CHAPTER 6
Growth-Inducement Potential and Secondary Effects of Growth

6.1 Introduction

This Chapter analyzes the growth inducement potential of the proposed Project and the associated secondary effects of growth, as required by *CEQA Guidelines* §15126.2(d). The statutory requirements of CEQA that pertain to analyzing growth and other laws and regulations pertinent to land use and water supply planning are discussed in Section 6.1. This first section also reviews the approach to the analysis of growth inducement potential and describes the Project Water Area of Use (areas that would potentially receive Project water). Section 6.2 describes each participating water provider, including their service areas, population served, growth projections, and projected water demands through 2035 and evaluates the growth inducement potential of the Project for each participating water provider. Section 6.2 also describes Metropolitan and its relationship to the proposed Project, regional planning agencies and growth projections, and the associated water demand in Metropolitan's service area. Section 6.3 assesses the potential secondary effects associated with growth.

6.1.1 CEQA Requirements

CEQA[1] requires an EIR to evaluate the growth-inducing impacts of a proposed project. Under *CEQA Guidelines* §15126.2(d), an EIR must:

> Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

A project can have a direct effect on population growth if it would involve construction of substantial new housing. A project can have indirect growth-inducement potential if it would (1)

[1] *CEQA Guidelines*, California Code of Regulations Title 14, Chapter 3, §15126.2(d).

establish substantial new permanent employment opportunities (e.g., commercial, industrial, or governmental enterprises) or otherwise stimulate economic activity; or (2) remove an obstacle to additional growth and development, such as removing a constraint to or increasing the capacity of a required public service. For example, an increase in the capacity of utility or road infrastructure could allow either new or additional development in the surrounding area.

6.1.2 Approach to Analysis

To assess the growth-inducement potential of the Cadiz Valley Water Conservation, Recovery, and Storage Project, the following question must be addressed: "Would the proposed Project directly or indirectly support economic or population growth or residential construction?" A variety of factors influence new development or population growth in the areas that would or could be served by Project water, including economic conditions of the region, adopted growth management policies in the affected communities, and the availability of adequate infrastructure (e.g., water service, sewer service, public schools, and roadways, etc.), but economic factors are generally the lead driver. While the provision of water service is only one of many factors affecting the growth potential of a community, it is one of the chief public services needed to support urban development, and the lack of a reliable water supply can sometimes constrain future development.

The following steps were taken to investigate the Project's growth inducement potential and to characterize the secondary effects on the environment resulting from such growth:

- **Identify the Project Water Area of Use.** For the purposes of this analysis, the Project Water Area of Use, or the locations within which Project water has the potential to be used, is defined below. In general, the Area of Use includes the service area of each of the known Project Participants as well as the broader service area of the Metropolitan Water District of Southern California. This is described in more detail below.
- **Describe the Regulatory Context for Water Supply and Land Use Planning.** Section 6.1.3 presents an overview of water supply and land use planning in California to provide the reader with an understanding of the authorities and responsibilities that shape the nexus between decisions about water and land use.
- **Characterize Water Use and Growth Trends, Projected Future Supply, and the Growth Inducement Potential of the Project within each Project Participant's service area.** Section 6.2 summarizes population growth trends, projected water demand and known and potential water supply sources within each Project Participant's service areas. Information about each Project Participant is summarized from current 2010 Urban Water Management Plans (UWMP). In light of the each Project Participant's projected future water demand and supply portfolio, the growth inducement potential of the Project is evaluated to assess the extent to which the Project would help improve the reliability of the Project Participant's existing supplies and/or might also contribute to serving additional planned growth within the service area.
- **Characterize Water Use and Growth Trends, Projected Future Supply, and the Growth Inducement Potential of the Project for Future Project Participants within the**

Metropolitan Service Area. Section 6.2.7 summarizes population growth trends, projected water demand, and known and potential water supply sources within the six-county Southern California region served by Metropolitan. Information regarding growth trends and projected water demand and supply in the broader Southern California region is based on data compiled from regional planning agencies (SCAG and San Diego Association of Governments [SANDAG]) as well as Metropolitan's 2010 Regional Urban Water Management Plan. This section evaluates the growth inducement potential of the remaining "unsubscribed" capacity of the Project's Groundwater Conservation component as well as the growth inducement potential of the Project's Storage Component within the Metropolitan service area.

- **Characterize the Secondary Effects of Planned Growth.** Planning for additional growth and development within the Project Water Area of Use is the responsibility of the many city and county jurisdictions that have land use planning and approval authority. These land use jurisdictions present their plans for growth and development in their adopted General Plans. The environmental impacts or secondary effects that would result from planned growth have been evaluated in CEQA environmental documents, generally EIRs, prepared on each city or county General Plan. As the Project could help each Project Participant meet the water demands of planned growth within its service area, it is useful and appropriate to look at the General Plan EIRs to summarize the expected effects of planned growth and to review the mitigation measures that the land use agencies have adopted to address the effects of their planned growth. Because the Project Water Area of Use encompasses portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties, the General Plan EIRs for each of the six counties in Metropolitan's Southern California service area are summarized along with the General Plan EIR for select cities in the region. For this analysis, multiple published reports that have evaluated growth in the study area were reviewed and their findings summarized and supplemented (presented in Section 6.3). Within each participating water provider service area, future project-specific EIRs on new development will consider direct, indirect, and cumulative contributions of those projects on resources in the context of changes in the regulatory (and physical) environment.

Project Water Area of Use

As discussed in Chapter 3, Project Description, a portion of the 50,000 AFY of Project water to be developed under the Conservation Component has not yet been subscribed, and none of the specific participants for the Storage Component have been identified yet. Thus, not all of the water providers that will ultimately participate in the Project have been identified. It is therefore necessary to make assumptions about where the Project water could be used or might be used. This analysis assumes that Project water developed under the Groundwater Conservation and Recovery Component and Imported Water Storage Component would be used within the Metropolitan service area and/or the service areas of the participating water providers: SMWD, Three Valleys, Suburban, Golden State, JCSD, and Cal Water.

The facilities proposed for Groundwater Conservation and Recovery Component of the Project include construction of a wellfield and manifold (piping) system to carry pumped groundwater to a new 43-mile conveyance pipeline that would be constructed along the ARZC ROW, and tie into the CRA, which would distribute water to Project Participants. Since the proposed Project would

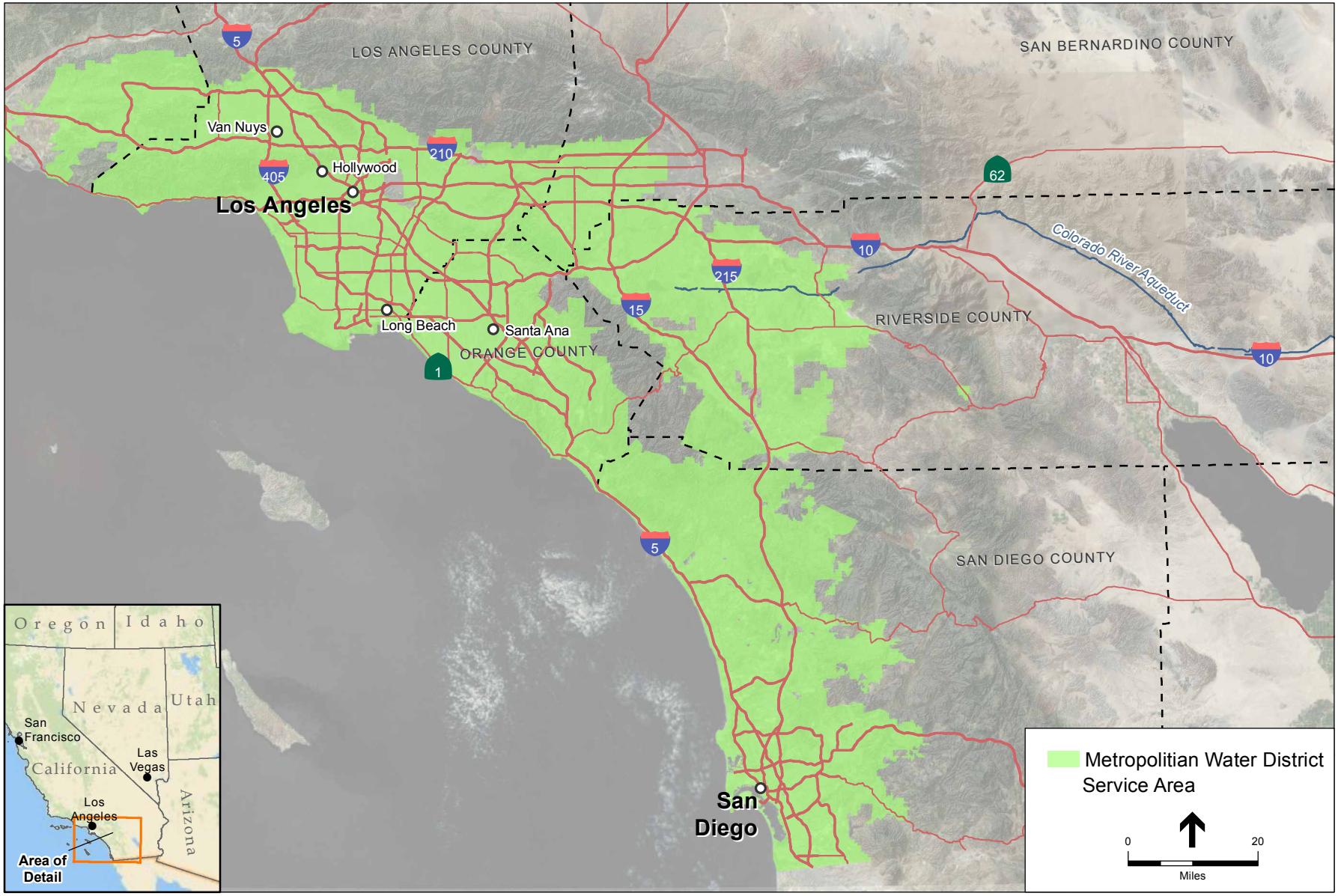
connect to Metropolitan's CRA, Project water would be available for distribution within Metropolitan's service area. Metropolitan's water infrastructure provides a reasonable framework for consideration of the Project Water Area of Use. Metropolitan's 26 member agencies serve 152 cities, 89 unincorporated communities,[2] and 86 percent of the population in six Southern California counties. The Groundwater Conservation and Recovery Component of the proposed Project relies on the infrastructure of Metropolitan's system to convey Project water to Metropolitan's member agencies.

The facilities proposed for the Imported Water Storage Component of the Project include expansion of the Project wellfield; construction of spreading basins to recharge the surface water into the groundwater basin; additional roads, piping, power supply and distribution facilities; and a CRA diversion structure and pump station. This Project component would utilize the 43-mile pipeline constructed for the Conservation Component to bring surface water supplies to the Project site for storage. The CRA would also be used under the Imported Water Storage Component to convey stored water to Metropolitan's CRA. As such, future participants in the Imported Water Storage Component are also expected to be located within Metropolitan's service area. It is possible that the Project would also connect to the SWP as part of the Imported Water Storage Component, as described in Chapter 3.0, Project Description. Even with an intertie to the State system, it is assumed that participating water providers and the Project Water Area of Use would be located within Metropolitan's service area. Metropolitan is described in greater detail in Section 2.6.2. Metropolitan's service area is shown in **Figure 6-1**.

Each of the Project Participants in the Project's Groundwater Conservation and Recovery Component receive imported water supply via Metropolitan, either directly or indirectly: Three Valleys is a Metropolitan member agency; SMWD is served by a Metropolitan member agency (MWDOC); Suburban is served by several Metropolitan member agencies (including Central Basin Municipal Water District [MWD], Three Valleys, and Upper San Gabriel Valley MWD); and many of Golden State's water systems are served by Metropolitan member agencies (including Calleguas MWD, Central Basin MWD, Upper San Gabriel Valley MWD, West Basin MWD, and MWDOC). JCSD relies solely on local groundwater at present for its direct water supply. However, although JCSD does not directly receive imported water supply, it does receive it indirectly as the Chino Basin Water Master recharges the regional groundwater basin with stormwater, imported SWP surface water supplies provided by Metropolitan, and recycled water.[3] Cal Water's Westlake District is served by Calleguas Municipal Water District (CMWD) which is a member agency of Metropolitan. In addition, Cal Water has current connections with Metropolitan and could therefore take Project water directly into their system.

2 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-7.

3 Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011, page 27.



SOURCE: Bing Maps, 2011; ESRI, 2010; DeLorme, 2011; Cadiz Inc., 2011; and ESA, 2011

Cadiz Valley Water Conservation, Recovery, and Storage Project

Figure 6-1

Metropolitan Water District Service Area

6.1.3 Regulatory Context for Land Use Planning and Water Supply Planning

In California, cities and counties have primary authority[4] over land use decisions while water agencies, through laws and agreements, are expected and usually required to provide water service if water supply is available. Land use planners throughout the State employ various procedures and practices based upon legal and contractual requirements to evaluate whether adequate water and other utilities are available to support growth. The laws and agencies described below provide the regulatory and planning context for coordination among water agencies and cities and counties and yield key documents (e.g., general plans and regional projections) used as the basis for this analysis.

- **Regional Planning: SCAG and SANDAG.** Councils of Government (COGs) are associations of cities and counties that have been formed throughout the State, based on joint powers agreements between the participating jurisdictions, to coordinate the planning activities within a region. SCAG and SANDAG are the two key COGS in the study area. Both also function as the Metropolitan Planning Organization (MPO) for their respective areas (Los Angeles, Orange, San Bernardino, Riverside, and Ventura counties for SCAG, and San Diego County for SANDAG). As such, they are mandated by the federal government to research and develop plans for transportation, growth management, and other resources of regional importance. Both SCAG and SANDAG are responsible for developing population and employment forecasts for their respective regions. Their population, housing unit, and employment forecasts are the accepted standard in the region and are used in plans produced by city and county governments, transportation and air quality planning agencies, and special districts. Metropolitan's 2010 RUWMP cites current SCAG and SANDAG forecasts as the key basis for its service area growth assumptions, as do the other participating water agencies.
- **General Plan Requirements.** Pursuant to State law,[5] each city and county is required to adopt a comprehensive, long-term general plan for the physical development of the jurisdiction. The general plan is a statement of development policies and is required to include land use, circulation, housing, conservation, open space, noise, and safety elements. The land use element designates the proposed general distribution, location, and extent of land uses and includes a statement of the standards of population density and building intensity recommended for lands covered by the plan. The city or county is required to prepare the water section of the conservation element in coordination with any countywide water agency and with all districts and/or city agencies that develop, serve, control, or conserve water for that jurisdiction. The water section must include

4 Although cities and counties have primary authority over land use planning, there are exceptions to this, including the California Coastal Commission (regulating development along the coast), the California Energy Commission (with permit authority and CEQA lead agency status for some thermal power plant projects), and the California Public Utilities Commission (with regulatory authority and CEQA lead agency status for certain utility projects), among others.

5 California Government Code, §65300 *et seq*.

discussion and evaluation of water supply and demand information contained in any applicable UWMP that has been submitted to the city or county by a water agency.

- **Urban Water Management Planning Act.** Every water supplier that provides water to 3,000 or more customers or provides over 3,000 acre-feet of water annually is required to prepare an UWMP for the purpose of "actively pursu[ing] the efficient use of available supply."[6] In preparing the UWMP, the water supplier is required to coordinate with other appropriate agencies, including other water suppliers that share a common source, water management agencies, and relevant public agencies. When a city or county proposes to adopt or substantially amend a general plan, the water agency is required to provide the planning agency with the current version of the adopted UWMP, the current version of the water agency's capital improvement program or plan, and other information about the system's sources of water supply. The Urban Water Management Planning Act also requires urban water suppliers, as part of their long-range planning activities, to make every effort to ensure the appropriate level of reliability in their water service sufficient to meet the needs of their customers during normal, dry, and multiple dry water years.
- **Senate Bill 7 of the Seventh Extraordinary Session (SBx7-7).** Adopted by the State Legislature in November 2009, SBx7-7 (Steinberg) creates a framework to reduce California's per capita water consumption 20 percent by 2020. Specifically, the bill:
  - Establishes means for urban water suppliers to achieve the 20 percent reduction. Means specified include: setting a conservation target of 70 percent of their daily per capita water baseline; utilizing performance standards for indoor, landscaping, industrial, and institutional uses; meeting the per capita water goal for their specific hydrologic region as identified by DWR and other State agencies in the 20 percent by 2020 Water Conservation Plan; or using an alternative method that is to be developed by DWR by December 31, 2010. SBx7-7 also requires DWR to work cooperatively with the California Urban Water Conservation Council.
  - Requires urban water suppliers to set an interim urban water use target and meet that target by December 31, 2015.
  - Requires DWR to work cooperatively with the California Urban Water Conservation Council to establish a task force to identify BMPs to assist commercial, industrial, and institutional users in meeting the 20 percent reduction in water use by 2020 goal.
  - Makes any urban or agricultural water supplier who is not in compliance with the bill's water conservation and efficient water management requirements ineligible for State grant funding.
  - Requires DWR to report to the Legislature on agricultural efficient management practices being undertaken and reported in agricultural water management plans in 2013, 2016 and 2021.

6 California Water Code, §10610.2 *et seq.*

  - Requires DWR, SWRCB, and other State agencies to develop a standardized reporting system.[7]

- **Senate Bills 610 and 221.** In 2001, the California legislature adopted two bills pertaining to coordination between land use and water supply planning and decision making: SB 610 and SB 221 are companion legislative measures that took effect in January 2002 and require increased efforts to identify and assess the reliability of anticipated water supplies and increased levels of communication between municipal planning authorities and local water suppliers.
  - **SB 610**[8] requires that CEQA review for most large projects[9] and specified smaller projects include a water supply assessment. The water supply assessments must address whether existing water supplies will suffice to serve the proposed project and other planned development over a 20-year period in average, dry, and multiple-dry year conditions, and must set forth a plan for finding additional supplies necessary to serve the proposed project. Cities and counties can approve projects notwithstanding identified water supply shortfalls, provided that they address such shortfalls in their findings.
  - **SB 221**[10] requires that cities and counties impose a new condition of tentative subdivision map approval, requiring that the applicant provide detailed, written verification that sufficient water supply will be available before the final subdivision map can be approved. It applies to projects similar in size to those addressed in SB 610.

