Water Supply Assessment Report

Newland Sierra Specific Plan

November 2016

Prepared for
Vallecitos Water District

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1 Purpose

This Water Supply Assessment (WSA) Report has been prepared for the Vallecitos Water District (District) in consultation with the San Diego County Water Authority (Water Authority) and the County of San Diego (County) pursuant to Public Resources Code Section 21151.9, and California Water Code Sections 10631, 10657, 10910, 10911, 10912, and 10915, referred to as SB 610. SB 610 amended state law, effective January 1, 2002, to improve the link between information on water supply availability and certain land use decisions made by cities and counties. While recognizing that it is not possible to guarantee a permanent water supply for all users in California in the amounts requested, SB 610 requires that the water purveyor of the public water system prepare a water supply assessment to be included in the environmental documentation of certain proposed projects.

The County has requested that the District prepare a Water Supply Assessment for the proposed Newland Sierra Specific Plan, which is located within the County of San Diego and within the Vallecitos Water District service area. This WSA Report is intended for use by the County in its evaluation of the Project under the California Environmental Quality Act (CEQA) process. This WSA Report evaluates water supplies that are or will be available during normal, single-dry, and multiple-dry water years during a 20-year projection to meet existing demands, expected demands of the Project, and reasonably foreseeable planned future water demands served by the District. This WSA Report has been independently reviewed by the District.

In March of 2005, a WSA&V Report was prepared and approved by the District Board of Directors for the Merriam Mountains Specific Plan (SP 04 06) development project. The applicant for the development later submitted substantial revisions to the location and extent of proposed land uses, thereby necessitating an update that was prepared in 2006. The project has now been revised to become the Newland Sierra Development Project (Project).

In December 2015, a WSA&V Report was approved for the Newland Sierra Specific Plan by the Vallecitos Water District Board of Directors. Since that time, the Newland Sierra developers have made minor land use changes and water demand updates with regard to the proposed Specific Plan and, in June 2016, the District adopted a new Urban Water Management Plan (UWMP). The County has requested a revised water supply assessment that aligns with the modified Specific Plan and the new UWMP for consideration in the County's CEQA review of the project.

A summary of Findings is provided in Section 2 of this WSA Report. The Project description is provided in Section 3. Supporting information is provided in Sections 4 through 7.

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2 Findings

This WSA Report identifies that the water demand projections for the proposed Project are included in the water demand forecasts within the UWMP and other water resources planning documents of the District, the Water Authority, and the Metropolitan Water District of Southern California (Metropolitan). Water supplies necessary to serve the demands of the proposed Project, along with existing and other projected future users, as well as the actions necessary to develop these supplies, have been identified in the water supply planning documents of the District, the Water Authority, and Metropolitan.

This WSA Report demonstrates that, with development of the resources identified, there will be sufficient water supplies over a 20-year planning horizon to meet the projected demand of the proposed Project and the existing and other planned development projects within the District's service area.

Our Findings include the following:

Projected Demands for District and Newland Sierra Study Area

1. The District's 2014 Draft Master Plan and 2015 UWMP forecast an increase in demand for the District from 13,300 acre feet per year (AFY) in 2015 to 21,219 AFY in 2020 and 28,229 AFY in 2035, under normal year conditions.
2. A projected demand of 1,825 AFY for a No Project Alternative was included in the District's 2014 Draft Master Plan future demand forecast for the Project study area. The No Project Alternative refers to the 2011 General Plan land use for the property, given that the proposed Newland Sierra Specific Plan is not yet adopted.
3. The projected water demand of 1,825 AFY for the No Project Alternative for the study area was accounted for in projecting future supply requirements in the 2015 UWMPs for the District, the Water Authority and Metropolitan.
4. Under rezoning and densification of portions of the Project study area, defined in the Newland Sierra Draft Specific Plan, the proposed Project is estimated to have an annual average demand of 1,624 AFY. This represents an 11% decrease in water demand compared to the 1,825 AFY demand that the District has planned for in its Draft 2014 Master Plan and 2015 UWMP.
5. The Newland Sierra Water Conservation Demand Study (GSI, 2016) estimates that the incorporation of Cal Green Building Code standards and Water Efficient Landscaping will reduce the estimated water demand of 1,624 AFY by at least 26% to 1,196 AFY. This is 35% less than the No Project Alternative demand (1,825 AFY) that is currently planned for in the local and regional water supply planning documents.

Projected Reliable Supply for District and Newland Sierra Study Area

1. The District's 2015 UWMP demonstrates that if Metropolitan, Water Authority and District supplies are developed as planned, along with achievement of conservation targets, then no shortages are anticipated within the District's service area in a normal, single dry or multiple dry-year through 2035.

2. Conservation is an important component of the District's water supply plan to meet future demands, fulfilling as much as 13,080 AF (approximately 36% of the demand requirements) to meet 2020 demands under multi-dry year conditions, but lessening over time to 11,114 AFY (approximately 26% of the demand requirements) in 2025 through 2035.
3. If the study area were to share equally in the conservation requirement, the previously projected No Project Alternative demand of 1,825 AFY would need to be reduced by 26% to 36%, to between 1,402 and 1,168 AFY.
4. The Newland Sierra Project is projected to have a demand of 1,624 AFY, without conservation measures, and 1,196 AFY with intended water conservation savings. This Project demand, with conservation measures, represents a 35% reduction from the No Project Alternative that is currently planned for and incorporated into the District's planning documents.
5. With the implementation of water conservation measures, Newland Sierra Project will sufficiently contribute toward the District's intent to use water conservation to meet 26% to 36% of its future demand projections under multi-dry year conditions through 2035.

Conclusions

1. The No Project Alternative water demands (1,825 AFY) are accounted for in the District's 2014 Draft Master Plan and 2015 UWMP documents.
2. The Newland Sierra Project estimated water demands (1,624 AFY) are less than the No Project Alternative projected demands that the District has planned for in its 2014 Draft Master Plan and 2015 UWMP.
3. With water conservation measures, the Newland Sierra Project will reduce the estimated water demand of 1,624 AFY by at least 26%, to 1,196 AFY. This Project demand represents a 35% reduction from the No Project Alternative that is currently planned for (1,825 AFY). As such, the Project's demand projection incorporates water conservation savings that fall within the 26 to 36% range needed to help the District achieve its water conservation target to meet future demands.
4. The planning documents referenced herein indicate that there is sufficient supply over a 20-year planning horizon to meet the projected demand and associated water conservation measures of the proposed Project and the existing and planned development projects within the District's service area.

Board approval of this WSA Report does not guarantee a permanent water supply to the Project. However, based on the information available, including projected reliable supplies, the District is able to clearly describe the current water supply situation, and indicates the intent to provide sufficient water supplies through the continuous reassessment and reallocation by the regional, as well as the local, water suppliers. In doing so, the District has met the intent of SB 610; that the land use agencies and the water agencies are coordinating their efforts and strengthening the process by which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future water demands.

3 Project Description

3.1 Newland Sierra Project

The proposed Newland Sierra Project is located in unincorporated County of San Diego on the north side of Deer Springs Road just west of Interstate 15. The project is within the eastern portion of the Vallecitos Water District service area and governed by the County of San Diego. The proposed project includes a master planned development with 2,135 residential units, 7.4 acres of commercial development, a 3.6-acre charter school and approximately 36 acres of parks. There are existing Vallecitos Water District pipelines and reservoirs on the property from an assessment district that was formed in the 1970s.

The proposed 1,985 acre Newland Sierra Project encompasses the development of 398 acres (including parks), 378 acres of fuel modification zones, and the remaining 1,209 acres dedicated to open space. The project currently includes seven planning areas, as shown in Figure 3.1 and listed in Table 3.1, below. Projected water demands for the development, shown in Table 3.2, are determined using the District's current planning criteria for water use, which is based on land use and density of residential development. The estimated water demand for the project is 1.45 MGD or 1,624 AFY. A detailed breakdown of the Newland Sierra water demand estimate is included in Appendix A.

The unit water demand criteria used to develop the Newland Sierra demand projections are documented in the District's Draft 2014 Water, Wastewater and Recycled Water Master Plan (Draft 2014 Master Plan). The District's unit water demand factors were presented to the District Board in a public workshop on July 15, 2016 and approved on September 21, 2016. The workshop presentation is included in Appendix B.

Recognizing California's water challenges, Newland Sierra is proposing conservation efforts on this project to make this "one of the most water-efficient communities ever built in San Diego County" per the Newland Sierra website. Newland Sierra's website also notes that because of new technologies and standards, today's homes are using dramatically less water than homes built just a few years ago. According to a report by the California Homebuilding Foundation[1], a new three-bedroom single-family home in California with four occupants uses 38% less indoor water than a similar-sized home built in 2005 and more than 50% less water than a home built in 1980, unless those older homes have been retrofitted to today's standards. This is primarily due to the availability of residential grade water saving devices and state-wide required plumbing code changes.

[1] California Homebuilding Foundation, Water Use in the California Residential Home, January 2010 http://www.mychf.org/go/linkservid/F79B68B7-E6C1-41B7-A028500163A10ABE/showMeta/0/

Figure 3.1. Proposed Newland Sierra Development Project Site Plan

Source: Newland Sierra, February 2016

Table 3.1. Proposed Components of Newland Sierra Development Project

Planning Area	Single Family Units	Townhome Units	Park (Acres)	Commercial (Acres)	K-8 School (Acres)
Town Center		95	5.7	7.4	3.6
Terraces		446			
Valley	188	317	12.3		
Hillside	241		2.3		
Knoll	342	30	9.5		
Mesa	265	60	4.1		
Summit	101	50	2.0		
Total	**1,137**	**998**	**35.9**	**7.4**	**3.6**

Table 3.2. Projected Water Demand for Newland Sierra Development Project

Planning Area Land Use	Study Area (Acres)	2014 Unit Water Demand (Gallons Per Day Per Acre)[1]	Estimated Total Water Demand (Gallons Per Day)
Single Family (2-4 du/ac)[2]	35.4	1,800	63,720
Single Family (4-8 du/ac)[2]	192.7	2,500	481,750
Multi-Family (2-4 du/ac)[2]	14.9	1,800	26,820
Multi-Family (4-8 du/ac)[2]	4.8	2,500	12,000
Multi-Family (8-12 du/ac)[2]	6.1	2,800	17,080
Multi-Family (12-15 du/ac)[2]	31.0	4,500	139,500
Multi-Family (15-20 du/ac)[2]	28.4	5,000	142,000
Parks	35.9	1,500	53,850
Commercial	7.4	1,500	11,100
School	3.6	1,000	3,600
Open Space	1,209.0	200	241,800
Backbone Roads	34.0	200	6,800
Fuel Modification - Irrigated	131.0	1,500	196,500
Fuel Modification – Non-Irrigated	247.2	200	49,440
Public Facilities	4.2	1,000	4,200
Total	**1,985.6**		**1,450,160**
Total (AFY)			**1,624**

1. As defined in the 2014 Draft Vallecitos Water District Water, Wastewater and Recycled Water Master Plan (See Appendix B.)
2. du/ac = dwelling unit per acre.

The development's planned water-recycling standards will require, among other measures, that homes be plumbed for simple gray water systems, providing for the

capture and reuse of water from washing machines for outdoor landscaping. In addition, high-water-use turf lawns will not be permitted in front yards and common areas of the Newland Sierra development—only "Water Smart" drought-tolerant landscaping will be allowed.

The 2015 Draft Newland Sierra Specific Plan Design Guidelines includes the following requirements:

- Low Water Use Landscape - Common landscape areas shall use 0.5 evapotranspiration (ET) adjustment factor for all common landscape areas. This represents a lower water footprint than current San Diego County requirement of 0.7 ET adjustment factor as required in Ordinance Number 10032. An ET adjustment factor of 1.0 is allowed for special landscape areas as noted in the Ordinance (i.e., recreational and community garden areas).
- Reduce Turf Grass –Turf grass shall be prohibited in residential front yards and within the community street right of ways.
- Gray Water - Single family homes shall be plumbed for single-fixture gray water systems.

A *Water Conservation Demand Study* for Newland Sierra was prepared by GSI Water Solutions, Inc. (GSI, 2016), documenting a proposed approach to reducing water demand for the Project.

The approach includes:

1. Compliance with the CAL Green 2013 Green Building Code, including 2015 supplement standards, for plumbing fixtures for both residential and non-residential inside uses. (The study estimates that current indoor plumbing standards will reduce indoor water use by 43%, when compared with derived per capita demand factors for the District).
2. Following the State of California's 2015 Model Water Efficient Landscape Ordinance (MWELO) and County of San Diego's 2010 Water Efficient Landscape Design Guide to limit the amount of water that can be applied for irrigation, based on local evapotranspiration rates. (These ordinances and guidelines require an outdoor water use authorization as part of the permitting process for a number of specific industrial, commercial, civic and residential projects; establishing a maximum applied water allowance value for the property.)

The proposed conservation measures are estimated to reduce total demand at Newland Sierra by up to 428 AFY to a demand of 1,196 AFY. This represents a 26% reduction from the estimated 1,624 AFY (1.45 MGD) demand using the District's 2014 unit water demand factors.

3.2 No Project Alternative

Since the Newland Sierra Specific Plan has yet to be adopted by the County of San Diego, the District has used current General Plan land uses, shown in Figure 3.2, to estimate the future water demands for the property in their master planning documents. This is essentially the "No Project Alternative".

The District's 2008 Master Plan used the 1979 County General Plan zoning to project a water demand of 1.74 million gallons per day (MGD) or 1,945 AFY; the 2014 Draft Master Plan Update uses the 2011 County General Plan Update land use and revised unit water demand factors for a decreased water demand projection of 1.63 MGD or 1,825 AFY. For reference, a comparison of the 1979 and 2011 General Plan zoning for the Newland Sierra study area and the corresponding water demands are shown in Table 3.3, below. **Both the old zoning and the current zoning for a No Project Alternative would require a higher water demand from the 1,985.6 acre project area than the Newland Sierra Project is currently proposing.**

Table 3.3. No Project Alternative Water Demand Projections

2011 General Plan Update				1979 General Plan			
Land Use	**Study Area (Acres)**	**2014 Unit Water Demand (gpd/acre)**	**Total Water Use (gpd)**	**Land Use**	**Study Area (Acres)**	**2008 Unit Water Demand (gpd/acre)**	**Total Water Use (gpd)**
Rural Lands (RL-20)	1,907.8	800	1,526,240	Hillside Residential	1,566.6	1000	1,566,600
Semi-Rural Residential (SR-10)	19.6	800	15,680	Rural Residential	89.7	600	53,820
General Commercial	4.6	1500	6,900	Public Facility	1.0	1400	1,400
Office Professional	53.6	1500	80,400	Office Professional	28.1	1500	42,150
Agricultural/Residential	0.0	800	0	Agricultural	21.2	800	16,960
Open Space/Vacant	0.0	200	0	Open Space	279.0	200	55,800
Total	**1,985.6**		**1,629,220**		**1,985.6**		**1,736,730**
Total (AFY)			**1,825**				**1,945**

As noted in Section 3.1, under rezoning and densification of portions of the development site, the proposed Newland Sierra Project is estimated to have an annual average demand of 1.45 MGD (1,624 AFY) and 0.93 MGD (1,196 AFY) with conservation. This level of conservation represents a 35% reduction in water use compared with the 2011 General Plan No Project Alternative of 1.63 MGD (1,825 AFY) that the District has planned for in its Draft 2014 Master Plan and 2015 UWMP.

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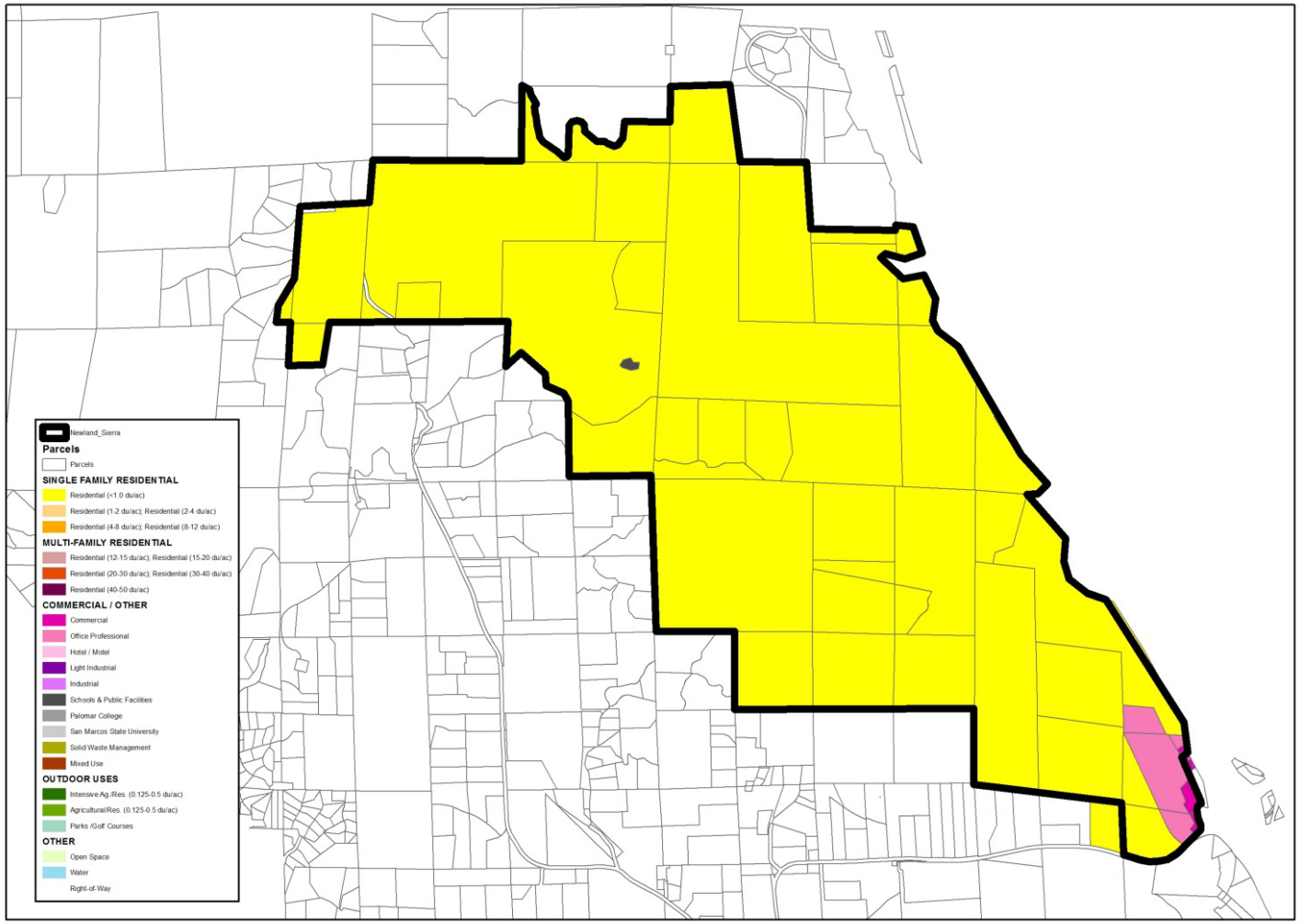

Figure 3.2. 2011 County General Plan Land Use for "No Project" Study Area

Source: District Staff

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4 Vallecitos Water District

Vallecitos Water District is located in the northern San Diego County and is situated about 10 miles from the Pacific Ocean, about 30 miles north of San Diego, and about 100 miles south of Los Angeles. Its service area includes a 45 square-mile area including San Marcos, parts of Escondido, Vista, and Carlsbad and the surrounding unincorporated areas. Vallecitos Water District is an independent special district created and governed by a five-person Board of Directors voted into office by the local citizens, and dedicated solely to water, wastewater and reclamation services. The proposed Project is located within the District's sphere of influence.

