

## Treatment Specifications in the North 49 Project Area

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### Monitoring Objective

To evaluate the effectiveness of thinning treatments at meeting the desired conditions and objectives outlined in the North 49 Project Environmental Impact Statement (April 2008).

We are interested in effectiveness monitoring so we can identify what worked, what needs improvement for future projects, and provide documentation to project stakeholders.

### Forest Type Specifications in the Chosen Alternative (Alternative 7):

#### Sierra Mixed Conifer

Sierra mixed conifer stands within the Defensible Fuel Profile Zone (DFPZ) would have post-treatment residual basal areas ranging between 150-165 square feet per acre. The projected average tree diameter in treated mixed conifer stands would range between 12-20 inches after thinning. Projected post thinning canopy cover would average 45 percent in mixed conifer stands. Residual canopy cover within DFPZ would not be reduced below 40 percent.

#### Pine Dominant

A pine dominant forest cover type is dominated by Ponderosa and Jeffrey pine and wide spacing between these tree types is necessary for healthy, vigorous growth. Stands with this cover type would be thinned to an approximate basal area of 120 square feet per acre, and canopy cover target 40 percent and not be below 35 percent. The average tree diameter in treated pine stands would range between 11-16 inches after thinning. Some understory to mid-story trees may be reserved in openings within the stand.

### Treatments Performed as part of the Chosen Alternative (Alternative 7):

#### Diversity Thin with retention islands and radial release

The diversity thin is made up of three treatment elements: a) structural thinning of the general matrix, b) radial release of large diameter overstory trees, and c) retention islands. This combination of activities would promote structural diversity that provides a variety of habitat elements, while protecting and promoting the growth and development of large overstory trees (30-inches dbh or more in diameter). A percentage of smaller trees would be left for diversity, structure, and to provide the next generation of forest. Up to 15 percent of these stands would be left in retention islands in which no treatment would occur. Canopy cover would be highly variable within these Area Thin units but would average approximately 40 percent to 50 percent. In order to meet the long-term project objectives of having stand densities below the zone of imminent mortality for twenty years post treatment, and still achieve structural habitat

requirements for late seral habitat dependent species, canopy cover would be reduced below 50 percent, but not drop below 40 percent.

### **Thin From Below**

The thin from below in DFPZ prescription is the most aggressive fuels treatment proposed. Within the DFPZ, trees would be removed from 3 inches dbh up to 30 inches dbh until the desired basal area for each forest cover type is reached. The desired canopy cover would be 45 percent. The understory and mid-story trees would be the focus of the removal efforts to achieve the reduction in ladder fuels necessary to DFPZ standards. Modeling assumptions for the thin from below in DFPZ treatments included 1) Thin from below using a 30 inch upper diameter limit, 2) Remove primarily trees in suppressed and intermediate crown positions (codominant trees would be removed when needed to meet desired stocking levels), and 3) Thin to a density that would effectively reduce inter-tree competition for approximately 20 years, increase tree growth, remove ladder fuels, and raise average crown base heights.

### **Group Selection**

Group selection is an uneven-aged method of regenerating an area. The groups are small areas up to 2 acres in size where all or most of the trees less than 30" dbh are removed to make way for a new generation of trees. Group selections improve diversity, future fire-resiliency, and forest health by reducing the overabundance of white fir in some areas and allowing the regrowth of pine species.

Seed trees would be left (up to 2 of the largest per acre) when they are available and conditions permit for natural regeneration and to maintain some structural diversity within each group. Seed trees are defined as having good phenotypes and free of dwarf mistletoe. Ponderosa, Jeffrey, and Sugar pine would be priority for seed trees when available. The objective would be to leave up to four seed trees (two per acre) in each two-acre group.

### **Retention islands**

Roughly 15 percent of diversity thinning units will be kept as retention islands (vary in size, irregular in shape, contain horizontal and vertical structural diversity). Each retention island would range 1/2 – 3 acres in size, occasionally ranging up to 5 acres when conditions dictate. Retention areas would be irregular in shape and located approximately 200 feet from openings such as roads, landings, meadows and group selections. Preferred areas would include several of the following characteristics: the densest canopy of larger trees, large snags (>24 inches dbh), multiple large logs or evidence of pileated woodpecker activity (oblong or keyhole shaped cavities). At least 50% of the canopy cover would be retained. There will be no retention islands in DFPZ units.