



WESTERN RESOURCE
ADVOCATES

THE CASE FOR CONSERVATION LANDSCAPE IRRIGATION EFFICIENCY AND CONVERSION

FACT SHEET #5

Water conservation plays a key role in helping communities meet growing demand and reduce the need to invest in expensive water development projects. Many utilities have implemented cost-effective programs that have resulted in significant water savings. Understanding the components of a successful program, and the costs involved, make for better-informed decisions. There are many examples of successful, and unsuccessful, water conservation programs. This and other factsheets present some of the most well-researched efforts, including water savings, costs, pros and cons, and other things to consider when developing a program.

Why are they effective?

In many cities, outdoor irrigation is responsible for 50% or more of total water demand and overwatering is very common. As a result, reducing outdoor use through improved irrigation efficiency or by changing landscape types can save a significant amount of water. The most effective landscape programs target the highest outdoor water users (residential and non-residential) for program assistance.



"Smart" controller

What are the program components?

Landscape water conservation programs seek to reduce the amount of water applied to landscapes through a wide variety of mechanisms including:

- Irrigation system audits and tune-ups
- Irrigation system upgrades and repairs, such as valve replacement and pressure compensating sprinkler heads
- Conversion to drip and micro-spray irrigation
- Training and education
- Landscape conversion using water-wise (Xeriscape) principles
- Outdoor watering restrictions (typically related to drought)



Drip irrigated Xeriscape landscaping

Programs may target high residential users, multi-family, commercial, institutional, or industrial water users. Typical indications of inefficient irrigation include: overwatering resulting in runoff from the site, line and valve breaks, inefficient irrigation distribution, plant stress, watering during rain events, and high water bills.

Many irrigation efficiency programs focus on replacing automatic, clock-driven irrigation systems that do not automatically adjust to the season, weather, or soil conditions, with weather-based "smart" irrigation controllers.

What are the water savings and costs? - Case Studies

The San Diego County Water Authority (SDCWA) partnered with Honeywell International to implement a five-year landscape irrigation efficiency program focused on automatic irrigation systems. It targeted both high water demand multi-family (MF) and commercial, institutional, and industrial (CII) water users, and provided grants of \$2,500 per acre of landscape. Reduction in water use was about 11% at multi-family sites and 20% at CII sites. The famous Southern Nevada Water Authority (SNWA) “Cash for Grass” turf removal program offers \$1.50/square foot to replace turf with low water use landscaping. In Colorado, 24 water providers partner with The Center for ReSource Conservation to fund a free-to-customers “Slow the Flow” outdoor water audit program.

Community	Target Sector	Program	Sites	Savings/Site	Costs/Acre-Foot*
SDCWA	MF, CII	Landscape audit and retrofit grant program	474	1.7 acre-feet/year	\$300
SNWA	Residential	Turf to Xeriscape Conversion	40,000	96,000** gal/year	\$800-900
Colorado Front Range Utilities	Single Family Residential	Landscape Audit	2,054	4,800 gal/year	\$680

* Assumes 10-year return period

** Savings based on 321 study participants

Things to Consider

Savings from a landscape efficiency program will vary depending on the extent of overwatering, landscape area size, precipitation, and whether homeowners continue to irrigate efficiently after the irrigation improvements are made. Since human behavior is a major factor in landscape watering, periodic follow up with program participants helps ensure that savings continue over-time. For best results, it is essential that these programs target customers that overwater.

In addition to water savings, homeowners who convert their landscapes also realize time and cost savings from reduced landscape maintenance. Homeowners who do their own landscape conversions have experienced rates of return on their investment of three years or less.

Landscape and irrigation efficiency programs can be expensive for some communities, but state, federal, and even private conservation grants may be available.

20%

Percent water saved from a CII landscape audit program

50%

EPA estimated amount of water wasted due to overwatering

8,800 gallons

Amount of water saved annually by a WaterSense labeled “smart” irrigation controller compared to a standard clock timer

References:

- A&N Technical Services, 2011. Smart Landscape Grant Program Evaluation. San Diego County Water Authority, San Diego, CA
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- Sovocool, K. 2005. Xeriscape Conversion Study Final Report. SNWA, Las Vegas, NV
- The Center for ReSource Conservation, 2014. Water Conservation Impact Assessment 2013 Final Report. Prepared for the Colorado Water Conservation Board

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