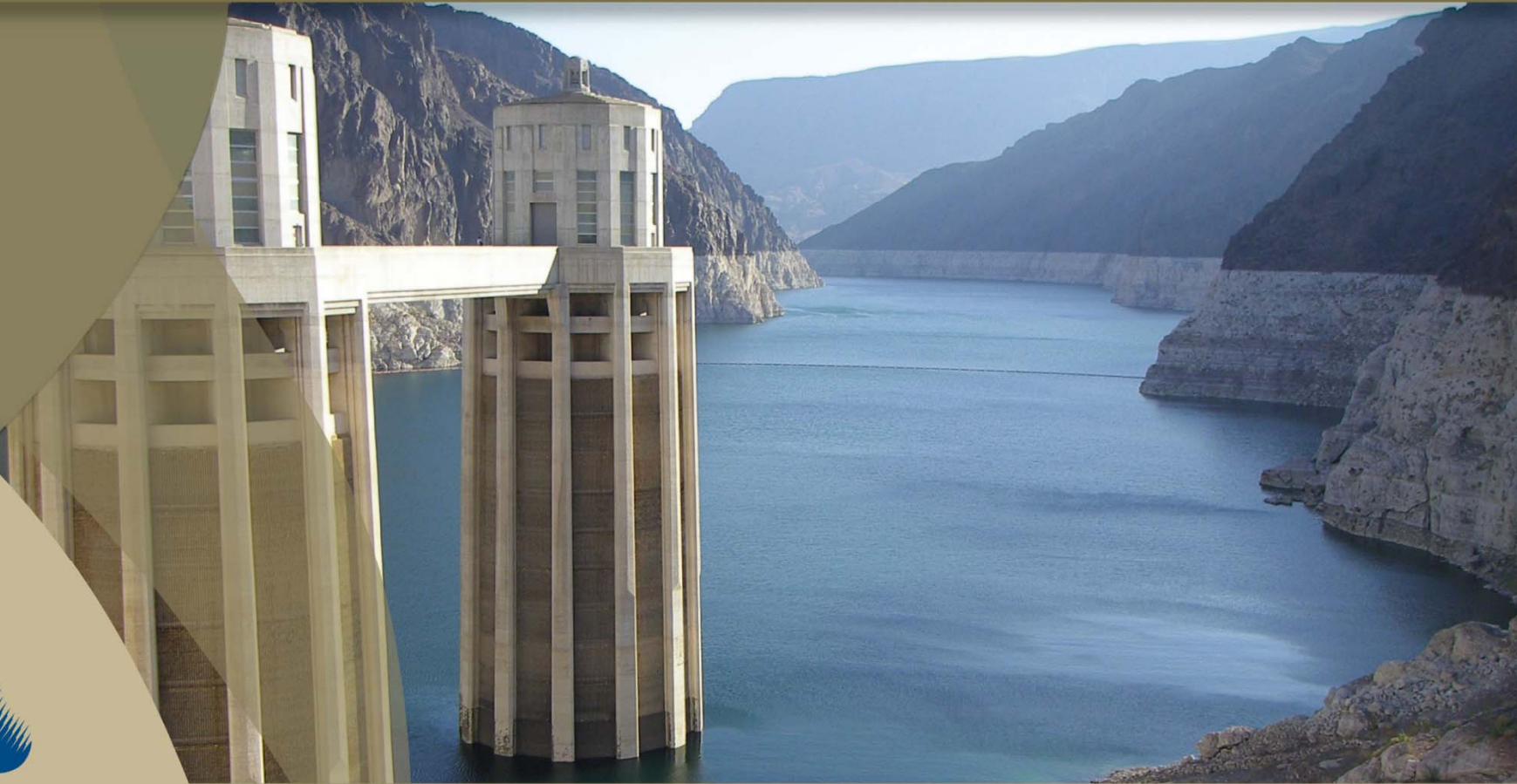


Spring, Cave, Dry Lake and Delamar Valleys



SOUTHERN NEVADA
WATER AUTHORITY

Presentation for:
Bennett Testimony

DOUGLAS BENNETT

PERSONAL INFORMATION

Date of Birth	26 November 1962
Birthplace	Marquette, MI (KI Sawyer AFB)
Citizenship	United States
Gender	Male
Marital Status	Married
Document updated	March 1, 2011

EMPLOYMENT HISTORY

SOUTHERN NEVADA WATER AUTHORITY, LAS VEGAS, NEVADA
Conservation Manager, April 2000 to present

Strategic Responsibilities

- Develop and implement conservation strategies, policies and programming for a community of two million people in the Mojave Desert with a primary focus on consumptive demand management.
- Key team member in the development of water resource, demand management and drought response plans.
- Represent the agency before political boards, professional conferences and media.
- Coordinate with up to eight jurisdictional agencies to assure consistency of messaging and continuity of services. Prepare coordinated community outreach efforts and provide jurisdictional reports for regional programs.
- Participate in and lead development of national conservation policy through interaction with other organizations.

Operational Responsibilities

- Developed and managed an annual O&M budget of up to \$48 million. Led development of a unified financial accountability and data management system for conservation programs.
- Supervise a staff of up to 37 personnel conducting educational, enforcement, research and incentive programs.

SNWA's Conservation Program

PRESENTATION TO THE OFFICE OF THE NEVADA STATE ENGINEER

Prepared by



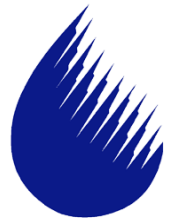
SOUTHERN NEVADA
WATER AUTHORITY

May 2011

Rebuttal Report on Water Conservation and Efficiency in Southern Nevada

PRESENTATION TO THE OFFICE OF THE NEVADA STATE ENGINEER

Prepared by



**SOUTHERN NEVADA
WATER AUTHORITY**

August 2011



Southern Nevada
Water Authority

Conservation Plan 2009-2013

May 2009



DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF WATER RESOURCES

901 S. Stewart Street, Suite 2002
Carson City, Nevada 89701
(775) 684-2800 • Fax (775) 684-2811
<http://water.nv.gov>

April 22, 2009

Dianna Ballash
Southern Nevada Water Authority
1001 South Valley View Boulevard
Las Vegas, NV 89153

Dear Ms. Ballash:

This office has finished the review of the draft water conservation plan for the seven member agencies of the Southern Nevada Water Authority. The plan contains all the statutory elements required under Nevada Revised Statutes (NRS) chapter 540. Please submit a final hard copy version of the water conservation plan for our records, as well as a PDF version on a compact disk that can be posted on the Division of Water Resources website.

