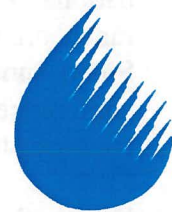


Bureau of Reclamation 417 Consultation FY14 Conservation Status Update July 1, 2013 through June 30, 2014



SOUTHERN NEVADA
WATER AUTHORITY

Incentive Programs

Water Smart Landscapes – In FY14, SNWA invested more than \$5.8 million dollars in customer rebates for conversion of over 4.5 million square feet of turf to water efficient landscaping at more than 2,100 properties. The estimated annual savings from this year's projects alone is over 778 acre-feet, which will be sustained perpetually.

These projects brought the program total to 170 million square feet of lawn converted since 2000: enough turf to create a sod roll long enough to reach around 86% of the Earth's circumference. To date, total program savings exceeds 29,300 acre-feet annually and more than 240,000 acre-feet since the program's inception. The Authority has utilized conserved water as an asset for local and interstate banking.

In FY14, SNWA utilized \$400K in grants awarded by the Bureau of Reclamation to expand the program's reach.

Water Efficient Technologies – In FY14, SNWA provided 21 rebates to large customers and homebuilders for installation of new high-efficiency fixtures and appliances, converting from water-cooled to air-cooled ice makers, and cooling tower improvements. For this fiscal year, W.E.T. awards exceeded \$166,000 in incentives for new projects having an annual conservation impact of 119 acre-feet.

Smart Controllers Rebate – In FY14, 27 rebates were issued for "smart" (i.e. climatologically-driven scheduling) irrigation controllers.

Pool Management Program – In FY14, SNWA invested over \$156,000 to assist more than 2,900 pool owners to purchase pool covers through the SNWA Pool Cover Coupon Program. Customers complete a survey and instantly receive a coupon via snwa.com for redemption at a participating local vendor.

Education and Partnership Programs

Water Smart Innovations– SNWA continues to host the Water Smart Innovations Conference and Exposition. The event, put on in partnership with the EPA and other

national organizations, included workshops, technical sessions, an exposition, an award luncheon, tours, and other activities highlighting all aspects of urban water efficiency. Water Smart Innovations has sustained standing as the world's largest Urban Water Efficiency conference. In FY14, WSI drew over 800 participants from 34 states and D.C. and 12 foreign countries to Southern Nevada to attend this conference.

Water Smart Contractor – In this partnership program, participating contractors attend training and must pass a proficiency exam. Once a contractor meets the minimum requirements, they sign a contract agreeing to a set of best practices for installation of water-conscious landscaping designed to align with SNWA programs and local policies. In return, they receive brand labeling as a Water Smart Contractor and promotional assistance. There are currently 84 participating companies.

Water Smart Home - In this partnership program, participating builders agree to a set of voluntary water efficiency measures for landscape, irrigation, plumbing and appliances that exceed code for new single-family homes. In return, they receive brand labeling and promotional assistance. Water Smart Homes (WSH) is the nation's largest water efficiency program for new homes and served as a model for EPA's WaterSense New Homes Program. In FY14, over 300 Water Smart Homes were completed, bringing the lifetime program total to more than 10,000 labeled homes. WSHs on average use 49% less water than past traditional development.

Water Smart Car Wash – This partnership program encourages auto owners to use commercial car washes rather than washing their car at home to reduce consumptive use of water. Through a no-cost promotional partnership, drivers can download a coupon from snwa.com for a discount at participating car wash locations. Car wash coupon webpage visits in FY14 averaged 1650 visitors per month. In addition, the program highlights car washes that facilitate non-profit fundraising, thus helping assure that fundraiser car washes are water-efficient and environmentally responsible.

Water Upon Request – More than 200 restaurants subscribe to this partnership program, agreeing to serve water only upon request. Depending upon the efficiency of water filtration, ice making and dishwashing systems, a single glass of ice water could account for over three gallons of water use. Just as important, the program also raises awareness of water conservation issues.

Linen Exchange Program – As of FY14, a record 40 properties have subscribed to SNWA's linen exchange program that includes prestigious resorts such as the Nobu Hotel, The Red Rock Resort and Casino, Caesars Palace, the Paris, The Flamingo, Green Valley Ranch, Aliante Station, Bally's, Planet Hollywood, The Linq, The Orleans, and others. Changing hotel room linens only once every 3 days saves an estimated 50 gallons per day per room.

School Programming – The SNWA continues to provide resources and training to school teachers and students in Clark County. SNWA’s H2O University trained elementary and secondary school teachers.

