

**WATER SUPPLY ASSESSMENT
FOR THE
SAFARI HIGHLANDS RANCH PROJECT**

December 30, 2019

Prepared for:
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San Diego County Water Authority. (June 2016). *Final 2015 Urban Water Management Plan*. Retrieved from http://www.sdcwa.org/sites/default/files/files/water-management/water_resources/2015%20UWMP%20Final%2006222016.pdf

Dexter Wilson Engineering, Inc. (March 6, 2019). *Safari Highlands Ranch Water and Recycled Water Report*.

ABBREVIATIONS

ac, acre

af, acre feet

afy, acre-feet per year

edu, equivalent dwelling unit

gpcd, gallons per capita per day

gpd, gallons per day

mgd, million gallons per day

CHAPTER 1

PURPOSE

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land-use decisions made by cities and counties.

SB221 – Water Supply Verification

Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or Water Supply Verification (WSV). SB 221 is intended as a mechanism to ensure that collaboration occurs between land use agencies, water purveyors, and land development to demonstrate that adequate water supplies will be available to serve new large subdivisions before construction begins.

To comply with SB211, the City will place a condition on the project's tentative map to the effect of, "Prior to recordation of a final map, a "written verification" and supporting documents from the City Utilities Department indicating the availability of a "sufficient water supply" as required by section 66473.7 of the Subdivision Map Act (SB 221) shall be provided to the satisfaction of City Community Development Department." Thus, the verification will be completed at a future date prior to recordation of the final map.

SB610 – Water Supply Assessment

SB 610, which has been codified in the Water Code beginning at Section 10910, requires the preparation of a Water Supply Assessment (WSA) for projects within cities and counties that propose to construct 500 or more residential units. In addition, under SB 610, the assessment must be furnished to cities and counties for inclusion in any environmental documentation for projects subject to the California Environmental Quality Act (CEQA). The Safari Highlands Ranch project is proposing to build 550 dwelling units and other facilities. A more detailed description of the project is provided in Chapter 3.

At this phase of the project, the City Community Development Department requested that the Water Division of the City Utilities Department prepare this Water Supply Assessment (WSA) as required by SB610 as part of the project approval process for the Safari Highlands Ranch project (which is proposing to build 550 dwelling units and other facilities). This WSA will be approved by City Council as a supporting document to the CEQA documentation being prepared for the project.

This WSA evaluates water supplies that are or will be available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet existing demands, existing plus projected demands of the proposed project, and future water demands served by the City. A foundational document for the assessment is the Urban Water Management Plan (UWMP) for the City of Escondido (City) which is titled, “2015 Urban Water Management Plan.” It was prepared by RMC, is dated June 2016, and is referred to throughout this report as the City 2015 UWMP.

CHAPTER 2

FINDINGS

The Safari Highlands Ranch project is not currently within the limits of the City of Escondido and its water service area. The project plans to annex into the City at which time the City will be the water service provider. In addition to annexation to the City, the project will also have to annex into the San Diego County Water Authority (SDCWA) and the Metropolitan Water District (MWD).

This WSA Report finds that the estimated annual water demand of the Safari Highlands Ranch project is 606 acre-feet per year (afy) or 540,444 gallons per day (gpd).

The project will utilize 227 afy (202,620 gpd) of recycled water to satisfy a portion of this demand.

This WSA Report finds that the Safari Highlands Ranch project's water demand is specifically included in the City 2015 UWMP, dated June 2016.

This WSA Report finds that the Safari Highlands Ranch project's water demand is specifically included in the San Diego County Water Authority's Final 2015 Urban Water Management Plan dated June 2016 (SDCWA 2015 UWMP).

This WSA Report finds that the 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 City 2015 UWMP.

This WSA Report demonstrates that with development of the resources and programs 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 City service area during normal, single-dry, and multiple-dry water years.

The following chapters present the support for these findings.

CHAPTER 3

PROJECT DESCRIPTION

The Safari Highlands Ranch project is located in the County of San Diego bordering the city limits of the City of Escondido. The project is bordered directly to the southeast by the San Diego Zoo Safari Park.

The proposed project land use will consist of a total of 550 single family residential dwelling units, a recreational center, and a fire station. A summary of the proposed land uses is provided in Table 3-1.