The next update to the water conservation plan will be due in 2013 as required by NRS § 540.131(4a).

If you have any questions, please call me at (775) 684-2817.

Sincerely,

A handwritten signature in black ink, appearing to read "K. Hickenbottom P.E.", written over a white background.

Kelvin Hickenbottom, P.E.
Deputy State Engineer



United States Department of the Interior

BUREAU OF RECLAMATION
Lower Colorado Regional Office
P.O. Box 61470
Boulder City, NV 89006-1470

IN REPLY REFER TO:
LC-2731
ADM-13.00

FEB 23 2011

Ms. Patricia Mulroy
General Manager
Southern Nevada Water Authority
100 City Parkway, Suite 700
Las Vegas, NV 89106

Subject: Review and Comment on the 2009 Update of Southern Nevada Water Authority's (SNWA) Five-Year Water Conservation Plan (Plan)

Dear Ms. Mulroy:

Thank you for submitting a copy of the subject water conservation plan on April 30, 2009. We completed the review of this plan on May 14, 2009 and sent, via e-mail, a copy of our review form, including our comments, to Ms. Dianna Ballash and Mr. Doug Bennett, of your office. This copy of the review form was not finalized, because SNWA's Board of Directors had not approved the Plan, yet. Enclosed is a final copy of our completed review form. The submitted Plan meets all of the requirements of Section 210(b) of the Reclamation Reform Act of 1982, Title 43 Code of Federal Regulation Part 427.1(b), and other laws and regulations noted in the enclosure. This Plan must be updated at least every five years; therefore, the next update will be required in 2014.

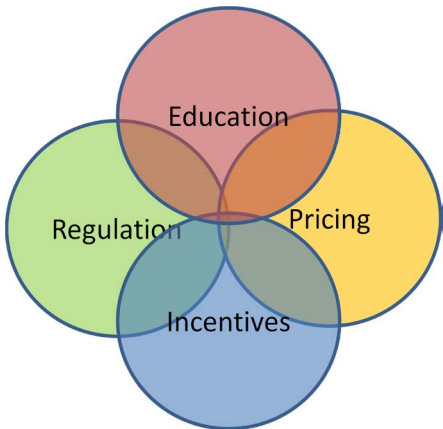
Reclamation greatly appreciates the opportunity to review and comment on the Plan. **Your efforts on the Plan and continued dedication to water conservation are commendable.** Please let us know if our Water Conservation Field Services Program can be of any assistance in the implementation of this plan. If you have any questions, please contact Ms. Tina Mullis, Water Resources Program Manager, at 702-293-8139.

Sincerely,

Amelia Porter, Manager
Planning and Program Management Group

Enclosure

cc: Mr. Doug Bennett
Conservation Manager
Southern Nevada Water Authority
100 City Parkway, Suite 700
Las Vegas, NV 89106



Las Vegas Valley Water District

(800) 252-2011

(702) 870-4194

lvvwd.com

Page 1 of 2

Customer Name: LAST, FIRST
Account Number: 0123456789-1
Billing Date: 04/30/2009
Due Date: 05/27/2009

You are in Watering Group A
 Summer Watering (May-Aug.): Any day

Please pay total by due date to avoid a 4% late charge. Failure to pay by the due date specified may result in an assessment or an increase of security deposit.

Account Summary

Previous Balance	227.92
Current Charges	57.08
Bill Corrections and Adjustments	0.00
Amount Due this Period	\$285.00

Service Address: 123 SAMPLE STREET

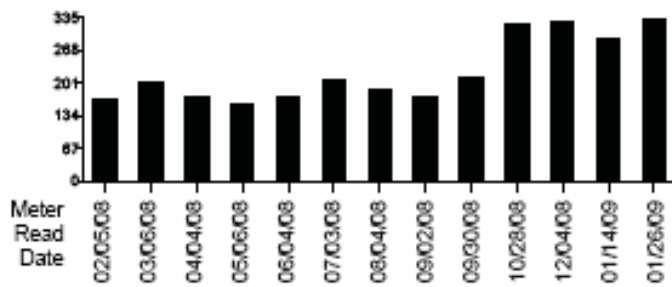
This service is in Watering Group A

Meter #	Size	Current Reading	Current Read Date	Previous Reading	Previous Read Date	Usage in 1000 Gallons
0385366	3/4"	4502	04/06/09	4483	03/08/09	19

Average Daily Use in Gallons

Previous Billing Period
293

This Billing Period
333



Billing Period: 03/09/09 - 04/06/09 Total # of Days: 29
 Meter #: 0385366 Billed Usage 19

6 Service Charge \$0.3863 x 29 Days	11.20
Tier #1 2.64 x \$1.16	6.96
Tier #2 1.36 x \$2.08	14.56
Tier #3 1.36 x \$3.09	18.54
8 SNWA Commodity Charge 19.00 x \$0.30	5.70
9 SNWA Reliability Surcharge	0.12
Subtotal	\$57.08

Please detach at perforation and return with payment.

000001



Check box for address change. Print on reverse side.

Check box for information on paying electronically.

