Atlas of United States Trees. Volume 2. Alaska Trees and Common Shrubs

By Leslie A. Viereck and Elbert L. Little. 1975. Miscellaneous Publication Number 1293, Forest Service, United States Department of Agriculture, Washington, D.C. Text 19 pp. + 105 full-page maps. Paper \$3.10.

This publication represents the second volume of a projected series entitled the Atlas of United States trees. The stated objective of the series is to present atlases of large-scale maps which clearly summarize the known natural distributions of native trees and shrubs. The publication of such species distribution maps has considerable value (1) in serving as a basis for many kinds of phytogeographical and related systematic or evolutionary studies, (2) for indicating to botanists where possible errors or gaps in distributional knowledge may exist, (3) in preserving for historical records the original natural distributional information before possible destruction or alteration of the natural vegetation by human activities, and (4) in serving such economic purposes as indicating where valuable species or possible ecotypes might be located. The authors also stress the potential value of the maps for land-use planning.

Volume 1 of this series presented large-scale distribution maps of 200 conifers and 106 of the more important hardwood-tree species of the contiguous 48 states. Volume 2 contains Alaskan distribution maps (all $12 \times 11''$ size at the scale 1:10 000) of 82 species of native woody plants including 32 trees and 50 shrubs, six of which sometimes reach tree size. Since this number includes all trees but represents hardly one half of the total number of native shrub species in Alaska, a choice was apparently made to include only the larger, more common, more widely distributed, and economically or ecologically more important shrubs. One wonders at the omission of some relatively common, or at least locally abundant, shrubs, such as numerous species of Salix, Betula occidentalis, Arctostaphylos alpina (including A. rubra), Diapensia lapponica, Rhododendron camtschaticum, Cassiope spp. (particularly C. tetragona), Dryas spp., Phyllodoce spp., Loiseleuria procumbens, Linnaea borealis, etc., especially when other shrubs, either just as limited in distribution, or equally as low-growing in habit, as some of these, were included. This is not intended as a serious criticism, however; the reader should note only that this volume does not constitute a complete atlas compendium of all Alaskan shrubs.

Plant taxonomists will not necessarily agree with all of the authors' concepts and treatments of the species of particular groups. In most cases, I would agree with them, although it does seem unfortunate to me that all of the tree birches have been lumped together and mapped as a single taxon, *Betula* papyrifera. The authors' taxonomic treatment as well as their mapping of species distributions of the difficult willow genus, Salix, is taken almost directly from Argus (*The Genus Salix in Alaska and Yukon*, National Museum of Canada, Publications in Botany, Number 2, 1973), although hardly more than one third of the species recognized by the latter for Alaska are included in the present volume.

Volume 2 of this Atlas essentially follows the format of Volume 1, but it differs in several noteworthy respects. The county outline type of base map, which was used in Volume 1 for showing species' ranges in the 48 contiguous states, is replaced by a base map of Alaska which is essentially hydrographic, showing rivers and lakes, on which dots or rings are superimposed to indicate the location of cities, towns, and other key places. Preceding the 82 individual species distribution maps that represent the primary objective of this volume, are 23 large-scaled general maps, showing numerous physiographic, environmental, vegetational, geo-historical, political, etc., features, which are useful for a better understanding of the species' distributions and for allowing possible correlations to be made in their interpretation. The bringing together of all this geographical and especially environmental information about Alaska in these general maps should be considered one of the more valuable contributions of this publication. Nevertheless the convenient transparent overlay maps by which such environmental etc. features were presented in Volume 1 may be missed by some readers.

Unlike the maps in Volume 1, the species distributions are not indicated by a black cross-hatching or gray shading of the overall ranges, but rather by dots each representing a known distributional record. The presumed overall range limits are then shown by lines drawn conservatively around the dots. The use of such dot distribution maps seems much preferable to shading simply the overall ranges, since possibly unusual "extraterritorial" occurrences are not overemphasized. All distributional information is given in a red-brown colour and thus is clearly set off from the clutter of the black on white base-map features.