Initially, water deliveries from the Water Authority to Vallecitos Water District were handled through the Buena Colorado Municipal Water District. In 1981, Vallecitos Water District joined the Water Authority, and receives 100% of its supply from connections to the Water Authority's regional supply system.

While the District began in 1955 as the San Marcos County Water District with just a few thousand customers, it changed its name in 1989 and has grown to over 97,000 people in its boundaries today. Vallecitos Water District has about 22,000 active meters, delivers about 4,350 million gallons per year (13,300 AFY) of potable water and produces about 6.8 MGD of wastewater. Vallecitos Water District reclaims about 4.0 MGD, which is sold to the City of Carlsbad and Olivenhain Municipal Water District for landscape irrigation.

Future growth projections, water needs, facility requirements, capital improvement projects, wastewater flow, groundwater, and water source alternatives were analyzed in the District's Draft 2014 Master Plan, anticipated to be finalized in 2017, and 2015 UWMP.

In accordance with the California Urban Water Management Planning Act, the Vallecitos Water District's Board of Directors adopted a 2015 UWMP that was subsequently submitted to the California Department of Water Resources (DWR). As required by law, the District's 2015 UWMP included projected water supplies required to meet future demands through 2035. In accordance with Water Code Section 10910 (c)(2) and Government Code Section 66473.7 (c)(3), information from the District's 2015 UWMP has been used to prepare this WSA Report. The Vallecitos Water District's projected demands are also included in the Water Authority's 2015 UWMP, which takes into account approved land uses and local growth projections in developing future water supplies for the San Diego region. The District utilizes the Water Authority's 2015 UWMP as its basis for determining the availability of future water supplies.

The District's projected water demands are included in Section 5 of this report and verifiable water supplies that serve the District are described in Section 6. The assessment of availability of sufficient supplies to serve projected demands within the District is described in Section 7.

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5 Historical and Projected Water Demands

5.1 Historical Water Demands

Vallecitos Water District serves approximately 22,000 active potable water meters, delivering about 13,300 AFY to customers within the District's service area. Historical imported water deliveries from the Water Authority to the District are shown in Table 5.1. The decreases in demand in 2014 and 2015 are the result of state-wide mandatory water use reductions imposed during an extended drought period.

Table 5.1. Historical Demands and Imported Water Deliveries

Calendar Year	Demands and Imported Water Deliveries (AF)
1985[1]	10,135
1990[1]	13,372
1995[1]	11,824
2000[1]	16,413
2005[1]	16,812
2010[2]	16,308
2011[1]	15,820
2012[1]	16,929
2013[1]	17,313
2014[1]	16,744
2015[3]	13,355

1. Source: District Staff
2. Source: Vallecitos Water District 2010 UWMP
3. Source: Vallecitos Water District 2015 UWMP

5.2 Projected Water Demands

Projected water demands through 2035 were taken from the District's 2015 UWMP. As noted in the UWMP, future water use projections were generated in the 2014 Draft Master Plan through the planning horizon year 2035. The following steps were used to develop the future water demand projections in the 2015 UWMP:

- The approved land use coverage and zoning maps were provided by the land use agencies.
- In the District's Geographic Information System (GIS) database, all parcels in the District's service area were attributed with their approved land use condition and unit water demands.
- Ultimate demand projections were then estimated by applying the appropriate unit water demands to all parcels identified as being served by the District, or another agency through an exchange agreement.

Table 5.2 presents the past, current, and projected future average water demands for the District in 5-year increments up to the year 2035. Projected water demands for 2020, 2025, 2030, and 2035 were estimated based upon SANDAG's regional growth forecasts for the District. The average water demand projection for the District for 2035 is estimated to be 31.7 MGD (35,475 AFY). The District's ultimate future build-out water demand projection is approximately 34.3 MGD (38,436 AFY).

Table 5.2. Past, Current and Projected Annual Water Use (AF)

Water Use Sectors	2010*	2015	2020	2025	2030	2035
Single-Family Residential	8,491	6,018	16,392	17,423	18,141	19,574
Multi-Family Residential	1,044	2,124	8,170	8,563	8,839	9,394
Commercial	926	835	718	746	583	617
Industrial	192	147	881	918	942	994
Institutional/Governmental	442	390	893	976	908	1,022
Landscape	2,896	1,891	1,160	1,194	611	666
Agricultural Irrigation	1,246	997	1,243	1,246	1,252	1,264
Sale/Transfer/Exchange to Other Agencies	N/A	28	31	31	31	31
Real Losses	705	157	390	405	417	439
Apparent Losses	N/A	227	565	589	605	638
Fire Lines	N/A	52	61	61	61	61
Construction Water	N/A	316	307	307	307	307
Unmetered Unbilled	N/A	166	411	430	442	466
Total	**15,941**	**13,347**	**31,221**	**32,887**	**33,139**	**35,475**

*2010 Values from the 2010 UWMP which considered all losses on other uses as a single-line item.
Source: Vallecitos Water District 2015 UWMP.

5.3 Demand Management

Conservation has become a vital part of the District's overall reliability strategy. The District started a water conservation program in 1975, and with the support of the Board of Directors, the program expanded significantly during the drought of 1976-77. At the program's inception, efforts steered toward a long-term public information program and active cooperation with regional water conservation programs of the Water Authority. Though the drought ended, many of the programs that emerged during that time remained focused on switching from an "emergency situation" agenda to a long-term public information effort aimed at outreach in wise water management.

Through the addition of a Water Conservation Supervisor and Resources Assistant, the framework of a long-term conservation program continued to serve as a backdrop for the next major drought of 1987-1992. With the additional staff and a clear understanding of the importance of conservation, the District aggressively revamped the conservation program and developed a variety of innovative and effective approaches to demand management. The District reaffirmed its commitment to conservation and became one of the original signatories to the "Memorandum of Understanding Regarding Urban Water Conservation" (MOU) in California on September 16, 1991. The California Urban Water Conservation Council (CUWCC), of which the District is a long-time member, emerged from the MOU, as well as urban water conservation practices known as the BMPs, which are aimed at reducing California's long-term urban water demands.

Since becoming a signatory to the MOU, the District has made implementation of the BMPs for water conservation the cornerstone of its conservation programs, and a key element in its water resource management strategy. As a member of the Water Authority, the District also benefits from regional programs performed on behalf of its member agencies. The District actively participates in countywide and regional conservation programs at the Water Authority and Metropolitan.

5.3.1 Best Management Practices

As conservation and public information go hand in hand, all members of the conservation department now have the responsibility for water conservation programs and related outreach. This proved to be extremely valuable in 2015 during State mandated drought restrictions. On May 5, 2015, the State adopted new regulations and mandated a 24% reduction in potable water use for the District from 2013 demands.

On March 9, 2016, the State Water Resources Control Board changed the District's water conservation target to 16% due to the District's direct connection to the seawater desalination plant in Carlsbad and the addition of seawater desalination to the Water Authority's regional supply, which the District also receives. Since the mandate, through May 1, 2016, the District has achieved a 25.6% water conservation reduction.

Descriptions of the District's BMPs are provided below.

Operations Practices

This BMP includes various operational practices such as water waste prohibitions, water loss control, metering with commodity, and retail conservation pricing. A description of each is provided in Table 5.3.

Table 5.3. Operations Practices BMP

Operation	Description[1]
Water Waste Prohibitions	Prohibitions including an Ordinance for a Drought Response Conservation Program to address drought. This includes four levels (Watch, Alert, Critical, and Emergency) and conservation practices. Fines for violation.
Water Loss Control	Water loss control measures including water audits; leak detection; water system improvements; meter maintenance and replacement program; prosecution for water theft; and water loss billing.
Metering	Requirements include meters for all new service connections; establishing a program to retrofit existing unmetered connections; reading meters and billing customers by volume of use; billing intervals of no greater than bi-monthly; performing at least five meter readings for every 12-month period; and preparing a written plan that includes a census of all meters by size, type, year installed, and customers served.
Retail Conservation Pricing	Reinforces the need for water agencies to establish a strong nexus between volume-related system costs and volumetric commodity rates. Tiered rates are used to promote conservation.
Water Conservation Program Coordinator	VWD has added a Public Information/Conservation Supervisor position to assist in achieving conservation goals.

1. Per the Vallecitos Water District 2015 UWMP

Education Programs

This BMP was established to educate students of all ages and to promote water-saving practices at a young age to develop life-long good water conservation habits. A program is in place for various activities at different student grade levels from kindergarten through college.

Public Outreach for Residential Water Use Efficiency

This BMP is a Public Outreach BMP using public information programs as an effective tool to inform customers about the need for water conservation and ways they can conserve and to influence customer behavior to conserve.

Residential BMP efforts will implement water-use efficiency through residential assistance programs such as landscape surveys, and water-efficient appliance and fixture rebates and incentives.

Commercial, Industrial, and Institutional (CII) Incentives

This BMP includes a rebate program that offers CII customers financial incentives to migrate to water-efficient equipment. This may include pre-rinse spray valves, ultra-low flush toilets, single-load high-efficiency washers, and weather-based irrigation controllers.

Landscape Irrigation Efficiency

This BMP helps irrigators meet the goal of achieving a higher level of water use efficiency consistent with the actual irrigation needs of the plant materials. This would

reduce overall demands for water, reduce demands during the peak summer months, and still result in a healthy and vibrant landscape for California.

5.3.2 Senate Bill X7-7

On November 10, 2009, California Governor Arnold Schwarzenegger signed into law a comprehensive water package made up of four bills, including Senate Bill X7-7 (SB7-7). SB7-7 mandates conservation targets for all urban retail water entities supplying potable municipal water to more than 3,000 end users or delivering more than 3,000 acre feet of potable water per year to end users. The conservation targets of 10% by 2015 and 20% by 2020 on a gallons-per-capita-per-day (gpcd) water use basis must be complied with in order to be eligible for state water grants and loans. The District is not subject to agricultural-related provisions of SB7-7 since District supplies agricultural water to less than 10,000 acres. See additional urban water conservation information below.

An urban retail water supplier is required to meet either their own or the regional water conservation target in order to comply with SB7-7. The District has entered into a Regional Alliance with Rincon Del Diablo Municipal Water District, Olivenhain Municipal Water District, and San Dieguito Water District. This allows the District and the other agencies to cooperatively determine and report progress towards achieving their water use targets on a regional basis.

Urban Water Conservation

The legislation sets an overall goal of reducing per capita urban water use by 20% by December 31, 2020. The state was tasked with making incremental progress towards this goal by reducing per capita water use by at least 10% by December 31, 2015. To demonstrate SB7-7 compliance, retail water agencies are required to complete the SB7 Verification Form and submit the standardized tables provided by the California Department of Water Resources (DWR) with their 2015 UWMPs.

Per the 2015 UWMP, the District has calculated the 2015 target (90% of baseline per capita water usage) at 179.3 gpcd, and the 2020 target (80% of baseline per capita water usage) at 159.4 gpcd. The District met the 2015 target and is on track to meet the 2020 compliance target as shown in Figure 5.1 .

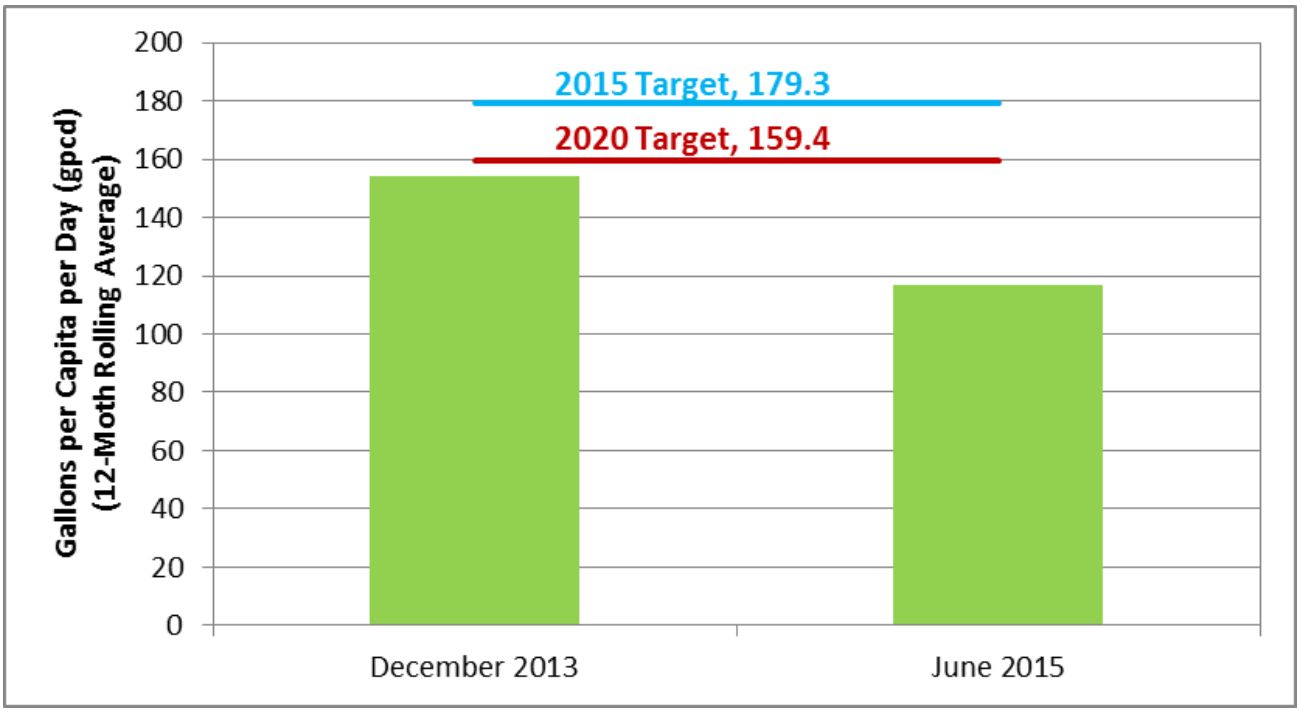

Figure 5.1. Vallecitos Water District Conservation Compliance Targets
Source: 2015 UWMP, December 2013 Data from District Staff

6 Existing and Projected Supplies

The District currently imports 100% of its potable water supply from the Water Authority. The Water Authority, in turn, purchases approximately half of its water from Metropolitan. The District is one of 24 member agencies of the Water Authority and the Water Authority is a member agency of Metropolitan. The statutory relationships between the Water Authority and its member agencies, and Metropolitan and its member agencies, establish the scope of the District's entitlements to regionally imported water supplies.

Due to the District's dependency on these two agencies, this section of the WSA Report includes information on the existing and projected supplies of the Water Authority and Metropolitan, future supply programs and the actions necessary to develop these supplies. To provide local supply reliability the District has entered into agreements with the Water Authority and Olivenhain Municipal Water District to secure locally treated water supplies. For emergency situations, the District has connections and exchange agreements with Carlsbad Municipal Water District, Rincon Del Diablo Municipal Water District, Olivenhain Municipal Water District, Vista Irrigation District, the City of Escondido, and Rainbow Water District.

6.1 Metropolitan Water District

Metropolitan's 2015 Annual Report is available on their website and includes information on delivering water supplies, strategic water initiatives, water resource management, water system operations, as well as business information.

The report notes that growing awareness of drought and retail conservation caused sales in fiscal year (FY) 2014/15 to fall below the 10-year average annual sales of 1.99 million AF. In FY 2014/15, Metropolitan sold 1.91 million AF of water, about 150,000 AF (7.3%) lower than the prior fiscal year. Treated water sales were 890,000 AF or 47% of total sales, with maximum daily system deliveries as high as 7,150 AF per day.

Metropolitan's 2015 Urban Water Management Plan (June 2016) includes information on the projected demands on Metropolitan by the member agencies. The section of the report on "Estimating Demands on Metropolitan" considers the demands on Metropolitan from municipal and industrial, agriculture, seawater barriers, and groundwater replenishment. The evaluation considers conservation efforts, water use reduction targets, and local supplies. The document also discusses Metropolitan's plan for surplus and shortage stages (Metropolitan's UWMP is incorporated by reference).

Metropolitan's 2015 Integrated Resource Plan (IRP) Update's Adaptive Management Strategy was developed to provide regional reliability through 2040. Recognizing that water supply planning can be subject to sudden and dramatic changes, Metropolitan's 2015 IRP factors include an uncertainty "buffer" to help ensure reliability. These buffer supplies will initially come from water use efficiency actions above and beyond state mandates. This IRP Update further continues Metropolitan's water use efficiency goal as a regional per-capita reduction in water use of 20% by the year 2020. A second phase would involve additional local supply development beginning in 2020. Metropolitan will collaborate with member agencies and local utilities to pursue additional local "buffer" supplies based on an evaluation of risk, cost and regional benefit. The IRP Update,

which is incorporated by reference, includes specific resource goals to ensure regional reliability and the ability to respond to uncertainty.

6.2 San Diego County Water Authority

The 2015 Annual Report titled “Beyond Drought: Reliable Water in an Era of Change” is incorporated by reference and available on the Water Authority’s website for distribution to member agencies, the County of San Diego, and cities within the County of San Diego, as well as interested members of the public. The purpose of the report is to provide an annual statement regarding the Water Authority's supplies and implementation of Water Authority plans and programs to meet the future water supply requirements of its member agencies.

The annual report notes that the Water Authority has diversified its supply sources to ensure water reliability in drought years when supplies from Metropolitan may be limited. This diversification includes independent water transfers from the Colorado River, working with the member agencies to increase conservation, increase the use of recycled water, and use local groundwater. The report also states that their most significant accomplishment of the year was proving the value of the region’s long-term strategy to develop a diversified water portfolio. In a year of serious drought, the Water Authority and its member agencies had not only enough water to meet demands, but they had enough to start storing water behind the raised San Vicente Dam, which was completed in FY 2014.

As part of that diversified portfolio, the Carlsbad Desalination Facility now provides a highly reliable local supply of 18,250 million gallons per year of potable water supply for the region, available in both normal and dry hydrologic conditions. A 54-inch pipeline conveys product water from the desalination plant 10.5 miles east to the Water Authority’s Second Aqueduct. The water is then be conveyed 5 miles north to the Water Authority’s Twin Oaks Valley Water Treatment Plant facility, where it is blended with treated imported water and subsequently distributed into the Water Authority’s existing aqueduct system.

The annual report contains detailed information on the Carlsbad Desalination Project, Water Authority/Imperial Irrigation District Water Conservation and Transfer Agreement, All American Canal, Coachella Canal Lining Projects, and the San Vicente Dam Raise and how these projects augment the current water supply and accommodate future demand projections.

The Water Authority’s 2013 Regional Water Facilities Optimization and Master Plan Update (March 2014), which is incorporated by reference, documents the Water Authority’s supplies including imported water, transfer agreements, surface water storage, the Carlsbad Seawater Desalination Project, and out-of-region groundwater banking. Figure 6.1 illustrates the improved diversity of the regional water supply portfolio through 2035, demonstrating the actions being taken to secure a reliable future supply of water to its member agencies.