Pay by Phone or Internet:

(800) 252-2011

(702) 870-4194

lvvwd.com



Bill Date: 04/30/2009

Account Number	Unpaid Balance	Total Charges Due 05/27/2009	Total Amount Due
0123456789 1	\$227.92	\$57.08	\$285.00



Make check payable to "Water District"

LAST, FIRST
 123 SAMPLE STREET
 LAS VEGAS NV 89148-2633

LVVWD
 1001 S VALLEY VIEW BLVD
 LAS VEGAS NV 89153

01234567890000022792000002767561

3.1 *Development Codes*

Aggressive development codes relating to water efficiency were adopted in 2003 as a mechanism of drought response. These codes have had a substantial influence on reducing community per-capita water use and have since been adopted as permanent measures as follows:

- Clark County Unified Development Code Title 30.64
- Henderson Municipal Code Title 14.14
- North Las Vegas Municipal Code Title 13.08, 13.12, 13.16
- Las Vegas Municipal Code Title 14.08, 14.10, 14.11
- Boulder City Municipal Code 11-1-48 and 11-1-49

CLARK COUNTY

CODE

1966

A Codification of the General Ordinances of
Clark County, Nevada

Beginning with Supp. No. 81,
Supplemented by Municipal Code Corporation

M Municipal Code Corporation
PO Box 2235 Tallahassee, FL 32316
C 800-262-2633 • Fax: 850-575-8852
Municode.com • info@municode.com

Chapter 14.14 - CONSERVATION

Sections:

- [14.14.010 - General provisions.](#)
- [14.14.020 - Water waste.](#)
- [14.14.030 - Landscape watering restrictions.](#)
- [14.14.040 - Golf courses.](#)
- [14.14.050 - Landscape material restrictions.](#)
- [14.14.060 - Mist systems.](#)
- [14.14.070 - Other outdoor water use restrictions.](#)
- [14.14.080 - Conservation rates, fees, and penalties.](#)
- [14.14.090 - Operation of ornamental fountains and water features.](#)
- [14.14.100 - Pool and hot tub draining.](#)
- [14.14.110 - Violations.](#)

14.14.010 - General provisions.

- A. *Purpose and policy.* This chapter sets forth responsibility, authority, and provisions to ensure compliance with all federal, state, and local requirements for the protection of public health, safety and welfare.
- B. *Scope.* The provisions of this chapter shall apply to all residents of the city, a responsible party operating, maintaining, repairing, relocating, removing, and/or disconnecting the public water system and/or publicly owned treatment works, and/or users of city-provided utilities.
- C. *Administration.* Except as otherwise provided herein, the director shall administer, implement, and enforce the provisions of this chapter. Any powers granted or duties imposed upon the director may be delegated by the director to persons acting in the beneficial interest of the city.
- D. *Compliance.* All provisions of this chapter are subject to compliance procedures as outlined in this title and the department service rules.

(Ord. 2676, § 10 (part), 2008; Ord. 2536, § 72, 2006)

14.14.020 - Water waste.

- A. *Water waste unlawful.*
 - 1. It shall be deemed unlawful for owner, occupant, or manager of real property served by the city to permit the excess use, loss or escape of water through breaks, leaks or malfunction in the water user's plumbing or distribution facilities for any period of time after such escape of water should have been reasonably discovered and corrected as determined by the director.
 - 2. It shall be deemed unlawful for owner, occupant, or manager of real property served by the city to waste water after a notice has been issued. Water waste includes, but is not limited to the following:
 - a. Allowing water to flow or spray off private property onto a sidewalk, pavement, gutter, street, alley, right-of-way or drain.
 - b. Failure to repair a malfunction of an irrigation system or supply line within 48 hours of notification by the city. Such malfunctions may include, but are not limited to: pooling due to broken sprinkler head, geyser or jet of water caused by broken drip irrigation line, etc.
 - c. Failure to repair a water leak.
- B. *Responsibility for waste.* Any waste of water as set forth in this chapter, together with proof that such waste originated at any residence or place of business, shall constitute a rebuttable presumption that the current owner, account holder, or manager of such property or residence or place of business was responsible for such waste.

(Ord. 2798, § 5, 1-20-2009)

Editor's note— Ord. 2798, § 5, adopted January 20, 2009, repealed the former § 14.14.020, which pertained to stages of water supply conditions and derived from Ord. 2536, § 73, 2006 and Ord. 2676, § 10 (part), 2008. Subsequently, §§ 14.14.030—14.14.120 were renumbered to 14.14.020—14.14.110.

14.14.030 - Landscape watering restrictions.

- A. Landscape watering schedules shall apply to all areas, both residential and commercial, including, but not limited to: single family residential properties, multi-family residential properties, commercial



Fountain pictured
in Figure 3-1.

Figure 3-2
Caesar's Palace Aerial View

**Report on Water Use Efficiency and
Conservation in the Las Vegas Valley”**

June 29, 2011

**Prepared for the Office of the Nevada State Engineer
on behalf of
Great Basin Water Network**

**Dr. Peter H. Gleick
Heather Cooley
Pacific Institute, Oakland, CA 94612**

June 29, 2011

A handwritten signature in black ink that reads "Peter Gleick". The signature is written in a cursive style with a large initial 'P' and 'G'.

Introduction

The Las Vegas Valley has grown rapidly over the past several decades, bringing new people and new opportunities. While this growth has benefited the region and its residents, it also presents new challenges. One of the most significant challenges is satisfying the water needs of the Valley in an equitable and sustainable way.

