

Planting?—What and Where?¹

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The answers to these questions depend on the goals of the organization, and who its neighbors are. For parks and other owners with long-term goals of maintaining or restoring natural ecosystems, or if their near neighbors have such goals, then two answers are preferred: (1) they probably should not plant, but should rely instead on natural regeneration; or (2) if they do plant, the plants should be from strictly local seed sources. “Strictly local” depends on the species, and it is a much smaller area for small insect-pollinated species than it is for large wind-pollinated species. For organizations with a major goal of supplying wood from the forest, then planting genetically-select tested families or clones of the species to be harvested has substantial merit. Current knowledge of the population architectures of Douglas-fir and coast redwood will be reviewed, with implications for choice of planting stocks. In short, Douglas-fir seems to allow seed-transfer only over relatively short ecological distances, with well-documented cases of serious failures when non-local populations are used for reforestation. The problems were generally not evident for several decades, but became serious before harvest age was attained. Redwood seems more broadly-adapted, but data are based on trees less than one percent of the age attained by old-growth redwood forests. The implications of genetic contamination of native forests by pollen from planted trees or associated species will also be presented.

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