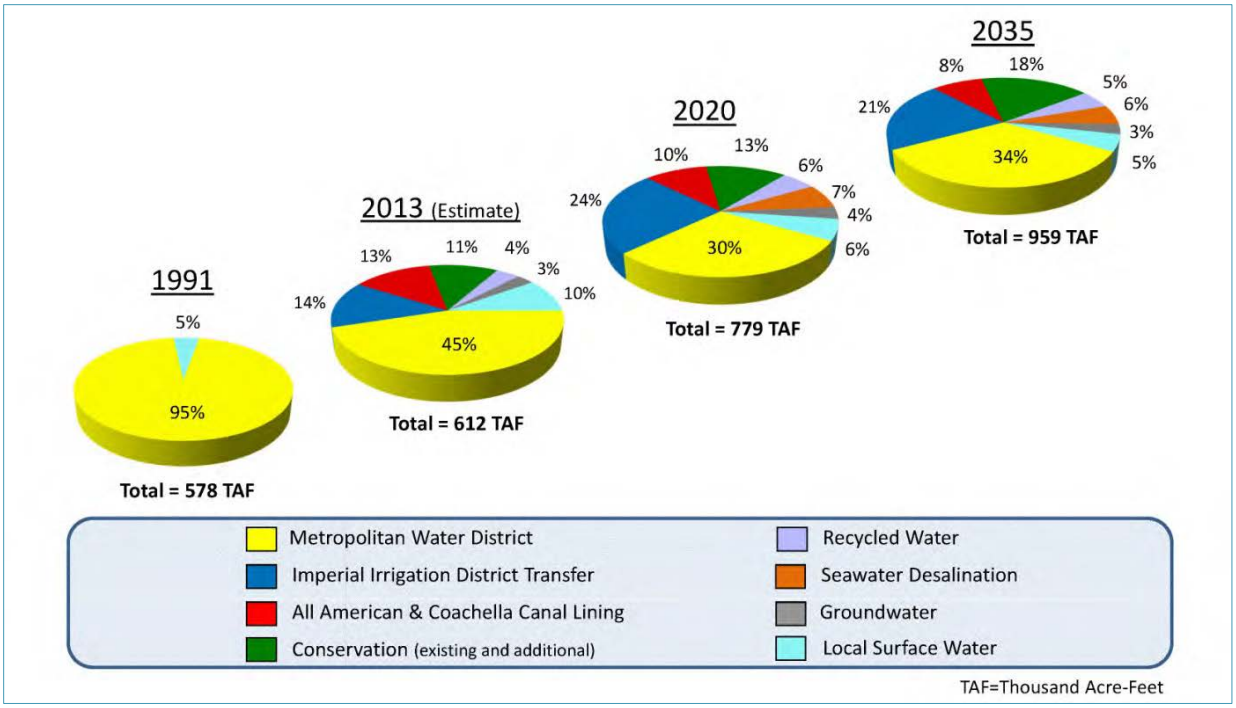

Figure 6.1. Water Authority Supply Mix, Actual 1991, Estimated 2013, and Planned 2020 and 2035

Delivery Reliability is a measurement of the frequency and magnitude of regional supply shortages that may occur as a result of insufficient supply, extreme dry weather demands, or constraints in the aqueduct system. According to the Water Authority's 2013 Master Plan, the following conclusions are based on a Delivery Reliability threshold allowing for an annual supply shortfall of 20,000 AF or less:

- Under normal and wet weather patterns, there is a very low occurrence of supply-demand gaps through 2035. During multiple dry-year weather patterns, when imported supplies are assumed to be restricted to Metropolitan preferential rights, supply-demands gaps will likely occur.
- Under planning scenarios that place a higher reliance on the Water Authority aqueduct system to meet regional demands, supply-demand gaps are more likely to occur beginning in 2025. Under these scenarios, additional supply development would be needed before the end of the 2035 planning horizon.
- The frequency and magnitude of supply-demand gaps under all planning scenarios is strongly influenced by member agency achievement of local supply development and conservation saving goals. Additional local supply development, such as the City of San Diego's proposed potable reuse project and the Otay Water District's Rosarito Beach seawater desalination project, would essentially alleviate supply-demand gaps that occur near the end of the planning horizon.
- Proposed water supply portfolios presented in the 2013 Master Plan will reduce the occurrence of supply shortages.

6.2.1 Preferential Rights

Section 135 of the Metropolitan Water District Act (MWD Act) grants member agencies preferential rights to Metropolitan water. The rights are determined by each agency's total historic payments to Metropolitan for construction and financing of the system from property taxes, readiness-to-serve charges, and other minor revenue. However, revenue resulting from the purchase of Metropolitan water is excluded. As discussed in the 2015 UWMP, the Water Authority has a preferential right to purchase 18.42% of Metropolitan's water based on historic payments, although it purchased about 21% of Metropolitan's available supply in fiscal year 2015. The Water Authority currently has lawsuits against Metropolitan to challenge how water rates were set in 2010, 2012, 2014, and 2016. In the 2010 and 2012 cases, the Water Authority also challenged how Metropolitan calculates member agencies' preferential rights, specifically Metropolitan's exclusion of certain payments the Water Authority made that were unrelated to the purchase of Metropolitan water. The Superior Court ruled in favor of the Water Authority, finding Metropolitan under-calculated the Water Authority's preferential right to Metropolitan water. This ruling has been appealed and the impact of the decision is not available. The proposed reassessment of the Water Authority's preferential rights will mean access to tens of thousands of acre-feet of water per year for the San Diego region, a significant increase in supplies.

Metropolitan presents its supply capability at the regional level in its 2015 UWMP, rather than at the member agency level. The report stated that Metropolitan has supply capabilities that would be sufficient to meet expected demands under both the single driest year and the multiple dry-year hydrologies through 2040. The report lists Metropolitan's forecasted imported water supply capabilities under normal, single driest year and multiple dry-year hydrologies through 2040, which would provide the Water Authority with adequate supplemental imported supplies in normal years and a single dry year. In multiple dry years, under its projected preferential right formula, and assuming very conservative projections for Metropolitan dry-year supplies, the Water Authority could experience shortages.

6.3 Local Water Agreements

On November 21, 2012, the District's Board of Directors voted to enter into a water purchase agreement with the Water Authority to purchase 3,500 AFY of desalinated water, which was executed on August 25, 2015. This amount represents approximately 25% of the District's current water demand. The desalination plant became operational on December 23, 2015. Melding of desalinated water with the current District water supply will provide a drought-proof supply reliability that also can serve the District during an emergency outage of the Water Authority's aqueduct system.

On November 21, 2012, the District's Board of Directors authorized the execution of an agreement with Olivenhain Municipal Water District for the treatment of at least 2,750 AFY of Water Authority-provided raw water at the David C. McCollom Water Treatment Plant. This agreement benefits the District by increasing the District's water portfolio by adding another local potable water supply point.

7 Availability of Sufficient Supplies

The District, the Water Authority and Metropolitan are implementing plans that include projects and programs to help ensure that the existing and planned water users within the District's service area have an adequate supply. Section 5 Subdivision 11 of the County Water Authority Act states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

The District imported 16,308 AF of water in 2010 from the Water Authority. This amount was expected to increase to 26,499 AF per year by 2015 and 34,164 AF per year by 2030 per estimates in the previously prepared 2008 Master Plan. However, due to drought and economic issues this past decade, increases in water deliveries have not developed at the previously projected rate. Actual 2015 imported water deliveries to the District were 13,355 AF, approximately half of the 2010 UWMP projections. To date, the Water Authority has had adequate supplies to meet the District's needs, although demand management and conservation measures were required and successfully implemented during extended drought periods to preserve available water supplies.

As discussed in Section 5, the 2014 Draft Master Plan projections for water demand within the District are expected to increase from 13,300 AFY in 2015 to 31,221 AFY by 2020 and 35,475 AFY by 2035. The No Project Alternative projected demand included in the District's 2014 Draft Master Plan future demand forecast was 1.63 MGD (1,825 AFY), which exceeds the currently proposed water demand of 1.45 MGD (1,624 AFY), and 0.93 MGD (1,196 AFY) with conservation measures, for the Project. As such, projected water demands for the proposed Newland Sierra Project were considered in the 2015 UWMPs for both the District's and the Water Authority's future water supply needs.

7.1 UWMP Analysis

Table 7.1 through Table 7.3 indicate the available water supply based on the District's 2015 UWMP. As discussed, the District has diversified and added to its supply portfolio by securing an agreement with the Water Authority for up to 3,500 AF per year of desalinated water from the Carlsbad Seawater Desalination Project and an exchange agreement with Olivenhain Municipal Water District for up 2,750 AF per year of locally treated potable water.

Table 7.1 demonstrates that with implementation of the projects discussed and planned water conservation efforts within the District, there will be adequate water supplies to serve the proposed Newland Sierra Project development along with existing and other future planned uses under normal year conditions.

Table 7.1. District Projected Water Supply and Demand During Normal Year (AF)

Description	2020	2025	2030	2035
Supply Totals[1]	21,219	24,586	26,989	28,229
Demand Totals[2]	32,666	34,333	35,505	37,841
Conservation Required	11,447	9,747	8,516	9,612
Estimated Demand with Conservation	21,219	24,586	26,989	28,229
Difference	**0**	**0**	**0**	**0**

1. Supply includes future recycled water and potable water supply from storage available. These numbers differ from the Water Authority's 2015 UWMP assessment of supply totals available to VWD, as they include 3,500 AFY of desalinated water supply provided by the Water Authority and they do not include the Water Authority's assumptions for passive and active water conservation.
2. Demand includes the recycled water demand as well as the potable and raw water demand.

Source: Vallecitos Water District 2015 UWMP

The single dry-year scenario, assessed in the District's 2015 UWMP, is shown in Table 7.2. The Water Authority's supply sources include existing and planned supplies from the Imperial Irrigation District transfer, canal lining projects and seawater desalination, which are considered "drought-proof" supplies and are essentially unaffected in a dry year scenario. According to models used during preparation of the Water Authority's 2015 UWMP, water demand in a dry year is expected to increase 7% above normal-year demands. If Metropolitan, Water Authority and District supplies are developed as planned, along with achievement of conservation targets, then no shortages are anticipated within the District's service area in a single dry-year through 2035.

Table 7.2. District Projected Water Supply and Demand During Single Dry Year (AF)

Description	2020	2025	2030	2035
Supply Totals[1]	22,594	26,206	28,723	30,073
Demand Totals	34,984	36,782	38,049	40,588
Conservation Required	12,390	10,576	9,327	10,514
Estimated Demand with Conservation	22,594	26,206	28,723	30,073
Difference	**0**	**0**	**0**	**0**

Source: Vallecitos Water District 2015 UWMP
1. These numbers differ from the Water Authority's 2015 UWMP assessment of supply totals available to VWD, as they include 3,500 AFY of desalinated water supply provided by the Water Authority and they do not include the Water Authority's assumptions for passive and active water conservation.

Similar to the single dry-year assessment, the Water Authority estimated multiple dry-year demands in 5-year increments from 2020 through 2035. According to models used during preparation of the Water Authority's 2015 UWMP, water demand in multiple dry years is expected to increase above normal-year demands as follows:

- 7.0% for the 1st dry year
- 9.2% for the 2nd dry year

- 12.3% for the 3rd dry year

Multiple dry-year scenarios, assessed in the District's 2015 UWMP, are shown in Table 7.3.

Table 7.3. District Projected Water Supply and Demand During Multi Dry Year Period (AF)

Year Supply	Description	2020	2025	2030	2035
First Year Supply	Supply Totals[1]	22,585	26,188	28,692	30,018
	Demand Totals	34,953	36,736	37,991	40,489
	Conservation Required	**12,368**	**10,548**	**9,299**	**10,471**
Second Year Supply	Supply Totals[1]	22,999	26,673	29,211	30,561
	Demand Totals	35,671	37,491	38,771	41,321
	Conservation Required	**12,672**	**10,818**	**9,560**	**10,760**
Third Year Supply	Supply Totals[1]	23,604	27,382	29,963	31,353
	Demand Totals	36,684	38,556	39,872	42,496
	Conservation Required[2]	**13,080**	**11,174**	**9,910**	**11,144**

Source: Vallecitos Water District 2015 UWMP
1. These numbers differ from the Water Authority's 2015 UWMP assessment of supply totals available to VWD, as they include 3,500 AFY of desalinated water supply provided by the Water Authority and they do not include the Water Authority's assumptions for passive and active water conservation.
2. In the third year, conservation required is 36% (13,088/36,684 AFY) of demand in 2020 and 26% (11,144/42,496 AFY) of demand in 2035.

This table also demonstrates that if Metropolitan, Water Authority and District supplies are developed as planned, along with achievement of conservation targets, then no shortages are anticipated within the District's service area during multiple dry-years through 2035.

7.2 Conclusions

As noted previously, the No Project Alternative water demands (1,825 AFY) are accounted for in the District's 2014 Draft Master Plan and 2015 UWMP documents. The Newland Sierra Project estimated water demands (1,624 AFY) are less than the No Project Alternative projected demands. However, the District's UWMP indicates that up to a third of the District's future water supply needs are anticipated to be met by implementing water conservation measures.

To meet future demands, conservation measures are required to fulfill as much as 13,080 AF (approximately 36% of the demand requirements) to meet 2020 demands under multi-dry year conditions, lessening over time to 11,144 AFY (approximately 26% of the demand requirements) in 2025 through 2035.

If the study area were to share equally in the conservation requirement, the No Project Alternative projected demand of 1,825 AFY would need to be reduced by 26 to 36%, to between 1,402 and 1,168 AFY.

The Newland Sierra Project is projected to have a demand of 1,624 AFY, without conservation measures, and 1,196 AFY with intended water conservation savings of at least 26%. This Project demand represents a 35% reduction from the No Project Alternative that is currently planned for. Therefore, with the implementation of water conservation measures, Newland Sierra Project will sufficiently contribute toward the District's intent to use water conservation to meet 26 to 36% of its future demand projections.

Figure 7.1 illustrates the impact of the Newland Sierra Project's future demand and water conservation plans on the District's future water supply and demand projections.

Summary of Conclusions

1. The No Project Alternative water demands (1,825 AFY) are accounted for in the District's 2014 Draft Master Plan and 2015 UWMP documents.
2. The Newland Sierra Project estimated water demands (1,624 AFY) are less than the No Project Alternative projected demands that the District has planned for in its 2014 Draft Master Plan and 2015 UWMP.
3. With water conservation measures, the Newland Sierra Project will reduce the estimated water demand of 1,624 AFY by at least 26%, to 1,196 AFY. This Project demand represents a 35% reduction from the No Project Alternative that is currently planned for (1,825 AFY). As such, the Project's demand projection incorporates water conservation savings that fall within the 26 to 36% range needed to help the District achieve its water conservation target to meet future demands.
4. The planning documents referenced herein indicate that there is sufficient supply over a 20-year planning horizon to meet the projected demand and associated water conservation measures of the proposed Project and the existing and planned development projects within the District's service area.

Board approval of this WSA Report does not guarantee a permanent water supply to the Project. However, based on the information available, including projected reliable supplies, the District is able to clearly describe the current water supply situation, and indicates the intent to provide sufficient water supplies through the continuous reassessment and reallocation by the regional, as well as the local, water suppliers. In doing so, the District has met the intent of SB 610; that the land use agencies and the water agencies are coordinating their efforts and strengthening the process by which local agencies determine the adequacy of existing and planned future water supplies to meet existing and planned future water demands.

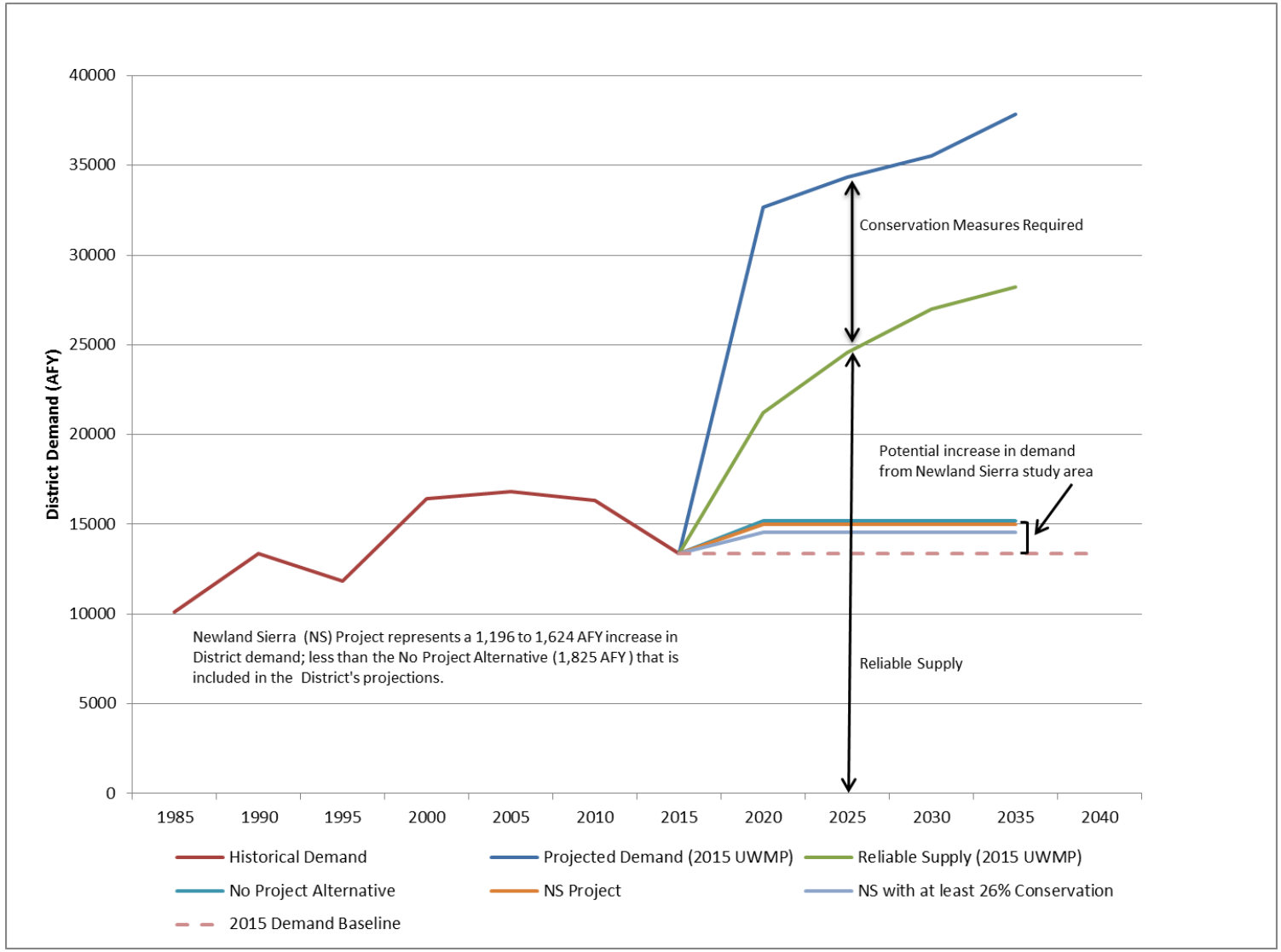

Figure 7.1. Projected Water Demand and Supply Assessment

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Appendices

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Appendix A

Newland Sierra Water Demand Estimate

From the “Master Plan of Water for the Newland Sierra Project” Dated August 3, 2016

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TABLE 1-1
NEWLAND SIERRA
PROPOSED LAND USE SUMMARY

Neighborhood	Land Use	Acres	Units
Town Center	Commercial	7.4	---
	School	3.6	---
	Park	5.7	---
	Multi-Family	7.2	95
Subtotal		**23.9**	**95**
Valley	Multi-Family	23.8	317
	Single Family	32	188
	Park	12.3	---
Subtotal		**68.1**	**505**
Terraces	Multi-Family	28.4	446
	Water Tank	1.3	---
Subtotal		**29.7**	**446**
Hillside	Single Family	36.5	241
	Park	2.3	---
Subtotal		**38.8**	**241**
Mesa	Multi-Family	6.1	60
	Single Family	53.6	265
	Park	4.1	---
Subtotal		**63.8**	**325**
Lower Knoll	Multi-Family	4.8	30
	Single Family	44.5	203
	Park	8.9	---
Subtotal		**58.2**	**233**
Upper Knoll	Single Family	26.1	139
	Park	0.6	--
Subtotal		**26.7**	**139**
Summit	Multi-Family	14.9	50
	Single Family	35.4	101
	Water Tank	2.9	---
	Park	2.0	---
Subtotal		**55.2**	**151**
---	Backbone Roads	34.0	---
---	Fuel Modification	378.2	---
---	Open Space	1209.0	---
TOTAL		**1,985.6**	**2,135**