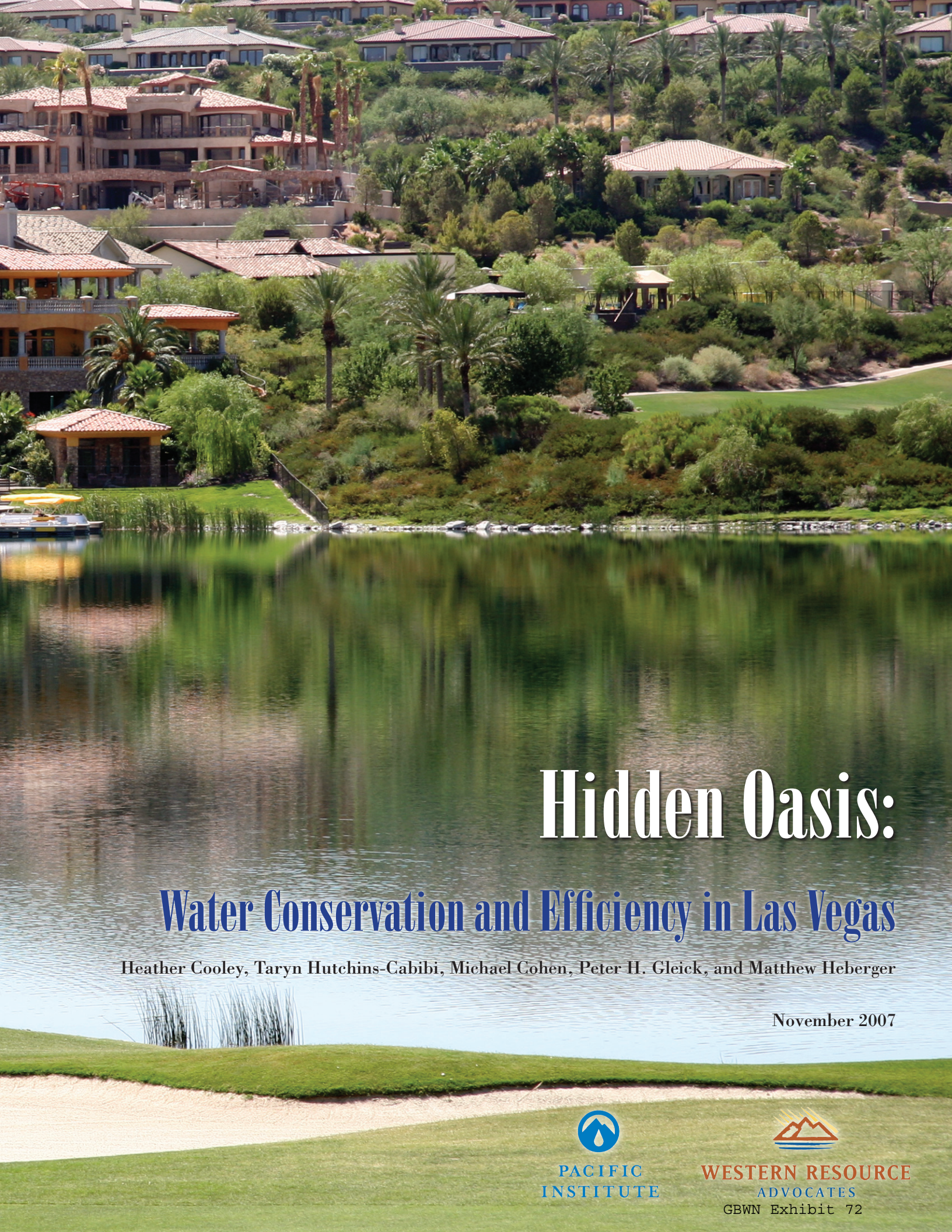
This report summarizes and updates the November 2007 report of the Pacific Institute and Western Resource Advocates, titled “Hidden Oasis,” which reviewed Las Vegas’ water conservation and efficiency efforts and potential, and offered an analysis of that potential.¹ That assessment commends local water agencies for implementing a number of innovative programs but concludes that considerably more could be done to capture existing inefficient and wasteful water uses, both indoors and outdoors. Indoor water conservation, especially, has been largely ignored in areal efforts. Our review of single-family residential customers, hotels, and casinos indicates that installing water-efficient fixtures and appliances could reduce current *indoor* water demand by 40% in single-family homes and nearly 30% in hotels and casinos. Installing water-efficient landscapes more widely and more aggressively could further reduce current *outdoor* water demand by up to 40% in single-family homes. Many of these efficiency improvements can be implemented at a lower cost and with fewer social and environmental impacts than developing new water supplies, including proposed efforts to tap groundwater systems in eastern Nevada (shared, some hydrologists believe, with western Utah) via new pipeline infrastructure.

Key Findings

Las Vegas Valley agencies have developed and implemented some innovative conservation and efficiency programs in the past. Nevertheless, the Las Vegas area remains significantly behind other Western U.S. cities in its efforts to cut wasteful, inefficient uses of water.

Las Vegas has implemented only a small fraction of the various water-efficiency programs being used successfully throughout the western U.S. This is one reason Las Vegas residents continue to

¹ Report of the Pacific Institute and Western Resource Advocates, “Hidden Oasis,” November 2007, http://www.pacinst.org/reports/las_vegas/index.htm.



Hidden Oasis:

Water Conservation and Efficiency in Las Vegas

Heather Cooley, Taryn Hutchins-Cabibi, Michael Cohen, Peter H. Gleick, and Matthew Heberger