State Policies Encouraging Compact and Sustainable Development

Several recent legislative efforts have sought to refocus planning efforts to reduce sprawl, preserve farmland, increase the viability of public transportation, and reduce the emission of greenhouse gases. These efforts promote compact and sustainable development, which allow for the more efficient provision of public services and reduce the consumption of resources – including water supply. Sustainable development includes the concept of more efficient water use, including the incorporation of water conservation and efficiency measures such as the use of recycled water, water efficient fixtures, and drought tolerant landscaping.

- **Assembly Bill (AB) 32,**[11] the Global Warming Solutions Act of 2006, was adopted with the goal of reducing greenhouse gas emissions to 1990 levels by the year 2020. The plan identifies measures to reduce the energy requirements associated with providing reliable water supplies. These measures include increased water use efficiency and water recycling and increasing water system energy efficiency.

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7 California Water Code, §10610.16 *et seq*; Metropolitan Water District of Southern California, *Regional Urban Water Management Plan*, November 2010, page 1-4.

8 Codified at California Water Code §§10631, 10656, 10910, 10911, 10912, and 10915.

9 Large projects include residential developments with more than 500 units; retail uses with more than 500,000 square feet of floor space; office buildings with more than 250,000 square feet of floor space; hotels or motels with more than 500 rooms; industrial uses occupying more than 40 acres or having more than 650,000 square feet of floor area; and mixed-use projects that include any use or combination as large as the above uses.

10 Codified at California Business and Professional Code §65867.5 and Government Code §§66455.3 and 66473.7.

11 Codified at California Health and Safety Code §38500 *et seq*.

- **SB 375**[12] was adopted in 2008 to require COGs to align their housing and transportation plans and to develop a "sustainable communities strategy" that will reduce sprawl and improve air and water quality.
- **SB 732**[13] was signed into law in 2008 and establishes the Strategic Growth Council, a cabinet-level committee that is tasked with coordinating the activities of State agencies to improve air and water quality, protect natural resources, and assist in the planning of sustainable communities.
- **AB 857**,[14] signed into law in 2002, establishes three planning priorities for the State: promoting infill development, protecting natural resources, and encouraging efficient development patterns. These priorities are to be incorporated into the Governor's Environmental Goals and Policy Report,[15] which provides a 20- to 30-year overview of State growth and development and guides the commitment of State resources in agency plans and infrastructure projects.
- The **Regional Blueprint Planning Program** is a grant program operated by the California Department of Transportation that provides assistance to COGs in developing long-range plans with the intent of supporting greater transit use, encouraging more efficient land use, improving air quality, and protecting natural resources.

6.2 Growth Inducement Potential

6.2.1 Introduction

Organization and Approach

To assess the growth inducement potential of the Project in terms of its contribution to a stable water supply for the Project Participants and whether Project water could be used to support additional growth and development, this section reviews the service area growth projections, water demand forecasts, and water supply options for each of the participating water providers and for Metropolitan. Then, in the context of each water provider's future water demand and supply picture, the contribution that Project water could make to each provider's water supply portfolio is described and the Project's growth inducement potential is assessed.

Supply Reliability Overview

As described in Chapter 3, Project Description, the overall purpose of the proposed Project is to make available a new, more reliable water supply than is available to the Project Participants currently. It is also aimed at making available additional water storage capacity for Southern California water providers in order to replace or supplement existing supplies and enhance supply reliability. The objectives of the Project include improving water supply reliability for Southern

12 Codified by amendments to California Government Code §§65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588 and California Public Resources Code §21061.3 and the addition of Government Code §§14522.1, 14522.2 and 65080.01 and Public Resources Code §§21159.28 and 21155 *et seq.*

13 Codified by amendments to California Public Resources Code §§75076 and 75077 and the addition of §§75100 *et seq.* and 775120 *et seq.*

14 Codified at California Government Code §65041.1.

15 Required in California Government Code §65041.

California water providers to protect against drought and other water delivery interruptions; reducing dependence on imported water by utilizing a source of water that is local to the region; and enhancing dry-year water supply reliability, water supply opportunities, and delivery flexibility by providing storage capacity to help participating water providers better manage and leverage their existing water supplies.

The Southern California region faces several water supply reliability issues that affect both its imported sources of supply and some of its local sources of supply. Metropolitan serves 86 percent of the population in six Southern California counties and provides 45 to 60 percent of the water supply used in the service area.[16] Metropolitan imports water from the Colorado River via its CRA and from the Sacramento-San Joaquin Delta via the SWP. Annual supplies received by Metropolitan from each of these two imported sources varies but is roughly one-third CRA and two-thirds SWP.[17] Metropolitan's water supplies and supply reliability are described in more detail in below but, in summary, Metropolitan is taking several steps to address reliability issues associated with both of its imported supply sources.

On the Colorado River system a multi-year drought coupled with the need for Metropolitan to permanently reduce its level of imports, along with litigation over the negotiated multi-party settlement agreement intended to reduce California's reliance on the Colorado River, raise concerns about the reliability of the Colorado River water over the long term.[18] On the Sacramento-San Joaquin Delta system, current endangered species issues, litigation, drought, and infrastructure limitations have combined to effectively reduce the long-term reliability of the SWP.[19] Climate change is expected to affect water supply in the Delta further in the future. The State's SWP 2009 Reliability Report indicated during in a multi-year wet period the overall reliability of the SWP system would range from 74 to 94 percent (of maximum Table A amounts), while during a multi-year dry period, average annual deliveries would be only 32 to 34 percent (maximum Table A amounts).

The City of Los Angeles also imports surface water supply to the region from the Mono Basin and Owens Lake area via the Los Angeles Aqueduct. Court decisions and other actions related to environmental concerns have reduced supply availability from this supply source as well. Finally, with respect to local supplies, groundwater represents up to 86 percent of local water supply in Southern California.[20] Some of this supply is jeopardized by groundwater contamination. Metropolitan works with local agencies to implement projects to recover and use contaminated groundwater.

16 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan,* November 2010, Table 1-7, page 1-20.
17 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan,* November 2010, Table 1-8, page 1-21.
18 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan,* November 2010, pages 3-2 through 3-9.
19 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan,* November 2010, pages 3-10 through 3-15.
20 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan,* November 2010, page 1-21.

As all of the water providers participating in the Project's Groundwater Conservation and Recovery Component receive imported water from Metropolitan, either directly or indirectly, they must also address reliability issues associated with the imported water supplies and be prepared to respond to supply shortfalls in some years. As a result, water providers throughout Southern California, including those participating in the Project, are working to diversify their water supply portfolios and develop supply redundancy as well as infrastructure interties that will improve the reliability and flexibility of their water supply systems. This reliability is needed with or without planned growth. As described in this section, for each of the participating water providers, potential participation in the Project represents one of many steps each of these providers is taking to secure a long-term reliable water supply for the communities they serve. The water storage capability provided by both components of the Project makes the Project particularly effective as a means to improve water supply reliability as it allows Project Participants to reserve back-up supply in storage for use when their other existing or primary supplies are reduced. Without storage capability it is more difficult to manage supplies through drought or other periods of shortage.

The Groundwater Conservation and Recovery Component of the Project would make a new water supply of up to 50,000 AFY available to Southern California water providers. **Table 6-1** lists the water providers participating in this Project component along with their proposed contracted quantities of Project water, and the amount of unsubscribed Project water remaining available to other future Project Participants. The Imported Water Storage Component of the Project would not result in creation of new water supply but would create substantial new storage capacity (up to 1 MAF) in the region allowing water providers to better manage and leverage the various supplies available to them, particularly during periods of drought or other supply shortages. This component of the Project would help participants improve the reliability of their water supply portfolios.

TABLE 6-1
PROJECT WATER SUBSCRIPTIONS FOR
THE GROUNDWATER CONSERVATION AND RECOVERY COMPONENT

Project Participant	Contracted Annual Amount (AF)	Optional Allocated Amount (AF)
Santa Margarita Water District[a]	5,000	10,000
Three Valleys Municipal Water District	5,000	
Golden State Water Company	5,000	
Suburban Water Systems	5,000	
Jurupa Community Services District	5,000	
California Water Service Company	5,000	
ARZC rail operations support supply	10 – 100	
Total Annual Project Water Subscribed	**30,100 – 40,100**	
Project Supply Available for Subscription	**9,900 – 19,900**	
TOTAL PROJECT SUPPLY	**50,000**	

[a] As described in Chapter 3, Project Description, SMWD has the option to take an additional 10,000 AFY for a total subscription of up to 15,000 AFY. If SMWD exercises this option, then the total Project water subscribed out of the 50,000 AFY available will be 40,100 AFY and the remaining supply available for additional Project Participants will be 9,900. If SMWD does not exercise its right, its subscribed amount will be 5,000 AFY and the remaining supply available for additional Project Participants will be 19,900.

SOURCE: ESA, 2011.

For each of the participating water providers, **Table 6-2** summarizes the current and projected water demand, population growth, projected supply, and relationship of the Project water to the overall water supply portfolio. This information is presented for each water provider in the sections below.

6.2.2 Santa Margarita Water District (SMWD)

SMWD provides water and wastewater service to residents and businesses in southern Orange County. SMWD receives its water from three main sources: the San Juan Basin, which is managed by the San Juan Basin Authority (SJBA); recycled water; and imported water from MWDOC. MWDOC purchases its imported water from Metropolitan, which delivers water to the region from northern California via the SWP and from the Colorado River via the CRA. Water from both sources is treated and tested at Metropolitan's Diemer Filtration Plant in Yorba Linda before it is piped to SMWD for distribution to its customers. Groundwater is pumped from one well in the southeast of SMWD's service area.[21]

Land Use and Population

SMWD serves a total population of 155,229 throughout its 97-square-mile service area, which is bounded on the north by EI Toro Road in the City of Lake Forest, on the east by the Cleveland National Forest, on the south by U.S. Marine Corps Base Camp Pendleton and San Diego County, and on the west by the City of San Juan Capistrano and Moulton Niguel Water District (see Figure 1-2).[22] SMWD's service area includes portions of Rancho Santa Margarita, Coto de Caza, Las Flores, Ladera Ranch, Talega, and Mission Viejo.

SMWD's customer classes include single-family residential, multi-family residential, commercial/industrial/institutional (CII), dedicated landscape, and agriculture. SMWD is primarily a residential community. The typical commercial and industrial uses within SMWD are retail and warehouse, with a minor amount of manufacturing. Retail is concentrated in areas central to each of the communities and typically is a mix of grocery, restaurant, and medical uses. Manufacturing is primarily in the Rancho Santa Margarita Business Park.

Table 6-3 shows the population projections within SMWD's service area for the next 25 years. There has been continual growth in SMWD's service area since the early 1970s, and for the last 10 years, SMWD has added over 2,000 connections per year.[23] SMWD went from 40,768 connections in fiscal year (FY) 1999-00 to 60,425 in FY 2009-10 and is expected to add 15,819 more connections by 2035.[24] Population growth is expected to increase by 40 percent in the next 25 years.

[21] Santa Margarita Water District, *2010 Urban Water Management Plan, Executive Summary*, June 2010, page 1.
[22] Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 1-4.
[23] Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-3.
[24] Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-4.

TABLE 6-2
GROWTH AND WATER DEMAND PROJECTIONS SUMMARY FOR
PARTICIPATING WATER PROVIDERS IN THE GROUNDWATER CONSERVATION AND RECOVERY COMPONENT

Participating Water Provider	Service Area / Geography Served	Projected Change in Population Between 2010 and 2035	Water Demand 2010	Projected Water Demand 2035	Projected Water Supply in 2035	Estimated Maximum Delivery from Project	Project Water as % of 2035 Total Supply
Santa Margarita Water District (SMWD)[a]	97 square miles Rancho Santa Margarita, Coto de Caza, Las Flores, Ladera Ranch, Talega, portions of Mission Viejo	2010 - 155,229 2035 - 217,339 40% increase	34,169 AFY	46,409 AFY 36% increase	46,409 AFY	5,000 - 15,000 AFY	11% - 32%
Golden State[b1]	17 water systems located in Ventura, Orange, and Los Angeles counties	2010 – 863,355 2035 – 970.856 12.5% increase	116,940 AFY	159,316 AFY[b2] 36% increase	159,316 AFY	5,000 AFY	3%
Three Valleys Municipal Water District[c]	133 square miles in eastern Los Angeles County Azusa, City of Industry, Covina, Claremont, Diamond Bar, Glendora, Hacienda Heights, La Puente, La Verne, Pomona, Rowland Heights, San Dimas, Walnut, and West Covina	2010 - 573,800 2035 - 712,253 24% increase	127,621 AFY	154,144 21% increase	155,144 AFY	5,000 AFY	3%
Suburban[d]	42-square-miles in Los Angeles and Orange counties Glendora, Covina, West Covina, La Puente, Hacienda Heights, City of Industry, Whittier, La Mirada, La Habra, and Buena Park	2010 - 293,500 2035 - 294,200 0.24% increase	49,500 AFY	51,570 AFY 7.6% decrease	60,130 AFY	5,000 AFY	10%

Participating Water Provider	Service Area / Geography Served	Projected Change in Population Between 2010 and 2035	Water Demand 2010	Projected Water Demand 2035	Projected Water Supply in 2035	Estimated Maximum Delivery from Project	Project Water as % of 2035 Total Supply
JCSD[e]	Jurupa Valley area of western Riverside County. Sunnyslope, Indian Hills, Glen Avon, Pedly, Mira Loma, Jurupa Valley, and Eastvale.	2010- 101,700 2035 - 137,000 35% increase	23,660 AFY	35,648 AFY 51% increase	35,648 AFY	5,000 AFY	14%
Cal Water[f]	13-square miles in the eastern section of Ventura County Westlake, within the City of Thousand Oaks	2010 -16,880 2035 -17,260 2.25% increase	7,130 AFY	7,101 AFY 0.3% decrease	8,025 AFY	5,000 AFY	62.3%

SOURCES:

a Santa Margarita Water District, *2010 Urban Water Management Plan,* June 2010.

b1 Golden State Water Company, *2010 Urban Water Management Draft Plan*, *Multiple Water Systems,* 2010.

b2 The projected 40% increase in demand between 2010 and 2035 for Golden State reflects the decrease in demand that occurred between 2008 and 2010; hence the estimated percent increase over 2010 demand reflects first recovery of demand to pre-2008 levels.

c Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, 2010.

d Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011.

e Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011.

F Cal Water, *Westlake District 2010 Urban Water Management Plan*, June 2011,

TABLE 6-3
CURRENT AND PROJECTED POPULATION IN THE SMWD SERVICE AREA

	2010	2015	2020	2025	2030	2035-opt
Service Area Population	155,229	167,663	180,097	192,531	204,965	217,399

SOURCE: Center for Demographic Research, California State University, Fullerton, 2010; Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010.

There is one major development plan being implemented within the SMWD service area that represents the majority of future growth. The Ranch Plan includes a mix of residential and commercial development in six planning areas and represents the build-out of the remaining open space within SMWD. The proposed residential development will consist of 14,000 units with 6,000 of the units being age-restricted units which have a lower water demand because of lower occupancy. The proposed commercial development is estimated to be 5.2 million square feet.

Water Demand and Supply – SMWD

Water Demand

SMWD's water use was 34,169 AF in 2010, consisting of 28,077 AF of imported water (82 percent), 65 AF of groundwater (0.2 percent), and 6,027 AF of recycled water (18 percent).[25] SMWD is projecting an increase in water demand over the next 25 years, but future water demands are expected to increase at a lower rate than the projected population growth due to proactive water conservation efforts. Population within the SMWD service area is expected to increase by 40 percent, compared to demand, which is expected to increase by 36 percent.[26] Past, current, and projected demand is shown in **Table 6-4** by water-use sector.

TABLE 6-4
SMWD PAST, CURRENT AND PROJECTED WATER DEMAND BY WATER USE SECTOR

	Water Demand by Water Use Sectors (AFY)				
Fiscal Year Ending	**Single Family**	**Multi-Family**	**Commercial /Industrial**	**Landscape**	**Total Demand**
2005	16,295	2,768	9,936	3,862	**32,861**
2010	17,702	2,936	1,948	11,583	**34,169**
2015	18,617	3,130	2,052	12,206	**36,006**
2020	20,499	3,419	2,257	13,424	**39,599**
2025	23,599	3,573	2,564	15,251	**44,987**
2030	24,458	3,573	2,645	15,733	**46,409**
2035	24,458	3,573	2,645	15,733	**46,409**

SOURCE: Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-5, Table 2-4.

25 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-13.
26 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-13.

The residential sector accounts for approximately 60 percent of the existing water demand within SMWD. Commercial/Industrial, including dedicated landscape, consumes approximately 40 percent of SMWD's water supply. SMWD's water demands include recycled and domestic irrigation accounts. SMWD's total water demand includes up to 70 percent for irrigation purposes. Existing centralized irrigation demands are 33.9 percent of SMWD's total water demands, with 17.9 percent of total irrigation demands provided by the recycled water system.[27]

Water Supply

SMWD's main source of water supply is imported water from Metropolitan through purchases from MWDOC. Today, SMWD relies on approximately 82 percent imported water, 18 percent recycled water, and 0.2 percent local groundwater supply from the San Juan Basin.[28]

Tables 6-5 and **6-6** show current and projected supply and demand, by water supply source, under normal year conditions. SMWD's 25-year demand projections for imported water are based on the projections provided by SMWD to MWDOC. Additional water supplies from Metropolitan that have been listed as available in Metropolitan's 2010 RUWMP are not included in this table because of reliability issues and availability concerns (see further discussion o Metropolitan supplies and reliability issues in Section 6.2.7, below). In addition, SMWD intends to supplant these potential supplies from Metropolitan using water from the other/new sources shown in the table.[29]

TABLE 6-5
CURRENT AND PROJECTED WATER DEMANDS (AFY)

	Fiscal Year Ending					
Water Supply Sources	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
MWDOC (Imported Treated/ Untreated Full Service (non-int.))	28,077	19,067	20,480	23,121	24,033	24,033
Baker Treatment Plant (Imported Untreated Full Service (non-int.))	–	9,400	9,400	9,400	9,400	9,400
San Juan Basin	65	100	116	116	116	116
Recycled Water	6,027	7,439	9,603	12,350	12,860	12,860
Total	**34,169**	**36,006**	**39,599**	**44,987**	**46,409**	**46,409**

SOURCE: Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-14, Table 2-9.