TABLE 3-1 LAND USE SUMMARY	
Land Use	Units
SF Residential	550 units
Recreational Center	3.1 acres
Fire Station	1.9 acres

Source: Safari Highlands Ranch Water and Recycled Water Report dated March 6, 2019 by Dexter Wilson Engineering, Inc.

PROJECT WATER DEMANDS

The Safari Highlands Ranch project will utilize potable and recycled water. The total water demands for the Safari Highlands Ranch project are summarized in Table 3-2. Recycled water demands for the project are in Table 3-3.

TABLE 3-2 SAFARI HIGHLANDS RANCH PROJECTED WATER DEMANDS				
Land Use Designation	Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand, gpd
SF Res – Lot Size >7,000 sf and < 1 acre	163.1	550 edu	800 gpd/edu ¹	440,000
Detention Basins	4.6	-	1,650 gpd/acre ²	7,590
Streetscapes	11.0	-	1,650 gpd/acre ²	18,150
Fire Station	1.9	-	2,300 gpd/acre ¹	4,370
Recreational Center*	3.1	-	2,300 gpd/acre ¹	7,130
Parks**	2.4	-	2,300 gpd/acre	5,520
Irrigated Slopes***	35.0	-	1,650 gpd/acre ²	57,684
TOTAL				540,444 gpd (606 AFY)

Source: Safari Highlands Ranch Water and Recycled Water Report dated March 6, 2019 by Dexter Wilson Engineering, Inc. Parks water duty factor corrected in this document to 2,300 gpd/acre (Parks demand is 5,520 gpd in both documents).

¹ Source: City of Escondido Design Standards and Standard Drawings, dated April 2014

² Source: Project Landscape Architect

*Assume 75% (2.3 acres) of Rec Center area uses potable water and 25% (0.8 acres) uses recycled water.

**Assume 50% of park area is irrigated with potable water and 50% is irrigated with recycled water.

***Irrigated slopes not within S.F. Fire Station, or Recreation Center lots.

**TABLE 3-3
SAFARI HIGHLANDS RANCH
RECYCLED WATER USE DEMANDS**

Land Use Designation	Acres	Quantity, Units	Water Duty Factor	Total Average Water Demand, gpd
Detention Basins	4.6	-	1,650 gpd/acre	7,590
Streetscapes	11.0	-	1,650 gpd/acre	18,150
Recreational Center	0.8	-	1,650 gpd/acre	1,320
Parks	1.2	-	1,650 gpd/acre	1,980
Irrigated Slopes	105.2	-	1,650 gpd/acre	173,580
TOTAL	122.8			202,620 (227 AFY)

Source: Safari Highlands Ranch Water and Recycled Water Report dated March 6, 2019 by Dexter Wilson Engineering, Inc.

Note: Land use acreage and total demand provided by project landscape architect.

* Assume 75% (2.3 acres) of Rec Center area uses potable water and 25% (0.8 acres) uses recycled water.

** Assume 50% of park area is irrigated with potable water and 50% is irrigated with recycled water.

Potable Water Demands

As discussed previously, the project will rely on potable and recycled water. The recycled water demands are subtracted from the total project demands to determine the effective potable water demand utilized for facility sizing. As such, the total average day potable water demand is 337,824 gpd (379 afy).

RELEVANT URBAN WATER MANAGEMENT PLANS

The Safari Highlands Ranch project is not currently within the limits of the City of Escondido. The project plans to annex into the City at which time the City will be the project's water service provider. In addition to annexation to the City, the project will also have to annex into the San Diego County Water Authority (SDCWA) and the Metropolitan Water District (MWD).

Although the Safari Highlands Ranch project is not presently within the City boundary, both the City and the SDCWA (and in turn MWD) have specifically accounted for and planned for the water needs of the Safari Highlands Ranch project. The following sections describe the planning documented in each agency's UWMP.

City of Escondido 2015 UWMP

On June 15, 2016, the City 2015 UWMP was presented to the City Council. The City Council adopted resolution No. 2016-90, approving and adopting the City 2015 UWMP.

