

Dry Forests of the Umatilla NF



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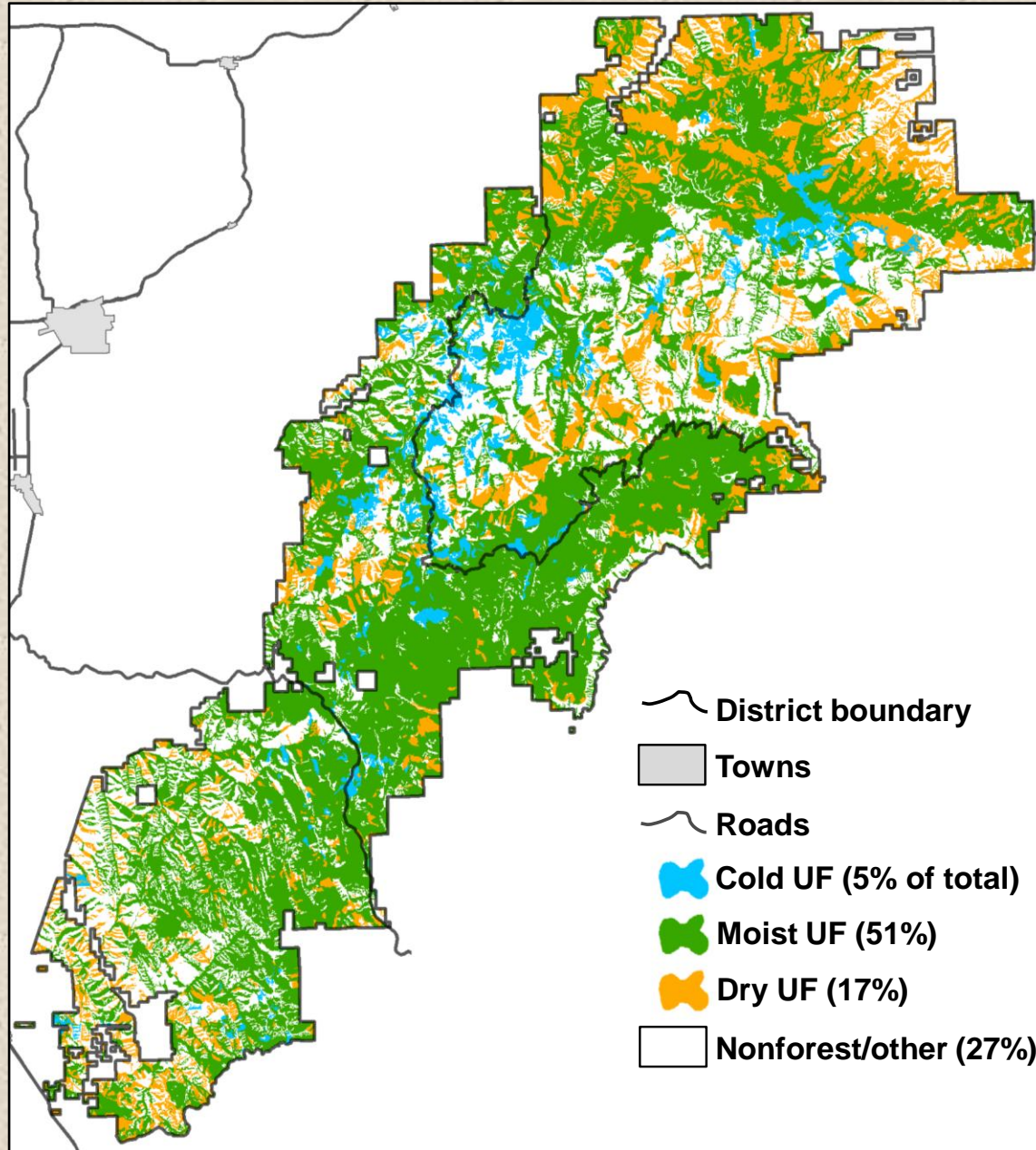
Topics

