

FOREST THINNING: AN INTRODUCTION

WHY THIN?

Thinning ranks as one of the most powerful forest management tools available to landowners for achieving a wide range of objectives. Thinning improves tree growth rates, economic potential, species composition, disease and insect resistance, quality of wildlife habitat, forage production and visual appearance of tree stands. This forest management tool also increases a forest's ability to survive wildfire.

Thinning is removing selected trees from a stand to allow others to increase growth. As trees in a stand grow, they eventually occupy all the growing space, crowd out lower growing plants, and compete with each other. Unless some of the trees die or are removed, others cannot continue to grow. Thinning removes smaller trees before growth slows and keeps crop trees growing rapidly.

Thinning systems vary with respect to timing, strategy and intensity. The present condition of your stand, your management objectives and constraints, your skill level and the amount of time you can devote to managing your stands are important factors in determining the best thinning system for you. Whatever you do, don't delay. Particularly with precommercial thinning, it's best to start early.

PRECOMMERCIAL THINNING (PCT)

Removing small trees in a young stand to speed the growth of remaining trees. Precommercial thinning, combined with slash treatments, can greatly reduce fire hazards.

COMMERCIAL THINNING

This is a revenue producing operation where trees are removed from a middle-aged stand to give the remaining trees more growing space. It improves individual tree growth.



RESOURCES

The following publications are available online at extension.oregonstate.edu/catalog.
Click on Forestry, then Stand Management

Thinning Systems for Western Oregon Douglas-fir Stands
EC 1132, 2003

Using Precommercial Thinning to Enhance Woodland Productivity
Oester, Emmingham, EC 1189, 1997

Stand Volume and Growth: Getting the Numbers
Bowers, Coleman, Fletcher, EC 1190, 2002

Thinning: An Important Timber Management Tool
Emmingham, Elwood, PNW 184

Tree Growth, Forest Management and Their Implications for Wood Quality
Punches, PNW 576, 2004

HOW TO THIN:

STEP 1:

Given your management objectives, identify stands for thinning. Walk through stands or use aerial photos and management plans. Determine boundaries.

STEP 2:

Collect stand information—Systematically take plot data on trees per acre, species, diameter and slope. Roughly estimate tree age and average height. Forestry consultants and contractors are available to help landowners plan and carry out thinning operations.

STEP 3:

Define leave-tree characteristics. Consider size, health, form, crown ratio and species. Quality of leave trees is extremely important because it governs what log values will be in the future.

STEP 4:

Decide on leave-tree spacing. Spacing of leave trees depends on the species you are thinning, your harvest or management objective, and thinning costs. In this step, plan on a product size, estimate your target diameter and use spacing guidelines. A common rule of thumb for thinning Douglas-fir is the D+4 rule. The distance between leave trees is roughly the same number in feet as the diameter of your leave trees plus 4 inches. (8 inch diameter + 4 = 12 foot spacing)

STEP 5:

Consider slash disposal. Slash is the residue left after thinning. Problems from PCT slash include fire hazards and animal and wildlife barriers. Benefits include nutrient release and small animal habitat. Options include pile and burn, prescribed burn, lop and scatter, slash-release purchase and no treatment.

STEP 6:

Evaluate results. Assess tree growth, forage response and stand condition. Did the thinning meet your objectives? Did the contractor meet performance criteria?

