

INTRODUCTION

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Quaking or trembling aspen (*Populus tremuloides* Michx.) is the only aspen in western North America. Therefore, in this part of the continent, it is commonly and correctly referred to simply as "aspen". Throughout much of the interior West, it is the only upland hardwood. Aspen occupies millions of acres, and, in some states, it is the most widespread forest type.

This review begins with the description by Charles Sprague Sargent (1890):

"In the West and Southwest, Aspen grows on the high slopes of mountains and along the banks of streams, and is usually not large, although individuals a hundred feet tall sometimes occur.... A graceful tree with its slender pendulous branches, shimmering leaves, and pale bark, the aspen enlivens the spruce forests of the north, and marks steep mountain slopes with broad bands of color, light green during the summer and in autumn glowing like gold against backgrounds of dark cliffs and stunted pines."

Several major publications about aspen ecology and management predate this one. Most notable are: "Aspens: Phoenix Trees of the Great Lakes Region" by Graham et al. (1963), "Aspen: Symposium Proceedings" published by the USDA Forest Service (1972), and "Quaking Aspen: Silvics and Management in the Lake States" by Brinkman and Roe (1975). All deal specifically with the aspen east of the Great Plains. Aspen was also given major consideration in "Growth and Utilization of Poplars in Canada" by Maini and Cayford (1968). For the western United States, Frederick Baker's (1925), "Aspen in the Central Rocky Mountain Region," remains

a rich source of information, although it is clearly outdated in several respects.

The aspen-dominated forest has multiple values. It is truly a multiple-use type. In the West, it is a producer of forage for domestic livestock as well as food and cover for many wildlife species. It produces wood fiber in abundance, but has been grossly underutilized in this respect. Yields of high-quality water are greater from aspen forests than from some other forest types on similar sites in the western mountains. Esthetically, aspen is very appealing, especially when juxtaposed as groves within a mosaic of other vegetation types on the landscape. It attracts recreationists. Aspen forests also provide fire protection by acting as living firebreaks for the more flammable coniferous types.

Perhaps because aspen has not been economically appealing to wood-using industries in the West, there has been little urgency to learn the details of aspen ecology and to design effective management methods. Aspen research in the West has been somewhat piecemeal, with emphasis on specific attributes, such as forage production or water yield. However, both the utilization and research situations are changing. The sheer amount of aspen, its rapid regeneration by root sprouts after fire or logging, its rapid growth, and other characteristics that make the species distinctive are stimulating greater interest. Increasing demands are being made for the goods and services the aspen type can provide. These demands have caused forest managers and researchers, particularly in Colorado, Utah, Arizona, and New Mexico, to express a need for a synthesis of the available ecological and management information applicable to the western aspen type. This publication has been prepared in response to that increasing need.