Water Conservation Coalition (WCC) – SNWA continues to collaborate with this organization of local business community leaders. WCC supports a speakers’ bureau, promotion of conservation through employee communication channels, business to business challenges, and community water conservation projects. During 2014, the WCC continued to work with the Safe Village initiative, a coalition of organizations working to rehabilitate more than 6 acres of landscape at a Las Vegas public housing complex, Sherman Gardens Annex. The Safe Village Initiative is a partnership with the Southern Nevada Housing Authority, Las Vegas Metropolitan Police Department, Community Faith Based leaders, and the WCC. The goal is to upgrade the quality of life for the residents of Sherman Gardens Annex. By physically renovating this 42 year old property with new Water Smart Landscape, paint for the homes, and applying Community Oriented Policing. This initiative has received national recognition for its novel approach to crime prevention and Community-Oriented Policing. The landscape project is expected to produce annual water savings of 17.5 million gallons.

Research Update

Pools Evaporation Study – SNWA has needed good data on savings from pool covers in support of its incentive program and while estimations have been used in the past, these have failed to take into account relevant site specific and behavioral factors. In this study, SNWA recorded actual losses from pools with and without covers and the propensity for residents to use the cover along with detailed environmental microsite data. Field operations completed in 2012 and the final results were completed in 2013. SNWA found that the average annual savings is 9500 gallons annually for properties using a pool cover with an average use rate of 57%. The overall savings is approximately 41% versus uncovered evaporative losses.

Multi-Stream Rotational Spray Heads (MSRSH) Study – SNWA conducted a large study of the practical improvements in the distribution uniformity (DU) of applied water that might be obtained by replacing traditional pop-ups with MSRSHs and other similar technologies. SNWA staff retrofitted existing sprinkler systems with manufacturers’ donated product at qualifying participants’ homes in Phase 1 of this study. The Phase 1 results found that these head improvements resulted in an improvement of DU from 0.41 to 0.57 (i.e. a 40% relative improvement).

Phase 2 (<https://www.watersmartinnovations.com/documents/pdf/2013/sessions/2013-T-1312.pdf>), however found that in addition to some losses in the uniformity improvement over time, actual real world savings were not obtained because even though given a custom schedule, most residents increased their irrigation application with the new heads. The

results scuttled plans for an SNWA incentive program for these technologies and, in combination with similar findings at other utilities, caused the EPA WaterSense program to delay in designating these for an efficiency specification. The results demonstrate the importance of pre-deployment research for utility incentive conservation programs.

Lakes Evaporative Suppressant Study - In FY13, SNWA, published the results of this study where it and other stakeholders worked to evaluate the impacts of an evaporative suppressant chemical on reducing losses at Lake Sahara, the major water body in The Lakes community. In addition to evaluating this, staff collected water quality data during application of the chemical treatments. The results demonstrate statistically significant average reductions of 30% in evaporative losses can be obtained locally in the small-scale testing. The large-scale trial was inconclusive other than that no short-term environmental, chemical or biological effects of significance were noted. The results are in the *Journal of the American Water Works Association*, March 2014 Volume 106, Number 3.

Other Initiatives

EPA WaterSense Program – SNWA has supported and helped lead national efforts to implement voluntary water efficient product labeling initiatives and programs under the banner of the Environmental Protection Agency (www.epa.gov/watersense). EPA selected SNWA's Water Smart Home program to serve as the model for development of the national WaterSense New Homes Program. SNWA staff participates in discussions of efficiency products under this program.

Alliance for Water Efficiency – SNWA is a Platinum Charter Sponsor of the Alliance for Water Efficiency (www.allianceforwaterefficiency.org). SNWA has played an active role in shaping discussions regarding issues that this water conservation organization has undertaken.

Conservation Standards –SNWA staff proactively contribute to the development of national standards being developed, especially with regards to outdoor use. Notably, SNWA is participating in the development of the first-ever standard for irrigation sprinklers and water emission devices by the International Code Council (ICC) and the American Society of Agricultural and Biological Engineers (ASABE) and the first standards for landscape water budgets being developed by ASABE.

Conservation Planning – SNWA's new five-year Conservation Plan encompassing 2014 to 2018 was updated in May 2014. SNWA's conservation goal is to achieve 199 GPCD by 2035 by way of a comprehensive blend of tiered purveyor water pricing, regulatory approaches, customer education, and conservation incentive programs. The plan is available at http://www.snwa.com/assets/pdf/about_reports_conservation_plan.pdf and has received approval by the Bureau of Reclamation and other applicable authorities.