November 2007



PACIFIC
INSTITUTE



WESTERN RESOURCE
ADVOCATES

GBWN Exhibit 72

LVVWD 5/8 in. Service

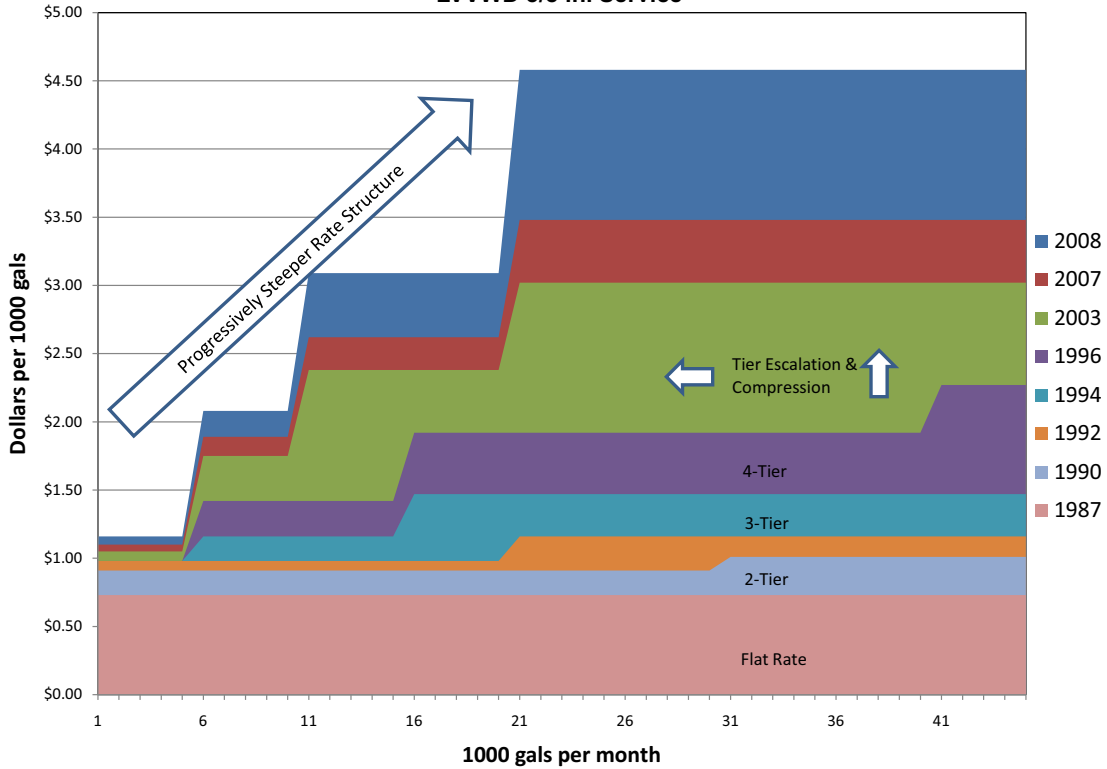


Figure 4-1
Conservation Rate Structure Evolution

Cumulative acre feet Water Conserved

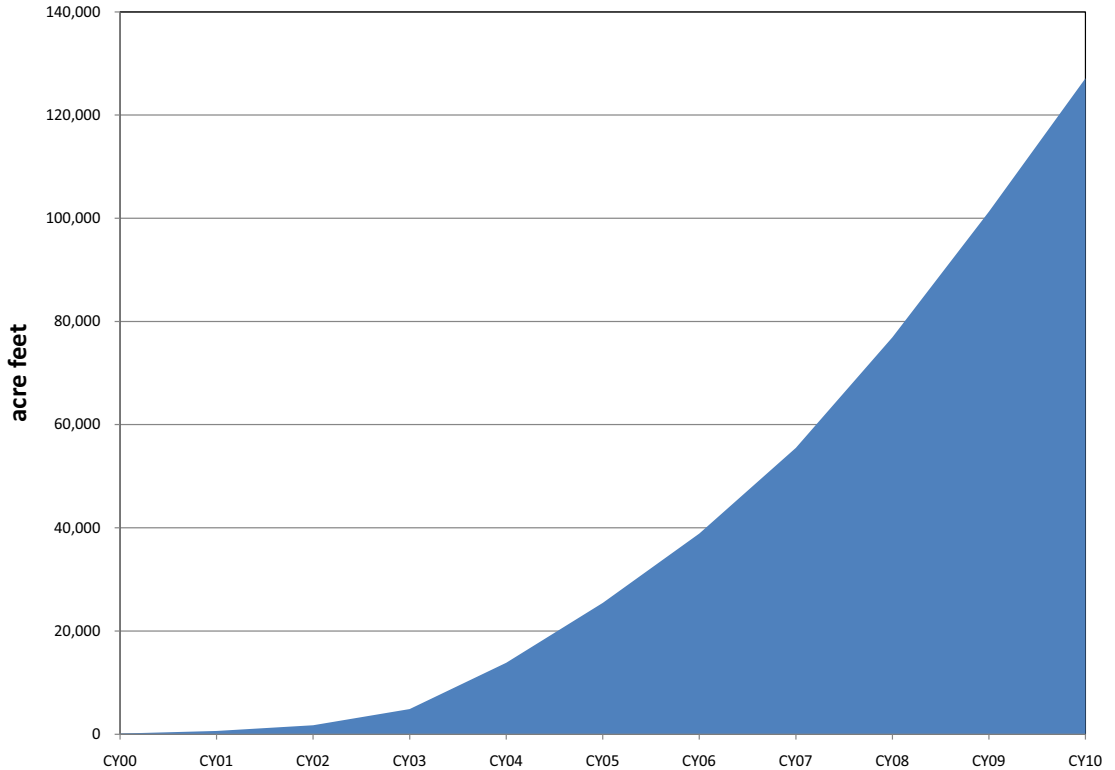


Figure 5-1
Water Smart Landscapes 2000-2010

**Table 5-1
Water Efficient Landscape Incentive Programs 2009**

Agency	Annual Spending	Approximate Service Population	Square Feet Converted
SNWA Annual Average	\$15,704,756	1,950,000	14,226,382
Albuquerque Bernalillo County Water Utility Authority, NM	\$307,692	592,000	461,538
Aurora Water, CO	\$255,811	310,000	274,162
City of Santa Rosa, CA	\$250,000	220,000	250,000
City of Chandler, AZ	\$200,000	240,000	288,404
City of Tempe, AZ	\$142,857	181,000	142,857
Inland Empire Utilities Agency, CA	\$120,953	850,000	87,156
City of Roseville, CA	\$85,000	125,000	85,000
Soquel Creek Water District, CA	\$80,000	49,000	43,333
City of Scottsdale, AZ	\$40,668	240,000	110,345
City of Mesa, AZ	\$26,750	440,000	52,134
City of Prescott, AZ	\$22,741	60,000	61,687
City of Glendale, AZ	\$9,400	180,000	40,920
City of Bullhead City, AZ	\$8,607	42,000	16,703
City of Flagstaff, AZ	\$6,788	63,000	47,998
Scotts Valley Water District, CA	\$4,000	11,000	4,250
Town of Paradise Valley, AZ	\$3,405	14,000	13,620
City of Gallup, NM	\$2,100	22,000	8,600
Annual Total Other Programs	\$1,566,772	3,639,000	1,988,707
SNWA Annual Average	\$15,704,756	1,950,000	14,226,382

