SUMMARY

Regeneration of coast redwood by stump sprouting often results in a stand condition that is very dense. A precommercial thinning of redwood sprouts allows managers to select trees and spacing that can best utilize the productivity of the site. The study of five thinning treatments with an unthinned control was initiated on a 19-year old third growth stand. Precommercial thinning was performed in 1981 with the random assignment of three 0.4-acre plots per treatment. Treatments were 100, 150, 200, 250, and 300 trees per acre plus an unthinned control. All 18 plots were measured in 1981 immediately after precommercial thinning, again in 1986 (5-year growth), and again in 1998 (12-year growth).

This study summarizes the three stand inventories and two periodic stand growth results for basal area, diameter, tree count, cubic foot, and board foot volumes. Analysis of variance (ANOVA) results indicated that despite the range of thinning, the 38-year-old stand showed no statistical differences in volume growth or yield between the thinning treatments. Heavily thinned treatments concentrated more growth on fewer trees to match the stand volume growth in the lightly thinned treatments. Consequently, the average diameters, by treatment, were statistically different. The unthinned plots had the lowest average 17-year board foot volume growth and the smallest average diameter of all the treatments.

A trend appears to be developing that indicates a drop in stand productivity for the heaviest thinning and the control. More time is needed to determine if the trend will continue. The optimal precommercial thinning density depends on a number of factors including desired stem diameter, thinning costs, timing of future treatments, and future commercial value.