Understory Tree:

The tallies of small trees from each small tree plot (STP) were summed by height class and then multiplied by 138.73 to obtain per acre estimates. The number of trees greater than the subject trees was found by summing all height class tallies with class midpoints greater than the height of the subject tree. Crown length was found by subtracting the crown base from the total height. Crown width was found as an average of the two perpendicular measurements of crown width obtained in the field. Basal diameter and DBH required no further refinement.

Understory Vegetation:

Only the 1m vegetation plots were utilized in this study since they were used for the duration of the study. Average differences at the STP level between base and top height measurements were found separately for forbs,low shrubs, high shrubs and grasses. Ocular estimates of percentage cover were found for polyvegetation, forbs, low shrubs, high shrubs and grasses. Average height differences for low shrubs, high shrubs, forbs were calculated for the 30 transect points corresponding to each small tree plot. Percentage cover of grass obtained ocularly through a 6in by 6in grid and top height of grasses were also averaged over the length of the transect.

Overstory Vegetation:

Dead overstory tree records were removed from the analysis. Basal area was calculated for each overstory tree was aggregated from both the .26ac and .46ac overstory plots to provide a per acre estimate of basal area. Zero basal area per acre (BAPA) were assigned to installations without an overstory record due to clearcut. Basal area per acre was linearly interpolated between measurement years to provide estimates for years of small tree and understory measurement. The initial and final years of overstory measurent provided limits of the interpolation meaning that a vegetation measurement year preceding or following the overstory measurements would be assigned the BAPA calculated for the initial or final Overstory measurement year, respectively.

Crown competition factor (CCF) was obtained by calculating crown width as an average between the two perpendicular measurements of width and then converting crown width to crown area in square feet. Crown area was then computed in terms of percent of an acre (taking into account the plot size that each overstory tree was sampled in). Linearily interpolated estimates of plot level CCF were obtained in the manner described previously for BAPA.

Trees per acre (TPA) is calculated from the plot level aggregation of the two overstory tree plots.

Site Quality:

Slope, elevation and aspect were calculated using ? for each plots coordinates. Site index was included from STCV records of each installation’s initiation. Site index species was Ponderosa Pine for the installations included in analysis although many other species were used at other installations.