SNWA Indoor (non-consumptive) Water Efficiency Programs (2000-2010)

Program	Qty	Units	Direct Cost	Est. Overhead	Total Cost
Water Efficient Technologies	97	projects	\$ 928,164	\$ 185,633	\$ 1,113,797
High Efficiency Toilets	3,441	toilets	86025	\$ 17,205	\$ 103,230
Senior/low income retrofit	12,398	homes	31941	\$ 6,388	\$ 38,329
Audit/Retrofit Kits	6,361	homes	74169	\$ 14,834	\$ 89,003
Leak detection video	12,600	DVD	34749	\$ 6,950	\$ 41,699
School Audit/Retrofit	30	schools	279598	\$ 55,920	\$ 335,518
High Efficiency Washing Machines	5,604	machines	446275	\$ 89,255	\$ 535,530
				Total	\$ 2,257,105

6.0 EDUCATION AND OUTREACH

The SNWA has one of the nation's most comprehensive education and outreach campaigns. Between 2007 and 2010, the SNWA invested approximately \$2.5 million annually in mass marketing campaigns. In addition, the agency has a team of in-house public information specialists that handle a variety of conservation education and outreach initiatives.

The education and outreach program includes:

- Mass media advertising (broadcast, visual, direct mail)
- Bill inserts in collaboration with member agencies
- Speakers' Bureau
- Award-winning website (over 450,000 visits annually)
- Monthly television show (WaterWays)
- Quarterly newsletter (WaterSmart Living, 340,000 distribution)
- Annual calendar (340,000 distribution)
- Spanish language outreach program
- Community events outreach
- Instructional videos
- How-to publications and educational classes
- Community demonstration gardens
- Conservation Helpline telephone support

PUBLIC / PRIVATE PARTNERSHIP PROGRAMS

- Water Conservation Coalition
- Water Upon Request
- Water Smart Contractor
- Water Smart Homes
- Water Smart Car Wash
- Lodging Linen Exchange

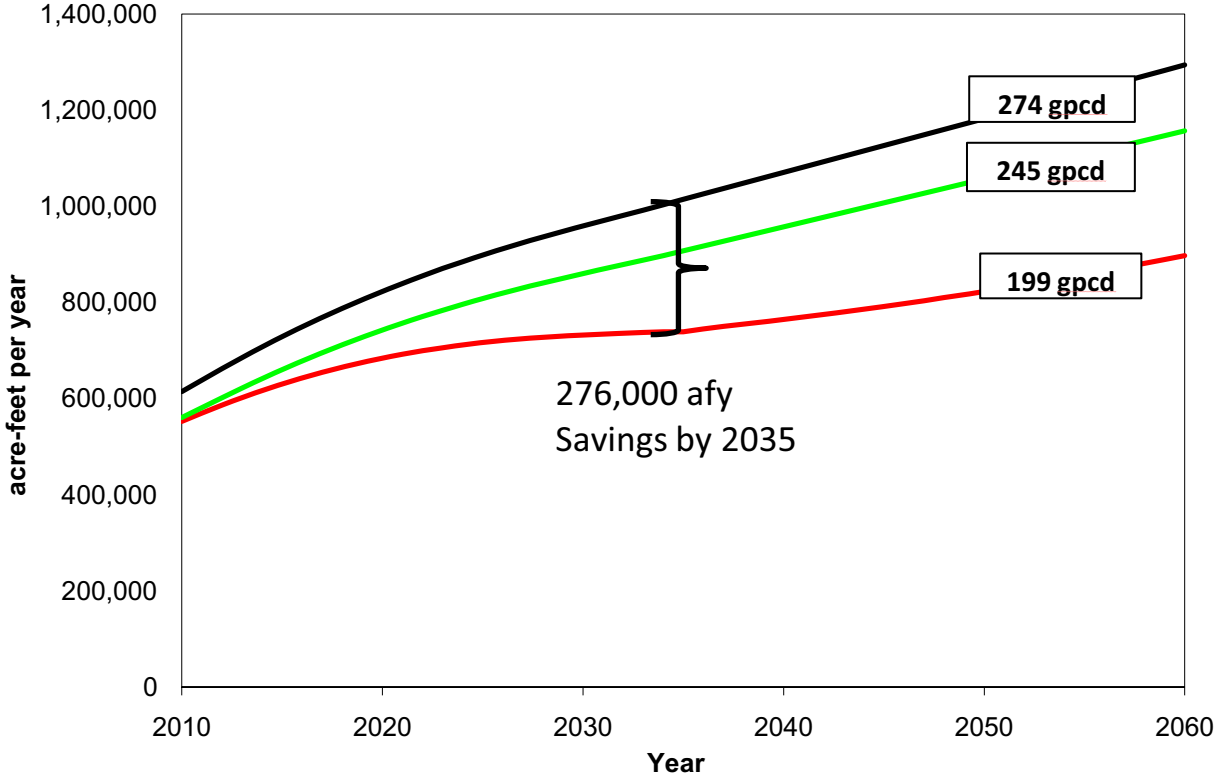


Figure 8-1
Summary of SNWA Water Demands and Conservation

Table 8

Estimated Per Capita Water Demand in the Las Vegas Valley in 2004

End Use	2004 Water Demand (gpcd)
Toilet	17.8
Shower/Bath	11.0
Faucet	8.8
Leak	11.4
Dishwasher	0.8
Clothes Washer	12.8
Other Domestic	2.3
Total	65.0

Although the water supply industry commonly uses this demand variable as a system demand indicator, the probability for comparison error in the system-wide per capita variable is relatively high, resulting in an “apples-to-oranges” comparison. Therefore, the displayed values in Figure 3.9 should be considered individually, instead of comparatively, to avoid erroneous conclusions on water consumption.

