

**Jakabe Restoration Project
Fremont-Winema National Forests
Paisley Ranger District
Lake County, Oregon**

Forest Plan Amendment #27

This non-significant, site-specific amendment to the Fremont National Forest Land and Resource Management Plan (Forest Plan) authorizes reduction of cover and habitat effectiveness across the Chewaucan Watershed below Forest Plan standards and guidelines. This would modify the standards and guidelines for Mule Deer Summer, Transition, and Winter Ranges, as described on pages 109 and 132 of the Forest Plan. This amendment applies only to the area covered by the Jakabe Restoration Project EA and to projects associated with the decision(s) for that project.

Emphasis – This amendment is a site specific reduction in cover to meet the purpose and need of maintenance and/or improvement of watershed health as recommended in the Chewaucan Watershed Analysis and the Jakabe Restoration Project Analysis. Implementation of Alternative 3 of the Jakabe Analysis would reduce the risks affecting ecosystem sustainability through vegetation manipulation, restore healthy and sustainable watershed conditions with desired vegetation type and stocking levels, reduce the risk of catastrophic fire with decreased fuel loads, and protect and improve aquatic and terrestrial habitat with increased riparian vegetation, ecologically stable upland vegetation, and road management

Goal – The goal is to reduce current risk factors in this watershed, which are high enough that further rapid changes in stand structure, associated with the effects of insects, disease and/or fire, have a high likelihood of occurring in the foreseeable future. Stand replacement changes could reduce cover much below that identified with this action.

Discussion – This Forest Plan amendment will allow activities to take place that will reduce the risk of a major loss of deer cover and habitat effectiveness, while retaining a less-than-ideal amount of associated habitat attributes. Currently cover is at 27% across the watershed while Forest Plan standards and guidelines list 30% as optimal cover in summer and transition range and 40-60% in winter range. The current cover percentage is attributed to the Chewaucan River Subwatershed, which at 13% cover is the only subshed currently below standards and guidelines. Large areas of this subshed are cover deficient, due to natural meadows and sagebrush fields, especially on the east side of the Chewaucan River. Outside of these naturally cover-deficit areas, the dense stand conditions required to make up for them and meet current Forest Plan Standards and Guidelines are currently insufficient and not sustainable at the current level. With the current potential for major habitat changes due to insects, disease and fire, these habitat parameters could decline well below the levels allowed by this amendment. Retaining small cover clumps within the harvest units would help mitigate the loss of cover in some areas. In areas where road densities are low, mule deer may find greater security and may continue to utilize areas where cover is lacking. In areas where road densities remain high, mule deer use may decline. Implementing this amendment will allow cover across the watershed to drop as low as 14% and habitat effectiveness to as low as 7%. Effects of this amendment and details of the anticipated changes are displayed in Chapter 3 of the Environmental Assessment.

Prescriptions –

Late and old structure (LOS): The objectives for these stands are:

- Create a fuels arrangement that will meet safe burning conditions,
- Create a stocking level that will maintain and develop desirable structure and tree species diversity,
- Create a diversity of stand structure across the landscape that is sustainable.

Treatments would be implemented in ponderosa pine, ponderosa pine/white fir/lodgepole pine/other species, and lodgepole pine stands that currently exhibit late or old structure and have evolved under a fire dependant ecosystem (currently have a component of ponderosa pine overstory, sometimes in addition to white fir or lodgepole pine). The LOS stand is maintained by sufficient removal of the lower and middle layers to restore the pre-fire suppression process and function of fire's role. The majority of stems removed would be below 15" diameter-at-breast-height (dbh), but there may be individual trees removed up to 20" dbh. Depending on stand structure, 10-200 trees per acre greater than 9" dbh may be removed, with an additional component removed from the 4"- 9" dbh and less than 4" dbh classes. This stocking level will be determined for individual sites but generally will leave between 15-40 trees per acre, canopy closure between 15-35%, and basal area between 20-60 square feet per acre. The objective is to provide a single stratum, sustainable LOS structure where fire can safely be reintroduced. This objective favors retention of ponderosa pine and removal of white fir and lodgepole pine. Lower density stands will be left when the ponderosa pine component is inadequate to meet leave tree objectives. Trees less than 21" dbh, in excess of this leave stand prescription, will be removed. Leave tree arrangement would include an objective of "non-uniformity" in which the resultant stands exhibits and uneven distribution. This would be achieved by using groupings of leave trees. There would be an average of 2 groupings per acre.

Ponderosa pine will be restored in pockets (gaps) where ponderosa pine is no longer present. This prescription would be implemented in pockets mainly in LOS mixed conifer aggregations. Some gaps may be created in mid-seral, mixed conifer stands. Within LOS stands, the intent would be to remove white fir and lodgepole pine seedlings/saplings/poles, which exist within the gaps of mature conifer stands. The gaps are already defined by the mature overstory and vary from 1 to 20 acres in size (average 5-10 acres). This would regenerate these areas by site preparation (either mechanical or fire) and planting of ponderosa pine. Most of the trees in these gaps would be removed. Existing desirable ponderosa and lodgepole pines would be retained and thinned with extreme care to protect and culture sugar pine and incense cedar where it exists, but most of the white fir would be removed.

Following commercial harvest, cutting of most trees less than 9" dbh will occur in preparation for underburning. Where mortality has reduced the large tree component, the smaller trees will be thinned, the fuels mechanically treated and the stand protected from prescribed fire. Where inadequate stocking remains, interplanting will occur after prescribed burning or mechanical fuels treatment.