27 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-6.
28 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 3-10.
29 Metropolitan Water District of Southern California, *2010 Integrated Water Resources Plan*, 2010.

TABLE 6-6
PROJECTED NORMAL WATER SUPPLY AND DEMAND (AFY)

	Fiscal Year Ending				
	2015	**2020**	**2025**	**2030**	**2035**
Total Demand	**36,006**	**39,599**	**44,987**	**46,409**	**46,409**
San Juan Basin	100	116	116	116	116
Recycled Water	7,439	9,603	12,350	12,860	12,860
Imported	28,467	29,880	32,521	33,433	33,433
Total Supply	**36,006**	**39,599**	**44,987**	**46,409**	**46,409**

SOURCE: Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 3-21, Table 3-13.

By 2015, SMWD's water supply portfolio is expected to shift to 79 percent imported water (53 percent imported treated water, 26 percent potable water from the Baker Water Treatment Plant (WTP) from untreated imported water), 21 percent recycled water, and 0.3 percent local groundwater.[30] Local groundwater from the San Juan Basin is expected to remain at around 100 AFY.

Imported Water. Imported water from Metropolitan (via MWDOC) currently fulfills more than 80 percent of SMWD's demand. Metropolitan's supply projections indicate that it will be able to meet full service demands under wet, normal, and dry years through the year 2035, as does MWDOC.[31] However, these projections are based on several assumptions, including the assumption that uncertainties in the availability of imported water due to environmental, legal, and hydrologic factors will be resolved to Metropolitan's satisfaction and benefit.

Local Groundwater. There is one operating well, Well 6, in the southeast corner of SMWD's service area that provides 65 AFY, or 0.2 percent of SMWD's total water supply.[32] Extractions from the San Juan Basin are anticipated to increase to 116 AFY, or 0.3 percent of SMWD's total water supply, by 2015.

Recycled Water. SMWD provides additional treatment to a portion of its secondary treated wastewater, rather than discharging it to the ocean, and uses it for landscape irrigation. Recycled water is considered a highly reliable water supply since it is generated from relatively constant and predictable wastewater flows that are not subject to seasonal variations. The current combined recycled water production from the Oso Creek Wastewater Reclamation System and the Chiquita Water Reclamation Plant is about 6,600 AFY, and by 2035, recycled water use is expected to more than double, compared to existing conditions.[33]

30 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2.
31 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 3-19.
32 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, pages 3-12, 3-13.
33 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 2-13.

Water Supply Reliability

SMWD continues to explore opportunities for augmenting and shoring up the reliability of their water supplies to ensure that they meet projected customer demand through 2035. Understanding that the availability of future imported supplies is tentative and dependent on factors outside of its control, SMWD is participating in numerous planned projects, including the Chiquita WRP expansion and the Baker WTP, to decrease SMWD's reliance on imported treated water from MWDOC and Metropolitan. These are briefly summarized below. For more information on these projects, refer to SMWD's 2010 UWMP.[34]

Baker Water Treatment Plant. The Baker WTP will treat untreated water from the Santiago Lateral and Irvine Lake through the Baker Pipeline. It is expected to come online in FY 2012-13. SMWD expects to receive its full capacity right of 9,400 AFY beginning in 2015. Untreated imported water from the planned Baker WTP is expected to decrease the reliance of SMWD on imported treated water from MWDOC and Metropolitan, as shown in Table 6.5. The Project is intended to provide increased water supply reliability to south Orange County by increasing local treatment capability for multiple water supply sources, including imported water and local surface water from Irvine Lake. It will also help provide a reliable local potable water supply in the event of emergency conditions or scheduled maintenance on the Metropolitan's delivery system and increase operational flexibility by creating redundancy within the water conveyance system.[35]

Upper Chiquita Reservoir Project. SMWD is constructing the Upper Chiquita Reservoir, which will have a capacity of 244 MG (750 AF) and will act as a large-scale emergency potable water supply during planned or unplanned service disruptions. Construction was completed in Fall 2011.

Chiquita Water Reclamation Plant Expansion. SMWD's planned Chiquita Water Reclamation Plant (WRP) expansions will provide an additional 3,000 AFY of recycled water by 2015 and another 2,000 AFY by 2025, The expansion will reduce SMWD's dependency on imported water and provide recycled water for irrigation purposes.

Los Alisos Water Reclamation Plant. SMWD has an agreement to purchase up to 1,500 AFY from IRWD through 2030 and additional water on an as-available basis. The Oso/Los Alisos and Chiquita system interconnections increase the reliability of the recycled supply throughout the SMWD service area.

IRWD Interconnection Project. SMWD is working with neighboring agencies to expand a permanent interconnection and pumping facilities between the IRWD potable water distribution systems.

Rancho Mission Viejo Riparian Non-Potable Water. Rancho Mission Viejo (RMV) holds riparian water rights for its ranching, agriculture and tenants uses. RMV and SMWD are

34 Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, pages 2-13.
35 Irvine Ranch Water District, Baker Water Treatment Plant, http://www.irwd.com/your-water/construction-projects/baker.html, accessed October 2011.

contemplating an agreement whereby RMV leases a portion of the riparian water to SMWD for use as supplemental water to offset in part the non-domestic water demand generated by the previously-approved Ranch Plan development, which represents the build-out of the remaining open space within SMWD.[36] SMWD is proposing to use the leased water to provide for non-domestic irrigation water to the HOA parcels and to the RMV-related investment properties in the event that recycled water is not available. A portion of the leased water could also be used during grading and construction activities for dust control, trench backfill, and similar uses.

Supplemental Dry Year Water Supplies. SMWD has two water purchase agreements with Cucamonga Valley Water District and Golden State for water in the Chino Basin. When supplies from Metropolitan are limited, Cucamonga Valley Water District and Golden State will utilize groundwater in lieu of taking delivery of imported water from Metropolitan. This will further augment supply reliability under normal, dry, or multiple dry-year water years. The purpose of these transfer agreements is to ensure that demands on SMWD's water resources from The Ranch Plan do not reduce water supplies for existing customers or prevent other approved developments.

SMWD/Cucamonga Valley Water District Agreement – Cucamonga Valley Water District will provide 4,250 AF of water to SMWD, which will provide 88 percent redundancy to The Ranch Plan's projected Year 2025 potable water demand of 4,840 AF during normal years and augment Metropolitan's conservative projected supply reliability. Expected increased demand during dry and multiple dry years will be met by increasing recycled water production, enabling a 50 percent margin of potable water supply redundancy in addition to meeting non-potable demands for The Ranch Plan.

SMWD/Golden State Water Company Agreement – The 2,000 AF of stored water from Golden State was acquired in contemplation of augmenting Metropolitan water supplies for The Ranch Plan. The water may be called if necessary to supplement the Cucamonga Valley Water District supplemental supply.

Cadiz Valley Water Conservation, Recovery and Storage Project.[37] SMWD is pursuing participation in the proposed Project as part their efforts to address the uncertainties arising over the long-term reliability of, and to offset the need for, imported water. As described in Chapter 3, Project Description, SMWD would acquire 5,000 AFY with an option for an additional 10,000 AFY, totaling up to 15,000 AFY. Conserved water would be collected and delivered via the CRA. A new conveyance pipeline would be constructed from the Cadiz Property to the CRA. From there, SMWD would receive water deliveries via existing infrastructure and through water transfers or exchanges with MWDOC, a Metropolitan member agency, for use throughout their service area. SMWD is also exploring possibilities for water storage at the Project site that in wet years would store water from the CRA into the aquifer. The CRA would also be used under the Imported Water Storage Component to convey stored water to Metropolitan's CRA. This water

[36] The proposed residential development associated with The Ranch Plan will consist of 14,000 units with 6,000 of the units being age-restricted units which have a lower water demand because of lower occupancy. The proposed commercial development is estimated to be 5.2 million square feet.

[37] Santa Margarita Water District, *2010 Urban Water Management Plan*, June 2010, page 7-13.

could be used when needed in dry years. If implemented, the proposed Project would diversify SMWD's water portfolio and help drought-proof the District to ensure its water demands are met regardless of the status of the region's imported supply.

Project Growth Inducement Potential for SMWD

Between 2010 and 2035, water demand in SMWD's service area is expected to increase by 36 percent, from 34,169 to 45,409 AFY and population is expected to increase by 40 percent. SMWD has identified opportunities for improving water supply reliability to meet projected demands through 2035. SMWD's planned and possible future projects could provide up to 37,900 AFY of supplemental water supply. The largest of these are the proposed Project, which could provide up to 15,000 AFY, and the Baker WTP, which will deliver 9,400 AFY of imported water to SMWD beginning in 2015. If SMWD exercises its option to acquire a total of 15,000 AFY from the proposed Project (5,000 AFY plus an option for an additional 10,000 AFY), then Project water would represent up to 32 percent of SMWD's projected 2035 supply portfolio.

There is one major remaining development within the SMWD service area, the Ranch Plan that involves 14,000 residential units and 5.2 million square feet of commercial space for which SMWD has already secured adequate water supply. [38] The Project is not needed to meet the demands of this new planned growth. Water acquired by SMWD under the Project primarily would be used to bolster the reliability of the District's existing imported supply, which currently represents 82 percent of its total supply. In years when imported supply deliveries from the Colorado River and Bay-Delta systems are restricted, SMWD could make use of supplemental supply from the Project to make up for imported supply shortfalls.

Although Project water would be used primarily to improve the reliability of SMWD's existing water supplies, by contributing to the District's overall water supply portfolio it is possible that some of the Project water could be used to support some of the remaining incremental growth planned within SMWD's southern Orange County service area. The Project has limited growth potential within the SMWD service area.

It is possible that in select years, SMWD could make some of its Project water available to other neighboring agencies within the MWDOC service area. Water would be provided to another agency on a short-term basis only and, as such, would not represent a firm, permanent supply for any other agency. This action would provide additional supply reliability support within MWDOC and broader Metropolitan service area but would not result in growth inducement outside of SMWD's service area.

6.2.3 Golden State Water Company

Golden State is engaged in the distribution and sale of water and power to over 275,000 customers in 10 counties across California. In Southern California, Golden State serves customers

38 Santa Margarita Water District, *Water Supply Assessment for "The Ranch Plan" General Plan Amendment/Zone Change (PA 01-113) Rancho Mission Viejo,* June 2003.

in cities throughout San Bernardino, Riverside, Los Angeles, Orange, and Ventura counties. Its statewide service area network is divided into three regions with Southern California service systems constituting a small portion of Region I, and all of Regions II and III. Within the Project Water Area of Use, Golden State services 17 water systems in three counties: Los Angeles, Orange and Ventura. Golden State's water supply sources for customers in these areas include imported water purchased from Metropolitan, groundwater pumped from local underground aquifers, and recycled water.

Land Use and Population

Golden State proposes to use Project water in 17 water systems of its Southern California water systems located in three counties: Los Angeles, Orange and Ventura (see Figure 1-3). As shown on **Table 6-7,** current population within these 17 water systems totals 863,355 and is projected to increase approximately 12.5% between 2010 and 2035, to 970,856 people.

TABLE 6-7
PROJECTED POPULATION GROWTH FOR APPLICABLE SOUTHERN CALIFORNIA WATER SYSTEMS IN GOLDEN STATE REGIONS I, II AND III[39]

Water System	2010	2035	% Increase
Artesia	52,974	54,899	3.6%
Bell-Bell Gardens	69,119	70,848	2.5%
Claremont	35,248	39,015	11.0%
Cowan Heights	5,353	5,551	4.0%
Culver City	36,704	37,679	3.0%
Florence Graham	62,451	69,809	12.0%
Hollydale	Covered under "Central Basin", no UWMP		
Norwalk	43,683	47,638	9.0%
Placentia	49,342	55,779	13.0%
San Dimas	54,416	76,769	36.0%
Simi Valley	38,676	42,489	10.0%
South Arcadia	3,395	4,815	42.0%
South San Gabriel	28,715	31,932	11.0%
Southwest	271,861	311,135	23.0%
West Orange	111,418	122,498	10.0%
Willowbrook	Covered under "Central Basin", no UWMP		
Yorba Linda	Covered under Placentia System		
TOTAL	**863,355**	**970,856**	**12.5%**

SOURCE: Golden State Water Company, *2010 Urban Water Management Draft Plan*, *Multiple Water Systems*, 2010, Table 2-2.

39 Statistics for projected and historic population growth include only information for those Water Systems with Urban Water Management Plans, and those with more than 3,000 service connections or supplying more than 3,000 AFY.

Water Supply and Demand - Golden State

Golden State uses two main methods to obtain water for distribution within its service area. Groundwater is pumped to water systems that have access to local groundwater sources, and water is imported from wholesale water suppliers. Wholesale water suppliers that import water to Golden State's Region I, II, and III systems are member agencies of Metropolitan.

Demand projections for 2035 for Golden State's 17 water systems are shown in **Table 6-8**. Demand increases are projected in all customer use categories: Single Family, Multi-Family, Commercial, Industrial, Institutional, Government, and Landscape.

TABLE 6-8
PROJECTED WATER SUPPLY / DEMAND FOR APPLICABLE SOUTHERN CALIFORNIA WATER SYSTEMS IN GOLDEN STATE REGIONS I, II AND III[40]
(acre-feet)

Water System	AFY 2010	AFY 2035	% Increase
Artesia	5,613	7,124	27%
Bell-Bell Gardens	5,333	6,409	20%
Claremont	10,620	14,872	34%
Cowan Heights	2,557	3,299*	29%
Culver City	5,454	6,975	28%
Florence Graham	5,163	6,666	29%
Hollydale	Covered under "Central Basin", no UWMP		
Norwalk	4,986	6,913	39%
Placentia	7,522	9,830	31%
San Dimas	11,922	18,107	52%
Simi Valley	6,513	10,028*	54%
South Arcadia	3,395	4,815	42%
South San Gabriel	2,689	3,748	39%
Southwest	29,886	40,885	37%
West Orange	15,287	19,645	29%
Willowbrook	Covered under "Central Basin", no UWMP		
Yorba Linda	Covered under Placentia System		
Total	**116,940**	**159,316**	**36%**

SOURCE: Golden State Water Company, *2010 Urban Water Management Draft Plan, Multiple Water Systems*, 2010, Tables 3-14, 4-1.

As shown in Table 6-8, all Golden State water systems that could receive water under the proposed Project are projected to have demand increases of 20 percent or greater by 2035; in two water systems demand increases are projected to be approximately 50 percent. For example, the San Dimas Water System anticipates demand to increase by almost 52 percent, from 11,922 AFY in 2010 to 18,107 AFY in 2035. The demand increases projected between 2010 and 2035 for San

40 Statistics for projected and historic water supply/demand include only information for those Water Systems with Urban Water Management Plans, and those with more than 3,000 service connections or supplying more than 3,000 AFY.

Dimas in particular and many of Golden State's water systems in general, are abnormally high but not because accelerated growth is projected for this next 25 year period. Rather, the projected future increases in demand reflect the fact that water demand declined in many service areas between 2008 and 2010 and is expected to recover to previous levels for existing customers in the years ahead on top demand increases associated with new development and customers.

For example, for Golden State's San Dimas water system, water use began declining in 2007 with an approximate 18 percent decline from 2008 to 2010. Review of similar data from other systems suggests that the decline in water use has been widespread and is not isolated to the San Dimas system. The recent decline in water use is not fully understood, but may be the result of several factors including: several years of cool summers, a statewide drought that forced mandatory water reductions and conservation in many areas, and an economic downturn that has resulted in business closures and increased housing vacancies.[41]

Golden State projects adequate supplies to meet the future needs of its water systems included in the Project Water Area of Use, as shown in Table 6-8, based on Metropolitan's projection in its 2010 Regional Urban Water Management Plan that it will be able to deliver imported supplies under all conditions and year types. For example, San Dimas expects to meet this increased demand by increasing the amount of water purchased from Metropolitan through Three Valleys by 79 percent.[42] Golden State specifies in numerous UWMPs that increased demands across Southern California will be met through purchasing additional water from Metropolitan through individual wholesalers, through additional groundwater and surface water transfers,[43] and through conservation practices such as reduced water use commensurate with the requirements of SBx7-7. Golden State plans to reduce per capita water use within each water system by implementing water conservation BMPs (which correspond to the 14 Demand Management Measures under the UWMP Act). However, the demand projections presented in the UWMP, in most cases, do not yet reflect compliance with required water use reductions as defined by SBx7-7.

Water Supply Reliability

Water reliability issues for Golden State are related to the imported water supplies it attains through Metropolitan. Like all water providers receiving imported supplies from the Colorado River system and/or the Sacramento-San Joaquin Delta system via the SWP, Golden State must be prepared to manage during import supply shortage periods due to drought and/or other regulatory restrictions on supply. Golden State has not yet incorporated potential participation in the Project into its current Urban Water Management Plans for the water systems that could be served by the Project but acquisition of up to 5,000 AFY of Project water is one step Golden State is considering, along with proposed surface water transfers, increased groundwater pumping, and increased demand management, to improve the reliability of its supply and meet the future needs of its customers.

41 Golden State Water Company, *2010 Urban Water Management Plan San Dimas Draft Report*¸ August 2011, page 3-2.
42 Golden State Water Company, *2010 Urban Water Management Plan San Dimas Draft Report*¸ August 2011, page 4-3.
43 Golden State Water Company, *2010 Urban Water Management Plan Placentia Draft Report*¸ August 2011, page 4-2.

Growth Inducement Potential for Golden State Water Company

Between 2010 and 2035, the population within Golden State's 17 water system service areas is projected to increase 12.5 percent. Water demand is projected to increase 36 percent but, as discussed above, this reflects an increase in water use by existing users back to prior use levels plus projected new demands. The new demand projection does not reflect additional conservation that will be implemented in compliance with current regulations. Thus, the projected 36 percent increase overstates what is attributable to new demands.

Golden State would receive up to 5,000 AFY of Project water, which represents a small percentage of Golden State's water supply portfolio for the 17 water systems with the Project Water Area of Use (4 percent of current and 3 percent of projected future supply, respectively). As noted above, imported surface water supply makes up a substantial portion of Golden State's water portfolio, thus Golden State has to be prepared for cutbacks in imported supply deliveries in drought years and other periods of restriction. In years when imported supply deliveries from the Colorado River and Bay-Delta systems are restricted, Golden State could make use of the supplemental supply provided by the Project to make up for imported supply shortfalls.