TABLE 3-1
NEWLAND SIERRA
WATER DEMAND ESTIMATE

Neighborhood	Land Use	Acres	Dwelling Units	Density, du/ac	Water Duty Factor, gpd/ac	Average Water Demand, gpd
Twin Oaks 1028 Zone						
---	Open Space	195.7	---	---	200	39,140
---	Backbone Roads	4.5	---	---	200	900
Twin Oaks 1028 Zone Subtotal		**200.2**				**40,040**
North 1228 Zone						
	Open Space	349	---	---	200	69,800
North 1228 Zone Subtotal		**349**			**200**	**69,800**
Deer Springs 1235 Zone						
Town Center	Commercial	7.4	---	---	1,500	11,100
	School	3.6	---	---	1,000	3,600
	Park	5.7	---	---	1,500	8,550
	Multi-Family	7.2	95	13.2	4,500	32,400
Valley	Multi-Family	23.8	317	13.3	4,500	107,100
	Single Family	32	188	5.9	2,500	80,000
	Park	12.3	---	---	1,500	18,450
---	Backbone Roads	9	---	---	200	1,800
---	Fuel Modification - Irrigated	32.4	---	---	1,500	48,600
---	Fuel Modification - Non Irrigated	60.5	---	---	200	12,100
Deer Springs 1235 Zone Subtotal		**193.9**	**600**			**323,700**
Proposed 1475 Zone						
Terraces	Multi-Family	28.4	446	15.7	5,000	142,000
	Water Tank	1.3	---	---	1,000	1,300
Hillside	Single Family	36.5	241	6.6	2,500	91,250
	Park	2.3	---	---	1,500	3,450
Mesa	Multi-Family	6.1	60	9.8	2,800	17,080
	Single Family	53.6	265	4.9	2,500	134,000
	Park	4.1	---	---	1,500	6,150
Lower Knoll	Multi-Family	4.8	30	6.3	2,500	12,000
	Single Family	44.5	203	4.6	2,500	111,250
	Park	8.9	---	---	1,500	13,350
---	Backbone Roads	15.8	---	---	200	3,160
---	Fuel Modification - Irrigated	72.4	---	---	1,500	108,600
---	Fuel Modification - Non Irrigated	147.8	---	---	200	29,560
---	Open Space	200.9	---	---	200	40,180
Proposed 1475 Zone Subtotal		**627.4**	**1,245**		**–**	**713,330**

TABLE 3-1
NEWLAND SIERRA
WATER DEMAND ESTIMATE

Neighborhood	Land Use	Acres	Dwelling Units	Density, du/ac	Water Duty Factor, gpd/ac	Average Water Demand, gpd
Coggan 1608 Zone						
Upper Knoll	Single Family	26.1	139	5.3	2,500	65,250
	Park	0.6	--		1,500	900
Summit	Multi-Family	14.9	50	3.4	1,800	26,820
	Single Family	35.4	101	2.9	1,800	63,720
	Water Tank	2.9	---	---	1,000	2,900
	Park	2.0	---	---	1,500	3,000
---	Backbone Roads	4.7	---	---	200	940
---	Fuel Modification - Irrigated	26.2	---	---	1,500	39,200
---	Fuel Modification - Non Irrigated	38.9	---	---	200	7,780
---	Open Space	463.4	---	---	200	92,680
Coggan 1608 Zone Subtotal		**615.1**	**290**			**303,290**
TOTAL		**1,985.6**	**2,135**			**1,450,160**

TABLE 3-2
NEWLAND SIERRA PROJECT
WATER DEMAND SUMMARY

Pressure Zone	Average Daily Demand, mgd	Maximum Daily, Demand, mgd	Peak Hour Demand, mgd
Twin Oaks 1028	0.040	0.120	0.260
North 1228	0.070	0.209	0.454
Deer Springs 1235	0.324	0.906	1.845
Proposed 1475	0.713	1.926	3.638
Coggan 1608	0.303	0.864	1.759

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Appendix B

Vallecitos Water District 2014 Master Plan Water and Wastewater Duty Factor Workshop Presentation

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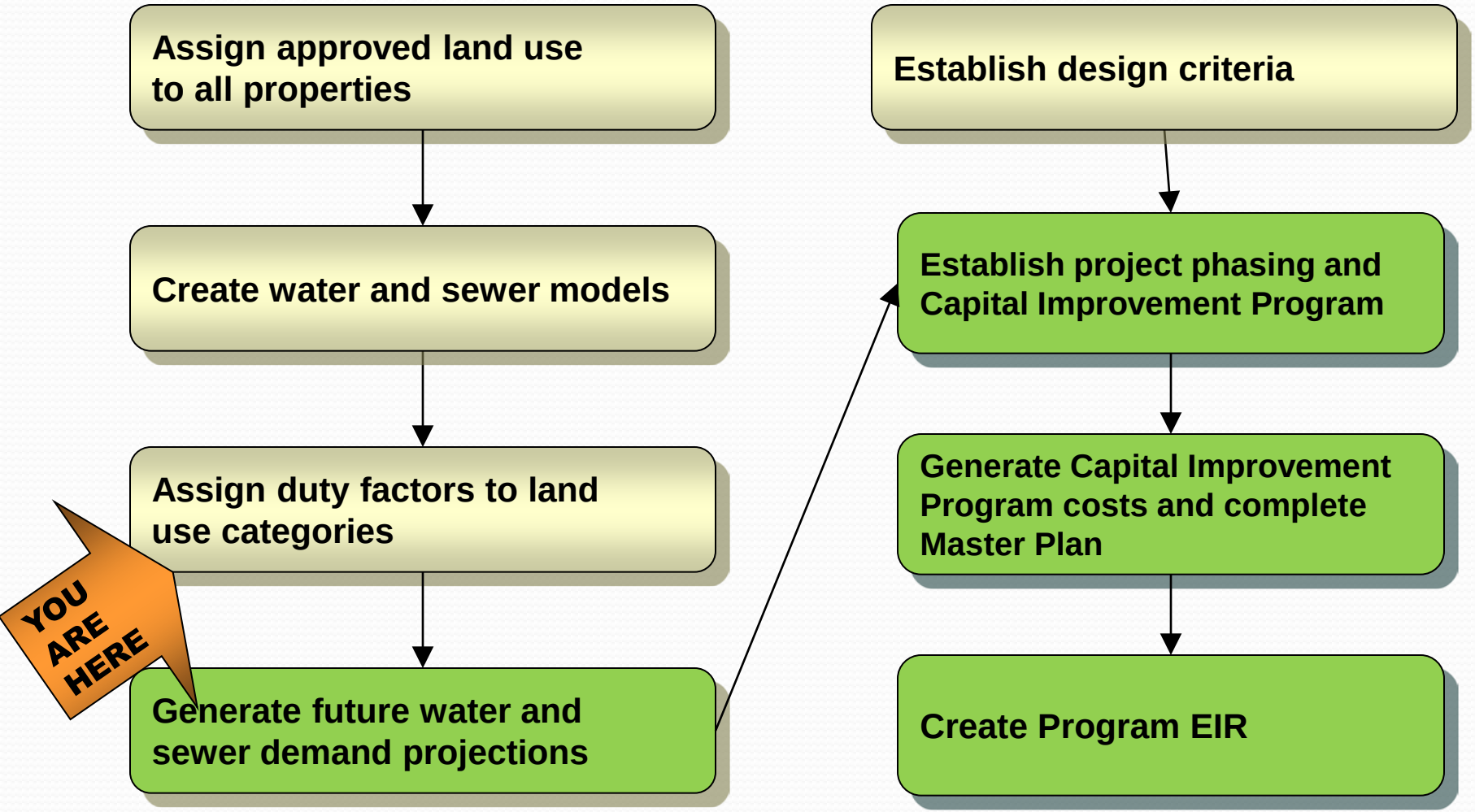
2014 Master Plan
Water and Wastewater Duty Factors

2014 Master Plan
Water and Wastewater
Duty Factor Presentation

Robert Scholl, P.E.
VWD Senior Engineer

VALLECITOS WATER DISTRICT
Water and Wastewater Specialists since 1955

Master Plan Process

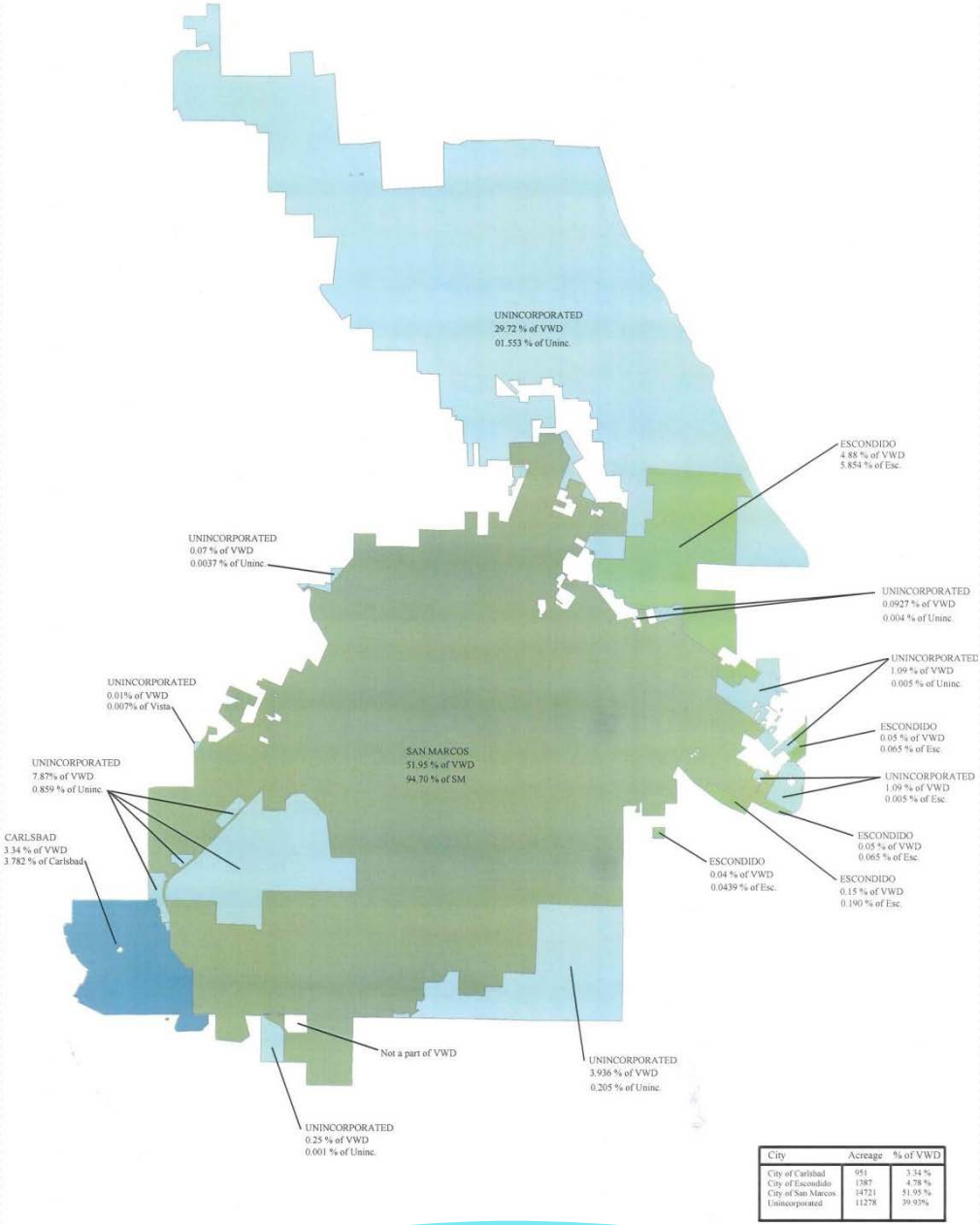


Land Use

- Obtained approved land use information from all land use agencies served by VWD
  - City of San Marcos
  - City of Escondido
  - County of San Diego
  - City of Carlsbad
  - City of Vista
- Obtained SANDAG existing population estimates and projected future infill estimates
  - SANDAG Series 13 (includes 2010 census)
- The Master Plan includes all agency-approved developments up to June 30, 2014

Agencies Served by VWD

City	Acreage	% of VWD
City of Carlsbad	951	3.34%
City of Vista		>1%
City of Escondido	1,387	4.78%
City of San Marcos	14,721	51.95%
Unincorporated	11,278	39.93%



VALLECITOS WATER DISTRICT

Duty Factors

- Duty factors for various land use categories generated using several sources
  - **Actual Meter Readings** from all VWD water meter accounts from July 2008 to June 2014
  - Readings from sewer flow meters installed throughout the collection system
  - Comparisons between water meter and sewer flow meter data
  - Comparisons to duty factors utilized in previous VWD master plans

Measured Water Usage & Proposed Water Duty Factors

Land Use Category	July 2008 – June 2014 Measured Demand (gpd/ac)	2014 Proposed MP Duty Factor (gpd/ac)
Residential <1 du/ac	592	800
Residential 1-2 du/ac	1,372	1,400
Residential 2-4 du/ac	1,856	1,800
Residential 4-8 du/ac	2,428	2,500
Residential 8-12 du/ac	2,858	2,800
Residential 12-15 du/ac	4,894	4,500
Residential 15-20 du/ac	5,772	5,000
Residential 20-30 du/ac	6,195	6,000
Residential 30-40 du/ac	4,877	7,000
Residential 40-50 du/ac	10,030	9,000
Intensive Ag/Residential	725	1,100
Agricultural/Residential	655	800
Commercial	1,340	1,500
Office Professional	1,168	1,500
Light Industrial	861	1,500
Industrial	747	800
Schools & Public Facilities	801	1,000
Parks/Golf Courses	819	1,500
Open Space	133	200

Water Duty Factor Comparison w/ Past Master Plans

Land Use Category	1997 MP Update Duty Factor (gpd/ac)	2002 MP Update Duty Factor (gpd/ac)	2008 MP Duty Factor (gpd/ac)	2014 Proposed MP Duty Factor (gpd/ac)
Residential <1 du/ac	1,000	800	800	800
Residential 1-2 du/ac	1,300	1,200	1,200	1,400
Residential 2-4 du/ac	1,900	2,100	1,800	1,800
Residential 4-8 du/ac	1,900	2,400	2,500	2,500
Residential 8-12 du/ac	2,800	2,500	2,800	2,800
Residential 12-15 du/ac	3,400	2,800	3,300	4,500
Residential 15-20 du/ac	3,600	3,200	3,700	5,000
Residential 20-30 du/ac	3,800	4,100	5,000	6,000
Residential 30-40 du/ac	-	-	7,000	7,000
Residential 40-50 du/ac	-	-	9,000	9,000
Intensive Ag/Residential	2,000	600	1,400	1,100
Agricultural/Residential	1,000	700	800	800
Commercial	1,200	1,700	1,500	1,500
Office Professional	1,500	2,000	1,500	1,500
Light Industrial	1,500	1,800	1,800	1,500
Industrial	2,000	1,000	1,000	800
Schools & Public Facilities	1,300	1,400	1,400	1,000
Parks/Golf Courses	1,300	1,700	1,700	1,500
Open Space	200	200	200	200

Sewer Duty Factor Comparison w/ Past Master Plans

Land Use Category	1997 MP Update Duty Factor (gpd/ac)	2002 MP Update Duty Factor (gpd/ac)	2008 MP Duty Factor (gpd/ac)	2014 Proposed MP Duty Factor (gpd/ac)
Residential <1 du/ac	300	140	150	150
Residential 1-2 du/ac	500	500	500	500
Residential 2-4 du/ac	800	700	750	750
Residential 4-8 du/ac	1,400	1,500	1,300	1,300
Residential 8-12 du/ac	1,700	1,500	2,100	2,100
Residential 12-15 du/ac	2,500	2,100	2,500	2,500
Residential 15-20 du/ac	2,500	2,200	3,300	3,300
Residential 20-30 du/ac	3,700	4,000	4,500	4,500
Residential 30-40 du/ac	-	-	6,300	6,300
Residential 40-50 du/ac	-	-	8,100	8,100
Intensive Ag/Residential	300	80	80	80
Agricultural/Residential	300	80	80	80
Commercial	1,200	1,500	1,200	1,200
Office Professional	1,700	1,700	1,200	1,200
Light Industrial	1,300	1,600	1,500	1,300
Industrial	2,100	900	900	700
Schools & Public Facilities	700	800	800	800
Parks/Golf Courses	300	500	250	250
Open Space	200	40	40	0

Mixed Use

- Commercial, industrial or office duty factors used to calculate 1st story demands
- High density residential duty factors for 2nd and higher story demands calculated as follows:
  - Water demands calculated with a duty factor of 200 gpd per residential unit
  - Wastewater generation calculated with a duty factor of 180 gpd per residential unit

Projected vs Actual Water Demands

No.	Land Use Category	1991 Master Plan (gpd/ac)	1993-1997 Measured (gpd/ac)	1997 Master Plan (gpd/ac)	1998-2002 Measured (gpd/ac)	2002 Master Plan (gpd/ac)	2007 Measured (gpd/ac)	2008 Master Plan (gpd/ac)	July 2008 - June 2014 Measured (gpd/ac)	2014 Master Plan Recommended (gpd/ac)	Acreage per Land Use Category	2014 Projected Demands per Land Use Category
-	Hillside Res. (0.05-0.25 du/ac)	1,000	-	1,000	1,030	1,000	-	1,000	-	-		
-	Rural Res. (0.125-1.0 du/ac)	1,000	940	1,000	580	600	604	600	-	-		
1	Residential (<1.0 du/ac)[2]	-	-	-	-	-	-	-	492	800	2,367	1,893,600
2	Residential (1-2 du/ac)	1,500	-	1,300	1,210	1,200	1,153	1,200	1,372	1,400	400	560,000
3	Residential (2-4 du/ac)	1,750	1,140	1,900	2,070	2,100	1,617	1,800	1,856	1,800	768	1,382,703
4	Residential (4-6 du/ac)[3]	2,000	1,600	1,800	2,190	2,200	-	2,200	-	2,200	0	0
5	Residential (4-8 du/ac)	2,000	1,740	1,900	2,360	2,400	2,480	2,500	2,428	2,500	1,720	4,298,891
6	Residential (8-12 du/ac)	2,250	2,750	2,800	2,130	2,500	2,882	2,800	2,858	2,800	449	1,257,857
7	Residential (12-15 du/ac)	3,750	2,970	3,400	2,170	2,800	3,464	3,300	4,894	4,500	64	288,709
8	Residential (15-20 du/ac)	3,750	-	3,600	3,220	3,200	3,682	3,700	5,772	5,000	103	514,420
9	Residential (20-30 du/ac)[4]	4,000	-	3,800	4,140	4,100	5,001	5,000	6,195	6,000	63	376,911
10	Residential (30-40 du/ac)[4]	-	-	-	-	-	4,763	7,000	4,877	7,000	10	72,022
11	Residential (40-50 du/ac)[4]	-	-	-	-	-	8,893	9,000	10,030	9,000	16	148,148
12	Intensive Ag./Res. (0.125-0.5 du/ac)	2,000	-	2,000	610	600	1,437	1,400	725	1,100	345	379,314
13	Agricultural/Res. (0.125-0.5 du/ac)	1,000	-	1,000	650	700	794	800	655	800	971	777,138
14	Commercial	1,250	1,190	1,200	1,720	1,700	995	1,500	1,340	1,500	497	745,500
15	Hotel / Motel[5]	-	-	-	-	-	6,522	1,500 gpd/ac + 125 gpd/rm	1,635	1,500 gpd/ac + 125 gpd/rm	30	44,956
16	Office Professional	1,500	-	1,500	2,040	2,000	784	1,500	1,168	1,500	54	81,369
17	Light Industrial	1,500	150	1,500	1,760	1,800	-	1,800	861	1,500	313	468,902
18	Industrial	2,000	610	2,000	1,020	1,000	1,129	1,000	747	800	340	272,000
19	Schools & Public Facilities	1,250	-	1,300	1,390	1,400	1,139	1,400	801	1,000	285	284,611
20	Palomar College	2,250	-	2,300	N/A	2,300	931	1,200	1,102	1,200	51	61,132
21	San Marcos State University	-	-	2,300	N/A	2,300	950	1,200	468	1,200	226	270,768
22	Mixed Use[6]	-	-	-	-	-	-	-	2,542	3,000	10	29,684
23	Parks/Golf Courses	1,250	-	1,300	1,710	1,700	1,195	1,700	819	1,500	459	688,500
24	Solid Waste Management	-	-	-	N/A	-	-	-	-	-	15	0
25	Open Space	-	-	200	N/A	200	1,442	200	133	200	1,733	346,600
26	Right-of-Way	-	-	-	N/A	200	5,178	200	849	200	120	24,000