Within the City 2015 UWMP, the document presents a comparison of projected water supplies to water demands during normal, single-dry, and multiple-dry water years. This comparison is described in greater detail in Chapters 4 through 6. The City 2015 UWMP relies on the San Diego Association of Governments (SANDAG) Series 13 Growth Forecast to project population growth and land use changes to develop projected water demands for the City's water service area. Page 2-4 from the City 2015 UWMP specifically identifies the Safari Highlands Ranch project as included in the anticipated growth as provided in the excerpt below:

2.1.2 Water Service Area Population

The City had a total population of 143,911 people as of the 2010 U.S. Census, and was estimated to have a population of over 150,000 in 2014 (the latest year available for estimates from the Department of Finance). As noted above, however, the City's water service area does not align with the City's boundaries, and the City's population therefore cannot be used as the water service area population. SANDAG developed population projections for each of SDCWA's member agencies, including Escondido. These projections, provided in **Table 2-2**, are based on SANDAG's Series 13 Growth Forecast model, which incorporates projected land uses as well as local and regional planning documents, including the proposed Safari Highlands development, to estimate populations.

Table 2-2: Current and Projected Population for the City's Water Service Area

DWR Table 3-1: Population - Current and Projected							
Population Served	2010	2015	2020	2025	2030	2035	2040
	129,350	137,941	150,260	152,827	157,001	159,541	160,388

SDCWA 2015 UWMP

On June 23, 2016, the SDCWA Board of Directors adopted Resolution No. 2016-11, approving the SDCWA 2015 UWMP.

Within the SDCWA 2015 UWMP, the document presents a comparison of projected water supplies to water demands during normal, single-dry, and multiple-dry water years. The SDCWA 2015 UWMP also relies on the SANDAG Series 13 Growth Forecasts to develop demands for its water service area (which includes the City's water service area as a member agency).

Moreover, the SDCWA accounted for the Safari Highlands Ranch project specifically as shown in the excerpt from Page 2-5 below:

2.4.1 Projected Normal Water Demands

Table 2-2 shows projected normal year total water demand for the Water Authority service area through 2040. Baseline regional demand projections exclude future additional conservation savings but reflect historic passive conservation. In addition, to fully quantify potential demands served by the Water Authority, a small increment of water use associated with known future potential annexations and accelerated forecasted growth was incorporated into the demand forecast. Beginning with the 2005 Plan, an increment of demand related to potential near-term annexations was added to the baseline M&I forecast and assumed to be fully on-line by 2025. Estimated demands for these parcels were provided to the Water Authority by the associated member agency. However, incorporation of these demands provides no assurance of annexation. Approval by the Water Authority Board is still required before water service may be provided to these lands.

Table 2-2. Total Regional Baseline Demand Forecast (Excludes Future Conservation) (AF)¹

	2020	2025	2030	2035	2040
Baseline M&I Demand ^{2,3}	602,100	673,886	715,690	744,370	781,433
Baseline Agricultural Demand	52,961	51,379	49,897	48,460	47,214
Near-Term Annexations ⁴	4,029	7,162	7,162	7,162	7,162
Accelerated Forecasted Growth	2,632	4,807	6,806	9,038	11,186
Total Baseline Demand Forecast ⁵	661,722	737,234	779,555	809,030	846,995

¹ Normal water year demands based on 1960 - 2013 hydrology.

² Includes approximately 11,000 AF of demand for MCB Camp Pendleton - provided by base staff.

³ Reflects passive historic conservation savings.

⁴ Known near-term annexation demands include Safari Highlands (694 AF), Yuba Valley (5 AF), Otay Ranch Village 13 and parcels East of Village 13 (2,361 AF), Peacem Valley Ranch (70 AF), Sycuan Reservation (392 AF), Stoddard Parcel (2 AF), San Ysidro Mt. Parcel Village 17 (148 AF), Viejas and Ewiaapaayp (2,307 AF), I-8 corridor near Viejas boundary (81 AF), Rincon (417 AF), Warner Ranch (519 AF), Shadow Run/Schoepe (15 AF), and Warner Ranch/Sycamore Ranch (151 AF). Including the demands for these parcels does not limit the Board's discretion to deny or approve these or other annexations not contemplated at this time.

⁵ Based on an assumed wholesale nominal (above inflation) rate increase of 2 percent per year between 2016 and 2020, 1 percent per year from 2021 to 2025, and a 3 percent rate of inflation post-2025.