Although Project water would be used primarily to improve the reliability of Golden State's existing water supplies and while it constitutes only a small percent of total supply, by contributing to Golden State's overall water supply portfolio it is possible that some of the Project water could be used to support some of the growth projected in the communities served by Golden State. Therefore, the Project has some, albeit limited, growth inducement potential within the Golden State service area.

6.2.4 Three Valleys Municipal Water District (Three Valleys)

Three Valleys distributes water for beneficial uses within a 133-square-mile area in eastern Los Angeles County that includes Azusa, City of Industry, Covina, Claremont, Diamond Bar, Glendora, Hacienda Heights, La Puente, La Verne, Pomona, Rowland Heights, San Dimas, Walnut, and West Covina. Three Valleys is a member agency of Metropolitan and delivers water purchased from Metropolitan to its 14 member agencies. Three Valleys' typically receives just over half of its total supply from Metropolitan; the rest comes from local groundwater, surface water and recycled water.

Land Use and Population

Three Valleys provides water to a total population of over 573,800. Land use in the service area is primarily urban, with limited open space. **Table 6-9** lists the cities and counties in Three Valleys' service area; those in italics are partially within the service area. At present, Three Valleys has no plans to expand its service area.

Three Valleys' service area is in the planning area of the San Gabriel Valley Council of Governments, a subregional organization within SCAG. Table 6-9 shows the existing (2010) and projected (2035) population and the net and percent change in population, by city. Of the cities

served, Pomona has the largest existing population and projects the largest increase in population between 2010 and 2035, while the City of San Dimas projects the greatest percent change in population (42.6 percent increase) over that period. Overall population growth through 2035 is 24.1 percent.

TABLE 6-9
PROJECTED POPULATION GROWTH IN THREE VALLEYS SERVICE AREA BY CITY

	Population		Change (2010-2035)	
City	**2010**	**2035**	**Net**	**Percent**
Azusa	*1,230*	*1,412*	*182*	*14.8*
Claremont	37,608	40,405	2,797	7.4
Covina	*16,541*	*20,217*	*3,676*	*22.2*
Diamond Bar	61,019	68,570	7,551	12.4
Glendora	*51,773*	*57,959*	*6,186*	*11.9*
Industry	*442*	*445*	*3*	*0.7*
La Puente	*434*	*553*	*119*	*27.7*
La Verne	34,051	40,249	6,198	18.2
Pomona	163,683	208,558	44,875	27.4
San Dimas	36,946	52,694	15,748	42.6
Walnut	32,659	37,339	4,680	14.3
West Covina	*16,934*	*21,074*	*4,140*	*24.4*
Unincorporated	*120,480*	*162,778*	*42,298*	*35.1*
Total Three Valleys Service Area	**573,800**	**712,253**	**138,453**	**24.1**

SOURCE: Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, June 2011, Table 2-2, page 11.

Water Supply and Demand – Three Valleys

Water Supply

Three Valleys' water supply portfolio includes a mix of local and imported water supplies. During a normal year, local sources have historically fulfilled 49 percent of the demand and imported supplies have fulfilled 51 percent of the demand. Supply availability can vary from year to year and depends on a variety of environmental, legal, and hydrological factors. **Table 6-10** shows historic and projected/planned sources of supply for the Three Valleys service area, from 2005 to 2035. Additional information on individual supply components is provided below.

Imported Water. Imported supply from the SWP and CRA purchased from Metropolitan typically fulfills slightly over half of the total water demand. By 2035, use of imported water is expected to increase by about 30 percent relative to existing (2010) levels.

TABLE 6-10
HISTORIC WATER USE (2005 – 2009) AND PROJECTED WATER SUPPLY (2010 – 2035)
IN THE THREE VALLEYS SERVICE AREA
(Acre-Feet)

Year	Local Groundwater	Local Surface Water	Recycled Water	Imported Water	Total[d]
2005	48,596.6	10,538.8	6,478.6	64,523.9	130,137.9
2006	51,862.8	11,126.8	6,690.8	63,178.9	132,859.3
2007	52,921.0	8,952.7	4,320.5	72,318.5	138,512.7
2008	49,536.8	11,304.2	3,957.9	69,242.9	134,041.7
2009	45,483.5	6,020.5	3,797.8	59,135.3	114,437.0
2010	46,056	6,500	5,317	69,748	127,621.0
2015	46,137	6,500	7,272	77,343	137,252.0
2020	46,141	6,500	8,185	83,864	144,690.0
2025	46,146	6,500	8,937	86,499	148,082.0
2030	46,151	6,500	9,623	89,498	151,772.0
2035	46,155	6,500	10,292	91,197	154,144.0

SOURCE: Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, June 2011, page 16 Table 3-2, and page 18 Table 3-4.

Local Groundwater. Groundwater sourced from several basins underlying the service area makes up the majority of local supply, historically satisfying about 37 to 40 percent[44] of demand. In the future, expansion of groundwater production within the service area may provide added supply, by accessing available local resources that have not yet been tapped or that have been inactive (potential quantities associated with such projects are not currently reflected in water supply forecasts; further details are available in Three Valley's 2010 UWMP).

Local Surface Water. Local surface water supply quantities, which currently satisfy about 5 to 8 percent of total water demand, are expected to remain the same in the future. Surface water is sourced from the San Gabriel Mountain foothills. Surface water availability is dependent upon local precipitation and snowmelt; because annual fluctuations are common, this is not considered a reliable supply during periods of drought.

Recycled Water. Recycled water from the Pomona Water Reclamation Plant and San Jose Creek Water Reclamation Plant is used primarily for irrigation purposes in the southern portion of the service area. Recycled water use in the Three Valleys service area is still limited, making up approximately 3 to 5 percent of total demand. The main objective of future recycled water projects will be to expand the recycled water infrastructure system. As new infrastructure is constructed, the use of recycled water may offset up to 8,000 to 10,000 AFY of potable water demand.

44 Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, June 2011, page 15, Table 3-1.

Three Valleys and its member agencies are exploring other opportunities to address the uncertainties arising over the long-term reliability of, and to offset the need for, imported water. As part of these efforts, Three Valleys is pursuing participation in the proposed Project which could supply up to 5,000 AFY of water to offset imported demand. Investigations into other water transfer and conjunctive use opportunities are still in their early stages. Three Valley's 2010 UWMP contains more detail on these projects. The agency's efforts to improve supply reliability are discussed further below under the Water Supply Reliability subsection.

Water Demand

The primary water demands within Three Valley's service area come from the municipal and industrial sectors. Due to the urban character of the region, the municipal and industrial sectors are expected to continue to be the primary water users in the future. Total water use from 2005 to 2009 is shown in the right-hand column of Table 6-10. **Table 6-11** provides a breakdown of current and projected demand between 2010 and 2035, by customer type, based on modeling by Metropolitan. As shown, demand is projected to increase by about 21 percent (from 127,621 AF to 154,144 AF), with Retail Municipal/Industrial accounting for over 96 percent of the projected increase.

TABLE 6-11
TOTAL RETAIL DEMAND IN THREE VALLEYS SERVICE AREA
WITH CONSERVATION - AVERAGE YEAR
(Acre-Feet)

Use Type	2010	2015	2020	2025	2030	2035
Retail Municipal/Industrial	122,367	131,999	138,437	141,829	145,519	147,891
Retail Agricultural	253	253	253	253	253	253
Groundwater Replenishment	5,000	5,000	6,000	6,000	6,000	6,000
Total	**127,621**	**137,252**	**144,690**	**148,082**	**151,772**	**154,144**

SOURCE: Three Valleys Municipal Water District, *2010 Urban Water Management Plan*, June 2011, page 18 Table 3-4.

Water Supply Reliability

Because imported water makes up more than half of its water supply portfolio, Three Valleys relies heavily on the availability of Metropolitan supplies to gauge reliability. In an attempt to address reliability issues associated with imported water supply, Three Valleys is promoting water conservation within its service area and pursuing opportunities to develop alternative water supplies, including participating in the proposed Project. Conjunctive use/cyclic storage, groundwater recovery/expansion, and additional resource development are avenues being explored.

Water Conservation. Water conservation across all customer groups is a key component of Three Valleys' long-term water supply strategy. Efforts include public education regarding

efficient water use, conservation research and increased coordination of funding for retail-agency sponsored projects. Three Valleys is a charter signatory to the 1992 Memorandum of Understanding Regarding Urban Water Conservation Best Management Practices, and encourages its member agencies to implement conservation measures. Three Valleys has taken steps to implement applicable BMPs and provide technical, financial and managerial support to member agencies' conservation projects. Long term savings from conservation measures is projected to range from 19,200 AFY in 2020 to 27,300 AFY in 2035.

Conjunctive Use. Three Valleys and its member agencies have developed three conjunctive use projects in recent years, in partnership with Metropolitan. The Live Oak Basin Conjunctive Use Project has the potential to store 3,000 AFY of conjunctive use water with a withdrawal of 1,000 AFY. The City of LaVerne's WTF has the capacity to treat 2,500 AFY on average of additional recovered groundwater. Upper Claremont Heights Basin has averaged 800 AFY production but the storage amount is 3,000 AFY with a withdrawal potential of 1000 AFY; there is also the potential to add 5,000 AFY. Chino Basin has a total program storage capacity of 100,000 AFY with 33,000 AFY annual extraction capabilities in dry years.

Local Groundwater Recovery. The recovery or expansion of groundwater production within the TVMWD service area may provide on the order of 20,000 to 25,000 acre-feet per year of added supplies. The idea behind groundwater recovery is to utilize available local resources that have never been tapped or have been inactive for an extended period due to physical or water quality restrictions. In addition to completed and online projects, the UWMP for Three Valleys lists four planned projects with estimated yield 29,000 AFY.

Recycled Water. Presently, recycled supplies into the TVMWD service area are sufficient to meet current demands, and projected non-potable demands are not expected to outgrow recycled water availability to the region for at least the next 10 years. In the future, recycled water development by the retail agencies within the TVMWD service area may offset another 8,000 to 10,000 AFY of firm potable water demand.

Project Growth Inducement Potential for Three Valleys

Three Valleys is anticipating a 24 percent increase in population between 2010 and 2035 and projecting a water demand increase of 21 percent, mostly due to Retail Municipal/Industrial use. Three Valleys is promoting water conservation within its service area and pursuing opportunities for conjunctive use/cyclic storage, groundwater recovery/expansion, and additional resource development, including participating in the proposed Project, to improve water supply reliability and meet projected demands through 2035. Together these planned and future projects could add 48,000 AFY to Three Valleys' total water supply, including long-term savings from conservation measures projected to range from 19,200 AFY in 2020 to 27,300 AFY in 2035; planned local groundwater recovery projects yielding 29,000 AFY; and recycled water projects offsetting up to10,000 AFY of potable water demand.

The 5,000 AFY of Project water that Three Valleys would acquire under the Project represents a small percentage of its total water supply portfolio (4 percent of current and 3 percent of projected

future supply, respectively). As with other Metropolitan member agencies, Three Valleys may need to use its Project water in some years to maintain its supply reliability and compensate for imported water delivery restrictions. For instance, in years when imported supply deliveries from the Colorado River and Bay-Delta systems are restricted, Three Valleys could make use of the supplemental supply provided by the Project to make up for imported supply shortfalls.

Although Project water would be used primarily to improve the reliability of Three Valleys existing water supplies and while it constitutes only a small percent of total supply, by contributing to Three Valley's overall water supply portfolio it is possible that some of the Project water could be used to support some of the growth projected in the communities served by Three Valley's. Therefore, the Project has some, albeit limited, growth inducement potential within the Three Valleys service area.

6.2.5 Suburban Water Systems (Suburban)[45]

Suburban provides water and water service to a population of approximately 293,000 people in Los Angeles and Orange counties, including all or portions of Glendora, Covina, West Covina, La Puente, Hacienda Heights, City of Industry, Whittier, La Mirada, La Habra, and Buena Park. Suburban's 42-square-mile service area is divided into two regions: the San Jose Hills Service Area and the Whittier/La Mirada Service Area (see Figure 1-2). The two service areas are about 3 miles apart, separated by the La Puente Hills. Suburban's water supply primarily comes from local groundwater (80 percent).

Land Use and Population

Suburban's service area encompasses portions of the cities and counties listed in **Table 6-12**, below. These areas consist primarily of urban residential land uses. Within the service area, population has been relatively steady over the past 15 years and is projected to remain steady in the future (see Table 6-13). The Suburban service area is within the planning area of the San Gabriel Valley Council of Governments and SCAG.

Water Demand and Supply – Suburban

Water Demand

Current water use within Suburban's service area is about 72 percent residential, 21 percent commercial, and 6 percent public agency, with less than 1 percent industrial and other uses. The Suburban service area has almost reached full build-out, and future demand is not expected to significantly change. **Table 6-13** indicates actual water use for 2005 and 2010 and projects water demand for 2015 through 2035.

[45] The following sources were used as the basis for the discussion and analysis of Suburban Water Systems:

- Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011.
- SouthWest Water Company, *Suburban Water Systems*, www.swwc.com/suburban/about-our-water/, accessed February 2011.

TABLE 6-12
PROJECTED POPULATION GROWTH IN SUBURBAN WATER SYSTEMS SERVICE AREA

		Population		Change (2010-2035)	
Service Area	**Cities**	**2010**	**2035**	**Net**	**Percent**
San Jose Hills	West Covina				
	La Puente				
	Walnut				
	Glendora	178,500	178,900	400	0.22
	Industry				
	Covina				
	Unincorporated Los Angeles County				
Whittier/La Mirada	La Mirada				
	Whittier				
	La Habra	115,000	115,300	300	0.26
	Buena Park				
	Unincorporated Los Angeles County				
	Unincorporated Orange County				
Total Suburban Service Area		**293,500**	**294,200**	**700**	**0.24**

SOURCE: Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011, page 2-3, Table 2-1.

Water Supply

Suburban's water supply portfolio includes local groundwater, purchased groundwater and surface water, recycled water, and imported SWP and CRA water from Metropolitan purchased from several different wholesalers. **Table 6-14** shows current and projected water supplies for Suburban's service area.

TABLE 6-13
TOTAL RETAIL WATER USE AND PROJECTED DEMAND IN SUBURBAN'S SERVICE AREA
(Acre-Feet)

Use Type	**2005**	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Residential	37,700	33,300	34,120	34,120	34,120	34,120	34,120
Commercial	10,700	9,000	9,580	9,580	9,580	9,580	9,580
Industrial	800	1,600	1,570	1,570	1,570	1,570	1,570
Public Authority	2,800	2,800	3,390	3,390	3,390	3,390	3,390
Other	100	0	30	30	30	30	30
Sales to Other Agencies	0	0	10	10	10	10	10
Unaccounted for Water	3,700	2,800	2,870	2,870	2,870	2,870	2,870
Total	**55,800**	**49,500**	**51,570**	**51,570**	**51,570**	**51,570**	**51,570**

SOURCE: Suburban Water Systems, 2010 *Urban Water Management Plan*, June 2011, page 3-8, Table 2-8.

TABLE 6-14
SUBURBAN WATER SYSTEMS: EXISTING AND PROJECTED WATER SUPPLY SOURCES[46]
(Acre-Feet)

Year	Groundwater	Purchased Groundwater and Surface Water	Imported Water[a]	Recycled Water	Total
2010	36,079	11,712	10,333	0	58,124
2015	36,079	11,712	10,333	1,406	59,530
2020	36,679	11,712	10,333	1,406	60,130
2025	36,679	11,712	10,333	1,406	60,130
2030	36,679	11,712	10,333	1,406	60,130
2035	36,679	11,712	10,333	1,406	60,130

a Suburban purchases water from Metropolitan via the Upper San Gabriel Municipal Water District and Central Basin Municipal Water District.

SOURCE: Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011, page 3-3 Table 3-1, and page 3-6 Table 3-2.

Local Groundwater. Suburban historically drew between 45 percent and 76 percent of its supply in each service area from wells in the Main San Gabriel and Central groundwater basins, both of which are adjudicated.[47] A significant portion of Suburban's purchased supply from other agencies is also sourced from these basins. The Main and Central Basins are expected to support the same levels of pumping in the future and are intended to be the primary sources of water through the UWMP planning horizon of 2035.[48]

Studies identifying widespread volatile organic compounds contamination of the groundwater basin led the US Environmental Protection Agency to place the San Gabriel Valley Basin on the National Priorities List, or Superfund Program, in 1984 and subsequently led to the development of groundwater cleanup projects. Suburban's *2010 Urban Water Management Plan* indicates that "problems with groundwater pollution in the Main Basin are being addressed by the Watermaster and San Gabriel Basin Water Quality Authority and these problems, while not completely solved, are being proactively addressed and solutions are being developed."[49]

Imported Water. Suburban obtains imported SWP and CRA water from Metropolitan, mainly through its wholesale agencies (Upper San Gabriel Valley Municipal Water District and Central Basin Municipal Water District), with smaller portions coming from agreements with other Metropolitan member agencies. Additionally, the wholesale agencies provide replenishment water for the Main San Gabriel and Central Basins.

46 Totals are for the San Jose Hills and Whittier/La Mirada service areas combined
47 Suburban is party to the Main San Gabriel Judgment and is entitled to 12.58 percent of the Operating Safe Yield of the Main Basin. Suburban is also a party to the Central Basin Judgment and has an allowed pumping allocation of 3,721 AFY. Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011, page 3-7, Table 3-5.
48 Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011, pages 6-1, 3-2.
49 Suburban Water Systems, *2010 Urban Water Management Plan*, June 2011, page 5-1.

Recycled Water. Although Suburban has not historically used recycled water within its service area, it is participating in the City of Industry Regional Recycled Water Project, currently under construction. The Regional Recycled Water Project will contribute 1,406 AFY of recycled water supplies to the service area, to be used mainly for irrigation, beginning in late 2011. The recycled water will offset potable water use and aid in meeting Suburban's conservation requirements. Recycled water use is expected to remain steady through 2035.

