# THE FOREST COMMUNITIES OF MOUNT RAINIER NATIONAL PARK

Jerry F. Franklin
William H. Moir
Miles A. Hemstrom
Sarah E. Greene
Bradley G. Smith

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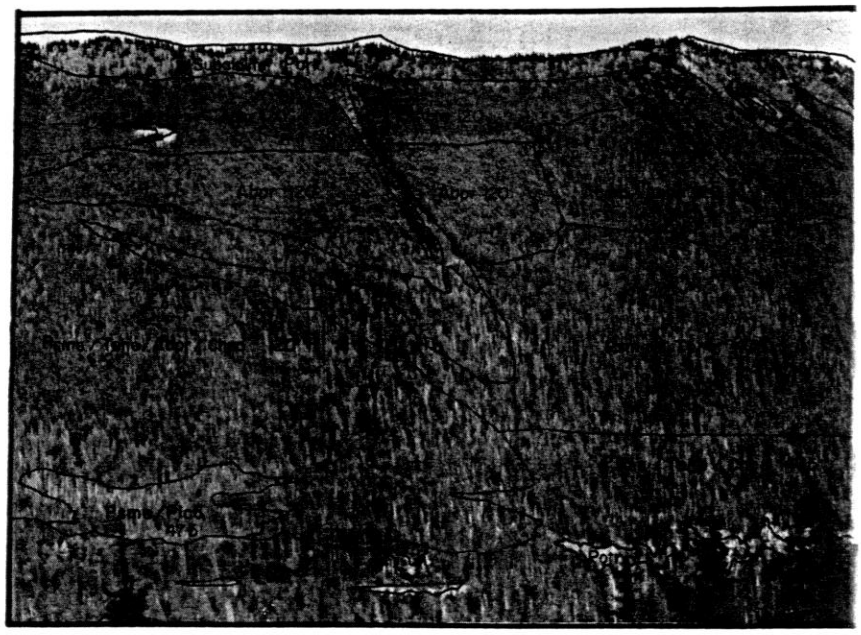

**Frontispiece.** Mosaic of forest stands of varying age and composition on Sunrise Ridge Mount Rainier National Park.

## AUTHORS

JERRY F. FRANKLIN is Chief Plant Ecologist, U.S. Department o Agriculture, Forest Service, and Bloedel Professor of Ecosystem Analy sis, College of Forest Resources AR-10, University of Washington. Seattle, Washington 98195. WILLIAM H. MOIR is Ecologist, U.S. Department of Agriculture, Forest Service, Southwestern Region, Fed eral Building, 517 Gold Avenue, S.W., Albuquerque, New Mexic 87102. MILES A. HEMSTROM is Area Ecologist, Willamette Nationa Forest, 211 East 7th Street, Eugene, Oregon 97440. SARAH E GREENE is Research Forester, U.S. Department of Agriculture, Fores Service, Forestry Sciences Laboratory, Corvallis, Oregon 97331. BRADLEY G. SMITH is Research Assistant, Department of Fores Science, Oregon State University, Corvallis, Oregon 97331.

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# *Plates*

(INSIDE BACK COVER)

**Plate 1.** Map showing distribution of habitat types in Mount Rainier National Park.

**Plate 2.** Map showing distribution of forest age classes in Mount Rainier National Park.

# *Summary*

The forests of Mount Rainier National Park are a major natural resource. They extend up the mountain slopes to an elevation of about 1800 m (5,800 ft) and occupy 60% of the Park landscape. This phytosociological study, conducted during 1975–80, has provided a detailed description and classification of these forests for the use of park managers and visitors. The forests lie within three zones based upon the major climax tree species: *Tsuga heterophylla, Abies amabilis*, and *Tsuga mertensiana*. A total of 14 plant associations and 5 community types were recognized across the range of environmental conditions represented within the Park. The moist forest types have rich understories that include numerous herbaceous species and shrubs such as *Oplopanax horridum*. The *Abies amabilis/Vaccinium alaskaense* Association is typical of modal environments and the most extensive formation within the Park. Dry associations are typified by *Gaultheria shallon*- and *Berberis nervosa*-dominated understories. High-elevation forest types belong to the cold grouping and are typified by herbaceous understories on better drained sites and by dense understories of ericaceous shrubs on wet sites. Forest types show strong relations with elevation and landform, although details vary in the four Park quadrants. Moisture, temperature, and duration of snowpack appear to be the primary environmental variables. Wildfire has been the major forest disturbance; approximately 90% of the forests have arisen after fire, 7% after avalanche, and 2% after lahars. The natural fire rotation was calculated as being 465 years before white settlement of the region. Climatic episodes appear to have been important in creating conditions for wildfire. Uses of the forest type classification by managers include interpretations of the potential value of sites for development, productivity and resilience, value for wildlife, and visitor interest. Large color-keyed maps (Plates 1 and 2) are included on the inside back cover to show the distribution of the plant associations and major forest age classes within the Park.