2014 PROJECTED DEMANDS	15,267,735
NON-SPECIFIED/UNMATCHED DEMANDS	230,542
TOTAL 2014 PROJECTED WATER DEMANDS	15,498,277
ACTUAL 2013 WATER DEMANDS	15,455,076
PERCENT DIFFERENCE	0.3%

Projected vs Actual Sewer Flows

No.	Land Use Category	1991 Master Plan (gpd/ac)	1997 Master Plan (gpd/ac)	2002 Master Plan (gpd/ac)	2008 Master Plan (gpd/ac)	2014 Master Plan Recommended (gpd/ac)	Acreage per Land Use Category (Including IDA)	2014 Projected Flows per Land Use Category
-	Hillside Res. (0.05-0.25 du/ac)	400	300	40	38	-		
-	Rural Res. (0.125-1.0 du/ac)	400	300	140	150	-		
1	Residential (<1.0 du/ac)	-	-	-	-	150	464	69,600
2	Residential (1-2 du/ac)	400	500	500	500	500	335	167,500
3	Residential (2-4 du/ac)	800	800	700	750	750	709	531,750
4	Residential (4-6 du/ac)	1,250	1,200	1,300	1,100	1,100	-	0
5	Residential (4-8 du/ac)	1,550	1,400	1,500	1,300	1,300	1,942	2,524,600
6	Residential (8-12 du/ac)	1,900	1,700	1,500	2,100	2,100	486	1,020,600
7	Residential (12-15 du/ac)	3,000	2,500	2,100	2,500	2,500	67	167,500
8	Residential (15-20 du/ac)	3,000	2,500	2,200	3,300	3,300	109	359,700
9	Residential (20-30 du/ac)	3,700	3,700	4,000	4,500	4,500	63	283,500
10	Residential (30-40 du/ac)	-	-	-	6,300	6,300	10	63,000
11	Residential (40-50 du/ac)	-	-	-	8,100	8,100	16	129,600
12	Intensive Ag./Res. (0.125-0.5 du/ac)	-	300	80	80	80	50	4,000
13	Agricultural/Res. (0.125-0.5 du/ac)	-	300	80	80	80	96	7,680
14	Commercial	1,200	1,200	1,500	1,200	1,200	451	541,200
15	Hotel / Motel	-	-	-	1,500 gpd/ac + 125 gpd/rm	1,500 gpd/ac + 125 gpd/rm	27	40,500
16	Office Professional	1,800	1,700	1,700	1,200	1,200	54	64,800
17	Light Industrial	1,200	1,300	1,600	1,500	1,300	267	347,100
18	Industrial	1,800	2,100	900	900	700	327	228,900
19	Schools & Public Facilities	820	700	800	800	800	286	228,800
20	Palomar College	2,075	1,000	1,000	1,000	1,000	51	51,000
21	San Marcos State University	-	1,000	1,000	1,000	1,000	146	146,000
22	Mixed Use	-	-	-	-	1,000	5	5,000
23	Parks/Golf Courses	300	300	500	250	250	242	60,500
24	Solid Waste Management	-	-	-	-	0	1	0
25	Open Space	-	200	40	40	0	303	0
26	Right-of-Way	-	-	-	-	0	40	0

TOTAL PROJECTED SEWER FLOWS	7,042,830
ACTUAL FY 13/14 AVG GPD COLLECTED	7,024,320
PERCENT DIFFERENCE	0.3%

Duty Factors Summary

- Overall, very few changes from 2008 Master Plan duty factors
  - Residential water duty factors slightly increased
  - Agricultural, industrial water duty factors slightly decreased
  - Agricultural sewer duty factors slightly decreased
- Duty factors expected to be very accurate
  - Projected water demands and sewer flows using proposed duty factors within 0.3% of actual water demands and sewer flows

Example #1 – Newer Mixed-Use Development in University District

- Land Use Breakdown
  - 62 residential units on 0.89 acres
  - 0.63 acre mixed-use commercial w/ 48 residential units
- Average Water Demand (Sept 2012 – Dec 2014)
  - Residential – 99 gpd/dwelling unit
    - In 2014 alone, water use increased to 119 gpd/dwelling unit (occupancy?)
  - Commercial – 804 gpd/acre
    - In 2014 alone, water use increased to 1,127 gpd/acre

Example #2 – Established Mixed-Use Development in Richmar Area

- Land Use Breakdown
  - 120 residential units on 3.63 acres
  - 0.94 acre commercial
  - 0.60 acre mixed-use commercial w/ 4 residential units
- Average Water Demand (Jan 2009 – Dec 2014)
  - Residential – 187 gpd/dwelling unit
    - In 2014 alone, water use increased to 195 gpd/dwelling unit
  - Commercial – 1,169 gpd/acre
    - In 2014 alone, water use increased to 1,722 gpd/acre

Example #3 – Very New Mixed-Use Development in University District

- Land Use Breakdown
  - 0.67 acre mixed-use commercial w/ 64 residential units
- Average Water Demand (Aug 2014 – Dec 2014)
  - Residential – 274 gpd/dwelling unit
  - Commercial – 1,718 gpd/acre

Mixed-Use Example Comparison

Example #1 – Newer Univ District Development

- Residential Water Demand – 99 gpd/dwelling
- Commercial Water Demand – 804 gpd/acre

Example #2 – Established Richmar Development

- Residential Water Demand – 187 gpd/dwelling
- Commercial Water Demand – 1,169 gpd/acre

Example #3 – Very New Univ District Development

- Residential Water Demand – 274 gpd/dwelling
- Commercial Water Demand – 1,718 gpd/acre

Average: Water Demand – 186 gpd/dwelling

Average: Commercial Demand – 1250 gpd/acre

2014 Master plan proposed duty factors:

- Mixed-Use Residential - 200 gpd/dwelling
- Commercial - 1,500 gpd/acre

Hotel Examples

Hotel #1 – 112 rooms

- Average Water Demand – 138 gpd/room

Hotel #2 – 69 rooms

- Average Water Demand – 77 gpd/room

Hotel #3 – 83 rooms

- Average Water Demand – 136 gpd/room

Total Hotel Rooms – 264 rooms

- Average Water Demand – 121 gpd/room

2014 Master Plan

- Proposed Duty Factor – 125 gpd/room

Next Step:
Future Water Demand Projections

Master Plan Edition	Existing Demand at Time of Master Plan (MGD)	Projected Ultimate Demand (MGD)
1975 MP	2.5	38.8
1981 MP Update	6.1	38.8
1986 Draft MP	9.1	39.1
1991 MP	9.3	42.3
1997 MP Update	11.7	38.2
2002 MP Update	13.0	31.9
2008 MP	18.3	34.1
2014 MP	15.5	?

Next Step:
Future Sewer Flow Projections

Master Plan Edition	Existing Flows at Time of Master Plan (MGD)	Projected Ultimate Flows (MGD)
1986 Draft MP	3.6	14.4
1991 MP	4.0	18.7
1997 MP Update	5.0	16.4
2002 MP Update	6.0	13.3
2008 MP	6.7	13.3
2014 MP	7.0	?

Master Plan Schedule

Generate future water demands and sewer flows	July 2015
Establish project phasing and Capital Improvement Program	October 2015
Board presentation on proposed Capital Improvement Program	TBD
Generate Capital Improvement Program costs and complete Master Plan	February 2016
Create Program EIR	April 2016
Board adoption of Master Plan and Program EIR	August 2016

QUESTIONS?

Appendix C

SDCWA 2015 Annual Water Supply Report

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2015 ANNUAL REPORT

San Diego County Water Authority

2015 Annual Report

BEYOND DROUGHT

Reliable water in an era of change

San Diego County Water Authority

San Vicente Dam & Reservoir

Carlsbad Desalination Project

Beyond Drought

Reliable water in an era of change

Inside

Drought Readiness and Response

Water Supply Diversification

Enhancing System Reliability

Prudent Financial Management

Leadership and Outreach

To view the Water Authority's 2015 Video, go to sdcwa.org/annualreport/2015/video/2015-video.

The Water Authority produces a fully interactive annual report microsite. The microsite allows readers to go directly to the content that interests them most. Please go to **sdcwa.org/annualreport/2015** to get the complete experience including videos, animated graphics and links to more in-depth information.

Mark Weston
CHAIR

Mark Muir
VICE CHAIR

Jim Madaffer
SECRETARY

Maureen A. Stapleton
GENERAL MANAGER

From the Board Officers and General Manager

From start to finish, drought dominated fiscal year 2015. Record-breaking hot and dry conditions coupled with unprecedented emergency state regulations changed the landscape of the water world in profound ways. While attending to the drought, we didn't let up on our long-term priorities: the development of the Carlsbad Desalination Project, our efforts to secure legal rates at the Metropolitan Water District of Southern California, our leadership role in advancing a strong water conservation ethic statewide through legislation, and all of the critical maintenance, repair and replacement work that our crews undertake to ensure reliable and uninterrupted water service 24 hours a day, seven days a week.

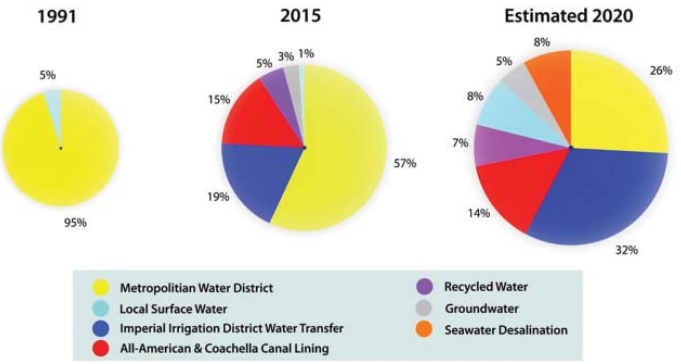
Despite a myriad of challenges, the Water Authority remained committed to our core values as a leader on regional water supply issues, a partner supporting our member agencies and communities, and the operator of the region's large-scale water supply infrastructure. Staff responded in remarkable ways: creating and expanding an array of conservation and outreach tools to help ratepayers; completing upgrades to the Water Authority's infrastructure for utilizing water from the landmark desalination project; helping secure state grants for regional water projects; and launching partnerships across the region to reduce water waste. We also were among the foremost voices calling for state water-use regulators to properly recognize investments local agencies have made to develop drought-resilient sources of supply.

The results were extraordinary. The most significant accomplishment of the year was proving the value of our region's long-term strategy to develop a diversified water portfolio. While some areas of the state suffered serious water supply shortages after four years of drought, the Water Authority and its member agencies had enough water to meet demands. In fact, we had enough to start storing water behind the raised San Vicente Dam, which we completed in fiscal year 2014 and feted at the start of fiscal year 2015 with a top-flight celebration on the shores of the reservoir.

Through it all, we never lost track of the big picture: our purpose is to provide a safe and reliable water supply – whether conditions are wet or dry – to support 3.2 million residents and a $218 billion economy – an essential role that helps ensure the same opportunities we have today are available to future generations. To that end, we promoted long-term solutions, such as helping our member agencies lay the foundation for potable reuse to help meet our region's water needs. We continued to explore the possibility of hydropower facilities at San Vicente Reservoir with the ultimate goal of benefitting ratepayers, and the potential for a seawater desalination project at Camp Pendleton. We retired more than $50 million in debt, and followed that with a two-year budget that will help maintain our excellent credit ratings that save money for every ratepayer in the region. We also made good on our commitments to sustain the landmark Colorado River Quantification Settlement Agreement of 2003, the cornerstone of our supply diversification strategy.

We conclude 2015 on a hopeful and determined note. Despite a changing climate and changing regulations, we stand resolute – ready to provide a safe and reliable water supply through this drought and far beyond.

Increasing San Diego County's Water Supply Reliability Through Supply Diversification



To view the full animation showing the region's progress in water supply diversification, go to sdcwa.org/annualreport/2015/charts/water-supply-diversification.

Diversification strategy shines during drought

84%

of county residents support the region's water supply diversification strategy.*

***From a Water Authority countywide public opinion survey conducted in spring 2015.**

Water content in the Sierra Nevada snowpack on April 1 fell to just 5 percent of its historical average, and the statewide snowpack was the lowest for any April since snowpack record-keeping began in 1950. But as water supply conditions worsened throughout the winter and spring, the Water Authority was ready. For more than two decades, the region has prepared for drought with investments in new water supplies, conservation programs and infrastructure.

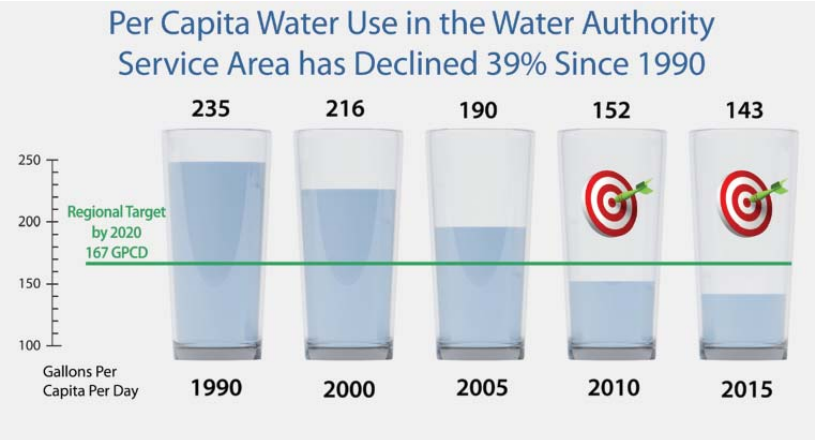
The Water Authority's strategic plan included the nation's largest farm-to-urban water conservation-and-transfer deal along with canal-lining projects that are the foundation of the 2003 Colorado River Quantification Settlement Agreement. Together, those sources delivered 180,000 acre-feet in 2015, enough for 360,000 typical homes, and the volume will continue to ramp up in coming years.

The Water Authority also heavily promoted conservation, helping to drive down per capita potable water use in the region by 39 percent compared to 1990 and 32 percent since just 2007. Regional potable water use in 2015 was 21 percent lower than it was in 1990, despite adding 800,000 people to the county. Over that period, more than 300,000 jobs were added to the local economy, and the county's annual gross domestic product nearly doubled.

The value of regional investments was highlighted in April when the Metropolitan Water District of Southern California announced that it would cut supplies to the Water Authority by 15 percent starting in July 2015. Even with that reduction, the Water Authority projected being able to meet 99 percent of normal demand – a significant accomplishment after four years of drought.

In fact, before the fiscal year ended, the Water Authority was able to do something virtually unheard of in California during 2015 – increase its water reserves by storing water behind the newly raised San Vicente Dam. This gave the region added water security in case drought conditions worsen in 2016 or beyond. It was a defining moment that validated decades of planning and implementation of the Water Authority's diversification strategy.

To view the Water Authority's 2015 Water Issues video, go to sdcwa.org/annualreport/2015/video/2015-water-issues



To view the full animation showing water use since 1990, go to sdcwa.org/annual-report/2015/charts/conservation-savings.

The Water Authority advocated state regulators to provide credits for developing drought-resilient supplies, such as seawater desalination.

Board responds to drought with strong actions

The Water Authority's Board of Directors took a series of actions during the fiscal year to stay ahead of worsening drought conditions and unprecedented state water-use reduction mandates.

In July, the Board unanimously activated the second stage of the region's drought response plan and declared a Drought Alert condition calling for mandatory water conservation measures to keep as much water as possible in storage. The Drought Alert condition made the Drought Watch voluntary conservation measures that had been adopted earlier mandatory, and it added outdoor watering restrictions such as limiting landscape irrigation to no more than three days per week during the summer.

In May, the State Water Resources Control Board approved emergency statewide regulations that set water-use reduction targets for local water agencies from June 1 through February 2016. State mandates required the Water Authority's 24 member agencies to each reduce water use by 12 to 36 percent compared to their 2013 water-use levels, with a regional average reduction of 20 percent.

To view the Water Authority's 2015 Serious Drought Means Conserve Water Now video, go to sdcwa.org/annualreport/2015/video/conserve-water-now.

Following the state's adoption of those unprecedented mandates, the Board moved swiftly to help local water agencies meet state targets by restricting irrigation of ornamental landscapes to no more than two days a week across the region and immediately boosting regional conservation and outreach efforts by $1 million. In addition, the Board established local urban and agricultural water supply cutbacks based on reduced water deliveries from the Metropolitan Water District and set penalties for local agencies that exceed their supply allocations.

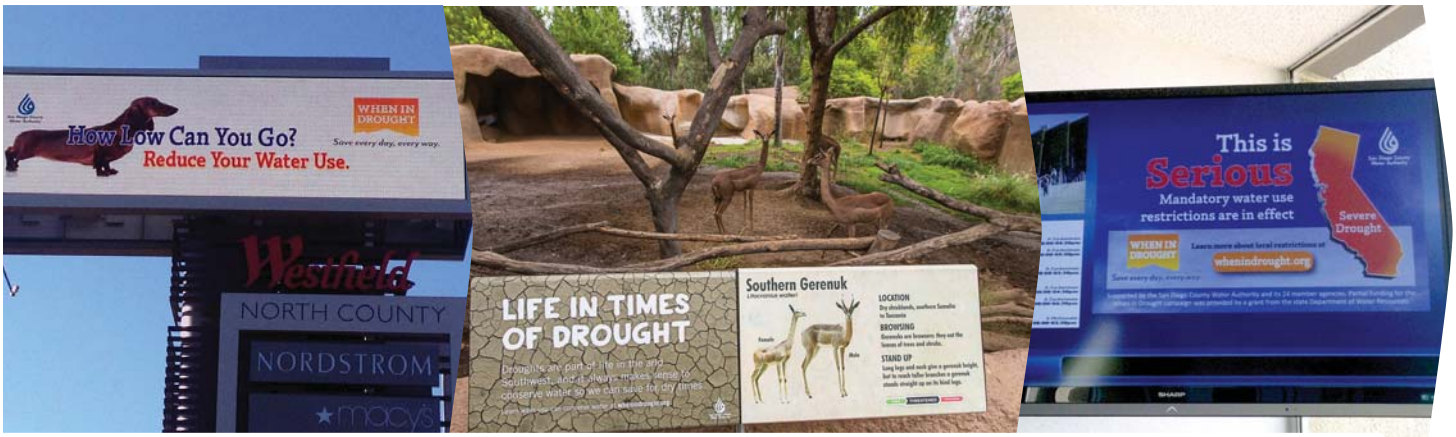
The combined efforts worked: In June, the first month with state mandates in effect, the San Diego region reduced water use by 26 percent compared to June 2013. That followed a decrease of 30 percent in May compared to May 2013. The water savings were significant: per capita water use decreased from 161 gallons per day in 2014 to 143 gallons per day in 2015. Total regional water use also dropped, from 595,000 acre-feet in 2014 to 533,000 acre-feet in 2015. **http://www.sdcwa.org/drought-state-restrictions**

Water Authority advocates for more equitable state rules

When state officials proposed an emergency water-use regulation in April, the Water Authority jumped into action and quickly became the leading voice statewide seeking to refine the draft rules so they could achieve water savings with the least possible impact on the region's economy and quality of life.