- How much dry forest on the Umatilla?
- Major factors influencing dry forests

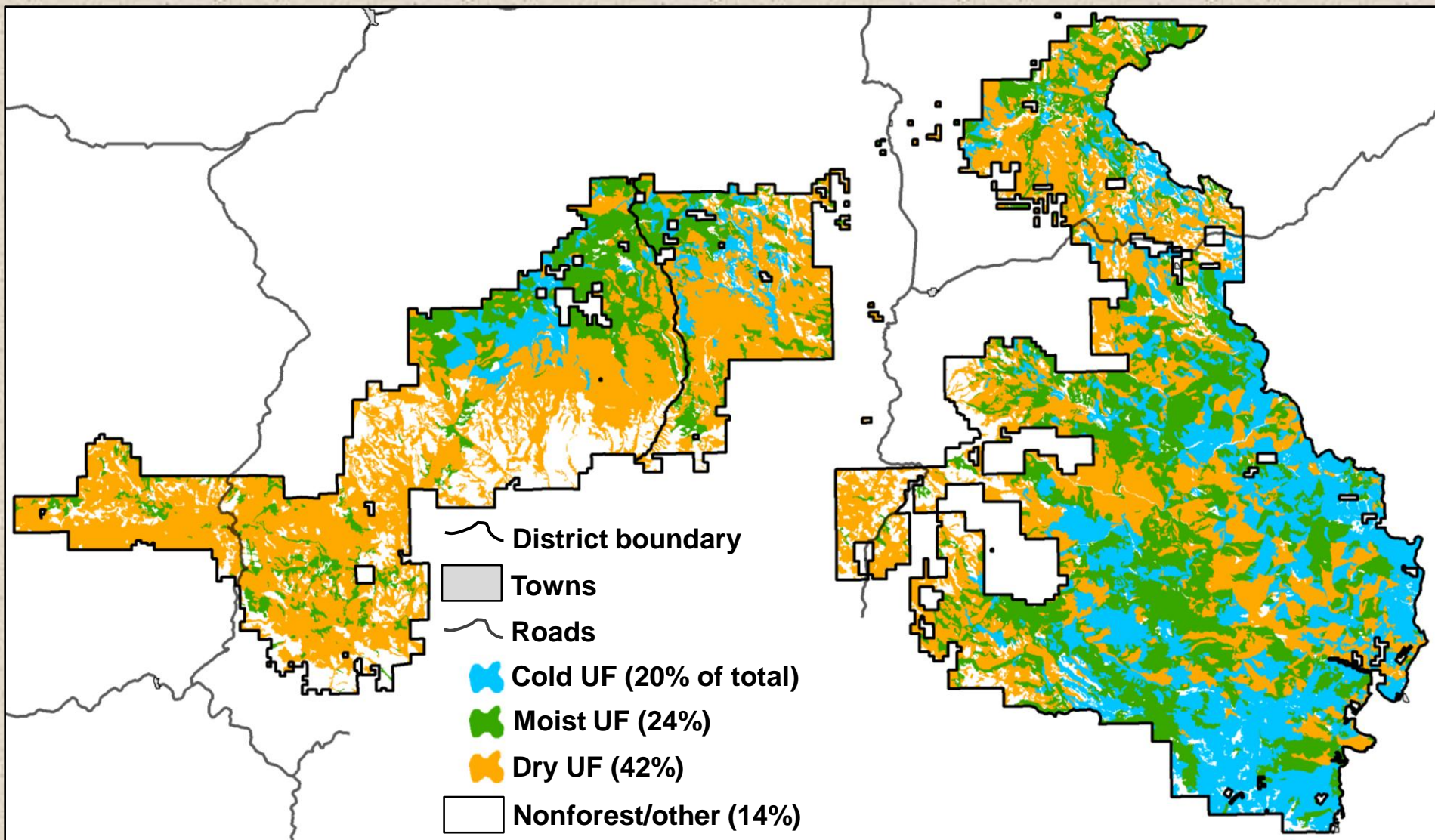


Dry Forest Fuels Treatment

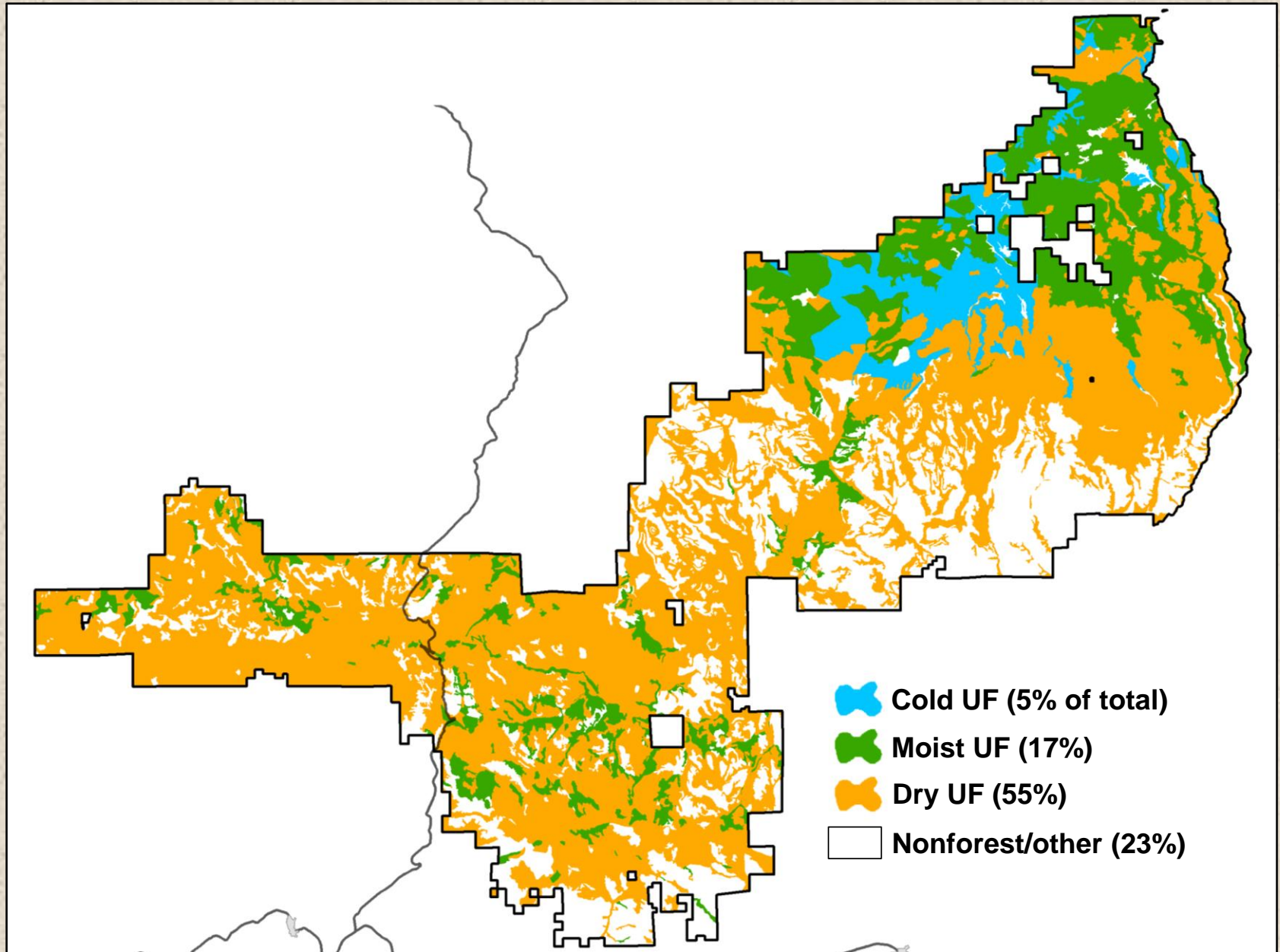
Potential vegetation groups for north-end districts



Potential vegetation groups for south-end districts



Potential vegetation groups for Heppner district



Major factors influencing dry forests are described in this white paper (available on collaborative website)

