

TECHNICAL NOTES

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WESTERN AREA

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YIELDS OF DOUGLAS-FIR, WESTERN HEMLOCK, AND SITKA SPRUCE - WESTERN HEMLOCK STANDS, LAND RESOURCE AREA I ^{1/}

Land Resource Area I, embracing the western side of the Oregon and Washington Coast Ranges and Olympic Mountains, is primarily forest land. Mild temperatures, high precipitation, and long growing season, combined with deep to moderately deep, moderately well to well-drained soils, produce superb stands of Douglas-fir, western hemlock, and Sitka spruce. These major forest types embrace many additional species of conifers and hardwoods, as well as abundant floristic understory shrubs and forbs.

On most forest soils of this area species are interchangeable, except on the shallower or drier sites, or warm mountain slopes, (thermal belts) where spruce is not adapted; or on the tidal flats or colder soils, where Douglas-fir is not adapted.

Where options are available, and where each of these species grows well singly, or in mixture, opportunities are open for conversion to the specie or species most desired.

Sometimes red alder, bigleaf maple, or brush occupy the site. These often represent only a portion of the potential productivity available when compared with the more efficient wood-producing conifers.

Forest soils of this land resource area, where Douglas-fir, spruce and hemlock occur together, have about the same productivity.^{2/} Most people are not aware of the differences in yield however between these species on the same soil and site index. Figure 1 illustrates this difference.

It must be mentioned that many other factors in addition to site index should be considered. In addition to those previously mentioned, location, seed source, past cutting history, and seed bed condition affect species occurrence. Generally speaking, however, the hemlock or spruce-hemlock stands outyield and subsequently outvalue Douglas-fir. Especially since the advent of foreign export markets has this been true.^{3/} If current trends prevail, it would appear justifiable, on the basis of yield and value, to consider species alternatives when harvesting stands and re-foresting forest soils of LRA 1.

^{1/} Technical note prepared by William J. Sauerwein, Regional Forester, Soil Conservation Service, Regional Technical Service Center, Portland, Oregon.

^{2/} Soil Survey, Tillamook Area, Oregon. Woodland section, pp 20-29. 1964. USDA, SCS-OAES.

^{3/} Production, Prices, Employment, and Trade in Northwest Forest Industries, Darr, 1970. USDA, PNW Forest & Range Experiment Station, Forest Service, Portland, Oregon.

FIGURE 1

