

Arid Zone Times

An Arid Zone Trees Publication

www.aridzonetrees.com

info@aridzonetrees.com

Drought and Water Conservation

A famous quote goes, "the West grows where the water flows". The sweeping ground water laws enacted by the Arizona legislature in the late 1970's forced communities to examine the ways water was used in our homes and businesses and to look for ways to conserve this precious and critical natural resource. Since the mid 1980's landscape professionals (landscape architects, growers, contractors, and water conservation officials) have worked to develop educational materials, new technologies, native plant pallets and new methods for planting and irrigation. Part of this effort has been driven by a genuine desire to create a **sense of place** in desert communities, to develop a landscape aesthetic that reflects and compliments the beauty of the surrounding desert. Another motivator was the specter of significant water shortages and the potential economic consequences of a catastrophic drought.

In the last few years some communities in central Arizona have gradually moved away from desert themed landscapes in favor of a more ornamental, water thirsty, green style palette for their streetscapes and municipal plantings. It's not clear what motivated this change, perhaps distinctiveness from surrounding communities or a lack of appreciation for the development of a regional, desert landscape style. In either event these changes have occurred during the longest drought the southwestern United States has endured since the dust bowl era of the 1920 and 30's.

The term "drought tolerant" has been used to describe a wide assortment of trees and shrubs, yet few, other than those indigenous to desert habitats, have been truly tested. Drought tolerant has always been a descriptive term more than a technical or scientific one and has generally been used to describe plant materials that tolerate desert conditions with moderate irrigation. In the years immediately following the implementation of stringent water conservation measures, Tucson residents learned firsthand how quickly and severely landscape planting could be adversely affected by true "drought" conditions. Criteria used to develop the various regional and state wide "approved" tree and shrub lists assumed that the species were drought tolerant based on their historic use in the landscape with little scientific data and, with the exception of desert natives, limited field or observational data under real drought conditions.

In the Spring 2004 issue of The Plant Press, Nancy Morin writes in her article titled, "The Implications of a Long-term Drought on Arizona Flora," that the last 200 years in the American Southwest have been uncharacteristically wet, especially the last 20. By contrast, she reports that based on tree ring data from Northern Arizona, 2002 was the driest year in 1700 years. This research found the southwest has experienced dry periods lasting for 20 years and within these dry periods are sporadic wet interludes. From a historical prospective, it's believed that drought contributed to the demise of the Casa Grande/Hohokam cultures in the 1400's and prior to that the "Great Drought" which began in the late 1200's lasted nearly a century.

While landscape architecture is a unique combination of fine art, design, horticulture and construction, the business of ornamental horticulture, including landscape design, is ultimately a service industry. Clients, whether commercial, residential or municipal, exert enormous influence over the final

composition of the landscape. If landscapes are to be a proud legacy of the builders, designers, contractors and their communities, they must be durable and retain their beauty and vitality in what can be, at times, an extremely harsh environment.

Desert dwellers have always understood aridity, the natural and often severe heat and dryness associated with their surroundings. Less appreciated is the fact that, even in these austere conditions, significant and protracted drought can and will occur. In the decades since the Arizona Ground Water Laws were enacted, Arizona's professional horticulture community has worked diligently and made enormous strides in the effort to conserve water use in our landscape. From 2000 to 2013, depending on who is doing the reporting, rainfall data across the desert southwest has, typically, been below (or well below) historic averages and frequently approached drought conditions. If a sense of complacency or indifference has crept into our view of water conservation in the landscape, it has come at the worst possible time.