WHITE PAPER



USDA Forest Service

Pacific Northwest Region

Umatilla National Forest

White Paper F14-SO-WP-Silv-4

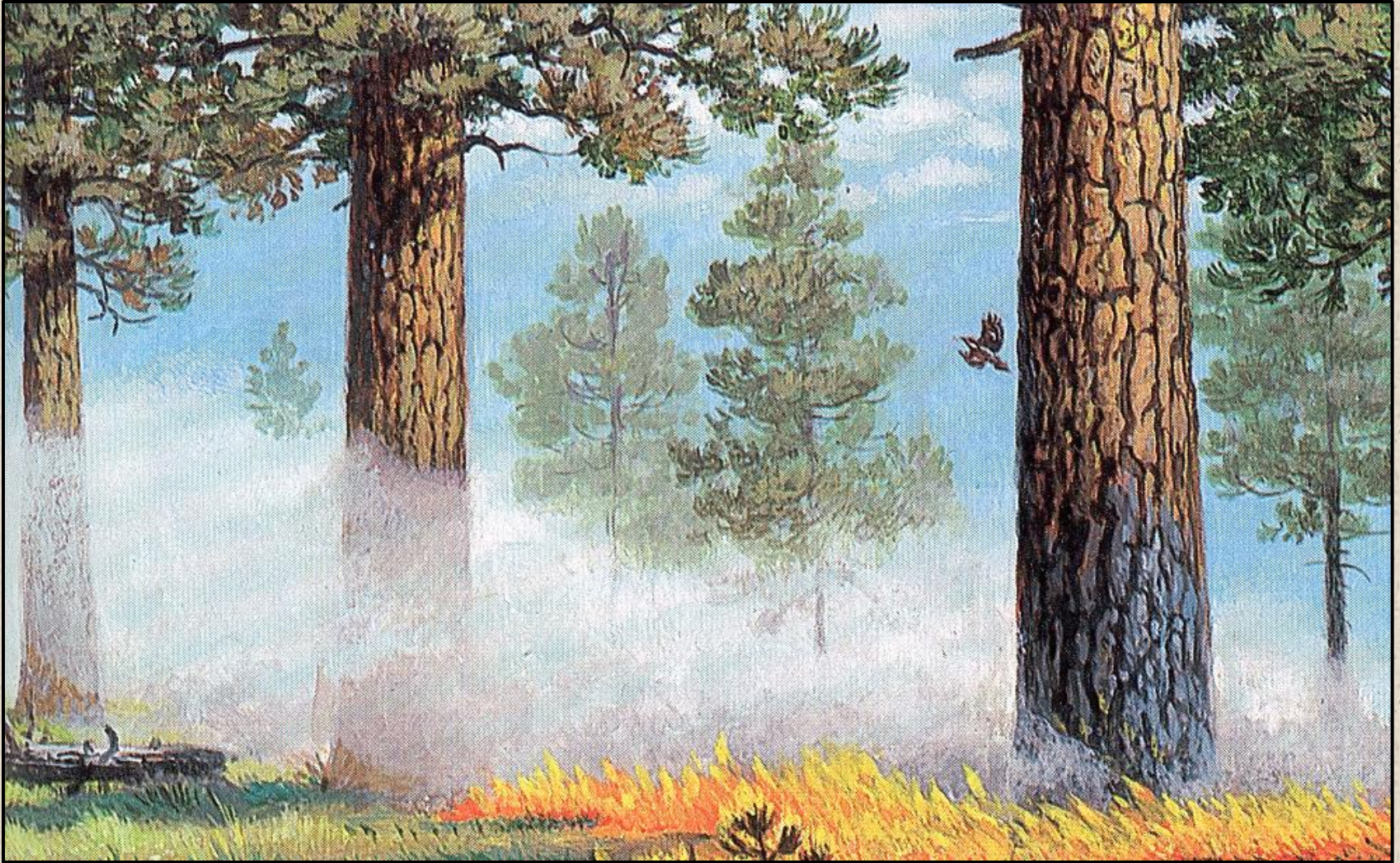
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Active Management of Dry Forests in the Blue Mountains: Silvicultural Considerations

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**Primary disturbance process shaping dry forests
was surface fire, occurring every 5-20 years**