Water Supply Reliability

Suburban has the same concerns about imported supply water reliability from Metropolitan as discussed for the other Project Participants, and has some reliability issues associated with its local groundwater supply, as noted above, related to planned but not yet active implementation of contamination clean up. Suburban expects local groundwater and imported water supplies to remain constant through 2035 and future demand projections shows a relatively stable to decreasing trend. Based on its projections, Suburban's existing water supply capabilities would be sufficient to meet projected demand through 2035 under normal, single dry year, and multiple dry year conditions. Suburban is pursuing water conservation to manage future demand within its service area.

Water Conservation. Suburban is a signatory to the 1992 MOU Regarding Water Conservation in California and implements a variety of demand management measures though its own programs and through collaboration with is wholesale agencies. Suburban's water conservation efforts include a water waste prevention program, retail conservation pricing, public education regarding efficient water use, and participation in high efficiency appliance rebate programs. Long term savings from conservation measures is projected to range from 180 AF in 2015 to 2,670 AF in 2035, which are the levels of conservation needed to meet SBx7-7 targets by 2020.

Project Growth Inducement Potential for Suburban

Between 2010 and 2035, water demand in Suburban's service area is projected to decrease by 7.6 percent, while population is expected remain close to existing levels (0.24 percent decrease). The Suburban service area has almost reached full build-out, and future demand is not expected to significantly change over existing levels.

Under the proposed Project, Suburban would receive up to 5,000 AFY of Project water to be used anywhere within its service area. Suburban has three current connections with Metropolitan and could therefore take Project water directly into their system or into a spreading basin for recharge. Project water would represent about 10 percent of Suburban's projected future water demand in 2035 and Suburban indicates that Project water would replace or be a substitute for imported water supplies. Because there is essentially no growth projected within Suburban's service area and water demand is projected to slightly decline, the Project would improve the reliability of existing supplies but would have no growth inducement potential within the Suburban service area.

6.2.6 Jurupa Community Services District (JCSD)

JCSD provides water, sewer, and street light services to about 102,000 people in and around the Jurupa Valley area of western Riverside County. JCSD's service area, which encompasses 48 square miles, generally extends southward from the San Bernardino County line to the Santa Ana River and eastward from South Milliken Road, Bellgrave Avenue, and Hellman Avenue to points just east of Armstrong Road and Camino Real (see Figure 1-2). Communities and cities in the service area include Sunnyslope, Indian Hills, Glen Avon, Pedly, Mira Loma, Jurupa Valley, and Eastvale; the new cities of Eastvale and Jurupa Valley have both just incorporated in the last two years.

Land Use and Population

JCSD provides water service to residential, commercial, industrial, institutional, recreational, and agricultural customers and for environmental and other uses, such as fire protection and pipeline cleaning. Land use in the service area is predominantly residential. Residential demand accounted for over 70 percent of JCSD's water use in 2009.[50]

JCSD's customer base grew rapidly between1995 and 2009; population in the service area increased by 151 percent in that 15-year period, as depicted in **Table 6-15.** Growth centers included Eastvale and Jurupa Valley, which incorporated as cities in 2010 and 2011, respectively. Currently, JCSD maintains 35,355 service connections. JCSD anticipates continuing to expand its service connections until ultimate build-out is reached (which is projected to occur in 2035). In 2035, JCSD expects 41,689 connections, serving a total population of 137,000. Projections indicate that the population in JCSD's service area will increase by about 35 percent between now and 2035.

TABLE 6-15
HISTORIC AND PROJECTED POPULATION IN JCSD SERVICE AREA

1995	2000	2005	2009	2015	2020	2025	2030	2035
40,512	51,172	84,294	101,700	113,800	130,400	132,500	134,800	137,000

SOURCE: Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011, page 15, 23.

Water Demand and Supply – JCSD

Water Demand

While some decreases in demand have occurred because of rate increases and the nationwide economic downturn, the overall use of and demand for water in JCSD's service area increased over the last 15 years, along with the local population. For example, water use in 1995 was 10,000 AFY and in 2009 was 23,660 AFY. **Table 6-16** summarizes current and projected water demand, by customer service class. Generally, water demand is expected to increase in all

[50] Jurupa Community Services District, *2010 Urban Water Management Plan,* May 2011, page 20.

customer classes, with the largest increases in the single family, commercial, and landscape customer classes. JCSD does not currently use imported water to satisfy demand, though they do plan on integrating imported water into their supply portfolio by 2020, via water transfers from Metropolitan or Western WMD.

TABLE 6-16
CURRENT AND PROJECTED WATER DEMAND BY CUSTOMER CLASS
(Acre-Feet)

Customer Class	2009	2015	2020	2025	2030	2035
Single Family	14,069	17,081	20,118	20,469	20,838	21,190
Multi-Family	851	947	1,109	1,128	1,148	1,166
Commercial	1,916	2,757	3,227	3,281	3,339	3,393
Industrial	851	1,182	1,383	1,407	1,431	1,454
Institutional / Governmental	639	802	939	955	971	987
Landscape	2,556	2,841	3,326	3,382	3,442	3,497
Agricultural (non-potable)	626	720	720	720	720	720
Subtotal	**21,509**	**26,330**	**30,822**	**31,341**	**31,888**	**32,407**
Unaccounted for Water (UAW) 10%[51]	2,151	2,633	3,082	3,134	3,189	3,241
Total Water Demand	**23,660**	**28,962**	**33,905**	**34,476**	**35,077**	**35,648**

SOURCE: Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011, page 15, Table 2-1.

Water Supply

Table 6-17 summarizes JCSD's current and planned water supply. Local groundwater is JCSD's sole source of water at present, and the Chino Basin supplies most of JCSD's groundwater. JCSD operates 16 wells, 8 booster stations, and 15 reservoirs with 53.7 million gallons of storage capacity. JCSD also participates in a Joint Powers Authority (JPA) with neighboring water purveyors, the Chino Basin Desalter Authority (CDA). CDA manages the production, treatment, and distribution of treated water within the region; they own and operate the Chino I and II Desalters, which remove nitrates and TDS from the Chino Basin at a rate of 12 MGD (per plant).[52] JCSD's contractual agreement with CDA requires that they purchase 8,200 AFY, and this contractual amount will increase by 3,300 AFY upon completion of the Chino II Desalter Expansion Project. There are also two small irrigation water systems located in JCSD (one in Sunnyslope and one in Eastvale).

[51] The California Department of Water Resources defines "Unaccounted-for-Water" as follows: Unaccounted-for-water is a misleading term long used by the water industry. Unaccounted-for-water includes unmeasured water put to beneficial use as well as water losses from the system. Better terms distinguish between authorized unmetered uses and water losses. Authorized unmetered uses include firefighting, main flushing, process water for water treatment plants, landscaping of public areas, etc. Water losses include all water that is not identified as authorized metered water use or authorized unmetered use. Water losses are lost from the distribution system, do not produce revenue, and are unavailable for other beneficial uses. Examples of water losses are: illegal connections, accounting procedure errors, reservoir seepage and leakage, reservoir overflow, leaks, theft, evaporation, and malfunctioning distribution system controls. (Source: Department of Water Resources, *Water Use Efficiency / Leak Detection,* http://www.water.ca.gov/wateruseefficiency/leak/, accessed October 2011.)

[52] Jurupa Community Services District, *2010 Urban Water Management Plan,* May 2011, page 5.

TABLE 6-17
SUMMARY OF CURRENT AND PLANNED WATER SUPPLIES IN JCSD
(Acre-Feet)

Water Supply Sources	2009	2015	2020	2025	2030	2035
Supplier Produced Potable Groundwater from Chino Basin	13,586	13,805	13,748	12,819	11,920	10,491
Desalination – Existing CDA Purchase	8,676	8,200	8,200	8,200	8,200	8,200
Desalination – Future CDA Purchase	-	3,300	3,300	3,300	3,300	3,300
Future Transfer from Metropolitan / Western MWD	-	-	5,500	6,500	8,000	10,000
Supplier Surface Diversions	0	0	0	0	0	0
Current Transfers from Rubidoux	679	500	500	500	500	500
Future Transfers from Rubidoux	-	1,000	1,000	1,000	1,000	1,000
Exchanges in or out	0	0	0	0	0	0
Total Potable	**22,941**	**26,805**	**31,748**	**32,319**	**32,920**	**33,491**
Chino Basin – Existing Non-Potable Groundwater	212	200	200	200	200	200
Groundwater – Non-Potable (Riverside Basin)	507	600	600	600	600	600
Non-Potable Groundwater (Future Chino Basin)	-	857	857	857	857	857
Recycled Water (projected use)	-	500	500	500	500	500
Total Non-Potable	**719**	**2,157**	**2,157**	**2,157**	**2,157**	**2,157**
Total Water Supply	**23,660**	**28,962**	**33,905**	**34,476**	**35,077**	**35,648**

SOURCE: Jurupa Community Services District, *2010 Urban Water Management Plan*, May 2011, page 28, Table 3-1.

Groundwater. Groundwater from three sources is used to meet both potable and non-potable water demand in the JCSD service area:

- **Groundwater pumping from the Chino Basin for potable and non-potable use.** The Chino Basin is an adjudicated basin, and JCSD has rights to groundwater pumping through the adjudication. There are approximately 2,720 acres of remaining agricultural land in the Chino Basin region of JCSD that are available for future development / conversion to urban uses. Upon conversion, JCSD will receive about 5,440 AF of additional groundwater production rights in the Basin. The Chino Basin Watermaster (Watermaster) is the overseeing agency for recharging and preventing overdraft within the Basin. The Watermaster replenishes groundwater in the Basin using a combination of natural stormwater recharge, SWP water from Metropolitan, and recycled water.
- **Groundwater extracted from the Chino Basin and treated by Chino I and II Desalters.** As a member of the CDA, JCSD is currently entitled to 2,700 AFY from the Chino I Desalter and 5,500 AFY from the Chino II Desalter, for a total of 8,200 AFY.
- **Groundwater pumping from the Riverside Basin for non-potable use.** The Riverside Basin water supply for JCSD is a relatively minor portion of the overall supply portfolio. The Riverside Basin is not adjudicated and not identified or projected to be overdrafted by DWR.

As part of its plans for meeting future water demand, over the next 25 years, JCSD plans to decrease its reliance on groundwater by diversifying its water supply portfolio. Currently,

groundwater accounts for 93 percent of the water supply. JCSD plans to reduce the prominence of groundwater so that by 2035, it accounts for 66 percent of total supply.

Water Supply Reliability

JCSD continues to explore ways to increase water reliability and protect its water supplies against circumstances that are beyond their control. An important component of long-term reliability is a diverse water supply portfolio. JCSD is exploring future diversification of its water supply and plans to reduce dependence on local groundwater supplies by implementing transfers, exchanges, and groundwater banking programs and by initiating a recycled water program to meet up to 4,300 AFY of existing and future irrigation demand that could be satisfied with non-potable water. To ensure reliability, JCSD also intends to increase its water supply portfolio by pursuing water from Western MWD via the Riverside Corona Feeder, the Riverside Basin, and recycled water. If one supplier reduces deliveries, then additional supply can be acquired through other supply sources. The following projects would add reliability to JCSD's existing water supply portfolio and robustness to its system:

Water Conservation. JCSD practices water conservation throughout their service area. Encouraging water conservation is another way of managing against increased demands, particularly for non-potable uses. JCSD implements conservation BMPs (DMMs under the UWMP Act) and is working towards meeting the requirements of SBx7-7.

Chino Desalters. JCSD's participation in the CDA and development of Chino I and II Desalters, which are the main desalination opportunities in the vicinity of the JCSD, also helps ameliorate the reliability issues associated with poor water quality in the lower Chino Basin. Once treated at the Desalters, nitrates and TDS (primarily from historic dairy and agricultural users) in groundwater no longer exceed drinking water standards.

CDA Expansion. The proposed CDA expansion will increase the capacity of the Chino II Desalter by 10,600 AFY of which JCSD will receive approximately 3,300 AFY. Water is projected to be available from this project expansion in 2014. The expansion will provide additional water supplies for JCSD, the City of Ontario, and Western MWD.

JCSD-Rubidoux CSD Interconnection. JCSD has been purchasing water from Rubidoux CSD since 2000 and is planning a second interconnection to Rubidoux CSD, which extracts water from the Riverside South basin. Currently, JCSD transfers 697 AFY of water from Rubidoux via the Riverside South Basin. In addition to the 500 AFY that is currently available, JCSD has opened negotiations for purchasing an additional 1,000 AFY. This supply is anticipated to be available by 2015.[53]

JCSD-IEUA Interconnection. Inland Empire Utilities Agency (IEUA) has indicated that distribution facilities currently exist to deliver water from IEUA's recycled water distribution system to JCSD from a connection within 6,300 feet of JCSD's northern boundary in the Eastvale Area. IEUA's current recycled water master plan contemplates delivering a total of 1,850 AF of

53 Jurupa Community Services District, *2010 Urban Water Management Plan,* May 2011, page 28.

reclaimed water to the JCSD each year. Construction of an interconnection and related distribution facilities would help JCSD meet the water demands associated with projected population growth and anticipated build-out in 2035.

Budgeted or Planned Water Wells. JCSD is developing four new groundwater wells that will provide 9 to 11 MGD of supply. Collectively, these wells will provide increased supply capacity and reliability of production and will accommodate projected growth.

Riverside-Corona Feeder Project. JCSD is considering a connection to Western MWD facilities that would provide an additional 10,000 AFY source of water for distribution within JCSD's service area by 2035. Connection to Western MWD's proposed Riverside Corona Feeder is expected to be constructed by 2020.

JCSD's Roger D. Teagarden Ion Exchange Plant. Feasibility and planning was recently completed to evaluate the potential existing raw water sources and transmission facilities to JCSD's Roger D. Teagarden Ion Exchange Plant. As currently configured and operating, the Teagarden Ion Exchange Plant has a treatment capacity of 10 MGD and a blending capacity of 14 MGD. The treatment plant has excess blending capacity and could increase capacity by implementing process improvements and expanding the facility. The Ion Exchange Plant could produce an additional 4 MGD or 2,800 gpm if the raw water supply is available.

Metropolitan and/or Western MWD Projects. JCSD has expressed interest in the following additional water supply projects that could increase the reliability and robustness of JCSD's water supply:

- **SWP water purchased from Metropolitan via the Etiwanda or Rialto Feeder.** This would require the construction of a water treatment plant and conveyance facilities.
- **Water from the Santa Ana Watershed Project Authority's existing Arlington Desalter.** JCSD has an interest in acquiring available production from the Arlington Desalter and from a proposed Expanded Arlington Desalter. Currently, there are 1,800 AFY of available product water for sale. Western MWD has funded a reconnaissance-level investigation of the feasibility of expanding the Arlington Project from 7.4 to 10.7 MGD.
- **Construction of a water treatment plant via Metropolitan's Upper Feeder.** Since the Upper Feeder conveys Colorado River water, the treatment plant would require the construction of a reverse osmosis plant in addition to a conventional treatment facility. JCSD may be able to treat the water conventionally and then blend with CDA water to lower the TDS limit of the water supply, in order to meet the RWQCB – SAR wastewater discharge limits at the City of Riverside Regional Water Quality Control Plant.

Project Growth Inducement Potential for JCSD

Between 2010 and 2035, water demand in JCSD's service area is expected to increase by 51 percent, from 23,660 to 35,648 AFY, and population is expected to increase by 35 percent, due in part to the incorporation of two new cities within the last two years, Jurupa Valley and Eastvale. JCSD has identified numerous opportunities for improving water supply reliability and meeting

projected demands through 2035. Its planned and possible future projects could provide at least 17,950 AFY of additional water supplies. The largest of these is the Riverside-Corona Feeder Project, which would provide up to 10,000 AFY water for distribution within JCSD's service area by 2035.

The proposed Project, which would deliver 5,000 AFY of Project water to JCSD for use throughout its service area, represents 14 percent of its projected 2035 supply portfolio. This additional 5,000 AFY would help increase reliability by diversifying JCSD's water supply portfolio, which is one of the District's goals.

Although Project water would be used primarily to improve the reliability of JCSD's existing water supplies, by contributing to JCSD's overall water supply portfolio it is possible that some of the Project water could be used to support some of the growth projected in the communities within JCSD's service area. Therefore, the Project has some, albeit limited, growth inducement potential within the JCSD service area.

6.2.7 California Water Service Company (Cal Water)

Cal Water distributes and provides water service to 1.7 million customers in 63 communities from Chico in the North to the Palos Verdes Peninsula in Southern California. California Water Service Group, Cal Water's parent company, also serves communities in Washington, New Mexico and Hawaii.

Within the Project Water Area of Use, Cal Water provides service to the Westlake District in eastern Ventura. Cal Water's rates and operations are regulated by the California Public Utilities Commission (CPUC). Rates are set separately for each of the systems. Cal Water's water supply sources for customers within the Westlake District include imported water purchased from Metropolitan and recycled water. It has served this community since 1983.[54]

Land Use and Population

Cal Water proposes to use Project water in the Westlake District, which is located in the eastern section of Ventura County within the City of Thousand Oaks. The Westlake District service area encompasses 8,200 acres, which were part of the historic Russell Valley Ranch. This area consists primarily of urban residential land uses. Within the service area, population growth has been relatively slow since 1990 and is projected to remain slow. Growth in total services has averaged 0.07 percent in the past five years, and 0.16 percent for the past 10 years. As shown on **Table 6-18**, current population within this service district is 16,880 and is projected to increase approximately 2.25 percent between 2010 and 2035, to 17,260. This growth rate is expected to remain low due to the limited available land within the Westlake District's service area that can sustain development.[55] Any housing growth would probably be a result of redevelopment, which may also be limited due to growth restrictions imposed by the City of Thousand Oaks. Therefore,

[54] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 11.
[55] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 20

Cal Water does not anticipate any significant growth in the future, except for in-fill development.[56]

TABLE 6-18_
PROJECTED POPULATION GROWTH FOR CAL WATER'S WESTLAKE DISTRICT

Water System	2010	2035	% Increase
Westlake	16,880	17,260	2.25%

SOURCE: California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, Table 2-2, page 23.

Water Supply and Demand – Cal Water

The water supply for the customers of the Westlake District is a combination of purchased imported water and recycled water. Purchased water provides the majority of the total supply while recycled water makes up the remaining portion. CMWD supplies imported water to Cal Water and is a member agency of Metropolitan. Cal Water has a purchase agreement with CMWD that began in 2003 and has a ten year term. Cal Water has an initial base demand of 9,481 AFY and a ten-year purchase order commitment of 56,887 AF.[57] Cal Water estimates that it will need to purchase less than its contracted volume from CMWD over the next 25 years. The recycled supply is also delivered by CMWD. The Westlake District began serving recycled water to its customers in 1995 and now delivers approximately 400 AFY.

