

A FIVE-YEAR INVESTIGATION INTO THE POTENTIAL WATER AND MONETARY SAVINGS OF RESIDENTIAL XERISCAPE IN THE MOJAVE DESERT.

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Abstract

The authors present a selection of preliminary findings from a multiyear study quantifying the residential water and economic savings realizable by converting from traditional turfgrass to xeric landscaping in a southwestern United States desert community. Findings are presented for three scaling levels: the total residence (with mainmeter data), the comparative landscape level (turf versus xeric landscape, with submeter data), and within xeric landscape (also with submeter data). Findings cover: (1) post-landscape conversion water savings for the whole property versus pre-conversion consumption, (2) landscape maintenance savings (both hours and direct costs) for the whole property when xeriscape principles are applied, (3) annual per unit area (sqft) water consumption and bill savings for xeric areas versus traditional turfgrass, (4) the influence of system design and canopy coverage on xeric area water consumption, (5) the long-term savings potential of xeric landscape (with its potentially increasing canopy) versus turfgrass. The results show xeriscape is promising and effective as a water conservation tool.

Introduction and Background

In the Mojave Desert of the southwestern United States, typically 60 to 90% of potable water drawn by single family residences in municipalities is used for outdoor irrigation. Thus, in this region, and indeed most of the entire Southwest, the most effective conservation measures are oriented towards reducing outdoor water consumption. A commonly considered method for accomplishing water conservation is to use xeriscape (low water-use landscaping) in place of traditional turf. Xeriscape is based on seven principles:

- Sound Landscape Planning and Design
- Limitation of Turf to Appropriate Areas
- Use of Water-efficient Plants
- Efficient Irrigation
- Soil Amendments
- Use of Mulches
- Appropriate Landscape Maintenance