Frequent, low-severity fire created this open structure called park-like ponderosa pine





The natural structure of dry forests was clumps or groups of pine trees embedded in a sea of grass and forbs (like the last slide). This view shows that clumps often remain, but are now surrounded by a dense ingrowth of other tree species.

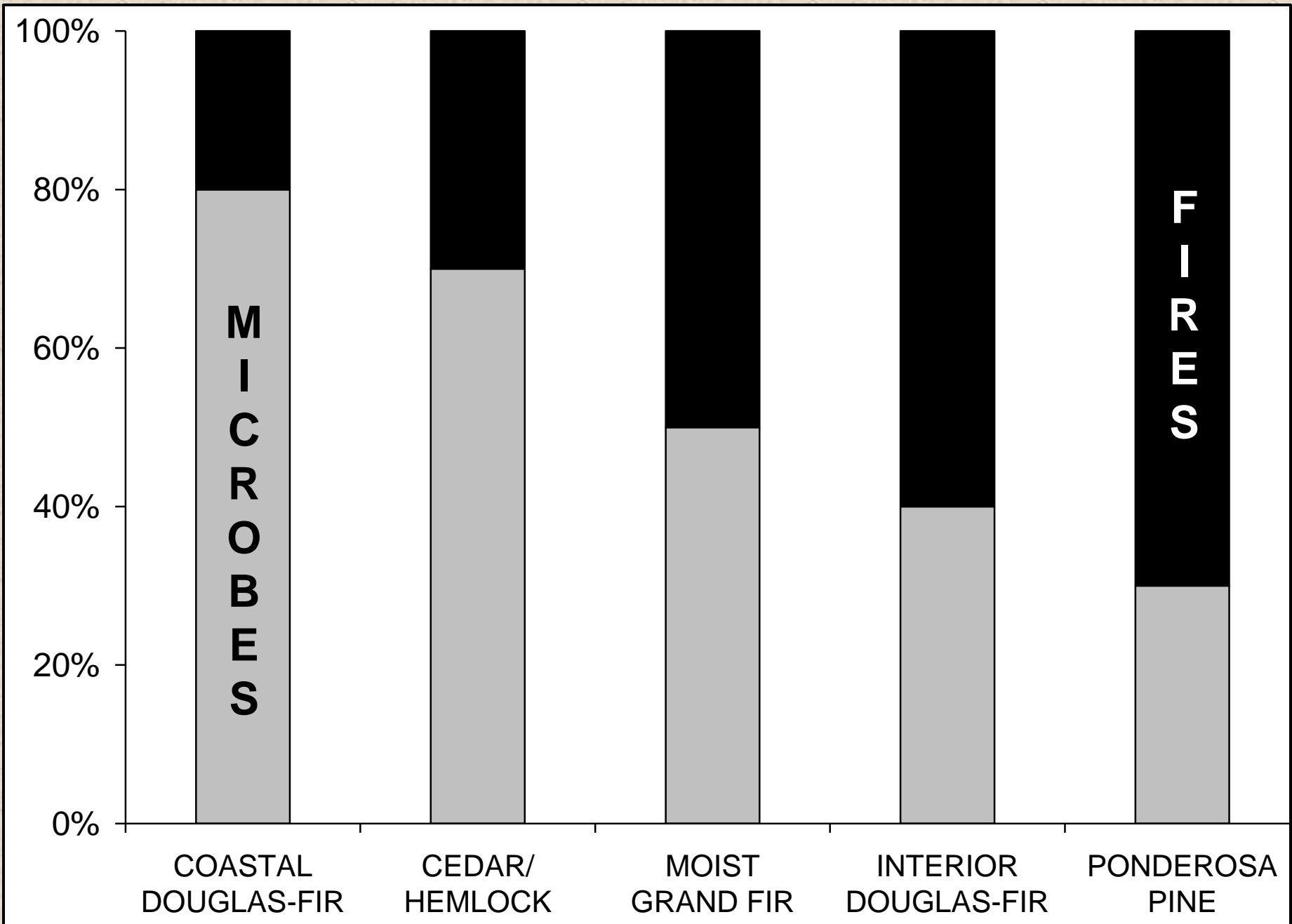
As the Blue Mountains were settled, light surface fires were suppressed; here an early ranger uses wet burlap to beat out a fire (Wallowa NF).