Mid-seral thin in ponderosa pine: The objective is to provide the stand with the resources to develop into sustainable LOS stands and reduce the risk of extreme insect and wildfire disturbances.

Stocking control would be accomplished with a thin from below in stands where the overstory had been removed under a past operation that released a largely pine understory. In most cases, underburning could occur shortly after the thinning operation.

The majority of stems removed will be below 15" dbh, but individual trees up to 20" dbh may be removed in clumps of residual larger trees. This stocking level will be determined for individual sites but generally will leave between 30-70 trees per acre, canopy closure between 10 - 25%, and basal area between 20-40 square feet per acre.

Leave tree arrangement would include an objective of non-uniformity in which the resultant stand exhibits an uneven distribution. This would be achieved by using groupings of leave trees. Ponderosa pine dominated type will retain no more than 30 square feet per acre of basal area of the largest and most vigorous identified species.

Following commercial harvest, cutting of most trees less than 9" dbh will occur in preparation for underburning. Where mortality has reduced the large tree component, the smaller trees will be thinned, the fuels mechanically treated and the stand protected from prescribed fire. Where inadequate stocking remains, interplanting will occur after prescribed burning or mechanical fuels treatment.

c. Mid-seral mixed conifer stands: The objectives for these stands are;

- Create a fuels arrangement which will meet safe burning conditions,
- Create a stocking level which would maintain and develop desirable structure and tree species diversity,
- Create a diversity of stand structure across the landscape that is sustainable.

These stands are currently dominated by white fir or a white fir/lodgepole pine mix, with a minor or absent component of ponderosa pine. HRV for this community type was probably a ponderosa pine dominated type with a low intensity/frequent fire regime and a longer fire return interval than the lower elevation ponderosa pine. The stands would have included slightly more pockets of smaller trees and a component of lodgepole pine, white fir, and other species. In some stands, either past harvest or insect/disease mortality has removed most or all of the ponderosa pine in the stands. These are all high density, mature but multi-story stands. Varying levels of mortality are occurring in all stands, and this mortality is expected to continue.

The white fir dominated types will retain 30-50 square feet of basal area of the largest and most vigorous sugar pine, ponderosa pine, incense cedar, white fir, and/or lodgepole in that order. No dead trees or trees greater than 21" dbh will be harvested. In areas that no longer retain a ponderosa pine component, the stand will be harvested to a heavy shelterwood leaving 10-30 trees per acre; removing up to 100+ trees per acre of white fir and lodgepole pine. Ponderosa pine would be planted at a spacing of 100-200 trees per acre. Planting would space off any leave trees.

In all types most, or all, of the understory component will be cut in order to achieve desired stand stocking and prepare for underburning. This factor could become increasingly significant dependent on the diameter classes removed by the timber sale.

d. Higher elevation lodgepole pine: The objective for these stands is to enhance a natural mosaic of seral conditions and create a fuel arrangement which will meet safe burning objectives.

These stands are generally even-aged, heavily stocked, single story stands with most trees in the 10-16" dbh class. Most areas are pure lodgepole pine but there are some small inclusions of ponderosa pine and white fir. Mortality is increasing from a mountain pine beetle epidemic spreading from the Upper Sycan area. These individual stands are probably within the HRV for this type and place, with the exception that most of the acres are currently in a late seral condition, whereas historically, conditions would probably have had larger patches of early and mid-seral stands mixed across the landscape.

The higher elevation lodgepole pine types would be harvested to a leave objective of 30-40 trees per acre. No dead trees or trees greater than 21" dbh would be harvested. In addition, approximately 1/3 of the area will be left in leave clumps (no treatment in any size class) designed to minimize windthrow damage and maintain wildlife habitat. The post harvest treatments may include localized significant hazard tree falling. All non-commercial lodgepole pine and white fire would be cut and then underburned with a cool burn. The effect of this treatment will be to decrease fire hazard and increase diversity in the area.

e. Connectivity Corridors: Treatment prescriptions in these areas are driven by the objectives and requirements of the connectivity corridors in the Regional Forester's Amendment for Eastside Forests. The objective is to maintain a higher degree of canopy closure in the ≥ 9 " dbh component, and maintain that canopy closure at a stocking level above the top 1/3 of site potential. The leave stand specifications will be variable depending on stand type, size of residual trees, and how those trees contribute to canopy closure. A general approximation would be that the leave stand in these areas will be 2-3 times denser than the leave stands for either the LOS or mid-seral areas. Most of these stands do not have high numbers of larger diameter trees to leave, so the desired basal area of 60-90 square feet would consist of 40-100 smaller diameter trees per acre. Some of this density may be achieved through leave patches and/or stringers.

f. Early seral thinning: The objective of this treatment is to allow the leave trees to reach a mid-seral condition in a reasonable time frame and reduce the risk of extreme insect and wildfire disturbances. This would be implemented in stands that were clear-cut and then planted with ponderosa pine. These plantations would be precommercially thinned to a density that would meet the objectives. On average sites, the spacing would be 24 x 24 feet for a leave of approximately 80 trees per acre. The thinning prescription may also include very small, randomly spaced, unthinned clumps and small, created openings. If the plantation is to be managed for a cover objective, spacing will average 16 to 20 feet depending on the crown structure of the plantation and number of trees needed to develop or retain cover. Sugar pine would be favored, then ponderosa pine, lodgepole pine, and finally, white fir. In many cases, thinning would be scheduled after burning the adjacent stands.