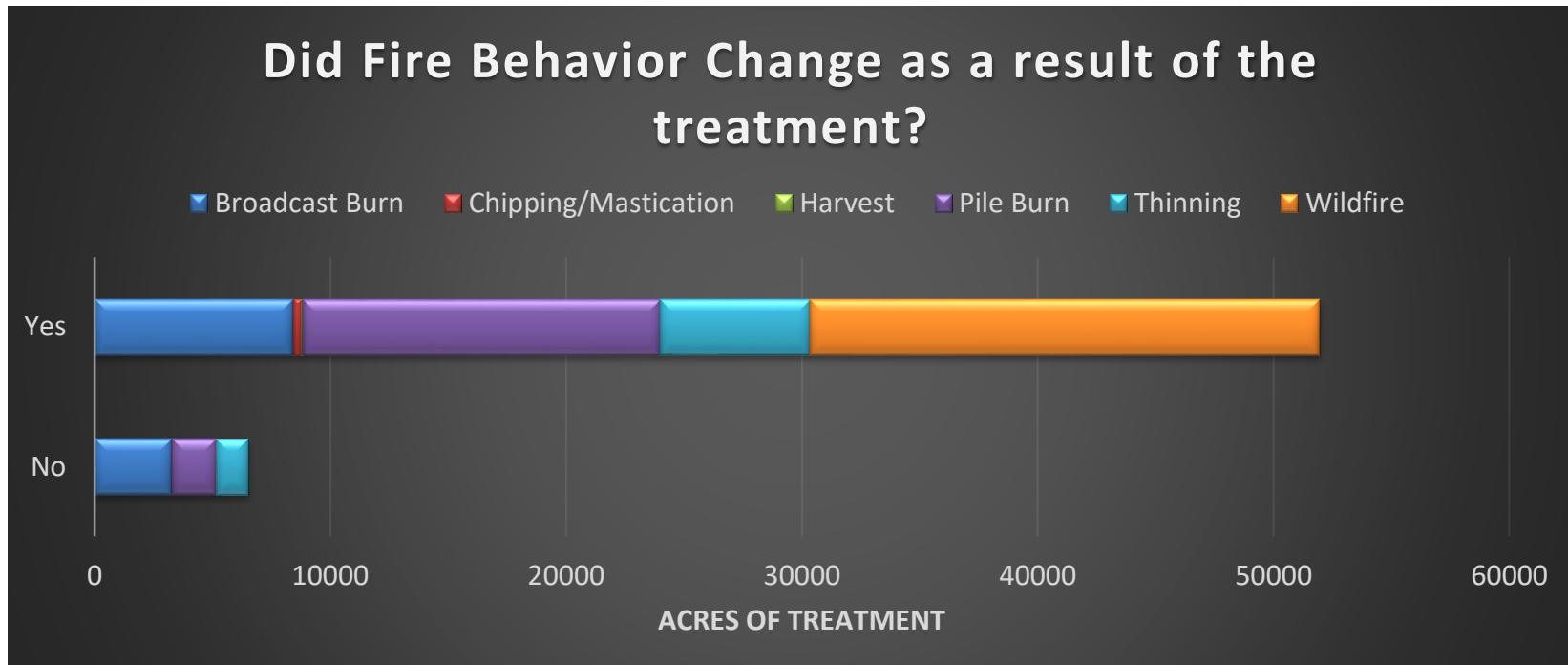
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