In the guidance manual produced by the AWWA Water Conservation Division, “Water Conservation Measurement Metrics,” (Dziegielewski and Kiefer, 2010) the authors came to similar conclusions about the challenges of inter-agency comparisons of utility-wide gpcd.

In its simplest form, gpcd is derived by taking the average daily water production and dividing it by the number of permanent residents in the agency’s service area.

$$\text{gpcd} = \frac{\text{total average daily production}}{\text{permanent residents served}}$$

Dziegielewski and Kiefer (2010) described broad variations in how utilities defined both the numerator and the denominator. Not all utilities include reclaimed water or raw water, for example, as part of their production, even if it was delivered to customers to meet demand.

In most jurisdictions, including SNWA’s, other sources of water may be in use that are not part of the utility’s production, such as private groundwater wells or landscape irrigation water from surface canals. In the Phoenix region, for example, residential properties have access to water from two different suppliers, one that provides domestic water and another that provides landscape irrigation water. In Australia’s coastal cities, homeowners commonly have private wells, or bores, that are used for outdoor irrigation. Such disparities in the quantity and availability of alternate supplies is another confounding variable when trying to establish comparisons between communities. While some have advocated that single family residential use may be the only sector where gpcd comparisons could be drawn, the broad availability of secondary water supplies would give the impression of lower household use.

Dziegielewski and Kiefer (2010) found some utilities use the term “functional population” and convert transient populations such as seasonal workers, commuters and even tourists into “resident equivalents.” These variations can have a tremendous effect upon gpcd. For example, in 2010, the Las Vegas region hosted more than 37 million visitors for an average stay of 4.6 days (Las Vegas Convention and Visitors Authority, GLS Research, 2010). These 171.7 million visitor days averaged over one year indicate more than 470,000 visitors are within the water service area every day.

To put the visitor load into perspective, consider that there are more people visiting Las Vegas on any given day than living in Sacramento, California. If the SNWA used “functional population” equivalents that included visitors, the region’s per capita water use would be reduced by approximately 43 gallons to 180 gpcd.

In calculating its gpcd, the SNWA includes all water sources in its water production, including groundwater, surface water, raw water and reclaimed water. Only water produced for banking is deducted, since it will be recorded as a demand when it is recalled for use. SNWA’s service populations include only bona fide residents estimated to be living in the service area at the mid-year

The American Water Works Association
Water Conservation Division Subcommittee Report

WATER CONSERVATION MEASUREMENT METRICS

Guidance Report

Ben Dziegielewski and Jack C. Kiefer



January 2010

single utility are caused primarily by changes in weather conditions. The differences across utilities are caused by two main factors: climate and the composition of water users. Figure 1 shows a plot of annual per capita values for 2008 versus the difference between reference evapotranspiration and effective precipitation during the 5-month growing season (only the 2008 data were available for all seven utilities). For six utilities the per capita values are more or less aligned with the theoretical irrigation water requirement during the growing season. The value for Irvine Ranch lies farther away from the regression line. Water production in Irvine Ranch district includes about 8 mgd of water delivered to agricultural customers and 2.6 mgd in wholesale deliveries.⁵ If these two quantities are subtracted from 2008 production, the per capita production would be 214 gpcd and the data point would be moved closer to the regression line.

Table 3. Calculated Per Capita Production Metric (PQ_c) for Participating Utilities

Utility/Year	2002	2003	2004	2005	2006	2007	2008	Average Deviation
Otay	227	206	212	207	209	203	189	7.2
Irvine Ranch	--	--	--	252	279	268	267	7.3
Phoenix	228	211	207	197	198	196	174	11.8
Rio Rancho	--	--	--	--	--	--	146	--
Seattle	109	111	112	100	102	97	95	6.0
Philadelphia	160	166	162	157	153	155	151	4.2
Tampa	--	--	130	112	117	124	116	5.8
Avg. deviation	46.5	35.0	35.9	47.8	52.3	48.5	40.7	44.7

GPCD = gallons per capita per day, -- = data not available. Seattle numbers are based on the sum of both retail and wholesale population.

The data points for Rio Rancho and Phoenix lie below the regression line. In the case of Rio Rancho, the seemingly outlying per capita production value may be partly related to a possibly imprecise estimate of population served. The U.S. Census estimate of the 2007 population for the City of Rio Rancho is 75,978 while the number used in Table 1 (obtained from Rio Rancho's website) is 80,000. Using this population, the per capita production would be 154 gpcd vs. the value of 146 shown on the graph. In Phoenix, the low 2008 value of 174 gpcd could not be explained by any possible imprecision in population or production.

According to the regression equation on Figure 1, per capita production increases by about 3.0 gpcd for each inch of irrigation requirement during growing season. The regression equation displayed on Figure 1 indicates that at zero requirement (when effective rainfall is equal to evapotranspiration) during the growing season the expected value of per capita production would be about 96.2 gallons per capita per day (gpcd). However, the 96.2 gpcd number has no practical value for deriving benchmark usage rates because of the differences in base climate. For example, it is unlikely that Phoenix would experience 96.2 gpcd during a growing season if precipitation was adequate for maintaining the urban landscapes. In essence, each locale or region should have its own regression line that best relates water use with local weather conditions.

⁵ It is important to note that while removing wholesale water from total production makes intuitive sense, removing agricultural deliveries would affect the difference in the composition of demand which tends to be unique in each utility.