Surface fires were low-severity – they did not kill large trees. But large trees were wounded, causing these ‘cat faces’ at their base. Basal fire scars can be interpreted to determine the fire history of an area.

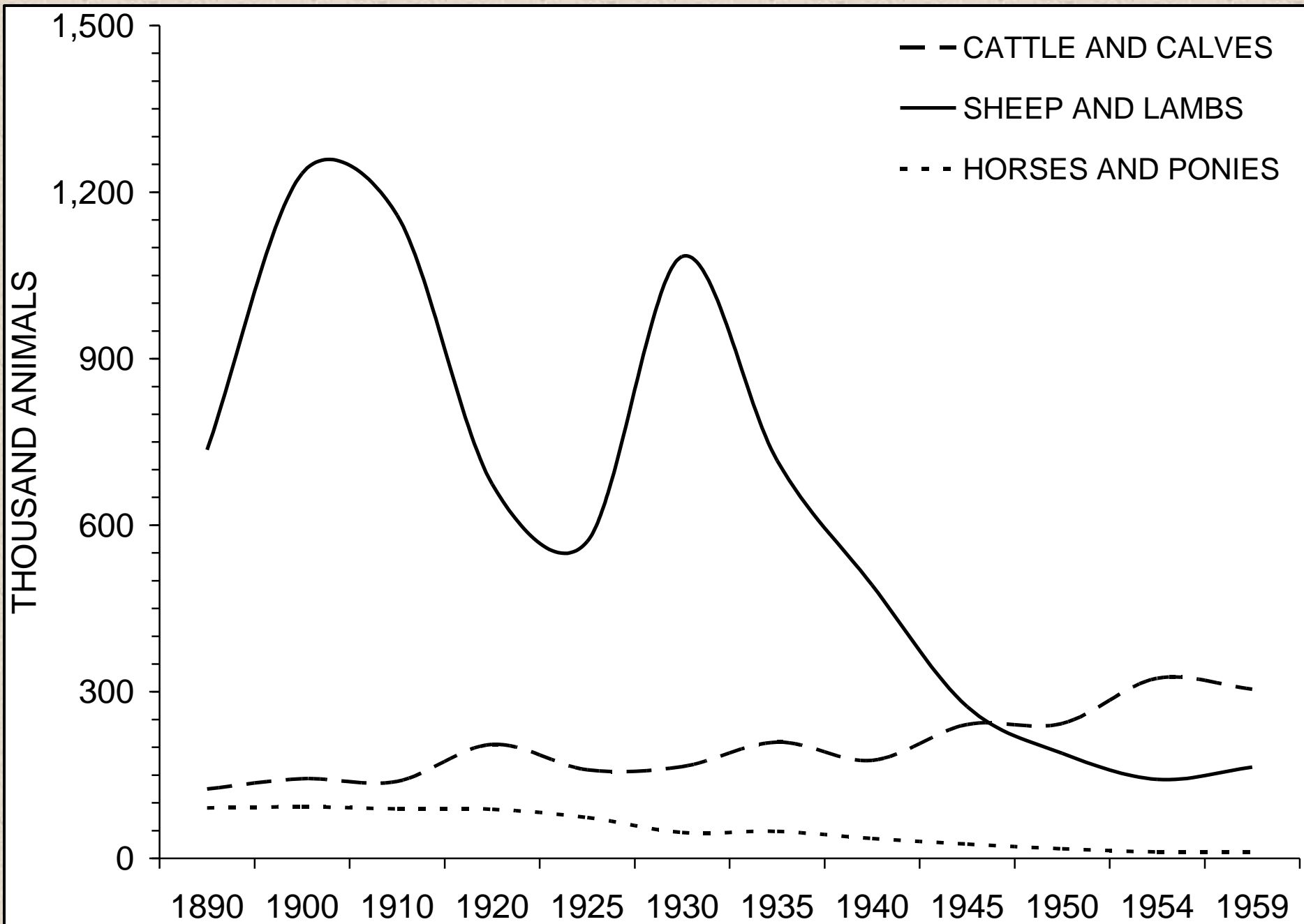
Fires also reduced surface fuels and cycled nutrients