Demand projections by water use sectors for Cal Water's Westlake District are shown in **Table 6-19**. Demand is expected to decrease in the following customer use categories: Single Family, Multi-Family, and Institutional/Government. Demand is projected to increase slightly in the Commercial/Industrial sector.

Cal Water's projected recycled water sales and system losses are summarized in **Table 6-20**.

Actual and projected water demands and supplies through 2035 are shown in **Table 6-21**. The values represent the total target demand projection based on SBx7-7 gpcd targets, including recycled water and unaccounted for water. Only purchased water, recycled water, and conservation are included as sources of supply. Metropolitan's supply projections indicate that it will be able to meet full service demands under wet, normal, and dry years through the year 2035, as does CMWD.[58] However, these projections are based on several assumptions, including the assumption that uncertainties in the availability of imported water due to environmental, legal, and hydrologic factors will be resolved to Metropolitan's satisfaction and benefit.

[56] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 20.
[57] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 43.
[58] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 43.

TABLE 6-19_
CAL WATER, CURRENT AND PROJECTED WATER DEMAND BY WATER USE SECTOR

	Water Demand by Water Use Sectors (AFY)					
Fiscal Year Ending	**Single Family**	**Multi-Family**	**Commercial /Industrial**	**Institutional/ Government**	**Other**	**Total Demand**
2005	5,815	212	2,075	318	**1**	**8,483 (actual)**
2010	4,954	228	1,685	251	**12**	**7,130 (actual)**
2015	4,928	225	2,374	323	**14**	**7,864**
2020	4,386	201	2,118	288	**13**	**7,005**
2025	4,402	202	2,132	290	**13**	**7,039**
2030	4,415	203	2,145	292	**13**	**7,068**
2035	4,432	205	2,158	293	**13**	**7,101**

SOURCE: California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, pages 33-34.

TABLE 6-20
ADDITIONAL WATER USE AND LOSSES (AFY)

	Fiscal Year Ending				
	2015	**2020**	**2025**	**2030**	**2035**
Recycled Water	421	422	424	425	427
Unaccounted for System Losses	552	492	493	495	497
Total Supply	**973**	**914**	**917**	**920**	**924**

SOURCE: California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 41.

TABLE 6-21
TOTAL DEMAND AND SUPPLY COMPARISON IN A NORMAL YEAR IN WESTLAKE SERVICE DISTRICT WITH CONSERVATION TARGETS (AFY)

Water Use	**2010**	**2015**	**2020**	**2025**	**2030**	**2035**
Demand	8,052 (actual)	8,837	7,919	7,956	7,988	8,025
Supply	8,052 (actual)	8,837	7,919	7,956	7,988	8,025

SOURCE: California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 41.

Water Supply Reliability

Cal Water has the same concerns about imported supply water reliability from Metropolitan as discussed for the other Project Participants. Like all water providers receiving imported supplies from the Colorado River system and/or the Sacramento-San Joaquin Delta system via the SWP, Cal Water must be prepared to manage during import supply shortage periods due to drought and/or other regulatory restrictions on supply. Cal Water has not yet incorporated potential participation in the Project into its current Urban Water Management Plan for the Westlake District that could be served by the Project but acquisition of up to 5,000 AFY of Project water is one step Cal Water is considering, along with continued use of recycled water, and increased demand management, to improve the reliability of its supply and control future costs. Cal Water expects imported water supplies to remain fairly constant through 2035 and future demand projections show a relatively stable to slightly decreasing trend. Cal Water is pursuing water conservation to manage and reduce future demand within its service area. Based on its projections and CMWD's UWMP, Cal Water's existing water supply capabilities would be sufficient to meet projected demand through 2035 under normal, single dry year, and multiple dry year conditions.[59] Because of this Cal Water assumes that its total imported supplies will equal its projected demand minus the projected recycled water use.

Water Conservation. Cal Water is a signatory to the 1992 MOU Regarding Water Conservation in California and implements a variety of demand management measures though its own programs and through collaboration with its wholesale agencies. Cal Water is in the process of expanding current conservation programs and developing new programs for its 24 service districts, which includes a Conservation Plan for the Westlake District. Cal Water's water conservation efforts within this district include retail conservation pricing, public education regarding efficient water use, and participation in high efficiency appliance rebate programs. Long term savings from conservation measures is projected to range from 1,312 AF in 2015 to 2,670 AF in 2035, which are the levels of conservation needed to meet SBx7-7 targets by 2020 and MOU requirements.[60]

Project Growth Inducement Potential for Cal Water

Between 2010 and 2035, water demand in Cal Water's service area is projected to decrease by approximately 0.3 percent, while population is expected increase slightly (2.25 percent increase). Cal Water's Westlake District service area has almost reached full build-out, and future demand is not expected to significantly change over existing levels.

Under the proposed Project, Cal Water would receive up to 5,000 AFY of Project water to be used within the Westlake District service area and possibly the Dominguez and East Los Angeles Districts. Cal Water has current connections with Metropolitan and could therefore take Project water directly into their system. Project water could represent up to 62.3 percent of Cal Water's projected future water demand in 2035 and Cal Water indicates that Project water would replace or be a substitute for imported water supplies. Because there is essentially no growth projected

[59] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, pages 52-54.
[60] California Water Service Company, *Westlake District 2010 Urban Water Management Plan*, June 2011, page 76.

within Cal Water's service area and water demand is projected to slightly decline, the Project would improve the reliability of existing supply levels but would have no significant growth inducement potential within the Westlake District service area. As noted above, imported surface water supply makes up the majority of Cal Water's Westlake District's water portfolio, thus Cal Water has to be prepared for cutbacks in imported supply deliveries in drought years and other periods of restriction. In years when imported supply deliveries from the Colorado River and Bay-Delta systems are restricted, Cal Water could make use of the supplemental supply provided by the Project to make up for imported supply shortfalls.

Cal Water may also utilize Project water to serve its Dominguez District located at the southern portion of the Los Angeles coastal plain, in the area known as the "South Bay," and its East Los Angeles District located east of downtown Los Angeles with a western boundary approximately three miles from LA's Civic Center. Between 2010 and 2035, water demand in these two service areas is projected to remain relatively stable or decrease slightly, while population is expected to increase slightly.[61] Like Cal Water's Westlake District service area, these two areas have almost reached full build-out, and future demand is not expected to significantly change over existing levels. Both of these service districts utilize imported water from Metropolitan (through Central Basin Municipal Water District and West Basin Municipal Water District)[62] and groundwater.

6.2.8 Future Project Participants

Not all of the Project participants have been identified yet. There is 15,000 to 25,000 AFY of unsubscribed water supply available from the Groundwater Conservation and Recovery Component of the Project (See Table 6-1) that other entities are expected to pursue in the future. In addition, the Imported Water Storage Component of the Project is still in development and participants have not yet been identified. It is expected that future participants in either or both components of the Project would be located in the Southern California region, and most likely would be located within the area covered by the Metropolitan service area. Therefore, for purposes of this analysis, the Metropolitan service area serves as the broadest definition of the Project Water Area of Use. Metropolitan's service area covers six counties in Southern California region: Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. This section reviews the growth trends and the water demand and supply plans for Metropolitan and discusses the growth inducement potential of the remaining increment of Project water from the Groundwater Conservation and Recovery Component being used within the Metropolitan service area and of the storage capacity provided by the Imported Water Storage Component of the Project.

Metropolitan member agencies in each county and the type of water service they provide (wholesale or retail) are shown in **Table 6-22**.

[61] California Water Service Company, *Dominguez District 2010 Urban Water Management Plan*, June 2011; California Water Service Company, *East Los Angeles District 2010 Urban Water Management Plan*, June 2011.
[62] California Water Service Company, *Dominguez District 2010 Urban Water Management Plan*, June 2011, page 43; California Water Service Company, *East Los Angeles District 2010 Urban Water Management Plan*, June 2011, page 46.

TABLE 6-22
METROPOLITAN WATER DISTRICT MEMBER AGENCIES BY COUNTY

Member Agency	Retail or Wholesale
Los Angeles County	
Beverly Hills, City of	Retail
Burbank, City of	Retail
Central Basin Municipal Water District	Wholesale
Compton, City of	Retail
Foothill Municipal Water District	Wholesale
Glendale, City of	Retail
Las Virgenes Municipal Water District	Retail
Long Beach, City of	Retail
Los Angeles, City of	Retail
Pasadena, City of	Retail
San Fernando, City of	Retail
San Marino, City of	Retail
Santa Monica, City of	Retail
Three Valleys Municipal Water District	Wholesale
Torrance, City of	Retail
Upper San Gabriel Valley Municipal Water District	Wholesale
West Basin Municipal Water District	Wholesale
Orange County	
Anaheim, City of	Retail
Fullerton, City of	Retail
Municipal Water District of Orange County	Wholesale
Santa Ana, City of	Retail
Riverside	
Eastern Municipal Water District	Retail & Wholesale
Western Municipal Water District of Riverside County	Retail & Wholesale
San Bernardino County	
Inland Empire Utilities Agency	Wholesale
San Diego County	
San Diego County Water Authority	Wholesale
Ventura County	
Calleguas Municipal Water District	Wholesale

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-8, Table 1-2.

Regional Planning by SCAG and SANDAG

The SCAG region is one of the largest and most complex metropolitan areas in the nation, and its growth trends and travel patterns pose difficult challenges for the multimodal transportation system. As the planning authority for the six-county area, SCAG is the lead agency in developing and updating the long-range RTP based on growth forecasts and economic trend data projected for a 20-year planning period.

This section uses growth forecasts and economic trend data from 2007 that were published in SCAG's 2008 RTP and represent the most up-to-date SCAG forecasts. SCAG is currently preparing the 2012 RTP update, which it expects to adopt in April 2012. When SCAG compared the 2008 RTP projections against actual population data as part of the update process, they observed unstable/uncertain economic-demographic behaviors (unemployment rate, migration, labor force participation rate, etc) in the short-term framework; shortcomings in the currency and reasonableness of population projections (and assumptions) by the U.S. Census Bureau and the California Department of Finance (DOF); a lack of relevant statistical data delivered in a timely manner; and a significant gap in population estimates between the U.S. Census Bureau and DOF. Further analysis revealed that the 2008 RTP projections had been prepared during the early stages of a recession that worsened over time, including the housing and financial market fallouts and state budget deficits that deepened as a result of the developing global recession.[63] The economic downturn was particularly bad in Southern California, which lost 3,000 businesses and 800,000 jobs across the region, and population grew at much slower rates than had been predicted. U.S. Census data confirmed that population growth *slowed* between 2000 and 2010 by about 135,000 fewer residents annually (-30 percent).[64]

Despite the inaccuracies in the magnitude and rate of population growth in the 2007 data, the projections accurately predicted where growth would occur. That is, growth occurred more slowly, but in the cities where growth was predicted to be highest, growth was highest. **Table 6-23** shows SCAG population projections through 2035 for counties in the Project Water Area of Use. Los Angeles County had been expected to grow the most in terms of total population, followed by Riverside and San Bernardino Counties. In terms of percent increases in population, Riverside County was expected to grow at the fastest rate, followed by San Bernardino County.

63 Applied Development Economics, Inc., *2010 California Regional Progress Report, 2007-2010*, http://www.scag.ca.gov/publications/pdf/2010/CARegionalProgress2010.pdf, accessed October 2010.

64 Levy, Steve, *California's Changing Demography: Implications for Housing, Center for the Continuing Study of the California Economy*, http://www.scag.ca.gov/events/pdfs/demo23/p4Levy.pdf, accessed September 2011.

TABLE 6-23
SCAG POPULATION PROJECTIONS IN STUDY AREA COUNTIES[a]

County	2010	2035	Population Growth 2010-2035	Percent Increase 2010-2035	Average Annual Percent Increase 2010-2035
Los Angeles	10,615,730	12,338,620	1,722,890	16%	0.6%
Orange	3,314,948	3,653,990	339,042	10%	0.4%
Riverside	2,242,745	3,596,680	1,353,935	60%	4.7%
San Bernardino	2,182,049	3,133,801	951,752	44%	1.9%
Ventura County	860,607	1,013,753	153,146	18%	0.7%

[a] Includes entire county.

SOURCE: Southern California Association of Governments, *Integrated Growth Forecast, Adopted 2008 RTP Growth Forecast, by City,* http://www.scag.ca.gov/forecast/downloads/excel/RTP07_CityLevel.xls, accessed October 2011; ESA, 2011.

The jurisdictions that were expected to grow the most between 2010 and 2035 (in terms of population) were the City of Los Angeles, unincorporated Riverside County (both subregions), unincorporated North Los Angeles County, the cities of Palmdale and Ontario, and unincorporated San Bernardino County, as depicted in **Table 6-24**. The areas projected to grow the fastest over the 25-year period (in terms of percent increase) were the Coachella Valley in unincorporated Riverside County, which was expected to grow by more than 300 percent, and the cities of Adelanto, Barstow, and Coachella, which were expected to grow by more than 150 percent. Some of the fastest growing areas in these five counties, including the cities of Beaumont, Calimesa, Coachella, Hesperia, Victorville, and Adelanto and the unincorporated Coachella Valley area, are outside Metropolitan's service area.

Two sets of growth forecasts are available for San Diego County. SANDAG's 2030 Regional Growth Forecast Update, released in 2006, provides projections through 2030, based on 2004 conditions.[65] SANDAG jurisdictions projected to grow the most between 2004 and 2030 are shown in **Table 6-25**, along with projected growth for unincorporated areas and the County as a whole. The City of San Diego was projected to grow the most, followed by unincorporated San Diego County and the City of Chula Vista. Unincorporated areas and Chula Vista were also projected to grow the fastest.

[65] San Diego Association of Governments, *Info: 2030 Regional Growth Forecast Update No. 2*, July 2008 (which includes information from the SANDAG Regional Growth Forecast Update that was released in September 2006).

TABLE 6-24
AREAS WITH GREATEST PROJECTED POPULATION GROWTH IN STUDY AREA COUNTIES, BY COUNTY[a]

County	Subregion	City	Population 2008/2010[c]	Population 2035	Population Growth 2008/2010 - 2035 [c]	Percent Increase 2008/2010 - 2035 [c]	Average Annual Percent Increase 2010 - 2035
Los Angeles County	City of Los Angeles	Los Angeles	4,057,484	4,415,772	358,288	9%	0.3%
	North Los Angeles County	Unincorporated	194,704	434,773	240,069	123%	3.3%
		Palmdale	182,663	363,252	180,589	99%	2.8%
	San Gabriel Association of Cities	Unincorporated	389,266	525,960	136,694	35%	1.2%
		Pomona	170,229	216,899	46,670	27%	1.0%
	Gateway Cities	Long Beach	503,251	572,614	69,363	14%	0.5%
	South Bay Cities Association	Hawthorne	94,042	116,312	22,270	24%	0.9%
	Arroyo Verdugo	Burbank	112,103	133,391	21,288	19%	0.7%
	Las Virgenes	Unincorporated	21,926	32,888	10,962	50%	1.6%
		Calabasas	23,750	28,472	4,722	20%	0.7%
	Westside Cities	Unincorporated	31,779	40,949	9,170	29%	1.0%
		Beverly Hills	36,433	38,508	2,075	6%	0.2%
Riverside	Western Riverside Council of Governments	Unincorporated	526,517	845,959	318,959	61%	1.9%
		Riverside	300,523	385,794	85,271	28%	1.0%
		Moreno Valley	189,700	258,350	68,650	36%	1.2%
		Beaumont [b]	33,951	77,438	43,487	128%	3.4%
		Calimesa [b]	11,605	28,831	17,226	148%	3.7%
	Coachella Valley Association of Governments	Unincorporated	90,725	398,158	307,433	339%	6.1%
		Coachella [b]	46,981	119,383	72,402	154%	3.8%
San Bernardino	San Bernardino Associated Governments	Ontario	187,060	337,095	150,035	80%	2.4%
		Unincorporated	346,523	487,697	141,174	41%	1.4%
		Hesperia [b]	102,895	211,108	108,213	105%	2.9%
		Victorville [b]	106,649	182,275	75,626	71%	2.2%
		Adelanto [b]	40,742	114,368	73,656	181%	4.2%
		Barstow [b]	31,972	69,533	37,561	117%	3.2%
San Diego	San Diego County	San Diego	1,333,617	1,756,621	423,004	32%	1.0%
		Unincorporated	489,958	646,108	156,150	32%	1.0%
		Chula Vista	230,397	237,211	70,318	42	1.4
Orange	Orange County	Anaheim	365,985	438,645	72,660	20%	0.7%
		Unincorporated	166,893	237,211	70,318	42%	1.4%
Ventura	Ventura Council of Governments	Oxnard	205,462	274,266	68,804	33%	1.2%

[a] Where the unincorporated area is projected to experience the greatest amount of growth in a county, it is shown in the table in addition to the city or cities having the greatest projected growth. The city or cities with the greatest projected growth in each subregion are shown for Los Angeles and Riverside counties.

[b] Located outside the Metropolitan service area.

[c] Estimates for San Diego cities and unincorporated County are for 2008; estimates for all other areas are for 2010.

SOURCES: Southern California Association of Governments, *Integrated Growth Forecast*, *Adopted 2008 RTP Growth Forecast, by City,* http://www.scag.ca.gov/forecast/downloads/excel/RTP07_CityLevel.xls, accessed October 2011; San Diego Association of Governments, *Board Report: 2050 Regional Growth Forecast, Board of Directors Agenda Item No. 10-02*-16, February 2010, page 13; ESA, 2011.

TABLE 6-25
SANDAG 2030 POPULATION PROJECTIONS

Jurisdiction	2004	2030	Population Growth 2004-2030	Percent Increase	Average Annual Percent Increase 2004-2030
San Diego	1,295,147	1,656,257	361,110	28%	1.0%
Unincorporated	467,728	723,392	255,664	55%	1.7%
Chula Vista	208,675	316,445	107,770	52%	1.6%
Oceanside	172,866	207,237	34,371	20%	0.7%
Carlsbad	92,695	127,046	34,351	37%	1.2%
Escondido	140,328	169,929	29,601	21%	0.7%
San Marcos	66,850	95,553	28,703	43%	1.4%
Entire County	**3,013,014**	**3,984,753**	**971,739**	**32%**	**1.1%**

SOURCE: San Diego Association of Governments, *Info: 2030 Regional Growth Forecast Update*, July 2008, No. 2, which presents information from the SANDAG 2030 Regional Growth Forecast Update that was released in September 2006; ESA 2011.