CHAPTER 4

CITY WATER DEMANDS

The City's water service area covers approximately 20,000 acres (which does not align with the City's incorporated boundary). Water use types in the City include Residential, Commercial/Industrial/Institutional (CII), Agricultural, and Irrigation. Additionally, the City provides water to select customers in the neighboring Rincon del Diablo Municipal Water District. Finally, City water demands consider water losses.

Historic and Current Potable Water Demand

Tables 4-1 and 4-2 present the City's historic water service area population and demand, respectively, as presented in the City 2015 UWMP. This information formed the basis for determining the City's Interim and Confirmed Target Gallon Per Capita Per Day (GPCD) SBX7-7 conservation projections which are summarized in Table 4-3. The Interim 2015 GPCD Target was determined to be 204 GPCD and the Confirmed 2020 GPCD Target was determined to be 182 GPCD. In review of historical water demands since development of the City 2015 UWMP (provided in Table 4-4), the City has achieved the Interim Targets each year (2015-2017); moreover, the Confirmed 2020 Target has also been achieved. Table 4-5 provides a summary of the actual GPCD values versus the SBX7-7 conservation targets.

**TABLE 4-1
1995-2010 CITY OF ESCONDIDO
WATER SERVICE AREA POPULATION**

Year	Population
1995	108,884
1996	110,879
1997	112,911
1998	114,980
1999	117,087
2000	117,654
2001	120,432
2002	121,433
2003	123,025
2004	125,135
2005	125,647
2006	126,451
2007	128,203
2008	128,768
2009	129,035
2010	129,350

TABLE 4-2 10-YEAR BASELINE			
Year	Population	Gross Potable Water Use	GPCD
1999	117,087	28,752	219
2000	117,654	31,489	239
2001	120,432	30,417	225
2002	121,433	33,304	245
2003	123,025	31,387	228
2004	125,135	35,171	251
2005	125,647	29,503	210
2006	126,451	31,495	222
2007	128,203	32,578	227
2008	128,768	29,339	203
10-Year Average Baseline GPCD			227

GPCD, Gallon per Capita per Day

TABLE 4-3 POTABLE BASELINES AND TARGETS SUMMARY					
Baseline Period	Start Year	End Year	Average Baseline, GPCD	2015 Interim Target, GPCD	Confirmed 2020 Target, GPCD
10 Year	1999	2008	227	204	182

GPCD, Gallon per Capita per Day

TABLE 4-4 POPULATION AND POTABLE WATER DEMANDS SINCE DEVELOPMENT OF THE CITY 2015 UWMP			
Fiscal Year	Population	Demand, af	Actual GPCD
2015			142
2016			
2017			
2018			
2019			

GPCD, Gallon per Capita per Day

TABLE 4-5 COMPLIANCE WITH 2015 INTERIM AND 2020 CONFIRMED SBX7-7 TARGETS			
Fiscal Year	Actual GPCD	GPCD Targets	Did Supplier Achieve Targeted Reduction for 2015?
2015	142	204 GPCD, Interim	Yes
2016			
2017			
2018		182 GPCD, Confirmed	
2019			

GPCD, Gallon per Capita per Day

Projected Potable Water Demand

The City 2015 UWMP calculated projected water demands based on land use projection data from SANDAG's Series 13 Growth Forecast for most of the land use categories. To develop the projections, water use factors were established for each land use type using data from 2012. This year was selected because acreage data was available from SANDAG and water use was near average levels. Additionally, in using the "...water use from the year 2012, the demand projections take into account active and passive conservation measures that were being implemented in that year, and assume that conservation would remain relatively constant through 2040 in normal hydrologic years" (City 2015 UWMP, Page 3-5). For

agricultural water use, sales to Rincon customers, and accounting for water loss, other more appropriate methodologies were used which are detailed in Section 3 of the City 2015 UWMP. Table 4-6 summarizes the resulting projected potable water demands through 2040.

TABLE 4-6 PROJECTED POTABLE WATER DEMANDS					
Year	2020	2025	2030	2035	2040
Projected Potable Water Demand, af	21,903	21,769	21,440	21,699	21,928

Source: Table 3-6, City 2015 UWMP.

Current and Projected Recycled Water Demand

The City projected recycled water demands are provided in Table 4-7 as provided in the City 2015 UWMP. Table 4-8 provides the actual recycled water demands since the time of the UWMP.