2nd major influence affecting dry forest – grazing

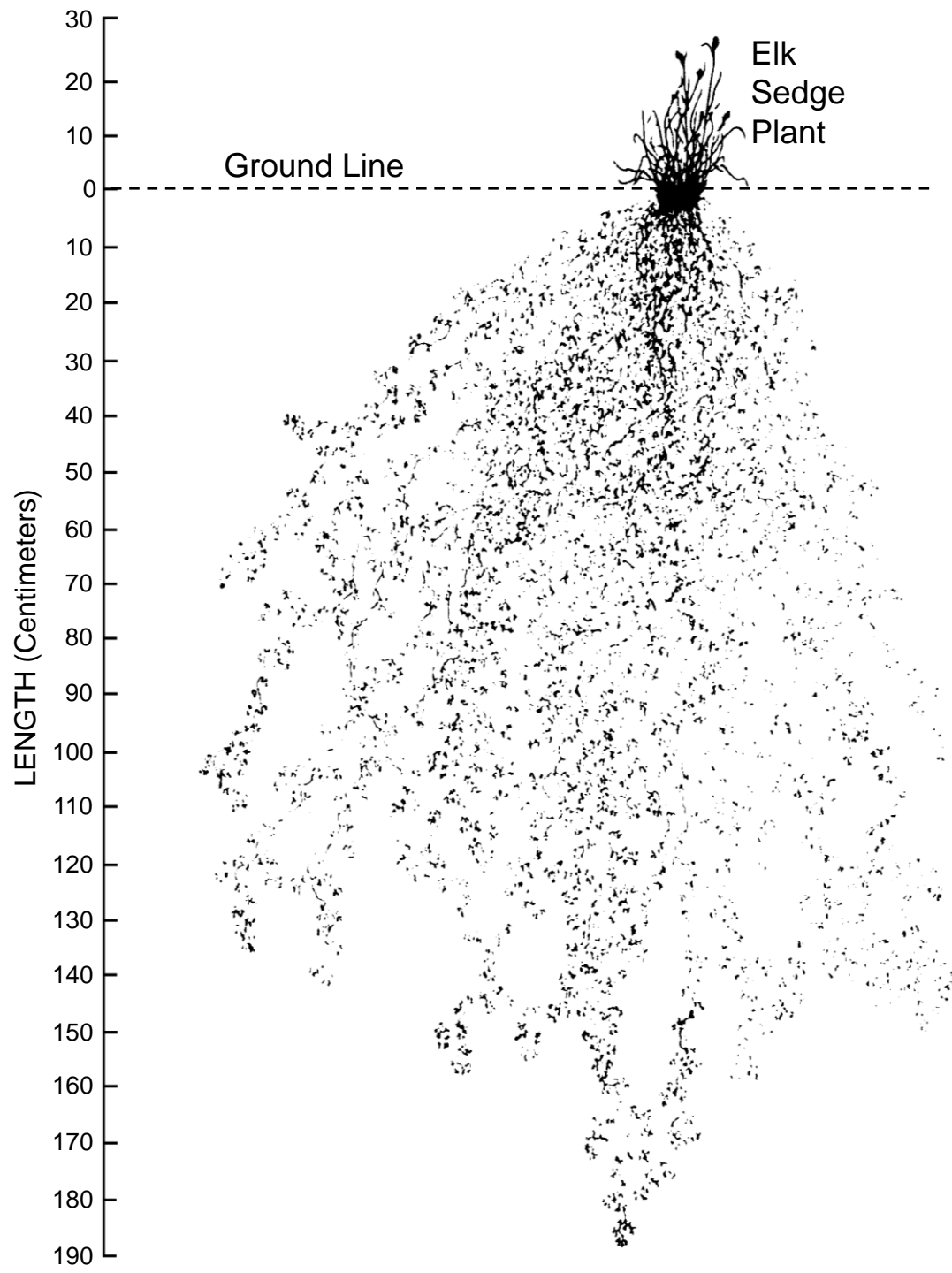


Sheep grazing was huge in early 1900s



Each spring, sheep and other livestock were driven to mountain pasture along driveways; an obvious difference in vegetation condition on driveway side!





Dry-forest plants like this elk sedge have enormous root systems to forage widely for soil moisture; these root systems also held tree seedling numbers in check.