In February 2010, the SANDAG Board of Directors accepted for planning purposes the Series 12: 2050 Regional Growth Forecast. This forecast, which was developed in collaboration with 18 cities and the County of San Diego, tribal governments, and other land use agencies, represents a combination of economic and demographic projections, local land use data, including information on existing development, general plans, constraints to development, and permitted projects currently in the development process, and potential land use changes that may occur in the region between 2030 and 2050.[66] SANDAG is using the Series 12: 2050 forecast in the development of its 2050 RTP; and in 2011, an official final forecast for 2050 will be brought before the SANDAG Board of Directors, along with the 2050 RTP.[67] In general, growth projections for 2008 through 2030 were based on adopted land use plans and policies, while growth projections for 2030 through 2050 included alternatives that may, in some cases, reach beyond existing adopted plans.[68]

Although it is not SANDAG's official final forecast for 2050, information from Series 12: 2050 is included because it incorporates substantial demographic and land use inputs, provides the most current near-term data (estimates for base year 2008), provides projections for 2035 (which are considered in conjunction with the projections to that year developed by SCAG and Metropolitan), and has been deemed suitable for planning purposes by the SANDAG Board of Directors. Projected growth is shown in **Table 6-26**, including the jurisdictions projected to grow the most between 2008 and 2035. This analysis focuses on the forecast to 2035 because that is the forecast horizon used in current SCAG and Metropolitan documents and in 2010 UWMPs. As

66 San Diego Association of Governments, *Board Report: 2050 Regional Growth Forecast, Board of Directors Agenda Item No. 10-02*-16, February 2010, page 2.
67 San Diego Association of Governments, *Board Report: 2050 Regional Growth Forecast, Board of Directors Agenda Item No. 10-02*-16, February 2010, page 3.
68 San Diego Association of Governments, *Board Report: 2050 Regional Growth Forecast, Board of Directors Agenda Item No. 10-02*-16, February 2010, page 13.

TABLE 6-26
SANDAG 2050 POPULATION PROJECTIONS[a]

Jurisdiction	2008	2035	2050	Population Growth 2008-2035	Percent Increase 2008-2035	Average Annual Percent Increase 2008-2035	Population Growth 2035-2050	Percent Increase 2035-2050
San Diego	1,333,617	1,756,621	1,945,569	423,004	32%	1.0%	188,948	11%
Unincorporated	489,958	646,108	694,464	156,150	32%	1.0%	48,356	7%
Chula Vista	230,397	301,324	330,381	70,927	31%	1.0%	29,057	10%
El Cajon	97,555	138,506	144,515	40,951	42%	1.3%	6,009	4%
Oceanside	178,102	212,213	217,364	34,111	19%	0.7%	5,151	2%
Escondido	143,259	168,141	177,586	24,882	17%	0.6%	9,445	6%
Vista	95,400	117,471	144,536	22,071	23%	0.8%	27,065	23%
Carlsbad	103,406	125,293	129,381	21,887	21%	0.7%	4,088	3%
San Marcos	82,419	103,110	105,708	20,691	25%	0.8%	2,598	3%
Entire County	**3,131,552**	**4,026,131**	**4,384,867**	**894,579**	**29%**	**0.9%**	**358,736**	**9%**

[a] Table is based on SANDAG's Series 12: 2050 Regional Forecast, which is being used in the development of SANDAG's 2050 Regional Transportation Plan; the final 2050 regional forecast will be adopted in conjunction with the Regional Transportation Plan.

SOURCE: San Diego Association of Governments, *Board Report: 2050 Regional Growth Forecast, Board of Directors Agenda Item No. 10-02*-16, February 2010, page 13.

with the 2030 forecasts, the City of San Diego is expected to grow the most between 2008 and 2035, followed by unincorporated areas and the City of Chula Vista; in contrast to the 2030 forecast, the City of El Cajon is projected to grow the fastest (from 2008 to 2035), followed by the City of San Diego and unincorporated areas.

Growth Trends and Water Demand in the Metropolitan Service Area

The Metropolitan service area covers approximately 5,200 square miles and includes the greater Los Angeles and San Diego metropolitan areas (see Figure 6-1). The service area encompasses 14 percent of the geographic area, but nearly 90 percent of the population of the six member counties (see **Table 6-27**). The service area is largely urbanized, with municipal and industrial uses accounting for about 93 percent of water use and agriculture uses accounting for about 7 percent.[69] The area includes three climate zones: coastal, inland valley, and desert.[70]

[69] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-13.

[70] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-16, Figure 1-6.

TABLE 6-27
HISTORICAL POPULATION GROWTH IN THE METROPOLITAN SERVICE AREA, BY COUNTY

	Population			Change 1990-2010	
County	**1990**	**2005**	**2010**	**Net**	**Percent**
Los Angeles	8,268,000	9,364,000	9,567,000	1,299,000	16%
Orange	2,412,000	3,057,000	3,205,000	793,000	33%
Riverside	851,000	1,381,000	1,559,000	708,000	83%
San Bernardino	565,000	792,000	832,000	267,000	47%
San Diego	2,407,000	2,934,000	3,109,000	702,000	29%
Ventura County	451,000	588,000	624,000	173,000	38%
Total Metropolitan Service Area	**14,954,00**	**18,116,000**	**18,896,000**	**3,942,000**	**26%**

NOTE: Population figures for 1990 and 2005 represent actual population; figures for 2010 were estimated by Metropolitan.

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.1, Demand Forecast, Table A.1-2, page A.1-8.

Urban Growth within the Metropolitan Service Area

The population in Metropolitan's service area has grown by nearly 4 million since 1990 (see Table 6-27) and the service area is projected to grow by another 3.5 million people by 2035 (see **Table 6-28**), with the most growth, in numbers of people, forecasted in Los Angeles County, followed by San Diego and Riverside Counties. Between 1990 and 2010, Los Angeles County experienced the most growth, followed by Orange and San Diego counties. Riverside County grew the fastest, followed by San Bernardino County.

TABLE 6-28
PROJECTED POPULATION GROWTH IN METROPOLITAN SERVICE AREA BY COUNTY

	Population		Change 2010-2035	
County	**2010**	**2035**	**Net**	**Percent**
Los Angeles	9,567,000	10,781,000	1,214,000	13%
Orange	3,205,000	3,654,000	449,000	14%
Riverside	1,559,000	2,292,000	733,000	47%
San Bernardino	832,000	1,117,000	285,000	34%
San Diego	3,109,000	3,899,000	790,000	25%
Ventura County	624,000	731,000	107,000	17%
Total Metropolitan Service Area	**18,896,000**	**22,474,000**	**3,578,000**	**19%**

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.1, Demand Forecast, Table A.1-2, page A.1-8.

Water Demand and Supply within the Metropolitan Service Area

Demand

Metropolitan estimates future municipal and industrial (M&I) demand in its service area using a forecasting model that has been adapted for conditions in Southern California. M&I demand represents residential, commercial, industrial, institutional, and unmetered uses. The model incorporates demographic and economic information developed by SCAG and SANDAG into statistical water demand models to produce a forecast of gross retail M&I demand. This estimate is then adjusted to account for expected conservation savings, which are calculated using a conservation model that estimates savings due to plumbing codes, active conservation programs funded by member agencies, conservation savings expected as a result of passage of SBx7-7, and other factors. Estimated 2035 demand assumes savings of 1,156,000 acre-feet from conservation and 380,000 acre-feet from SBx7-7 conservation.[71] **Table 6-29** shows retail M&I water demand adjusted for conservation and SBx7-7 conservation savings, and **Table 6-30** shows estimated agricultural water demand. Between 2010 and 2035, with projected population growth at 19 percent, total M&I demand is expected to increase by 7 percent and agricultural demand is projected to decline by 16 percent. Combined, M&I and agricultural demands are projected to increase by 6 percent between 2010 and 2035.

TABLE 6-29
TOTAL RETAIL M&I DEMAND IN METROPOLITAN'S SERVICE AREA
WITH CONSERVATION AND SBX7-7
(Acre-Feet)

County	1980	1990	2000	2010	2020	2035
Los Angeles	1,522,000	1,732,000	1,728,000	1,761,000	1,664,000	1,704,000
Orange	481,000	646,000	643,000	613,000	630,000	634,000
Riverside	141,000	279,000	357,000	454,000	532,000	641,000
San Bernardino	120,000	172,000	221,000	242,000	245,000	279,000
San Diego	365,000	548,000	556,000	596,000	604,000	675,000
Ventura	77,100	118,000	125,000	151,000	149,000	158,000
Metropolitan Total	2,706,000	3,495,000	3,640,000	3,817,000	3,824,000	4,091,000

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A, Table A.1-6.

Demand in the Metropolitan service area also includes water to maintain a seawater intrusion barrier, which is estimated to be 72,000 AF in 2035, and water for groundwater replenishment, which is estimated to be 191,000 AF in 2035. Thus, based on projected M&I, agricultural, seawater barrier, and groundwater replenishment demands, overall average-year demand in the Metropolitan service area in 2035 is projected to be approximately 4,534,000 AF.

[71] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Table 2-8, page 2-14.

TABLE 6-30
TOTAL RETAIL AGRICULTURE DEMAND IN METROPOLITAN'S SERVICE AREA
(Acre-Feet)

County	1980	1990	2000	2010	2020	2035
Los Angeles	6,300	3,800	5,000	500	400	700
Orange	40,000	26,900	17,300	10,900	3,800	2,900
Riverside	207,000	200,800	134,100	89,600	94,200	94,200
San Bernardino	46,100	37,200	29,800	26,500	7,100	7100
San Diego	116,200	138,600	105,600	72,000	78,300	52,300
Ventura	19,400	27,400	7,500	14,700	21,300	22,900
Metropolitan Total	435,300	433,700	294,800	214,200	205,100	179,800

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.1, Table A.1-7, p. A.1-10.

Supply and Reliability

Table 6-31 lists the sources of water to the Metropolitan service area over the past 10 years. Current (2010) and projected supply (2035) is shown in **Table 6-32**. The projected supply for 2035 reflects a 27 percent increase over 2010. Metropolitan's supply situation is considered to be in surplus as long as net annual deliveries can be made to water storage programs.

TABLE 6-31
SOURCES OF WATER SUPPLY USED IN THE METROPOLITAN SERVICE AREA, 2000-2010[a]
(Acre-Feet)

Year	Local Supplies	Los Angeles Aqueduct	Colorado River Aqueduct	State Water Project	Total[d]
2000	1,768,000	255,000	1,217,000	1,473,000	4,714,000
2001	1,708,000	267,000	1,245,000	1,119,000	4,340,000
2002	1,706,000	179,000	1,198,000	1,415,000	4,498,000
2003	1,659,000	252,000	676,000	1,561,000	4,148,000
2004	1627,000	203,000	741,000	1,802,000	4,373,000
2005	1,590,000	369,000	685,000	1,525,000	4,168,000
2006	1,710,000	379,000	535,000	1,695,000	4,319,000
2007	1,852,000	129,000	696,000	1,648,000	4,326,000
2008	1,842,000	147,000	896,000	1,037,000	3,922,000
2009[b]	1,801,000	137,000	1,043,000	908,000	3,890,000
2010[c]	1,832,000	243,000	1,150,000	1,500,000	4,725,000

a Does not include system losses.
b 2009 local supplies are based on 2006-08 averages
c 2010 Colorado River Aqueduct and State Water Project are best estimates as of May 2010; Los Angeles Aqueduct is based on actual supplies from January through April plus projections for May through December; Local Supplies are averages of prior years.
d Totals as provided in source document; discrepancies between components and totals assumed to be due to rounding.

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.2, Table A.2-1, page A.2-3.

TABLE 6-32
EXISTING (2010) AND PLANNED (2035) WATER SOURCES
IN THE METROPOLITAN SERVICE AREA
(Acre-Feet)

Source	Existing (2010)[a]	Planned (2035)[b, c]
Local Supplies	1,832,000	2,373,000
Los Angeles Aqueduct	243,000	230,000
Colorado River Aqueduct	1,150,000	954,000
SWP (California Aqueduct)	1,500,000	2,449,000
Total	**4,725,000**	**6,006,000**

[a] 2010 Colorado River Aqueduct and SWP are best estimates as of May 2010; Los Angeles Aqueduct is based on actual supply from January through April plus projections for May through December; Local Supplies are averages of prior years.

[b] Planned SWP/California Aqueduct supply includes Central Valley transfers and storage program supplies conveyed by the aqueduct.

[c] Planned Colorado River Aqueduct supply includes water management programs and accounts for total aqueduct capacity less non-Metropolitan supplies conveyed through it, including Imperial Irrigation District/San Diego County Water Agency transfers and canal linings projects.

SOURCE: Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010; 2010 data: Appendix A.2 page A.2-3 Table A.2-1; 2035 data: page 2-14 Table 2-8 (Local and LAA), pages A.3-47 and A.3-52 Table A.3-7 (CRA and SWP).

Five surplus management stages guide the storage of surplus supplies in Metropolitan's portfolio. When Metropolitan must make net withdrawals from storage to meet demands, it is considered to be in a shortage condition. For shortage stages 1 through 4, Metropolitan will meet demands by withdrawing water from storage. At shortage stages 5 through 7, Metropolitan may undertake additional shortage management steps, including issuing public calls for extraordinary conservation, considering curtailment of Interim Agricultural Water Program deliveries in accordance with their discounted rates, exercising water transfer options, or purchasing water on the open market. Under most of these stages, it is still able to meet all end-use demands for water.[72] Metropolitan's 2010 RUWMP concludes that Metropolitan will be able to meet 100 percent of full-service demands from 2015 through 2035 during normal years, a single dry year, and multiple dry years, even under a repeat of the worst drought.

There are different ways of defining supply and demand, surplus, and shortage that yield different results. Metropolitan's RUWMP assumes 100 percent efficiency, 100 percent capability, and 100 percent delivery conditions. In other words, Metropolitan equates "capability of the current programs" to "supply." That is why a small surplus is shown even after total demand is subtracted from capable supply. Similarly, Metropolitan adds planned and potentially planned supplies to the capable supply (minus demand), the 1.5 MAF result of which they call a "surplus." However, there is some uncertainty in whether Metropolitan can meet full capabilities, receive full allocations, and experience no losses. The reliability issues associated with supplies are well-documented and water providers commonly increase diversity of supply by identifying alternate sources in case one or more sources of water is unavailable for reasons beyond their control.

72 Metropolitan Water District of Southern California, *2010 Integrated Water Resources Plan* 2010, page 2-21.

Local Supplies

Local supplies include groundwater, local surface water, groundwater recovery (treatment of degraded groundwater to acceptable water quality standards), recycled water, and water transfers that are available within the Metropolitan service area;[73] desalinated water is also expected to be an important component of future supply.[74] Estimates of local supplies (including the Los Angeles Aqueduct, which Metropolitan considers as local) were developed by Metropolitan based on local agencies' urban water management plans, Metropolitan's annual production surveys, and communication between Metropolitan and staff of member agencies. Local supplies currently make up 44 percent of Metropolitan's total supply portfolio, and Metropolitan projects that 43 percent of its total water supply in 2035 will come from local supplies, which would require an increase of 541,000 AF of local supply.

Imported Supplies

Los Angeles Aqueduct. The Los Angeles Aqueduct is owned and operated by the City of Los Angeles and imports surface water and groundwater from the Mono Basin and Owens Valley of California. The amount of water from this source has been affected by court decisions and other actions related to environmental concerns in the Mono Basin and Owens Valley.[75] The Los Angeles Aqueduct is estimated to provide approximately 256,000 AFY on average, which may be reduced to approximately 106,000 AF during a historical dry period.[76] Metropolitan projects that 3.8 percent of its total future supply in 2035 will come from the Los Angeles Aqueduct.

Colorado River. Metropolitan projects that 16 percent of its total water supply in 2035 will come from the Colorado River. As described in Section 2.6.2, Metropolitan owns and operates the CRA, which was built to convey Colorado River water to Southern California to supplement local water supplies and meet growing demand. Metropolitan's entitlement to Colorado River water is based on interstate compacts, federal laws, agreements, court decrees, and guidelines collectively known as "The Law of the River," which govern the distribution and management of Colorado River water. Of California's 4.4 MAF apportionment from the Colorado River, 3.8 MAF, or 86 percent, is delivered to the Imperial Valley and, to a much lesser extent, the Palo Verde Irrigation District near Blythe, the Yuma Project, and the Coachella Valley Irrigation District. The water rights held by these irrigation districts are called "present perfected" rights – they predate the 1922 Colorado River Compact and thus entitle them to receive their water allocation in all years – dry or wet – over other lower priority users, including Metropolitan.

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73 For example, the San Diego County Water Authority (SDCWA) and Imperial Irrigation District (IID) currently have an agreement under which IID water is transferred to SDCWA. The transferred water is made available by land fallowing; additional future increases in transferred water will be made possible by additional fallowing and implementation of new irrigation efficiency measures. The transfer is implemented via Metropolitan infrastructure, whereby Metropolitan receives the IID water and conveys the same amount of CRA water to SDCWA. ([RUWMP p. 1-22]

74 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages 1-22, 2-10, 2-11.

75 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.2, pages A.2-16 - A.2-17.

76 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-22.

California has historically drawn more than its basic apportionment of Colorado River water; its annual use has varied between 4.5 and 5.3 MAF over the last ten years[77,78] with water supplies above California's entitlement of 4.4 million acre-feet typically coming from unused portions of Arizona's apportionment and surplus water on the River in wet years. However, in recent years, increased use by upstream water users (within their allocated rights) has reduced the amount of surplus Colorado River water formerly available to Metropolitan, a 10-year drought in the Colorado River watershed has decreased storage levels in Lake Mead and Lake Powell below 50 percent, record dry conditions in Southern California have reduced groundwater basins and local reservoirs, and consecutive dry years in northern California reduced Lake Oroville (at the starting point of the SWP) in 2008 and 2009 to its lowest and third lowest operating level since the reservoir was filled.[79] Thus, while California's apportionment of water has priority over Arizona and Nevada, there are increasing concerns about diminished supplies and the reliability of Colorado River water over the long term.