PACIFIC
INSTITUTE



Municipal Deliveries of Colorado River Basin Water

Michael J. Cohen
June 2011

Methods

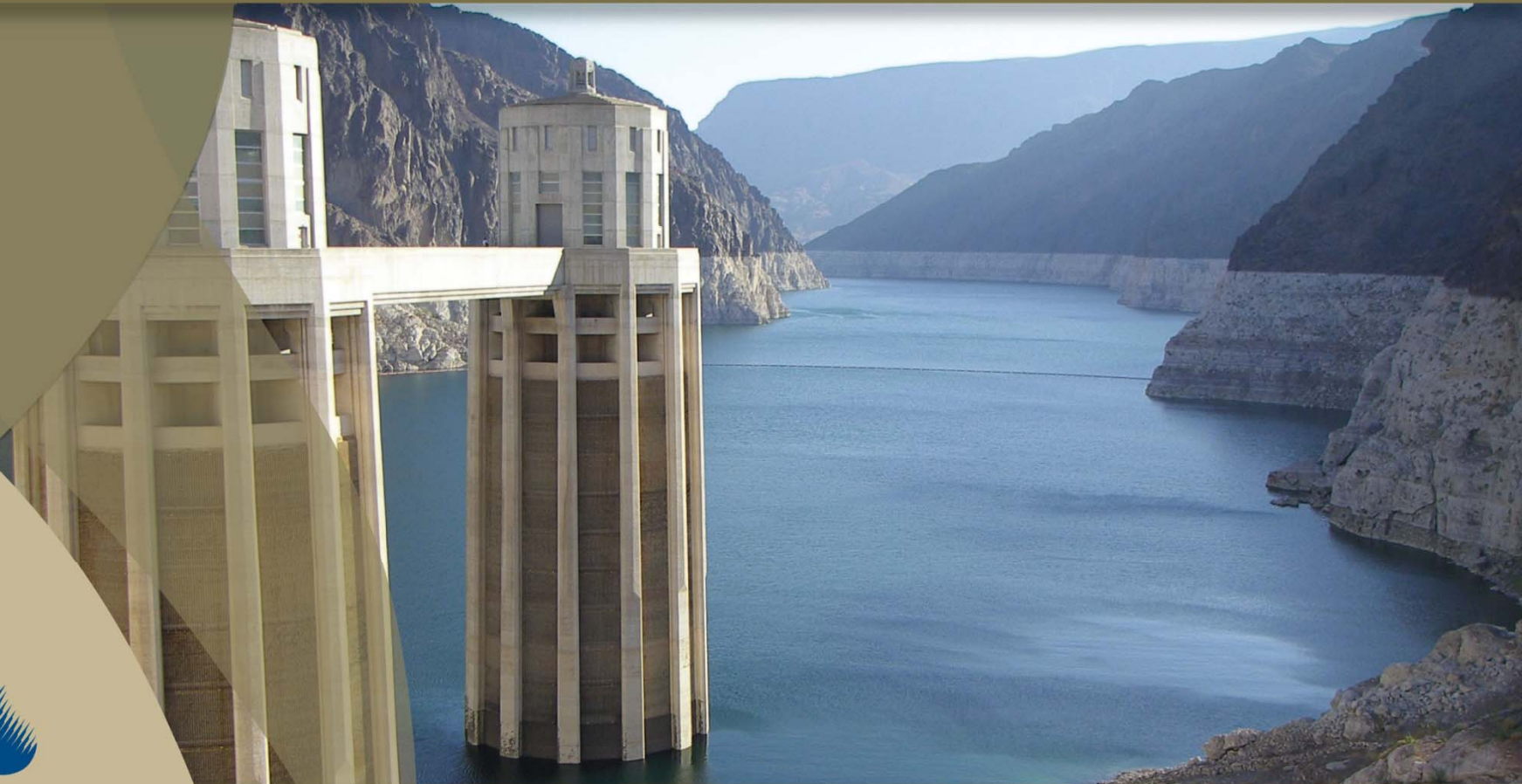
The guiding assumption driving this study was that water delivery data for any particular water agency could be compared with data for the same agency in a different year, but that water deliveries by different water agencies were not suitable for direct comparisons, due to differences in accounting methods, water use sectors, periods of measurement, and climatic differences.

Generally, the study developed in the following manner. First, using census records, I compiled a list of all metropolitan and micropolitan statistical areas²³ within the Colorado River basin itself. I then expanded the list with the statistical areas receiving trans-basin diversions, informed by Reclamation's decree accounting reports and the Colorado River Water Users Association website.²⁴ Identifying the agencies that actually deliver water to municipalities was an iterative process that involved reviewing agencies' service areas and, in some cases, conversations with water agency staff. In some cases, wholesale distributors such as Metropolitan deliver a mix of Colorado River and water from other sources to other wholesalers such as the San Diego County Water Authority, who in turn deliver water to municipal water agencies, creating several layers of water delivery data that often are not consistent due to differing accounting procedures, such as deliveries to or withdrawals from storage.

The study generally uses the years 1990 and 2000, because detailed census records exist for those years, and the year 2008, because this is the most recent year for which many agencies have published water delivery data. Selecting three years for comparison, rather than analyzing trends over multiple years, was simply a function of the limited scope of this study. Appendix A shows longer-term annual water delivery volumes by sector for two cities in Utah (because Utah's Division of Water Rights has an excellent website providing extensive data). Water deliveries in 2008 declined in some areas due to the recession. This inter-year comparison offers a picture of general trends for the large number of water providers included in the study, but is not definitive for any particular water agency.

We used several methods to obtain records of water deliveries and service area populations. Where available, we used non-agricultural water deliveries from agencies' published annual reports and annual financial reports, or state agency compilations of such data. When these reports were not publicly available, we requested such records directly from water agency staff via email and telephone. Table 2 lists data sources, by state, for the water providers included in this study. Please see *Data Sources* (on page 52) for a more complete list of the sources used in this study.²⁵

Spring, Cave, Dry Lake and Delamar Valleys



SOUTHERN NEVADA
WATER AUTHORITY