TABLE 4-7 PROJECTED RECYCLED WATER DEMANDS						
Year	2015	2020	2025	2030	2035	2040
Projected Recycled Water Demand, af	576	3,000	3,650	4,400	4,400	4,400

Source: Table 5-4, City 2015 UWMP.

TABLE 4-8 ACTUAL RECYCLED WATER DEMANDS					
Year	2015	2016	2017	2018	2019
Actual Recycled Water Demand, af					

Combined Projected Water Demands

Combined, the projected potable and recycled demands during a normal water year are shown in Table 4-9. These demands include water conservation as discussed in detail in Chapter 3 of the City UWMP. For comparison, actual water demands are provided in Table 4-10.

TABLE 4-9 PROJECTED NORMAL YEAR WATER DEMANDS					
Year	2020	2025	2030	2035	2040
Projected Demand, af	24,903	25,419	25,840	26,099	26,328

Source: Table 6-2, City 2015 UWMP.

TABLE 4-10 ACTUAL, TOTAL WATER DEMANDS					
Year	2015	2016	2017	2018	2019
Actual Water Demand, af					

Potable plus recycled water demands.

Source: Table 4-4 and 4-8

Single-dry year and multiple-dry year demand estimates are provided in Table 4-11 and Table 4-12, respectively.

TABLE 4-11 PROJECTED SINGLE-DRY YEAR WATER DEMANDS					
Year	2020	2025	2030	2035	2040
Single Dry Year Demand, af	27,144	27,707	28,165	28,448	28,697

Source: Table 6-3, City 2015 UWMP.

**TABLE 4-12
PROJECTED MULTIPLE-DRY YEAR WATER DEMANDS**

Year	2020	2025	2030	2035	2040
First Dry Year Demand, af	26,647	27,199	27,649	27,926	28,171
Second Dry Year Demand, af	27,642	28,215	28,682	28,970	29,224
Third Dry Year Demand, af	24,473	25,445	26,435	26,621	26,790

Source: Table 6-4, City 2015 UWMP.

CHAPTER 5

EXISTING AND PROJECTED SUPPLIES

Existing Water Supplies

The City presently purchases the majority of its water from SDCWA, which in large part is imported to the San Diego region by SDCWA and MWD. Sources include a percentage of local surface water. Additionally, the City owns and operates the Hale Avenue Resource Recovery Facility (HARRF) which is permitted to produce 9.0 mgd of tertiary treated recycled water for landscape and industrial use. Table 5-1 summarizes the City supplies in 2015.

TABLE 5-1 WATER SUPPLIES - ACTUAL (2015)		
Water Supply	Actual Volume, af	Water Quality
Purchased or Imported Water	21,253	Drinking Water
Surface Water	626	Drinking Water
Recycled Water	576	Recycled Water
TOTAL	22,455	-

Source: Table 5-8, City 2015 UWMP

Future Water Supplies

Projections of supply for future normal water year conditions are presented in Table 5-2. Each of the supply sources are discussed further below.

**TABLE 5-2
WATER SUPPLIES - PROJECTED**

Supply	Projected Water Supply, af				
	2020	2025	2030	2035	2040
Purchased or Imported Water	14,643	14,509	10,180	9,439	9,668
Surface Water	7,260	7,260	7,260	7,260	7,260
Recycled Water	3,000	3,650	4,400	4,400	4,400
Potable Reuse	0	0	4,000	5,000	5,000
TOTAL	24,903	25,419	25,840	26,099	26,328

Source: Table 5-9, City 2015 UWMP

Purchased or Imported Water

Historically, the City purchases approximately 80% of its water from SDCWA, which is largely imported to the region by SDCWA and MWD. As one of SDCWA’s 24 member agencies, the City is entitled to directly purchase water from SDCWA on a wholesale basis. The City also looks to SDCWA to ensure, to the best of its ability, that adequate amounts of water will be available for purchase to satisfy future potable water requirements. SDCWA discusses its water supplies and management programs in detail in the SDCWA 2015 UWMP.