The species ranges have not been mapped outside of Alaska. The text, however, contains a brief paragraph for each included species which summarizes both the Alaskan and extralimital ranges. For more ample species descriptions, botanical drawings, and ecological information, the reader is referred to Viereck and Little (*Alaska trees and shrubs*, Agriculture Handbook Number 410, Forest Service, United States Department of Agriculture, Washington, D.C., 1972, \$3.25). The species maps show known presence or absence, but not abundance or density; thus, these maps are not meant to indicate forest cover or vegetational types. This is an important distinction which would seem to undermine somewhat the authors' repeated contention that these distribution maps should serve as a valuable basis for land-use planning. As in Volume 1 of this atlas series, an attempt has been made to record only the known, presumably natural occurrence of each species, but not to explain or speculate on how or why it occurs where it does; such interpretations are left for other phytogeographers to make using the information made available here.

The users of atlases such as Volumes 1 and 2 of the present series will be concerned about the reliability of the maps. The species maps of Volume 2 may well be more reliable, although likely less complete, than those of Volume 1, largely because they have been compiled from fewer and these quite reliable literature sources, which have then been amplified by herbarium specimens mostly seen by the authors and sight records that are also mostly those of the authors themselves. The primary original basis for most of these species distribution maps appears to have been Hultén (*Flora of Alaska and neighboring territories*, Stanford University Press, California, 1968), or in the case of *Salix* species, Argus (1973). The locality records for the species maps might well have been considerably amplified, although perhaps not significantly enough to change many range limit lines, if the authors had checked more specimens available in various unconsulted herbaria which contain sizable Alaskan collections.

This volume is recommended to anyone who has an interest in the distribution of native trees and shrubs of Alaska and adjacent Canada. It would seem especially useful for botanists (systematists, ecologists, phytogeographers, evolutionists, etc.), foresters, and naturalists if used in conjunction with the 1972 book, *Alaska trees and shrubs* by the same authors.

VERNON L. HARMS

Fraser Herbarium, Department of Plant Ecology, University of Saskatchewan, Saskatoon S7N 0W0

ENVIRONMENT

Ecological Sites in Northern Canada

Edited by David N. Nettleship and Pauline A. Smith. 1975. Canadian Committee for the International Biological Programme Conservation Terrestrial—Panel 9. Canadian Wildlife Service, Ottawa. 330 pp. Paper \$3.75.

There are areas in northern Canada of biological, geological, and historic importance which urgently require special attention. The scope and intensity of human activity is expanding rapidly in Canada's north and pristine wilderness areas are now threatened. This is the subject matter of the publication.

In 1968, the Canadian Committee for the International Biological Programme (IBP) designated panels for 10 geographical regions in Canada. Panel 9, Arctic tundra areas, and Panel 10, Subarctic areas, fall within the Yukon and Northwest Territories. Panel 9 sites are described in this publication.

The objectives of the northern panels were these:

(1) to locate and describe representative examples of natural arctic and subarctic ecosystems in cooperation with local residents, industry, and the Federal, Northwest, and Yukon Territorial Governments;

(2) to demonstrate how the biological values of each potential site may equal or outweigh all other values of that site; and (3) to aid the three governments in providing for the preservation of these biologically important areas in the form of Ecological Sites.

Ecological Sites are designated special areas encompassing a variety of plant and animal communities. Many of these communities contain relict or endangered populations, unique plant associations, breeding areas, and critical habitat for wildlife.

All interested parties cooperated to ensure that the traditional hunting and fishing privileges of indigenous people were protected. Also, necessary and realistic consideration was given to gas, mineral, and oil development activities. Many proposed sites can support multiple land use, while other sites of high biological value may be too sensitive to disturbance.

Panel 9 is divided into seven geographical regions. A total of 71 proposed sites is discussed in the publication. Each site is identified by geographical name, plus latitude and longitude.

Each entry is accompanied by a map of an appropriate scale. Geographical and topographical features of each site are discussed, plus exceptional features such as bird, mammal, and marine populations, migration routes, critical wildlife habitat, vegetative patterns, archeological sites, etc.



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