

Chapter Three

SOUTHWEST OREGON FORESTS UNIQUE AND CHALLENGING

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Southwestern Oregon forests exhibit extraordinary species diversity, ranking amongst the most diverse of all northern temperate forests. All northwestern plant formations dominated by trees occur in this area. The climate of southwestern Oregon is cool and wet in the winter and among the hottest and driest in the western Cascades in the summer. Because of this relatively dry climate and historically frequent fire events, the plant communities of southwestern Oregon tend to be found in smaller assemblages than in wetter environments found elsewhere in the northwest. This is partly due to the fact that resources, such as nutrients and growing season, are often limited, leading to abrupt environmental gradients. Slight variations in aspect and elevation can improve growing conditions sufficiently to influence which vegetative community will persist. This is also true at higher elevations where abrupt shifts in tree species composition are frequently observed. As a result of these and other factors, the forests in southwestern Oregon tend to exhibit great variability and exist in patches, varying in size and species composition. Managing such diverse forest landscapes is complex and presents a whole host of challenges both ecologically and administratively.

CURRENT SITUATION

In recent years, forests throughout the southwestern region of Oregon have been observed to be under extreme environmental stress. This stress is due in part to unnaturally high tree densities as a result of fire exclusion. Although forests of all ages are exhibiting symptoms of stress, mortality has been most prevalent in older forests among large trees. Exacerbated by extended periods of low precipitation, many forests have lost and are continuing to lose a relatively high proportion of the older trees to density-induced mortality. This is cause for concern given that, in part, the Bureau of Land Management's goal and mission is to restore and promote healthy forest ecosystems and habitats that include large trees.

Fire suppression efforts have clearly been effective in southwestern Oregon. Since 1920, over 5,265 lightning ignited wildfires have been extinguished by suppression personnel on lands administered by the Medford District BLM and

the surrounding National Forests. The average size of these fires reached only about 15 acres, and less than 6% attained a size greater 1000 acres. It is presumed that historically, fires like these would have continued to burn across the landscape, perhaps throughout the entire dry season (June-October) until extinguished by fall precipitation. Even during summer thunderstorms, it is likely that parts of the landscape would escape precipitation allowing for continued burning across a large region.

Prior to fire exclusion and in the absence of influences such as roads, farmland and European settlement, fires likely meandered throughout the forests year after year, modifying the forest vegetation and structure with every pass. In time, only ecological processes and species able to persist in the presence of frequent fire prospered, creating forest ecosystems that were not only adapted to frequent fire but dependant upon it. In the absence of frequent fire, ponderosa pine trees that thrived in fire prone environments became out competed by more shade tolerant species, most commonly Douglas-fir. As a result, ponderosa and sugar pine trees, which are ecologically important for their contribution to the region's biological diversity and habitats, are rapidly declining in abundance throughout southwestern Oregon, creating landscapes of more homogenous and fire susceptible Douglas-fir. In addition, in the absence of frequent fire, organic material has been accumulating on the forest floor at unprecedented levels, creating the potential for fires of greater and uncharacteristic intensity. High intensity fires are much more likely to reduce seed bank propagules, diminish soil structure, and cause extensive tree mortality and loss of habitat.

Both young and old forests throughout southwestern Oregon are becoming increasingly at risk of encountering fires of greater intensity. Even in old-growth stands, fire exclusion has facilitated an increase in under story vegetation, creating ladder fuels, and increasing the potential for canopy damage and stand mortality in the event of a fire.

The basic principle of forest ecosystem restoration is to identify the natural processes that historically sustained forest productivity, and then manage the existing resources utilizing an understanding of the these processes. Therefore, silvicultural techniques including harvesting, thinning and prescribed burning must be utilized across the landscape to restore or partially mimic the historic role that fire once played.

The Medford District BLM recognizes the pressing need for forest management and is working to restore these fire dependent ecosystems. The BLM has undertaken an aggressive effort, utilizing techniques such as thinning, ponderosa pine release and planting, old-growth restoration, under story fuels reduction, prescribed burning, oak woodland and scrubland restoration, and many others. It is hoped that with community support and further agency commitment, shared goals of healthy, restored and fire dependent forests can be achieved.