Surface Water

As described in the City 2015 UWMP section 5.1.2, the City is entitled to all local water in Lake Dixon, a portion of the water from Lake Henshaw, and all of the water derived from runoff in Lake Wohlford. Local surface water is delivered to the City via the Escondido Canal, the Bear Valley Hydroelectric plant, and associated pipelines to be treated at the Escondido-Vista Water Treatment Plant along with water from all other sources. Local surface water accounts for approximately 20% of the City’s average water demand. However, the amount of available local water varies year to year with hydrologic patterns; in wet years, local surface water can provide up to 30% of the City’s total supplies. Long-term projections of normal water year surface water supply of 7,260 af are based on the 25-year average.

Recycled Water

The City began delivering recycled water in 2004. Recycled water is used for irrigation at local golf courses, schools, parks, median strips, shopping areas, HOA common areas, and industrial parks. Recycled water master planning has demonstrated that there is sufficient demand for all the tertiary water that can be produced from the Hale Avenue Resources Recovery Facility (HARRF), which is planned to expand to meet demands. Use of the recycled water within the service area will help offset the need for additional potable water supplies. The City is actively promoting its planned recycled water use expansion. Specific methods the City is using to encourage the expansion are provided in Table 5-3.

TABLE 5-3 METHODS TO EXPAND FUTURE RECYCLED WATER USE		
Name of Action	Planned Implementation Year	Expected Increase in Recycled Water Use (af)
Financial Incentives	Ongoing	2,200
Assist with Onsite Retrofits	Ongoing	550
Provide Ongoing Technical Assistance to Recycled Water Customers at No Charge	Ongoing	550
Ensure Recycled Water Supply Reliability Even During Shortages and Planned Outages (Excluding Disaster Conditions)	Ongoing	550
Continue Proactive Public Education Campaign Regarding Safety and Reliability of Recycled Water	Ongoing	550
Total		4,400

Source: Table 5-6, City 2015 UWMP

Potable Reuse

The City has completed a Feasibility Study for its Potable Reuse Program to outline a path to deliver treated wastewater via indirect potable reuse and/or direct potable reuse. The City is working closely with SDCWA, the San Diego Regional Water Quality Control Board, the State Water Resources Control Board, and the County Department of Health Services to develop the potable reuse program. The City intends to pursue potable reuse as a future water supply.

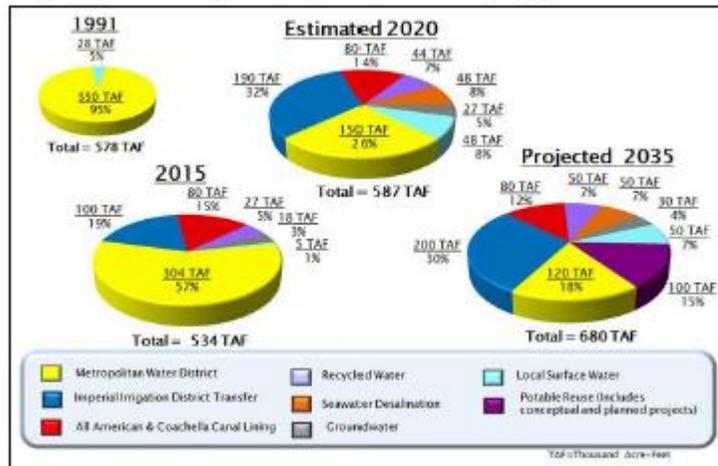
CHAPTER 6

AVAILABILITY OF SUFFICIENT SUPPLIES

Purchased or Imported Water

Historically, the City purchases approximately 80% of its water from SDCWA, which is largely imported to the region by SDCWA and MWD. As one of SDCWA's 24 member agencies, the City is entitled to directly purchase water from SDCWA on a wholesale basis. The City also looks to SDCWA to ensure, to the best of its ability, that adequate amounts of water will be available for purchase to satisfy future portable water requirements. SDCWA discusses its water supplies and management programs in detail in the SDCWA 2015 UWMP. In particular, SDCWA has been working with its member agencies to diversify its water supply with alternative sources to increase supply reliability, which lessens the impact of decline in availability in any one particular supply source. The figure below highlights SDCWA's continued diversification goals.

Figure 5-1: San Diego County Water Authority Supply Diversification



Local Supply Reliability

The City's local supplies include local surface water and recycled water. Local surface water supplies are impacted by seasonal and climate changes. With above average precipitation, local surface water can provide the City with approximately 30% of its total supplies. Under a multiple-dry year scenario, surface water storage can decrease, which places a constraint on local supplies. The availability of surface water in future supply projections is based on a 25 year historical average. Recycled water supplies are anticipated to remain constant. The City's future implementation of potable reuse will further insure water supply reliability.