3rd major influence affecting dry forests – selective timber harvest

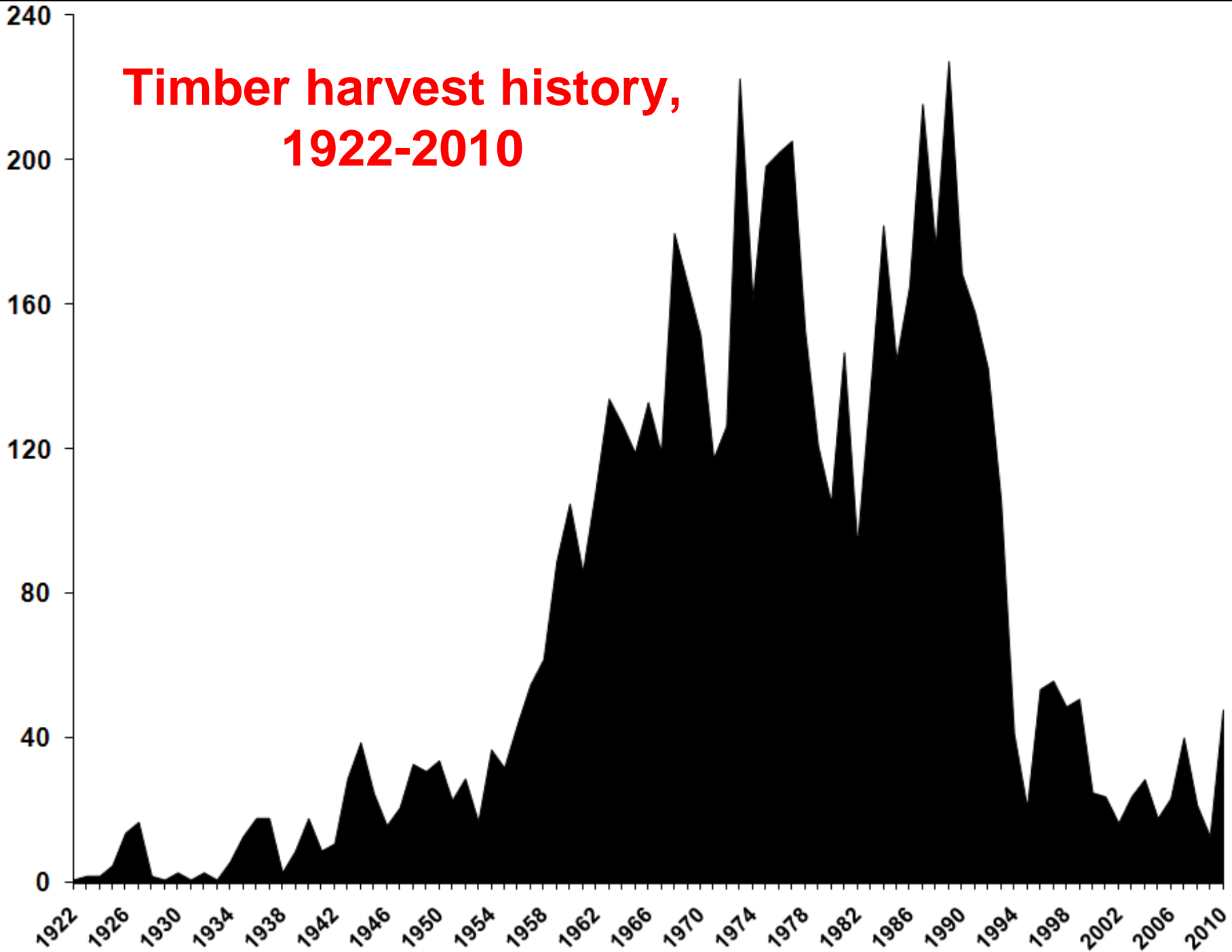




When selective harvest removed the large, old pines, the small Douglas-firs and grand firs were left behind. Non-pine species were favored by fire suppression and livestock grazing. After harvest, pine regeneration did not get established, so these sites were ‘converted’ from ponderosa pine to mixed conifers.