Those efforts paid dividends; the final regulations adopted in May provided protection for the San Diego region's $1.9 billion farm sector, a critical concern. However, the State Water Resources Control Board ultimately adopted regulations that didn't give credit to regions that had prudently planned for dry periods by investing in drought-resilient water supplies such as the Carlsbad Desalination Project. Left unchanged, that approach will have a chilling effect on the development of drought-proof water supplies statewide because regions won't be able to benefit from their investments.

State officials pledged to revisit the issues with the Water Authority and other stakeholders during a review process before regulations were scheduled to expire in February 2016.

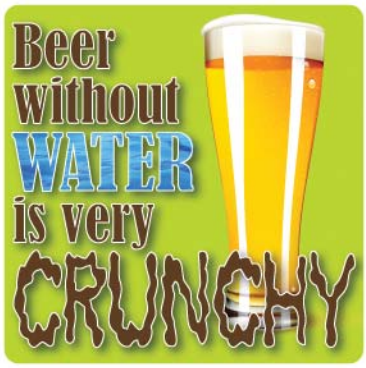


Campaign partners included Westfield North County (left), San Diego Zoo Global (middle) and the San Diego Community College District campuses.

87%

of county residents believe using water efficiently is a civic duty.*

***From a Water Authority countywide public opinion survey conducted in spring 2015.**



Beverage coasters promoting the value of water were distributed throughout the region.

When in Drought message expands

As drought conditions intensified, the Water Authority expanded its When in Drought conservation campaign to encourage increased water-saving efforts "every day, every way." The Board in May approved $1 million for expanded conservation and outreach by: funding the creation of a sophisticated smartphone app so users can report water waste across the region; increasing customer assistance by funding more indoor and outdoor water-use evaluations; creating a web-based, step-by-step guide for homeowners to convert to water-efficient landscaping; and training landscaping professionals on water-use efficiency. The funding also paid for the development of an aggressive multi-media advertising campaign focused on the summer months when water use is highest.

A key component of the When in Drought campaign involved securing community partners to help spread the message. Leading institutions and associations joined the cause, including San Diego Zoo Global, which updated signs throughout its two internationally known parks to reflect the need for enhanced water conservation. The zoo also provided conservation reminders for visitors during bus and tram tours, made social media posts encouraging WaterSmart lifestyles, and created a video about efforts to conserve water at its parks.

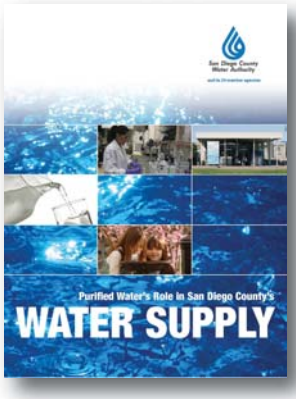
In addition, the Water Authority was joined by the local chapter of the Plumbing-Heating-Cooling Contractors Association to help residents and businesses save water and money during national Fix a Leak Week in March. The San Diego Brewers Guild promoted increased water conservation and the When in Drought campaign in its comprehensive Craft Beer Map & Guide, while Westfield North County added a When in Drought ad to its regular rotation of displays on one of the region's most prominent freeway electronic billboards.

Numerous other partners also joined the cause, such as the San Diego Regional Airport Authority, the Food and Beverage Association of San Diego and many others. The team effort delivered the When in Drought campaign to hundreds of thousands of residents, an extraordinary contribution to the cause of water conservation.

To view one of the Water Authority's "When in Drought" TV ads, go to sdcwa.org/annualreport/2015/video/shorten-showers.

Plant overview

Product water tank



Carlsbad Desalination Project 90 percent complete

The Water Authority remained on track to reach a historic water supply milestone with the $1 billion Carlsbad Desalination Project reaching 90 percent completion at the end of June. Commercial operations are scheduled to start in late 2015.

The project includes the largest, most technologically advanced and energy-efficient seawater desalination plant in the nation; a 10-mile pipeline to connect with the Water Authority's regional distribution system; and about $80 million in upgrades to Water Authority facilities for distributing desalinated water throughout the region.

At the end of June, the pipeline had been completed, as were upgrades to Water Authority facilities, including the relining of Pipeline 3. In addition, the Twin Oaks Valley Water Treatment Plant north of San Marcos successfully completed testing for accepting water from the desalination plant.

The project is the result of a 30-year Water Purchase Agreement between the Water Authority and Poseidon Water for the purchase of between 48,000 and 56,000 acre-feet per year of desalinated seawater. The plant will produce about one-third of all the water generated in San Diego County in 2020, helping reduce reliance on imported water at a time when hot and dry conditions are depleting water supplies statewide.

After 30 years, the Water Authority has the right, but not the obligation, to purchase the desalination plant for $1.

Secondary pretreatment

Potable reuse committee charts regional course

The Water Authority redoubled its efforts to support the development of potable water reuse as the next major increment of local supply by forming the Potable Reuse Coordinating Committee with its member agencies. The committee encourages sharing information and aligning efforts in three key areas: public outreach, the pursuit of grant funding and the state's development of regulatory criteria.

In conjunction with the committee, the Water Authority developed educational materials that explain the process of water purification and its role in the regional water supply diversification strategy. Water Authority staff also joined member agencies staff to attend state expert panel and advisory group meetings about potable reuse and track potential impacts on planned local projects. In addition, the Water Authority supported member agencies' efforts to secure grant money for potable reuse projects by providing comments on state funding criteria and coordinating on legislation to provide federal financial support.

Lower Colorado conservation program celebrated

The Water Authority helped commemorate the 10th anniversary of the Lower Colorado River Multi-Species Conservation Program in April during a tour of conservation sites along the lower Colorado River. The Water Authority is one of 57 partners in the program, which was created in 2005 to balance the use of the Colorado River resources with the conservation of native species and their habitats.

The program works toward the recovery of species protected by the Endangered Species Act. The 50-year program accommodates current water diversions and power production, and optimizes opportunities for future water and power development.

The program area extends along 400 miles of the lower Colorado River from Lake Mead to the Mexico border. It calls for the creation of more than 8,100 acres of habitat for fish and wildlife species and the production of more than 1.2 million native fish to augment existing populations. During the program's first decade, 11 conservation areas covering more than 4,300 acres were established.

Meeting our environmental commitments

As part of its commitment to the Colorado River Quantification Settlement Agreement of 2003, the Water Authority supports environmental mitigation projects in the Salton Sea Basin, such as the completion of the Wister Sport Fishery Pond in Imperial County.

The project, completed in December, was designed to replace sport fishery resources lost when the All-American and Coachella canals were lined to reduce leakage and transfer 80,000 acre-feet of conserved water annually to San Diego County. The sport fishery pond is on the California Department of Fish and Wildlife's Wister Management Area north of Niland at the eastern shore of the Salton Sea.

Major components of Wister project include a 50-acre main pond stocked with fish, an adjacent five-acre sedimentation forebay, associated equipment for water supply and drainage, fish habitat structures, fishing peninsulas, and a boat ramp. The state will operate and maintain the pond in perpetuity through endowments provided by the Water Authority.

San Marcos turf replacement project before/after

Popular turf program changes the landscape

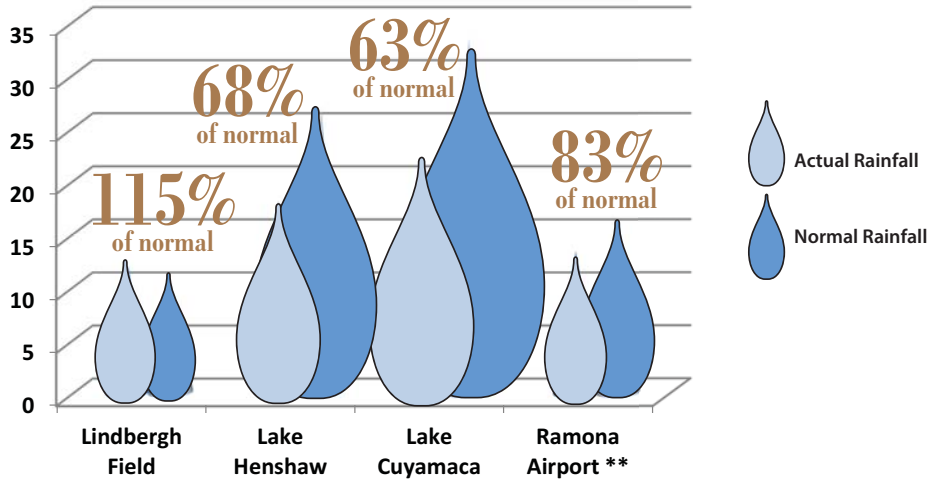
Drought conditions highlighted the value of the Water Authority's long-term water conservation efforts, including the grant-funded WaterSmart Turf Replacement Program launched in December 2012.

A surge in applications exhausted available grant funds in January, nearly three years ahead of schedule. The program will pay for nearly 800 turf replacement projects and directly account for the replacement of more than 1.1 million square feet of water-intensive turf grass with low water-use landscapes across the region. Those landscapes will save an estimated 1,500 acre-feet of water over 10 years.

The turf replacement program also helped to catalyze a market transformation in the region's landscaping industry at a minimal cost to ratepayers. By the end of the year, low-water landscapes were becoming more prominent across the region.

Oct. 2014 - Sept. 2015

Actual Rainfall in Inches – San Diego County



**Monthly rainfall data collection began in Water Year 2015.

Conservation education programs grow in popularity

Residents and business across San Diego County stepped up to the conservation challenge by taking advantage of the Water Authority's water-saving educational programs.

The Water Authority held 49 California Friendly Landscape Training classes during the year, educating nearly 2,000 participants – more than double the previous year. The Water Authority also hosted 13 WaterSmart Landscape Makeover Series for more than 250 homeowners. On average, makeover series participants reduced their household water use by 58 percent, or approximately 21,000 gallons per year, for a combined savings of more than 5.3 million gallons per year.

The Water Authority's water-use checkups also proved popular. Residential assessments jumped by more than 17 percent to more than 2,500 participants. In addition, 72 commercial, industrial and institutional water users participated in irrigation checkups, an increase of 140 percent.

San Vicente's new marina

Water refilling the San Vicente Reservoir

Raised dam dedicated by state and regional leaders

Approximately 200 state and local water leaders, elected officials, civic and business leaders, and community stakeholders attended a dam raise dedication ceremony at San Vicente Dam in July to celebrate the largest water storage project in San Diego County history. It was, once again, proof that the San Diego region is committed to doing what it takes to maintain a safe and reliable water supply.

The San Vicente Dam Raise Project is the largest piece and final major element of the Water Authority's $1.5 billion Emergency Storage Project, a system of reservoirs, interconnected pipelines, and pumping stations designed to ensure a six-month supply of water for the San Diego region in case imported water deliveries are interrupted – for instance, by an earthquake.

Started in 2009, it was the tallest dam raise in the nation and the tallest in the world using a construction technique called roller-compacted concrete. Roller-compacted concrete is just as strong as conventional concrete but takes less time and water. It is placed in layers, one on top of the other, in a process that resembles road construction. The dam now stands 337 feet tall, an increase of 117 feet.

San Vicente Dam Raise passes safety tests; re-filling begins

The San Vicente Dam Raise project added 152,000 acre-feet of water storage capacity to the reservoir – but before the expanded capacity could be used, the raised dam was required to satisfy state regulators. The California Department of Water Resources Division of Safety of Dams provided oversight during design and construction, along with post-construction safety certification.

In October, the Water Authority and the City of San Diego successfully performed an emergency release of water as a test, and the state certified the emergency release system. The state also required drilling a series of 6-inch diameter "cores" to assess the strength of the new structure.

Based on the initial core assessment results, the Water Authority was allowed to fill the reservoir 30 feet above the dam's original elevation starting in May. The final analysis of the coring test results was being prepared for the state's review at year's end, moving the Water Authority closer to final certification of the dam. By June, construction of the buildings, boat ramp and parking lot for the new and improved marina also were complete.

The storage volume added by the dam raise is greater than any reservoir in the county, a vital hedge against water shortages. About one-third of the reservoir's added capacity – 52,000 acre-feet – is for stored for emergencies. The rest is "carryover" storage designed to be filled during wet years and tapped to meet demands in dry years.

To view the San Vicente Dam Raise Dedication video, go to sdcwa.org/annualreport/2015/video/svdr-dedication.

Since its start-up in 2012, the Lake Hodges Pumped Storage Facility has produced $7.7 million in revenue, including $3.1 million in fiscal year 2015.

Water Authority and City of San Diego explore pumped storage project

As construction on the San Vicente Projects wound down, the Water Authority and the City of San Diego ramped up their coordinated assessment of a potential pumped storage energy project at the reservoir. The Water Authority and the City are co-permittees on a preliminary permit issued by the Federal Energy Regulatory Commission in May that allows the agencies to pursue development of a pumped storage facility at San Vicente Reservoir. The preliminary permit is an early step in the process of determining if and how the Water Authority and the City could develop the project during the next decade.

The potential pumped storage project could supplement the region's energy needs with up to 500 megawatts of energy production during peak demand periods, enough to supply approximately 325,000 homes.

The San Vicente Pumped Storage Project would include construction of a small reservoir above San Vicente Reservoir, along with an underground powerhouse at San Vicente Reservoir and a tunnel and pipeline system to connect the two reservoirs. The powerhouse would contain reversible pump-turbines. During peak energy demand, water would flow downhill through the turbines to generate carbon-free power. During off-peak periods, water would be pumped to the upper reservoir.

Numerous steps involved in evaluating the project were completed during the year. In February, the Water Authority Board approved a partnership agreement with the City of San Diego and funding for technical and professional services to advance in the regulatory process. That was followed in May by Board approval for submitting the Preliminary Application Document/Notice of Intent to FERC, along with approval for starting the process of selecting an Owners' Advisor Team to perform additional analyses of the project's viability and recommend a business model for implementation of the project. Staff completed the FERC PAD/NOI in June for submission to FERC.

Pumped storage facility tops 97 percent 'uptime'

Regular upkeep allowed the Lake Hodges Pumped Storage Facility to top 97 percent availability during the fiscal year, an important achievement for ensuring the facility continues to maximize revenues that offset the cost of providing a safe and reliable water supply.

As part of planned operations, the Lake Hodges facility was taken off-line in March and November for inspections and preventative maintenance. The shutdowns allowed the facility's contract operator to cost-effectively perform annual maintenance while maximizing facility availability for pumped storage operations.

Nob Hill Improvements Project advances

Following certification of the final Environmental Impact Report for the Nob Hill Pipeline Improvements Project in June 2014, the Water Authority continued to hold numerous public meetings for residents in Scripps Ranch in preparation for the start of construction in late 2015.

The project includes replacing two existing pipelines with one pipeline at a lower elevation and a new access road for maintenance crews. Once completed in 2017, the work will improve aqueduct hydraulics in the area, reducing the potential for pipeline damage. In addition, the new road will mean that Water Authority vehicles won't need to use Scripps Nob Hill roads for accessing agency facilities, a long-term benefit for the community.

Collaboration ensures successful relining project in North County

Realignment of State Route 76 in North County and the associated relining of sections of Pipelines 3, 4 and 5 put Water Authority crews to the test during the winter and spring. Collaboration by several departments, member agencies, the Metropolitan Water District of Southern California and Caltrans ensured that all water demands by member agencies were met and all facilities operated as designed.

The complex, multi-stage relining resulted from the final phase of a Caltrans project to widen and realign State Route 76 between Interstate 15 and South Mission Road in Bonsall. The work directly impacted the three pipelines comprising the Water Authority's Second Aqueduct.

Caltrans agreed to spend $6.1 million relining Pipelines 3, 4 and 5 within the Second Aqueduct right of way, extending the life of those sections by 75 years. However, the project included a series of shutdowns that severely limited water entering the county and required unique operational adjustments. Those accommodations included storing more than 35,000 acre-feet of water in San Vicente Reservoir for delivery when the pipelines were out of service, and using the San Vicente Pump Station for the first time to meet operational demands.

As a result of careful planning and execution, there were no water supply interruptions to the Water Authority's member agencies. The project was completed in March.

To view the full animation on Magnetic Flux Leakage, go to sdcwa.org/annualreport/2015/charts/mfl.

High-tech tool assesses 10 more miles of pipeline

In November, the Water Authority finished 10 miles of pipeline condition assessments using magnetic flux leakage – or MFL – technology. The high-tech tool confirmed the pipeline was in good condition overall and will continue to provide decades of service. It also identified four potentially problematic corrosion areas that were immediately repaired, proving the value of the Water Authority's aggressive approach to asset management and facilities maintenance.

The Water Authority is one of only three public water agencies in the nation using MFL to locate potential weak spots in large-diameter steel pipelines. The Water Authority is the leading water agency in the world in terms of pipeline distance scanned using MFL, with more than 26 miles assessed.

Emergency exercise boosts preparedness

As part of the Water Authority's longstanding commitment to ensuring a safe and reliable water supply even under challenging conditions, staff conducted an exercise of the Incident Command System in September. The event simulated what might occur following a 7.1 earthquake on the Elsinore Fault, helping to practice the internal coordination necessary to recover from a long-term water supply outage.

The emergency exercise included events that might unfold over six weeks following an emergency to promote both immediate response measures and the planning necessary to return to normal conditions. It also included staff at multiple locations and three shift changes, allowing primary and alternate staff for each ICS position to practice leading and supporting the emergency response.

Internship program cultivates next generation

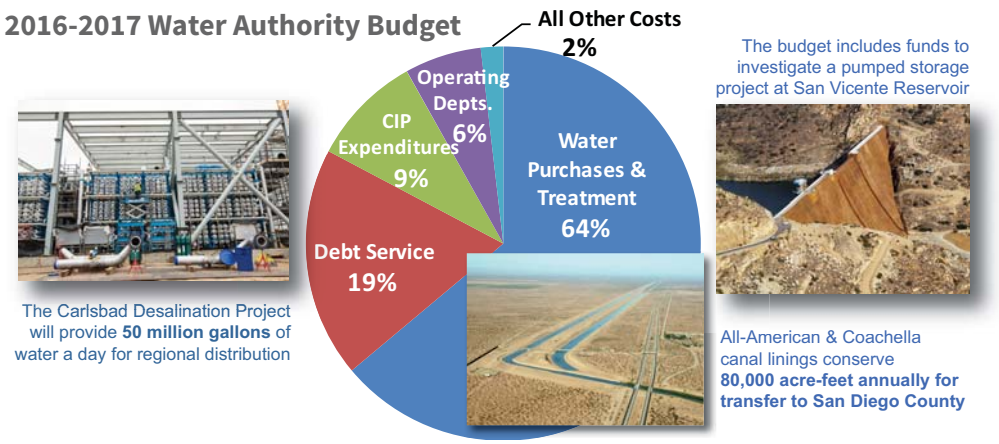
Twelve students from Palomar College and Cuyamaca College were selected for the 2014/15 Regional Water and Wastewater Intern Program run by the Water Authority in partnership with local water agencies, community colleges and private-sector partners. During the program's tenth year, 10 host agencies volunteered to mentor interns during the 10-month, one-of-a-kind work experience.

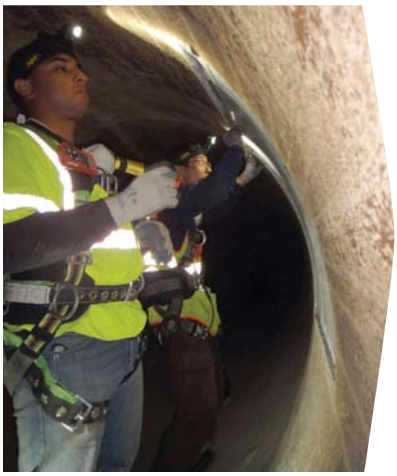
Students in the San Diego region use the program to gain invaluable on-the-job experience that often leads to rewarding careers. Nearly half of the participants in the program over the past decade have secured jobs in the water/wastewater industry before their internships ended. The program also provides the water and wastewater industries with trained employees to fill entry-level positions as demand for qualified staff continues to grow.