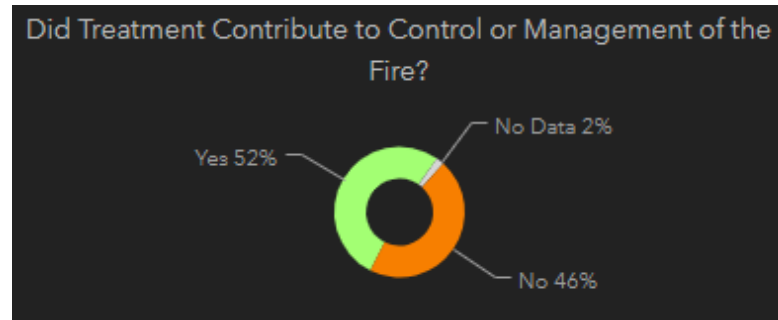
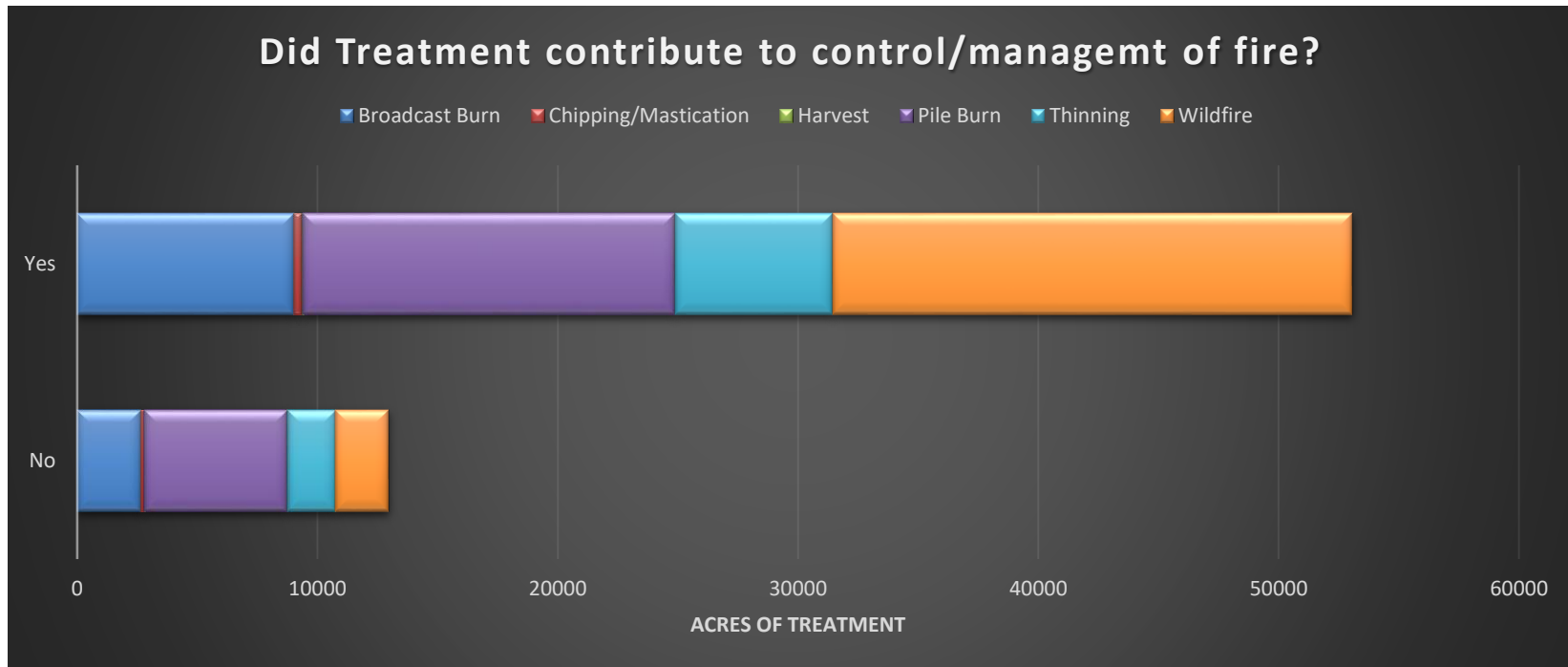
Watson Creek Fire