Timber harvest history, 1922-2010

HARVEST VOLUME (MILLION BOARD FEET)

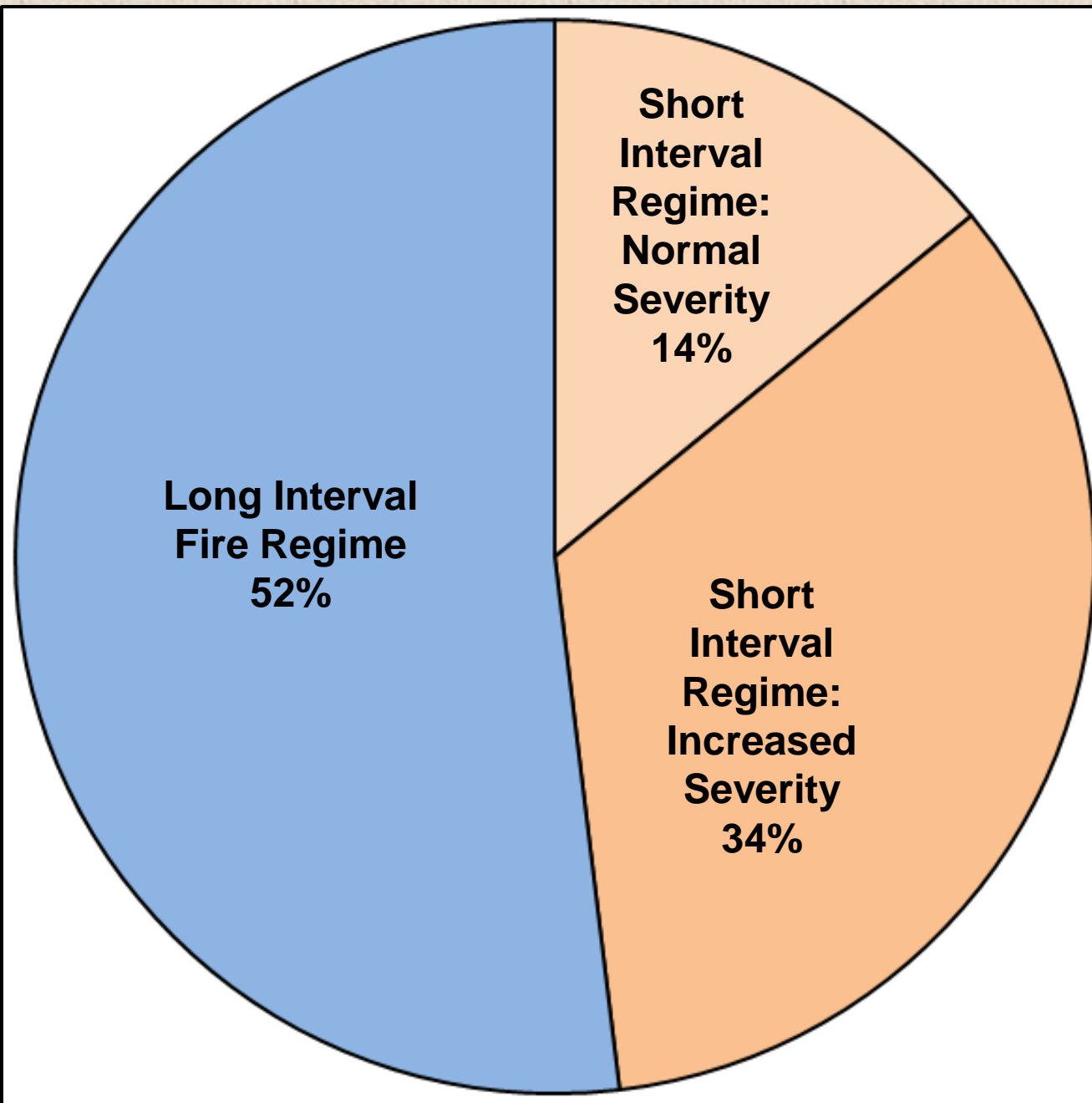


As a result of these influences (fire suppression, grazing, selective harvest), dry forests are now susceptible to crown fire instead of surface fire



This is the aftermath of crown fire on dry forest sites – the 1996 Wheeler Point fire at Heppner





How bad is the problem? Of 47 million acres of federal land in the PNW, about 48% had short-interval fire regimes. 70% of this short-interval regime acreage now has high fire risk due to changes caused by fire exclusion, grazing, and selective harvest.