Right-of-way team resolves encroachments

One of the major operational challenges for utilities is to ensure that easements can be readily accessed for routine maintenance and emergency response. Each week, Water Authority staff patrols nearly 160 miles of aqueduct rights-of-way looking for ways to remove existing encroachments and prevent new ones.

During 2015, the right-of-way team resolved 49 encroachment violations, including a deck on the Water Authority's list of top right-of-way encroachments that was being rebuilt in the Los Peñasquitos area. Early detection and action were instrumental in removing the deck at no cost to the Water Authority – a textbook example of how to continue ensuring a safe and reliable water supply and protect essential infrastructure.





Budget for fiscal years 2016 & 2017 set at $1.5 billion

Careful budgeting and planning helped keep budget increases to a minimum despite numerous changing and growing demands. The Board of Directors in June adopted a $1.5 billion budget for fiscal years 2016 and 2017, up 2 percent from the prior two-year budget due largely to higher costs for the purchase and treatment of water. Water costs were projected to rise by 12 percent in fiscal years 2016 and 2017, partly because of increases in the cost of supplies from MWD and the purchase of highly reliable, drought-proof water from the Carlsbad Desalination Plant.

Expenses were held in check by lower spending on the Water Authority's Capital Improvement Program, which decreased by 34 percent as major projects neared or reached completion. The lifetime cost of the CIP projects was reduced to $2.8 billion. In addition, the Water Authority continued to streamline the organization through the strategic reductions and reclassification of staff positions following a series of major cost-cutting moves in prior budgets.

The 2016 and 2017 budget for operating departments decreased 5 percent from the previous budget due to a combination of efforts to reduce expenses. Operating expenses comprise only 6 percent of the Water Authority's $1.5 billion two-year budget.

In fiscal years 2016 and 2017, the Water Authority's budget anticipated several major projects and initiatives. They included:

- Drought response – Helping the region meet state-mandated water-use reduction targets with outreach and conservation programs to assist customers and help member agencies avoid financial penalties by the state
- Carlsbad Desalination Project – Preparing to receive 50 million gallons of water a day from the plant for regional distribution
- Regulatory policy – Supporting a new program to address regulatory policy and planning, along with increased activities necessary to comply with various demands by regulatory agencies
- Dry-year modeling – Developing a model to assist in the prudent use of stored water reserves by accounting for variables such as weather, economic factors and evaporation
- Asset management – Maintaining the reliability of the Water Authority's estimated $3.3 billion infrastructure
- Hydroelectric energy – Investigating the potential of new energy sources, such as a pumped storage project at San Vicente Reservoir
- Water supply planning – Forecasting changes in long-term water use by updating the Urban Water Management Plan

Outstanding safety record benefits ratepayers

The Water Authority ended the year with an excellent safety record that was nearly four times better than the industry average, indicating that the Water Authority had fewer work-related injuries and illnesses than most peer agencies.

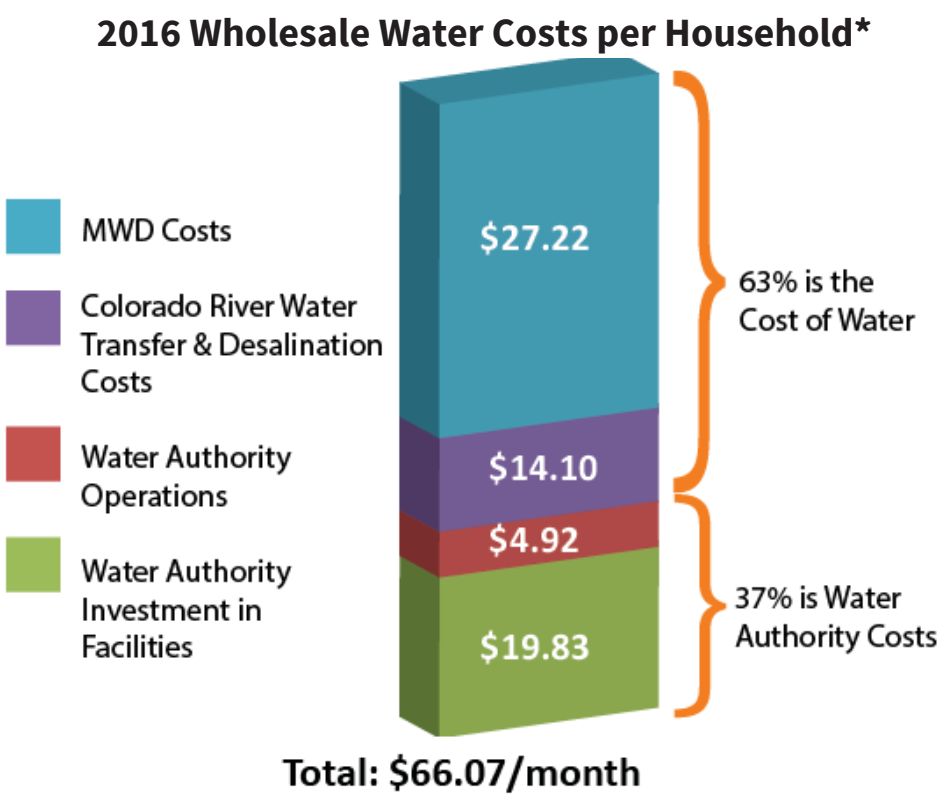
The Water Authority also maintains a workers' compensation "experience modifier" that is significantly below the industry standard, and it completed the fiscal year without a single property claim. The figures not only reflect the Water Authority's commitment to workplace safety and risk management, they translate into savings on insurance premiums – a benefit for ratepayers.

Debt defeasance helps minimize rate increases

The Board of Directors in September approved a series of actions to reduce the Water Authority's debt portfolio, providing rate relief and staying on the cutting edge of best accounting standards. The moves will help the Water Authority reduce future financing costs by $85.4 million over 20 years.

The strategy involved using money from a lawsuit settlement and savings in the operating fund to pay down (or defease) $56 million in liabilities for two senior lien bond series (2004 and 2008). That reduced annual debt service requirements, creating a long-term savings that will help offset other costs.

Board direction also included pre-paying liabilities for the Water Authority's retiree health care program known as Other Post-Employee Benefits, or OPEB. The Water Authority paid off a $5.8 million OPEB liability, and – for the first time – achieved an OPEB surplus of $92,000 at the end of the fiscal year.



Rate increases near low end of projections

In June, the Board also adopted rate increases of 6.6 percent for untreated water and 5.4 percent for treated water, starting Jan. 1, 2016.

The Water Authority will charge its 24 member agencies the municipal and industrial rate of $1,159 per acre-foot for untreated water in calendar year 2016, or $72 more than they paid in 2015. The Water Authority also will charge $1,439 per acre-foot for treated water, or $74 more than in 2015. Actual figures will vary by member agency, and each member agency will incorporate costs from the Water Authority into the retail rates it charges to residents, businesses and institutions.

The adopted rates were near the low end of projections made in 2011, and well below the double-digit increases during the last drought that were driven by steep price hikes from the Metropolitan Water District. To moderate rate increases, the Water Authority restructured its debt and planned a strategic draw from its Rate Stabilization Fund to minimize the impact on ratepayers.

Financial Statements

The Water Authority received its 15th consecutive award from the Government Finance Officers Association for financial reporting excellence. The Water Authority was also awarded a Distinguished Budget Presentation award for its Multi-Year Budget for Fiscal Years 2014 and 2015. The Water Authority has received this award every year since 1995.

Water Use
in San Diego County
533,230 acre-feet

Agriculture
9%
49,502 acre-feet

Public & Other
12%
65,425 acre-feet

Commercial & Industrial
15%
80,311 acre-feet

Residential
64%
338,002 acre-feet

NOTES: Agriculture sector use is based on member agencies' reported sector splits.
Sector percentages are rounded to total 100 percent.

Statements of Net Position

JUNE 30, 2015 AND 2014	2015	2014
Assets:		
CURRENT ASSETS:		
Cash and investments	$111,130,235	$1,609,258
Restricted cash and investments	170,873,233	337,066,803
Water receivables	90,113,890	115,790,820
Interest receivable	1,222,552	1,317,844
Taxes receivable	1,159,303	1,364,468
Other receivables	15,697,438	9,761,981
Inventories	52,428,622	27,589,904
Prepaid expenses	4,636,815	4,637,593
Total current assets	447,262,088	499,138,671
NONCURRENT ASSETS:		
Cash and investments	115,405,373	200,567,595
Restricted cash and investments	70,039,820	16,715,590
Advances to other agencies	278,977	343,874
Retention receivable	1,724,761	1,021,168
Long-term loan receivables	20,000,000	20,000,000
Net OPEB asset	2,157,000	-
Capital assets:		
Non-depreciable	640,109,515	633,109,800
Depreciable	2,617,179,700	2,580,689,573
Total noncurrent assets	**3,466,895,146**	**3,452,447,600**
Total assets	**3,914,157,234**	**3,951,586,271**
Deferred outflows of resources:		
Deferred loss on refunding	52,891,210	56,480,770
Employer contributions subsequent to measurement date	4,142,513	-
Total deferred outflows of resources	**57,033,723**	**56,480,770**

Statements of Net Position

JUNE 30, 2015 AND 2014	2015	2014
Liabilities:		
CURRENT LIABILITIES:		
Accounts payable and other liabilities	75,697,190	97,556,079
Interest payable	18,448,486	19,312,756
Construction deposits	451,123	315,406
Short-term liabilities	360,000,000	360,000,000
Current portion of long-term liabilities	39,205,400	44,267,111
Total current liabilities	**493,802,199**	**521,451,352**
NONCURRENT LIABILITIES:		
Long-term liabilities	1,913,161,795	2,015,008,349
Net pension liabilities	57,843,537	-
Total noncurrent assets	**1,971,005,332**	**2,015,008,349**
Total liabilities	**2,464,807,531**	**2,536,459,701**
Deferred inflows of resources:		
Differences between projected and actual earnings on pension plan investments	9,810,726	-
NET POSITION:		
Net Investment in capital assets	1,102,128,289	1,011,397,033
Restricted for construction projects	143,366,311	201,696,008
Restricted for debt service	113,537	549,186
Unrestricted	250,964,563	257,965,113
Total net position	**$1,496,572,700**	**$1,471,607,340**

Statements of Revenues, Expenses, and Changes in Net Position

JUNE 30, 2015 AND 2014	2015	2014
OPERATING REVENUES:		
Water sales	$584,172,839	$593,695,290
Other revenues	4,567,285	3,935,305
Total operating revenues	**588,740,124**	**597,630,595**
OPERATING EXPENSES:		
Cost of sales	411,037,897	422,699,658
Operations and maintenance	22,365,531	18,780,808
Planning	8,416,134	6,851,384
General and administrative	14,115,738	13,670,808
Depreciation and amortization	57,751,284	56,589,618
Total operating expenses	**513,686,584**	**518,592,276**
Operating income	**75,053,540**	**79,038,319**
NONOPERATING REVENUES (EXPENSES):		
Property taxes and in-lieu charges	11,475,607	11,142,102
Infrastructure access charges	29,895,726	29,205,684
Investment income	2,905,952	3,674,934
Other income	7,786,392	10,570,654
Intergovernmental	11,148,139	10,645,707
Gain on sale/retirement of capital assets	32,557	48,709
Interest expense	(81,792,704)	(77,791,397)
Debt issuance costs	(16,840)	(280,650)
Other expenses	(10,909,171)	(10,434,146)
Total nonoperating revenues (expenses)	**(29,474,342)**	**(23,218,403)**
Income before capital contributions	**45,579,198**	**55,819,916**

Statements of Revenues, Expenses, and Changes in Net Position

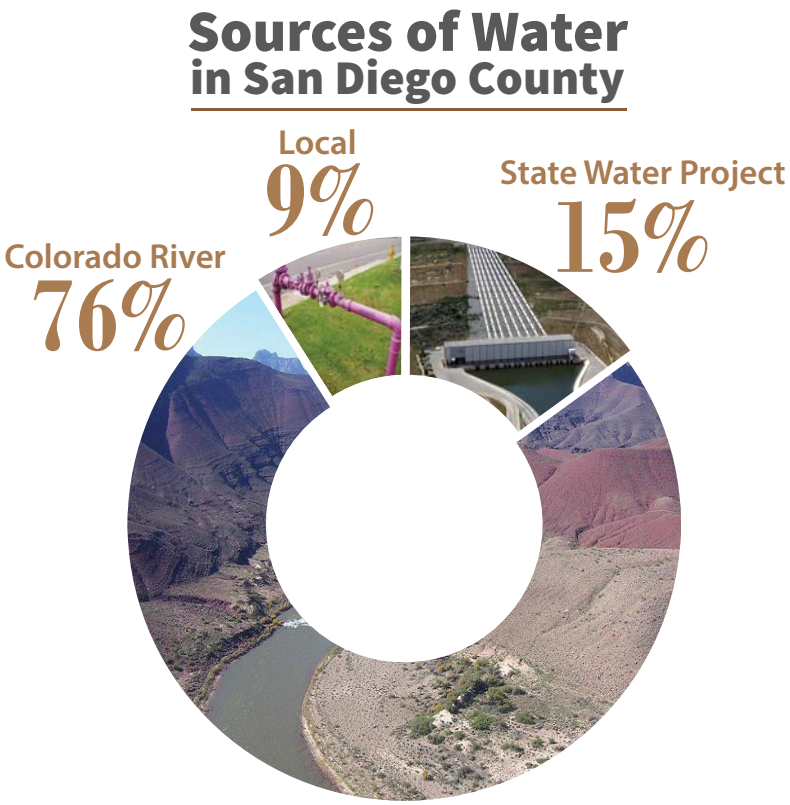
JUNE 30, 2015 AND 2014

	2015	2014
CAPITAL CONTRIBUTIONS:		
Capacity charges	22,559,844	13,815,194
Water standby availability charges	11,106,743	11,137,248
Contributions in aid of capital assets	6,897,528	230,952
Total capital contributions	**40,564,115**	**25,183,394**
Changes in net position	**86,143,313**	**81,003,310**
Net position, beginning of year, as previously reported	**1,471,607,340**	**1,390,604,030**
Less: Cumulative effect of change in accounting principle	**(61,177,953)**	**-**
Net position at beginning of year, as restated	**1,410,429,387**	**1,390,604,030**
Net position at end of year	**$1,496,572,700**	**$1,471,607,340**

See accompanying notes to the financial statements located in the San Diego County Water Authority's 2015 Comprehensive Annual Financial Report.

Cash and Investments

JUNE 30, 2015 AND 2014	2015	2014
As of June 30, 2015 and 2014, restricted cash and investments balances were as follows:		
Construction	$85,370,403	$135,551,448
Debt Service Reserve	12,240,775	16,715,590
Pay-As-You-Go	143,301,875	201,515,355
Total	**$240,913,053**	**$353,782,393**
As of June 30, 2015 and 2014, unrestricted cash and investments balances were as follows:		
Operating	$8,150,206	$23,533,027
Designated for Rate Stabilization	115,405,373	86,110,136
Designated for Equipment Replacement	5,116,513	6,666,862
Designated for Stored Water	97,863,516	85,866,828
Total	**$226,535,608**	**$202,176,853**



Water Sources and Uses (Fiscal Year 2014 - 2015)

Compilation of data furnished by member agencies.

	Source of Water (acre-feet)			Type of Water Authority Supply Water Use (acre-feet)		Gross Area (Acres)	Estimated Population
	LOCAL SUPPLY[1]	WATER AUTHORITY SUPPLY (IMPORTED)[2]	TOTAL	AGRICULTURAL USE[3]	M & I USE		
Carlsbad M.W.D.	4,206.3	16,402.5	20,608.8	0.0	16,402.5	20,640.0	84,838
Del Mar, City of	135.4	961.2	1,096.6	0.0	961.2	1,442.0	4,238
Escondido, City of	1,203.0	21,061.7	22,264.7	2,865.0	18,196.7	21,569.0	134,053
Fallbrook P.U.D.	602.2	11,728.9	12,331.1	3,853.3	7,875.6	27,988.0	35,000
Helix W.D.	293.0	30,852.0	31,145.0	0.0	30,852.0	31,350.0	270,375
Lakeside W.D.	880.4	2,858.3	3,738.7	0.0	2,858.3	11,488.0	35,500
National City, City of	2,958.1	2,717.7	5,675.8	0.0	2,717.7	4,812.4	59,200
Oceanside, City of	3,367.1	23,081.7	26,448.8	410.2	22,671.5	26,982.5	171,183
Olivenhain M.W.D.	2,673.0	19,549.0	22,222.0	113.6	19,435.4	30,942.1	83,368
Otay W.D.	4,186.4	30,298.9	34,485.3	0.0	30,298.9	80,320.0	217,000
Padre Dam M.W.D.	885.9	10,436.5	11,322.4	288.3	10,148.2	54,402.2	89,171
Camp Pendleton[4]	7,806.3	219.6	8,025.9	0.0	219.6	134,625.0	64,000
Poway, City of	466.2	10,660.4	11,126.6	34.6	10,625.8	25,047.0	48,774
Rainbow M.W.D.	0.0	20,173.4	20,173.4	9,687.5	10,485.9	47,670.4	19,944
Ramona M.W.D.	650.6	5,491.5	6,142.1	1,337.0	4,154.5	45,868.0	33,360
Rincon Del Diablo M.W.D.	3,138.1	5,744.3	8,882.4	37.5	5,706.8	10,596.1	29,955
San Diego, City of[5]	7,180.9	184,493.1	191,674.0	152.7	184,340.4	213,121.0	1,326,238
San Dieguito W.D.	1,361.3	5,748.7	7,110.0	0.0	5,748.7	5,659.8	37,168
Santa Fe I.D.	1,334.1	9,865.1	11,199.2	0.0	9,865.1	10,359.0	19,400
South Bay I.D.	2,319.2	11,236.2	13,555.4	0.0	11,236.2	13,836.9	132,200
Vallecitos W.D.	0.0	15,297.3	15,297.3	1,077.6	14,219.7	28,334.0	99,796
Valley Center M.W.D.	387.2	25,598.1	25,985.3	17,461.1	8,137.0	64,540.0	25,394
Vista I.D.[6]	1,617.8	16,215.5	17,833.3	65.2	16,150.3	21,158.4	124,746
Yuima M.W.D.	424.0	4,470.0	4,894.0	3,671.1	798.9	13,460.0	1,870
TOTALS[7]	**48,076.5**	**485,161.6**	**533,238.1**	**41,054.7**	**444,106.9**	**946,211.8**	**3,146,771**

[1] Includes surface, recycled and groundwater supplies; does not reflect conserved water.

[2] Water use in a given year may differ from Water Authority water sales due to utilization of storage.

[3] Includes only amounts certified through the Special Agricultural Water Rate discounted agricultural water use program. Water Authority supplies used by agricultural customers who do not participate in the SAWR program are included in the "M & I Use" category.

[4] Includes Water Authority deliveries via South Coast Water District system.

[5] Excludes City of San Diego local surface water use outside of Water Authority service area.

[6] Excludes land outside of Water Authority service area.

[7] Numbers may not total due to rounding.

Water Authority maintains leadership role in Bay-Delta

As proposals for fixing the Sacramento-San Joaquin Bay-Delta ebbed and flowed in Sacramento, the Water Authority maintained its longstanding commitment to promote viable and cost-effective solutions.

The Water Authority has been among the most active water agencies in the state in seeking viable Bay-Delta solutions because financing any major project is particularly significant for San Diego County ratepayers. The Metropolitan Water District has said its share of the cost is about a quarter of the Bay-Delta fix project cost, although no cost allocation has been agreed upon. As MWD's largest customer, the Water Authority would be expected to pay for a large share of those costs.

Guided by the Board of Directors, a multidisciplinary staff team reviewed the proposed Bay Delta Conservation Plan in fiscal year 2014 and submitted a formal comment letter as part of the environmental review process. In July, the Water Authority submitted another formal comment letter on the BDCP Implementation Agreement. Central among the Water Authority's concerns is the lack of legally binding financing commitments in the plan.