2018 PNW Fuels Treatment Effectiveness Assessments



2018 PNW Fuels Treatment Effectiveness Assessments



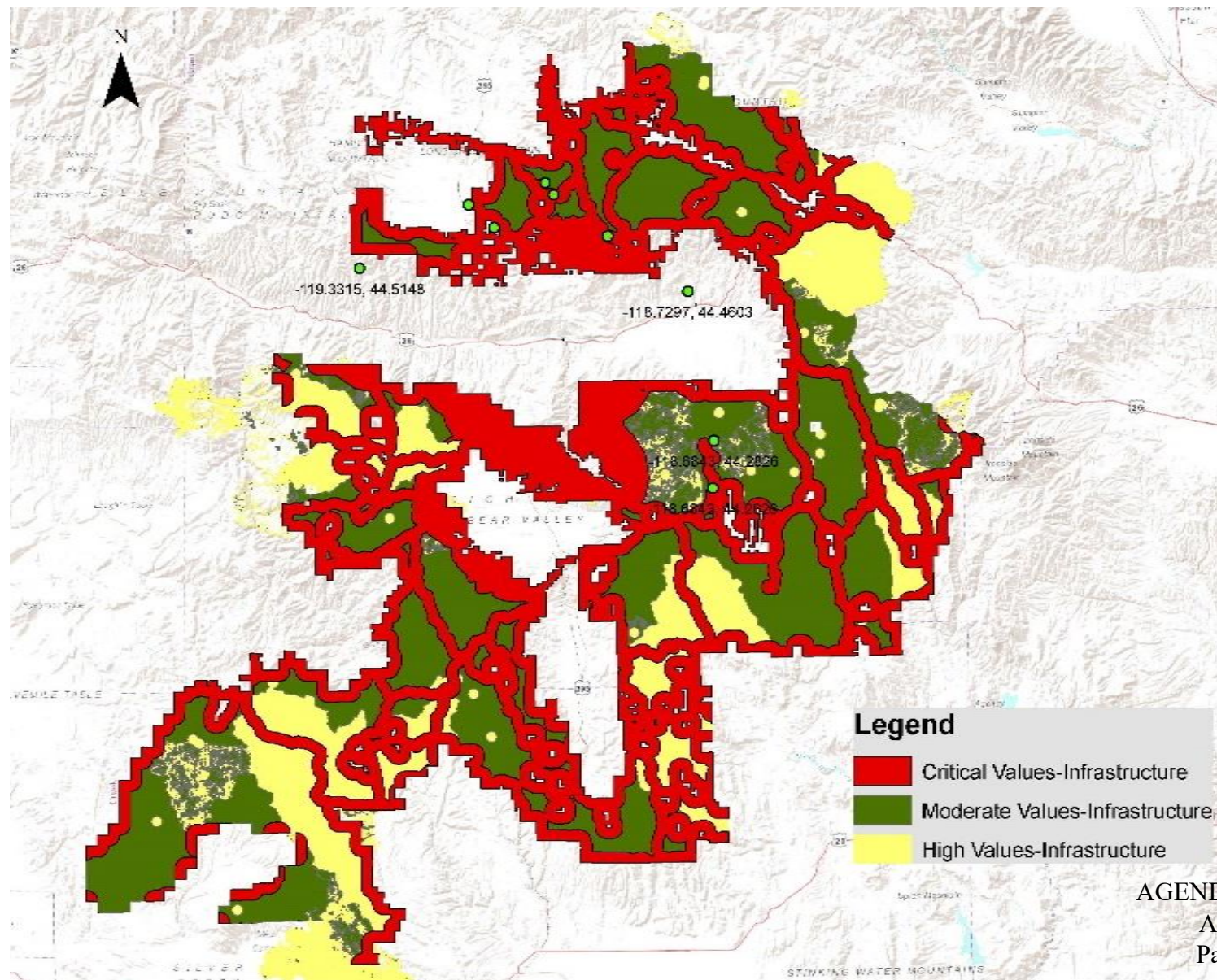
How Can We Improve Future Treatments?

Review Findings

Fuel Treatment Effectiveness Review of the Canyon Creek Complex

- Shift from small, disconnected units to larger, contiguous units
- Interrupt fuel continuity where the objective is to be a barrier to fire spread
- Plan for Shifting Weather/Clim
- Treat across jurisdictional boundaries
- Question Conventional Wisdom
 - Can we treat on steeper slopes?
 - Can treatment in riparian and wildlife corridors improve their ability to withstand or recover after fire?
 - Consider a Forest-wide risk assessment

Defining Decision Space





- <https://sites.google.com/a/firenet.gov/soro-fuels/links>
- <http://bit.ly/R6FTEM2018>