DEMONSTRATION OF SUFFICIENT SUPPLIES

Tables 6-1 through 6-3 are the results of the City's water supply reliability analysis in the City 2015 UWMP, comparing projected demands and supplies in normal, single-dry, and multiple-dry water years.

In normal water years and single-dry water years, sufficient supplies will be available to meet demands.

For the multiple-dry year scenario, in the first two years, supplies are anticipated to meet demands. For the third year in the multiple-dry year scenario, demands are anticipated to increase at a greater rate than regional local supply development, which may lead to a shortage in purchased water availability from the SDCWA. The potential shortage would be approximately 9% according to the SDCWA 2015 UWMP. The City 2015 UWMP (and SDCWA 2015 UWMP) assumes the shortfall would be met by implementing local conservation measures such that the third-year demands would equal the available supply. As such, the City anticipates sufficient water will be available during the multiple-dry year scenario.

The City's voluntary and mandatory water use restrictions are detailed in Chapter 7 of the City 2015 UWMP, which describes the City's Water Shortage Contingency Plan and Water Conservation Plan. During the recent state-wide drought, the City water service area met its state mandated conservation standard of 12%.

TABLE 6-1 NORMAL YEAR SUPPLY AND DEMAND COMPARISON					
	2020	2025	2030	2035	2040
Purchased Water	14,643	14,509	10,180	9,439	9,668
Surface Water	7,260	7,260	7,260	7,260	7,260
Recycled Water	3,000	3,650	4,400	4,400	4,400
Potable Reuse	0	0	4,000	5,000	5,000
Supply Total (AF)	24,903	25,419	25,840	26,099	26,328
Demand Total (AF)	24,903	25,419	25,840	26,099	26,328
Difference	0	0	0	0	0

Source: Table 6-2, City 2015 UWMP

TABLE 6-2 SINGLE-DRY YEAR SUPPLY AND DEMAND COMPARISON					
	2020	2025	2030	2035	2040
Purchased Water	23,273	23,186	18,894	18,177	18,426
Surface Water	871	871	871	871	871
Recycled Water	3,000	3,650	4,400	4,400	4,400
Potable Reuse	0	0	4,000	5,000	5,000
Supply Total (AF)	27,144	27,707	28,165	28,448	28,697
Demand Total (AF)	27,144	27,707	28,165	28,448	28,697
Difference	0	0	0	0	0

Source: Table 6-3, City 2015 UWMP

**TABLE 6-3
MULTIPLE-DRY YEAR SUPPLY AND DEMAND COMPARISON**

		2020	2025	2030	2035	2040
First Year	Purchased Water	21,759	21,661	17,361	16,638	16,883
	Surface Water	1,888	1,888	1,888	1,888	1,888
	Recycled Water	3,000	3,650	4,400	4,400	4,400
	Potable Reuse	0	0	4,000	5,000	5,000
	Supply Total (AF)	26,647	27,199	27,649	27,926	28,171
	Demand Total (AF)	26,647	27,199	27,649	27,926	28,171
	Difference	0	0	0	0	0
	Second Year	Purchased Water	23,190	23,113	18,830	18,118
Surface Water		1,452	1,452	1,452	1,452	1,452
Recycled Water		3,000	3,650	4,400	4,400	4,400
Potable Reuse		0	0	4,000	5,000	5,000
Supply Total (AF)		27,642	28,215	28,682	28,970	29,224
Demand Total (AF)		27,642	28,215	28,682	28,970	29,224
Difference		0	0	0	0	0
Third Year		Purchased Water	20,892	21,214	17,454	16,640
	Surface Water	581	581	581	581	581
	Recycled Water	3,000	3,650	4,400	4,400	4,400
	Potable Reuse	0	0	4,000	5,000	5,000
	Supply Total (AF)	24,473	25,445	26,435	26,621	26,790
	Additional Conservation	2,420	2,516	2,614	2,633	2,650
	Demand Total (AF)	24,473	25,445	26,435	26,621	26,790
	Difference	0	0	0	0	0

Source: Table 6-4, City 2015 UWMP

APPENDIX A