The following April, Gov. Jerry Brown announced that the state would take a different approach to address the Delta, decoupling the water conveyance and ecosystem restoration objectives into two distinct efforts. The Water Authority staff continued to monitor the situation in light of policy principles set by the Board.

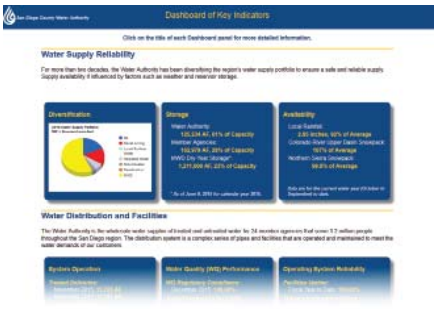
Second phase of landmark rate trial concludes

The second phase of the San Diego County Water Authority's landmark rate case against the Metropolitan Water District of Southern California was heard by a San Francisco Superior Court judge in April, but no ruling was issued before the end of the fiscal year.

A year earlier, the Water Authority prevailed in the first phase of the case, with Judge Curtis E. A. Karnow ruling that rates charged by MWD in 2011-2014 were illegal and violated several provisions of California law and the state constitution.

The Phase 2 ruling will determine the amount of damages the Water Authority should be awarded as a result of MWD's breach of its contractual obligation to set legal rates. The Water Authority has calculated that MWD has overcharged San Diego County ratepayers tens of millions of dollars each year since 2011, and the Water Authority is seeking more than $180 million in damages. The Board of Directors has determined that the Water Authority will deduct litigation expenses from whatever damages it receives and return the remaining money to its 24 member agencies in proportion to their payment of MWD's illegal overcharges over the four years in dispute.

Phase 2 also will decide whether MWD miscalculates the Water Authority's preferential right to MWD water. Each MWD member agency has a preferential right – or legal entitlement – to a percentage of MWD's available water supplies based on a provision in the MWD Act. The preferential rights issue is significant because MWD has understated the San Diego region's right to purchase water by tens of thousands of acre-feet a year, more than the annual production capacity of the $1 billion Carlsbad Desalination Project



Carlsbad Water Recycling Facility (left); Sweetwater Authority Richard A. Reynolds Groundwater Desalination Facility

Region secures $15 million in state IRWM grants

The San Diego region in November was awarded more than $15 million in fast-tracked funding by the California Department of Water Resources for a variety of projects aimed at increasing local water supplies and decreasing demands. The projects will produce or save more than 12,000 acre-feet of water annually.

The state grant from voter-approved Proposition 84 (2006) provided funds for projects identified in the San Diego Integrated Regional Water Management Plan. The selected local projects will expand groundwater desalination and water recycling, improve water quality, and enhance water conservation initiatives such as the regional WaterSmart Turf Replacement Program.

All $15,074,938 identified for the San Diego region was set aside for the Water Authority or its member agencies – Carlsbad Municipal Water District, Fallbrook Public Utility District, Rincon del Diablo Municipal Water District, the City of San Diego and Sweetwater Authority.

Between 2007 and late 2014, the San Diego IRWM Program's regional planning process identified 44 water-related projects that were selected for state grants of $59 million from two voter-approved state water bonds. The region also received a $1 million state grant to help pay for updating the IRWM Plan to comply with new state guidelines and requirements.

Almost $41 million of the funding is directed to seven projects sponsored by the Water Authority and 18 by Water Authority member agencies. The 44 projects included expanding the distribution system for recycled water, fostering conservation, acquiring lands for watershed habitat protection and reducing the amount of polluted runoff into local streams.

Dashboard improves transparency of information

The Water Authority launched an online Dashboard of Key Indicators in July to display important agency data at a single glance. It was an immediate hit, amassing more than 10,000 page views since its debut on sdcwa.org.

The dashboard displays 12 indicators divided into four agency-wide focus categories: Water Supply Reliability, Water Distribution and Facilities, Environmental Stewardship, and Financial Responsibility. The tool combines key information from across Water Authority departments into a single webpage for staff, member agencies and the public.

Magnet distributed to college students

Outreach serves students K through college

Water Authority-sponsored theatrical shows reached nearly 65,000 elementary school students during the year with timely messages about water conservation, as part of the agency's commitment to education. In addition, the Water Authority helped pay for 3,700 grade-schoolers to visit the Splash Lab, a mobile science laboratory that provided hands-on instruction about water issues at 24 schools.

The Water Authority also collaborated with the region's universities to distribute thousands of refrigerator magnets to students as they stepped onto campuses for the fall semester. The magnets emphasized the need for everyone in San Diego County to conserve water with mandatory water-use restrictions in place.

Water Authority supports successful State Water Bond, hosts governor

Gov. Jerry Brown and Assembly Speaker Toni Atkins rallied support for the state water bond – Proposition 1 – at Water Authority headquarters in late October. Voters in San Diego County and statewide overwhelmingly supported the bond on Election Day, providing $7.5 billion for funding projects and initiatives across California.

The water bond was the product of negotiations led by Gov. Brown, Speaker Atkins and Senate President Pro Tem Darrell Steinberg. The Water Authority worked for months to advocate for the San Diego region's policy priorities in Sacramento and supported the final version of the bond passed by the Legislature. Every member of the San Diego County delegation voted for the bond measure.

As passed by the voters, Proposition 1 provides money for water-use efficiency and recycling, desalination, groundwater cleanup and management, as well as $2.7 billion for additional water storage. It also invests in safe drinking water, particularly in disadvantaged communities, and funds watershed restoration and increased flows in some of California's most important rivers and streams, including the San Diego River. In addition, the bond includes money to fulfill state obligations, including mitigation and restoration obligations at the Salton Sea as part of the Colorado River Quantification Settlement Agreement of 2003.

The water bond contains competitive funding opportunities for the San Diego region to advance local and regional water supply development. Of the bond money that was regionally allocated, the San Diego region was slated to receive nearly 11 percent of the total, an equitable amount proportional to the region's share of the state's population.

Citizens Water Academy a smashing success

With drought dominating the news, the Water Authority launched the Citizens Water Academy in fall 2014 to engage and educate up-and-coming leaders across the San Diego region on a range of water topics.

A diverse inaugural class of 50 graduates said the class series helped them understand the physical movement of water into and around the region, along with a range of critical water issues such as the importance of the region's water supply diversification strategy, how large-scale water projects are built and maintained, and how water managers are preparing to meet future water supply needs.

The first class proved so popular that applications for the spring and summer classes skyrocketed; people lined up for a behind-the-scenes look at how the Water Authority helps to protect the region's economy and quality of life through its plans, projects, operations and programs, along with information about regional drought response efforts. Each academy included a tour of world-class water facilities such as the Carlsbad Desalination Project, and participants in each class had the opportunity to interact with top Water Authority executives – enhancing the community dialogue about critical issues.

During its first year, the Citizens Water Academy graduated 134 people from more than 20 communities – and 99 percent of the participants said they would recommend the program to someone else.

Speakers Bureau shifts into high gear

Water Authority Board members and staff made nearly 200 presentations during the year – an average of one per workday – to civic groups, businesses and other organizations interested in learning more about water. March, April and May were particularly busy for the agency's Speakers Bureau, with more than 80 presentations during that stretch as the Water Authority and its member agencies responded to unprecedented statewide emergency water-use regulations.

State Senator Marty Block

Legislative Roundtable fosters relationships

The Water Authority's legislative efforts included a roundtable in May with state Senator Marty Block and Assemblymember Brian Jones. It featured discussions about water-related issues and legislation affecting the state and the San Diego region.

State Assemblymember Brian Jones

Water Authority sponsors successful state legislation

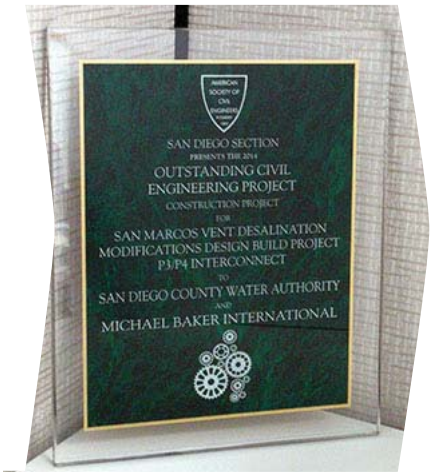
The Water Authority sponsored three bills in the 2015 legislative session, and all three were passed by the Legislature and signed into law.

Assembly Bill 349 by Assemblymember Lorena Gonzalez of San Diego took an important step in expanding water conservation efforts by allowing homeowners in common interest developments to install synthetic grass as long as the installation is consistent with reasonable design and aesthetic standards adopted by the homeowners' association.

Another significant advancement was Senate Bill 208 by Senator Ricardo Lara of Bell Gardens, which streamlines grant funding for disadvantaged communities and non-profit entities. It authorizes the state Department of Water Resources to provide up to half of an Integrated Regional Water Management grant award under $1 million as an advanced payment. The bill was designed to ensure adequate cash flow for those organizations to complete IRWM projects in a timely manner.

The Water Authority also sponsored Assembly Bill 149 by Assemblymember Rocky Chavez of Oceanside. It changes the date for water agencies to submit the 2020 Urban Water Management Plan to June 1, 2021, to allow for up-to-date reporting on water conservation targets for 2020 and population and other demographic data from the 2020 census.

In addition, the Water Authority advocated on nearly three dozen bills during the legislative session and also was actively involved in more than 15 budget trailer bills dealing with drought emergency funding and policy issues during state budget negotiations. The Water Authority was a leader in working with key legislators and the Brown Administration to create the Salton Sea Task Force for addressing state restoration efforts in the Salton Sea Basin.



Water Authority Awards

Throughout the year, the Water Authority won awards and distinctions for its projects and programs from local, state, national and international organizations. Awards and distinctions received include:

American Public Works Association – San Diego and Imperial Counties Chapter: Project of the Year Award for the San Marcos Vent Desalination Modifications project

American Society of Civil Engineers – San Diego Section: Outstanding Civil Engineering Project Award for the San Marcos Vent Desalination Modifications project

American Society of Landscape Architects – San Diego Chapter: 2014 Landscape Design Award of Merit for the WaterSmart Landscape Makeover Series

Association of Public Treasurers of the United States & Canada: Certificate of Excellence Award for the Water Authority's Investment Policy

Government Finance Officers Association: Certificate of Excellence in Financial Reporting for the Comprehensive Annual Financial Report for fiscal year 2014

International Association of Business Communicators: 2015 Gold Quill Award of Excellence in the "digital communication vehicle" category for the eGuide to a WaterSmart Lifestyle

International Association of Business Communicators – Pacific Plains Region: 2014 Silver Quill Award of Merit for the 2013 Annual Report

National Procurement Institute: Achievement of Excellence in Procurement Award for 2014

2015 San Diego County Fair – The Water Authority's water-efficient landscape exhibit won the following awards: Environmental Award – First Place, for landscapes that benefit the environment; Pennsylvania Horticultural Society "Distinguished Garden" Award; Featured Theme Garden Winner – First Place; Unique Color Landscape Award – First Place; Cuyamaca College Botanical Society Award; Conceptual Landscape Plan Award – First Place; Bill Teague Well-Maintained Landscape Exhibit Award; and Award of Merit

Member Agency Map and Board of Directors

As of June 30, 2015

1 Carlsbad Municipal Water District
5950 El Camino Real
Carlsbad CA 92008
Ph: 760-438-2722
carlsbadca.gov/water
DIRECTORS:
Matt Hall
Keith Lewinger

2 City of Del Mar
1050 Camino del Mar
Del Mar CA 92014
Ph: 858-755-1313
delmar.ca.us
DIRECTOR: Ken Olson

3 City of Escondido
201 North Broadway
Escondido CA 92025
Ph: 760-839-4682
escondido.org
DIRECTOR: Ed Gallo

4 Fallbrook Public Utility District
990 East Mission Road
Fallbrook CA 92028
Ph: 760-728-1125
fpud.com
DIRECTOR: Brian J. Brady

5 Helix Water District
7811 University Avenue
La Mesa CA 91942
Ph: 619-466-0585
hwd.com
DIRECTORS:
John Linden
DeAna Verbeke

6 Lakeside Water District
10375 Vine Street
Lakeside CA 92040
Ph: 619-443-3805
lakesidewater.org
DIRECTOR: Frank Hilliker

7 City of National City
(Managed by Sweetwater Authority)
1243 National City Boulevard
National City CA 91950
Ph: 619-336-4241
ci.national-city.ca.us
sweetwater.org
DIRECTOR: Ron Morrison

8 City of Oceanside
300 North Coast Highway
Oceanside CA 92054
Ph: 760-435-5800
ci.oceanside.ca.us/gov/water
DIRECTOR: Brian Boyle

9 Olivenhain Municipal Water District
1966 Olivenhain Road
Encinitas CA 92024
Ph: 760-753-6466
olivenhain.com
DIRECTOR: Christy Guerin

10 Otay Water District
2554 Sweetwater Springs Boulevard
Spring Valley CA 91978
Ph: 619-670-2222
otaywater.gov
DIRECTORS:
Gary Croucher,
Mark Watton

11 Padre Dam Municipal Water District
9300 Fanita Parkway
Santee CA 92071
Ph: 619-448-3111
padredam.org
DIRECTOR: Doug Wilson

12 Marine Corps Base Camp Pendleton
Water Resources,
AC/S Facilities
MCB Camp Pendleton
CA 92055
Ph: 760-725-1059
marines.mil
DIRECTOR: John Simpson

13 City of Poway
13325 Civic Center Drive
Poway CA 92064
Ph: 858-668-4400
poway.org
DIRECTOR: Mark Weston

14 Rainbow Municipal Water District
3707 Old Highway 395
Fallbrook CA 92028
Ph: 760-728-1178
rainbowmwd.com
DIRECTOR: Tom Kennedy

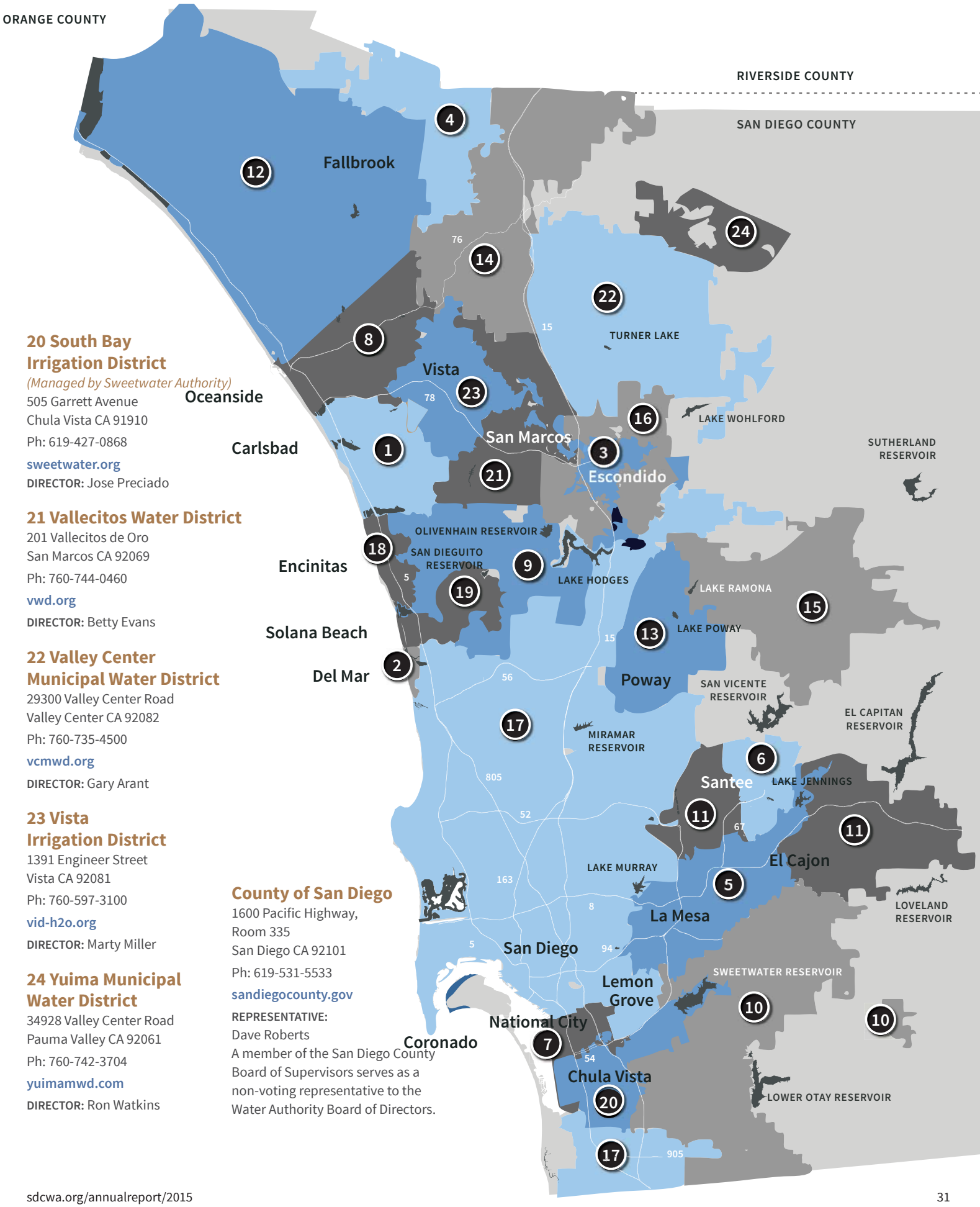
15 Ramona Municipal Water District
105 Earlham Street
Ramona CA 92065
Ph: 760-789-1330
rmwd.org
DIRECTOR: David Barnum

16 Rincon Del Diablo Municipal Water District
1920 North Iris Lane
Escondido CA 92026
Ph: 760-745-5522
rinconwater.org
DIRECTOR: Jim Murtland

17 City of San Diego
525 B Street Suite 500
San Diego CA 92101
Ph: 619-515-3500
sandiego.gov/water
DIRECTORS:
Jimmy Ayala
Lois Fong-Sakai
Tony Heinrichs
Jim Madaffer
Halla Razak
Elsa Saxod
Fern Steiner
Yen Tu
Ken Williams
Thomas Wornham

18 San Dieguito Water District
160 Calle Magdalena
Encinitas CA 92024
Ph: 760-633-2650
sdwd.org
DIRECTOR: Mark Muir

19 Santa Fe Irrigation District
5920 Linea del Cielo
Rancho Santa Fe
CA 92067
Ph: 858-756-2424
sfidwater.org
DIRECTOR: Michael T. Hogan



20 South Bay Irrigation District
(Managed by Sweetwater Authority)
505 Garrett Avenue
Chula Vista CA 91910
Ph: 619-427-0868
sweetwater.org
DIRECTOR: Jose Preciado

21 Vallecitos Water District
201 Vallecitos de Oro
San Marcos CA 92069
Ph: 760-744-0460
vwd.org
DIRECTOR: Betty Evans

22 Valley Center Municipal Water District
29300 Valley Center Road
Valley Center CA 92082
Ph: 760-735-4500
vcmwd.org
DIRECTOR: Gary Arant

23 Vista Irrigation District
1391 Engineer Street
Vista CA 92081
Ph: 760-597-3100
vid-h2o.org
DIRECTOR: Marty Miller

24 Yuima Municipal Water District
34928 Valley Center Road
Pauma Valley CA 92061
Ph: 760-742-3704
yuimamwd.com
DIRECTOR: Ron Watkins

County of San Diego
1600 Pacific Highway,
Room 335
San Diego CA 92101
Ph: 619-531-5533
sandiegocounty.gov
REPRESENTATIVE:
Dave Roberts
A member of the San Diego County Board of Supervisors serves as a non-voting representative to the Water Authority Board of Directors.

Headquarters

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