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## Water Wise

Wendy Mee

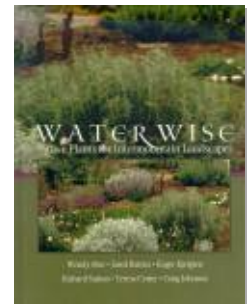
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## PREFACE

This publication is about using Intermountain West native plants in urban landscapes. Its genealogy starts with a master's thesis in 1974 by Richard Sutton, a graduate student in Landscape Architecture and Environmental Planning at Utah State University (USU) that evolved into a USU Cooperative Extension publication, *Landscape Plants from Utah's Mountains* (Sutton and Johnson, 1975). The publication was extremely popular, as it provided information on how high elevation woody plants could be used in urban landscapes. While *Landscape Plants from Utah's Mountains* was reprinted twice, its premise did not enter the mainstream, and thus it was never updated or expanded and is now out of print.

In recent years, the Intermountain West (IM West), consisting of the mountains, basins, and plateaus lying between the Cascade Range and the Sierra Nevada on the west and the Rocky Mountains on the east, has changed dramatically. What was once a vast open area with barely enough population to qualify for statehood is still open and vast, but sparse settlements have metastasized into cities and suburbs. People lured to the breathtaking beauty and endless recreational opportunities of the IM West fuel this urban growth.

The shadow side to urban growth in the IM West is that it occurs in a high desert with limited and intermittent water supplies. Domesticating these supplies through subsidized dams and diversions brought a perception of water abundance that fueled the current urbanization. The West is discovering that this perception was only a loan. High legal, social, and economic costs, together with exhaustion of suitable sites, have pushed new dams and diversions, and hence new water supplies, to the point of extinction. Consequently, most of the urbanized areas in the Intermountain West face growing demand that is outstripping supply, and they need to learn to live within their water means.

In the urbanized areas of the IM West, anywhere from 30%–70% of all the yearly water consumption goes on landscapes composed mostly of cool-season turf. While recreational and trafficked landscapes are well served with a cool-season turf such as Kentucky bluegrass, its use to carpet landscapes large and small is mindless and impractical. A uniformly green and clipped turfgrass surface in a high desert is unnatural and needs frequent, large applications of water to meet performance expectations. A growing number of people, and increasingly institutions, in the IM West are looking for alternatives to turf that require less water. Drought-tolerant native plants serve that purpose well, and native landscaping is now

entering the mainstream as a significant and appropriate means of conserving landscape irrigation water.

Increasing interest in using native plants in low-water landscapes is not only due to practical considerations of saving water. It is driven just as much by people seeking a greater sense of place that is not the franchised uniformity of our culture, finding its echo in our vast and often mindless expanses of turfgrass. If the explosive immigration to the IM West is a back-handed compliment to its beauty, then buried in that compliment is a desire to connect to and experience the plant life that is an exquisite element of the native environment. Every visit to a sagebrush basin, an alpine meadow, or a red-rock plateau is a pilgrimage to someplace new inside yourself that promises coming away with something more than you arrived with. Landscaping with IM West native plants reflects a movement from an adversarial relationship with the surrounding desert and mountains to one that honors the tenacity, toughness, and beauty of native plants and their habitats. However, using these native plants in the landscape requires an understanding of how they adapt to the environmental extremes in their native habitats. Knowledge of these adaptations can then be used to create low-water-use, sustainable, and beautiful landscapes.

To facilitate that understanding, this publication presents several aspects of using IM West native plants in the landscape. The introduction describes the IM West environment, plant adaptations to that environment, and considerations for selecting and maintaining native plants in urban landscapes. Next, the native plant communities of the IM West are described, together with architectural drawings of what such plant communities could look like in a landscape and, finally, data sheets are presented on individual native species that are worthy of landscape use. The data sheets expand on the basic information on woody plants in *Landscape Plants from Utah's Mountains* to include perennial wildflowers, native grasses, and cacti. While most of the information presented here is applicable to the entire IM West, its major focus is on plants and their communities in the Great Basin and Colorado Plateau of Nevada, Utah, and parts of Colorado, Wyoming, and Idaho.

This book is intended as a reference for the general public as well as landscape industry professionals interested in creating low-water landscapes. We particularly hope this information and the photos will inspire the reader to design landscapes around native plant communities. This approach to design is a natural version of hydrozoning, grouping plants in the landscape that have sufficiently similar growing requirements to be found together in nature. Thus, a natural community of plants can be matched to a given set of landscape environmental conditions to reduce maintenance and create a more sustainable and aesthetically cohesive landscape. Beyond matching plants, landscape designs inspired by plant communities can be based on patterns found in nature, such as drifts of different plant species merging into one another. This information can also be used to preserve existing native habitats and enable them to become urban landscapes during construction of new homes or businesses. We hope this book will also encourage the landscape industry to propagate a greater diversity of native plants and make them commercially available.

Finally, selecting and using native plants is only one component of water-wise landscaping. Maintenance is key to success at both the design and management level. Clever use of mulch in designs can reduce weeds and also be aesthetically pleasing, and appropriate irrigation design and thorough soil analysis are also important. At a practical level, success also hinges on careful planting, and strategic maintenance that includes water application, weed control, and vegetation control (pruning and shearing of unwanted vegetation). These topics are briefly addressed in the introduction.