Over the years, Metropolitan has helped implement and fund programs to increase the reliability of CRA supply, including farm and irrigation district conservation programs, improved reservoir operations, land management programs, and water transfers and exchanges.[80] The estimated 2035 supply from the CRA assumes that the total capacity of the aqueduct (1.25 million AFY) will be used; total non-Metropolitan water conveyed through the CRA (296,000 AF) is subtracted from this number to calculate estimated supply for the Metropolitan service area.[81]

Basic Contracts. Metropolitan's basic contracts permit the delivery of 1.212 MAF per year when sufficient water is available. Metropolitan's 1987 surplus flow contract with Reclamation permits the delivery of water to fill the remainder of the CRA when water is available.

1931 Seven Party Agreement. Metropolitan holds a fourth priority right to 550,000 AF of Colorado River water (its basic apportionment). In addition, Metropolitan has access to up to 662,000 MAF and 38,000 AF of additional water through fifth and sixth priority rights in the California apportionment. Metropolitan may receive this additional water from unused apportionments, water supplies unused by agricultural districts, supplies unused by the states of Arizona and Nevada classified as Priority 6, and as Intentionally Created Surplus or supplies stored from previous years' extraordinary conservation and efficiency improvements to the operations of the Colorado River system, which are classified as Priority 3(a). Subject to the terms of agreements, this stored water may be withdrawn as needed during years in which insufficient supplies are available.

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77 Aquifonia, *The Colorado River*, http://aquafornia.com/where-does-californias-water-come-from/the-colorado-river, accessed October 12, 2011.

78 San Diego County Water Authority, *News Release: QSA remains most reliable path for California's Colorado River Supplies*, http://www.sdcwa.org/qsa-remains-most-reliable-path-californias-colorado-river-supplies, accessed October 2011.

79 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-18.

80 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 1-19.

81 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, Appendix A.3, Table A.3-7 (table notes 4 and 5); page A.3-47, page 1-19, page 2-15.

Metropolitan's Priority 4 apportionment has been available and delivered every year since 1939, and they use the full apportionment annually. Although this amount is reasonably expected to be available over the next 20 years, water supply reliability is an increasing concern due to increased water use by other states and persistent drought conditions, which are reducing available supply to lower-priority users such as Metropolitan.

2003 Quantification Settlement Agreement (QSA). The QSA is a set of agreements among IID, CVWD, San Diego County Water Authority (SDCWA), Metropolitan and others intended to reduce California's reliance on the Colorado River. Essentially, the QSA calls for Imperial Valley farmers to make voluntary efficiency and conservation improvements and transfer the conserved water to San Diego. In consideration for this, SDCWA will pay for conservation and efficiency improvements and provide mitigation funds to help with economic losses. As part of the agreement, the State has agreed to bear responsibility for the restoration of the Salton Sea. Specifically, the QSA committed the parties to implementing eight long-term transfer and supply agreements that will shift up to 36 MAF from agricultural to urban use over the life of the agreement and authorize the All American Canal and Coachella Canal Lining Projects. Numerous lawsuits have been filed against the QSA on various grounds, including questioning the constitutionality of the QSA JPA Agreement to which IID, CVWD, and SDCWA agreed to commit $133 million toward mitigation, and the State agreed to fund mitigation in excess of this amount, if any. On February 11, 2010, a Superior Court judge held that the State's commitment in the QSA JPA was unconstitutional and violated its debt limitation. The judge also held that eleven other agreements, including the QSA, were invalid because they were linked to the QSA JPA. An appeal was filed and a temporary stay immediately granted, which was later made permanent pending outcome of the appeal. The stay allows the QSA water transfers to continue while the QSA parties appeal its invalidation.

Sacramento/San Joaquin River Delta. As described in detail in Section 2.6.1, Metropolitan imports water from California's SWP, which transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the Sacramento-San Joaquin Bay-Delta (Bay-Delta) south via the California Aqueduct to four delivery points near the northern and eastern boundaries of Metropolitan's service area. The SWP is operated by DWR. The California Aqueduct is capable of transporting Metropolitan's full contracted Table A amount of 1,911,500 AFY. However, actual deliveries have never reached this amount because they depend on the availability of supplies as determined by DWR. The quantity of water available for export from the SWP through the California Aqueduct can vary significantly year to year. The amount of precipitation and runoff in the Sacramento and San Joaquin watersheds, system reservoir storage, regulatory requirements, and contractor demands for SWP supplies impact the quantity of water available to Metropolitan. The SWP provided between 25 and 50 percent of Metropolitan's total water supply through 2001, after which it provided as much as 70 percent. The historical record shows significant accomplishments by DWR in providing its contractors with SWP water supplies. Through 2008, the SWP delivered nearly 80 MAF to its contractors. The maximum annual water supply was delivered in 2005, and totaled 3.75 MAF. In

2006 the project delivered 3.7 MAF. DWR has continued to invest in SWP facilities to deliver water to its contractors.[82]

The availability of SWP supplies for delivery through the California Aqueduct over the next 18 years is estimated according to the historical record of hydrologic conditions, existing system capabilities as may be influenced by environmental permits, requests of the State Water Contractors and SWP contract provisions for allocating Table A, Article 21 and other SWP deliveries including San Luis carryover to each contractor. Metropolitan estimates future SWP supplies based on DWR's draft 2009 SWP Delivery Reliability Report and takes into account restrictions on SWP and Central Valley Project (CVP) operations resulting from the USFWS and National Marine Fisheries Service (known as the NOAA Fisheries Service) biological opinions that were issued in 2008 and 2009.[83] Collaborative efforts by Metropolitan and other SWP contractors have increased supplies received from the SWP water during dry and below-normal water conditions. These efforts include numerous voluntary Central Valley storage and transfer programs intended to increase supply that can be conveyed through the California Aqueduct during dry hydrologic conditions or regulatory restrictions.[84] Metropolitan's estimate of future SWP supply assumes that current restrictions resulting from environmental concerns about the Delta are resolved with completion of a new Delta conveyance that would be fully operational by 2022 and would return supply reliability to a 2005 condition (i.e., a condition comparable to those prior to restrictions from the 2008 and 2009 Biological Opinions).[85] Accordingly, although the SWP currently provides 32 percent of Metropolitan's water supply, it is expected to provide up to 41 percent of the total supply in 2035.

Factors Impacting Supply Reliability

The amount of imported water available to Southern California fluctuates widely each year due to hydrologic conditions (including annual snowpack, flood management needs, changing weather-temperature conditions, water quality) as well as conservation, economic conditions, and regulatory restrictions. [86] These variables have an impact on the reliability of Metropolitan supplies. **Table 6-33** shows which reliability factors affect the consistency of supply from the CRA and SWP, respectively.

82 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page A.3-15.
83 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 2-15.
84 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, page 2-15.
85 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages ES-4 - ES-5.
86 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages ES-1 - ES-4, 2-9 - 2-16, Appendix A.2.

TABLE 6-33
FACTORS RESULTING IN INCONSISTENCY OF SUPPLY

Name of Supply	Legal	Environmental	Water Quality	Climatic
State Water Project	X	X		
Colorado River			X	X

SOURCE: ESA 2011.

Environment – Endangered species protection needs in the Sacramento-San Joaquin River Delta (through which about 30 percent of Southern California's water flows) have resulted in operational constraints to the SWP system. The Bay-Delta's declining ecosystem caused by agricultural runoff, operation of water pumps and other factors has led to historical restrictions in SWP supply deliveries. SWP delivery restrictions due to the biological opinions resulted in the loss of about one-third of the available SWP supplies in 2008. Recent environmental concerns in the Owens Valley have also affected supply availability in the Los Angeles Aqueduct system.[87] Endangered fish species are also a concern in the Lower Colorado River.

Legal – Listings of additional species under the Endangered Species Act and new regulatory requirements could impact SWP operations by requiring additional export reductions, releases of additional water from storage or other operational changes impacting water supply operations. Additionally, the QSA, described above, has been challenged in courts and may have impacts on the water transfer between IID and SDCWA. If there are negative impacts, San Diego could become more dependent on Metropolitan supplies. Meanwhile, higher-priority users are beginning to take their full apportionment of Colorado River water, which could eventually reduce the amount of water available to Metropolitan to 550,000 AF, which is its fourth priority right, plus what water can be made available from conservation programs with the IID and other agricultural-to-urban water transfers.

Water Quality –Water imported from the CRA contains high level of salts. The operational constraint is that this water needs to be blended with SWP supplies to meet the target salinity of 500 mg/L of TDS. Another water quality concern is related to the quagga mussel. Controlling the spread and impacts of quagga mussels within the CRA requires extensive maintenance and results in reduced operational flexibility.

Climate Change – Changing climate patterns are expected to shift precipitation patterns and affect water supply. Unpredictable weather patterns will make water supply planning even more challenging. Climatic conditions have been projected based on historical patterns; however, severe pattern changes may occur in the future. The areas of concern for California include the reduction in Sierra Nevada snowpack, increased intensity and frequency of extreme weather events, and rising sea levels causing increased risk of levee failure in the Bay-Delta. Climate

87 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010,* November 2010, pages 1-18 - 1-19.

Change is also expected to impact the Colorado River Basin. Currently, it is believed that climatic factors would have more of an impact than others on long-term water reliability.

Water Surplus and Drought Management Planning

Metropolitan's water supply planning includes development of its Water Surplus and Drought Management (WSDM) Plan which guides operations during both shortage and surplus conditions. The guiding principle of the WSDM Plan is to encourage storage of water during periods of surplus and work with its member agencies to minimize impacts of water shortages during periods of shortage. Under the WSDM Plan, Metropolitan considers its supply situation to be in surplus as long as net water deliveries can be made to storage. Depending on the amount of surplus, water may be stored in Diamond Valley Lake and/or the SWP terminal reservoirs during any surplus stage if storage capacity is available. It is assumed that the surplus indicated by the projected demands and supplies for 2035, if realized, would be delivered to storage, consistent with the WSDM Plan. Metropolitan considers a shortage condition to be in effect anytime it needs to make a net withdrawal from storage to meet demands.[88]

The Uncertainty Buffer

Total water supply deliveries within the Metropolitan service area vary from year to year due to factors such as individual water agencies' demands, economic conditions, rainfall, conservation, challenges associated with the Delta and the Colorado River, regulatory restrictions, and climate change. The quantities used from different sources also vary from year to year due to the relative availability of the particular supply components, which in turn may be affected by snowpack, reservoir storage, operational constraints, and environmental water requirements.[89]

Metropolitan's Integrated Water Resources Plan (IRP) 2010 Update recognizes that future water conditions may fall outside of projected conditions assumed in Metropolitan's baseline demand and supply planning due to these uncertainties and challenges. Therefore, the 2010 IRP Update includes goals for a range of buffer supplies to respond to possible shortages. Buffer supplies are planned to initially come from actions to improve efficiency beyond State mandates, and later will include collaborating with member agencies to develop additional local supplies.[90]

Summary

SCAG and SANDAG project continuing growth in the region and Metropolitan's RUWMP and the UWMPs of water providers in the region reflect these expectations and project increasing water demands to serve that growth. Based on information presented in Section 6.2.2, between 2010 and 2035, the population in Metropolitan's service area is projected to grow by 19 percent, water demand in Metropolitan's service area is projected to increase by 6 percent, and Metropolitan's total water supply is projected to increase by 27 percent. In addition to meeting

88 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages 2-20 - 2-23.

89 Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages ES-1 - ES-4, 2-9 - 2-16, Appendix A.2.

90 Metropolitan Water District of Southern California, *Integrated Water Resources Plan 2010 Update: Executive Summary*, 2010, pages 3, 5. http://www.mwdh2o.com/mwdh2o/pages/yourwater/irp/IRP2010ExecutiveSummary.pdf, accessed October 2011.

full-service demands from 2015 through 2035, Metropolitan projects reserve and replenishment supplies to refill system storage. This assumes projections prove accurate, Metropolitan and MWDOC are not in shortage, and zero allocations are imposed for imported supplies. The relatively minor increase in demand relative to population growth indicates an assumption that gains in conservation and demand management and reductions in per capita consumption are expected to be realized over this period. It is uncertain whether these goals can be realized.

The projected breakdown of the water supply sources in Table 6-28 reflects Metropolitan's efforts to maximize the reliability of supplies by diversifying Metropolitan's supply portfolio and creating surpluses to ensure that projected demands can be met despite the inherent uncertainties. Thus, Colorado River deliveries, which currently contribute 24 percent of the total, are only expected to contribute 16 percent of the total supply in 2035. Local supplies are expected to increase slightly but their overall contribution is expected to remain relatively constant. And Metropolitan projects that SWP deliveries will increase substantially and the SWP contribution to total supply, currently at 31 percent, would increase to 41 percent. This projection is predicated on the resolution of environmental concerns about the Delta and the completion of a new Delta conveyance that would be fully operational by 2022.[91] There remains some uncertainty regarding the nature and timing of remedies to the SWP water supply reliability issues associated with the Bay-Delta system such that Metropolitan's assumption about the SWP deliveries may not be fulfilled. As described above, Metropolitan is pursuing several actions to buffer the uncertainty of its main imported supplies that include additional demand management and development of supplemental supplies.

Growth Potential within Metropolitan Service Area

Metropolitan projects that, in addition to meeting 100 percent of their member agencies' full-service demands from 2015 through 2035, reserve and replenishment supplies will be available to refill system storage. However, there remains some uncertainty regarding Metropolitan's main imported sources of supply from the Colorado River and the Bay-Delta. These include the assumptions regarding resolution of Delta issues, construction of a new Delta conveyance by 2022, and that that Metropolitan and MWDOC won't experience significant shortages during this period of time.

SCAG and SANDAG project continuing growth in the region and Metropolitan's RUWMP and the UWMPs of water providers in the region reflect these expectations and project increasing water demands to serve that growth. The Urban Water Management Planning Act requires water suppliers, as part of their long-range planning activities, to make every effort to ensure the appropriate level of reliability in their water service sufficient to meet the needs of their customers during normal, dry, and multiple dry water years. Because of the uncertainties in water supplies in general, and the uncertainty in supplies from Metropolitan in particular, participating water providers are pursuing a variety of projects, programs, and strategies, including participating in the proposed Project, to improve water supply reliability in their water service areas, as described in Section 6.3. Considered collectively, these projects, programs, and

[91] Metropolitan Water District of Southern California, *Regional Urban Water Management Plan 2010*, November 2010, pages ES-4 - ES-5.

strategies will improve reliability and decrease the reliance on imported water supplies by increasing water conservation efforts and the use of recycled water for landscaping and other non-potable needs, developing additional water supplies local to the Southern California region (such as the proposed Project) and diversifying potential water supply sources and opportunities, and enhancing delivery flexibility through infrastructure interties and improvements such as adding storage facilities and capacity.

As discussed in Section 6.2, Project water from the Groundwater Conservation and Recovery Component (Phase 1) would provide some additional water supply to the known Project Participants as well as to future Project Participants within the Project Water Area of Use. Together with other identified sources of potential future water, a portion of the Project water would be used by participating water providers to replace a portion of the imported supply while meeting existing and projected future demand. In some cases, in addition to enhancing reliability, water from the proposed Project could be used to support new population growth and new planned infill development within the Project Participants' service areas, and/or for as yet-to-be identified future Project Participants within the Project Water Area of Use.

6.3 Secondary Effects of Growth

6.3.1 Introduction

The growth inducement potential of the Cadiz Valley Water Conservation, Recovery and Storage Project is assessed in Section 6.2, above, for each of the known participating water providers and for potential future water providers that would be located within Metropolitan' six-county Southern California service area. The Project has no direct growth inducement potential in that no housing is proposed as part of the Project or required as a result of the Project. Project construction would create many jobs but an adequate labor pool already exists in the Southern California region such that new housing is not needed to accommodate an imported labor force. It is expected that workers would commute from neighboring communities on the weekends but stay on site during the work week in existing worker housing areas on the Project site. The on-site housing is sufficient to support the construction effort needed for both components of the Project.

The Project has only indirect growth inducement potential, which is limited at that, related to the fact that the water and storage capacity made available by the Project to participating water providers would contribute to augmenting and improving the reliability of each water provider's water supply portfolio. This contribution to the improving the water supply portfolio of participating water providers would help remove water supply reliability as a potential obstacle to growth, which in accordance with the *CEQA Guidelines*,[92] meets one definition of growth inducement. In summary, the growth inducement potential of the Project by water provider is determined to be as follows (See Section 6.2 for a discussion of each water provider):

- SMWD: Project has limited growth inducement potential.
- Golden State: Project has limited growth inducement potential.

[92] *CEQA Guidelines*, California Code of Regulations Title 14, Chapter 3, §15126.2(d).

- Three Valleys: Project has limited growth inducement potential.
- Suburban: Project has no growth inducement potential.
- JCSD: Project has limited growth inducement potential.
- Cal Water: Project has no growth inducement potential.
- Future Participating Water Providers within the Metropolitan Service area: Project has limited growth inducement potential.

Pursuant to Section 15126.2(d) of the *CEQA Guidelines*, growth per se is not assumed to be beneficial or detrimental; it is the secondary, or indirect, effects of population and/or economic growth (e.g., increased traffic, noise, degradation of air and water quality, and loss of agricultural land and open space) that can result in significant adverse changes to the physical environment, which are the focus of the discussion below.

In all cases, the Project's contribution to each water provider's supply portfolio would help support planned growth that is reflected in the adopted General Plans for each community served and growth that is projected to occur in the region by SCAG. The Project would not stimulate growth beyond planned and projected levels.

The cities and counties in the Project Water Area of Use have adopted comprehensive, long term general plans for land uses and physical development within their jurisdictions, and regional planning agencies have prepared projections of future growth in the area, as discussed in Section 6.2 for each Project Participant. The growth and development allowed by these city and county General Plans can result in environmental impacts and, consistent with CEQA, cities and counties have prepared EIRs for their general plans and general plan updates to identify and address the adverse physical effects expected to result from their adopted land use and development plans.

To characterize potential secondary effects of planned growth within the Project Water Area of Use, the General Plans and associated EIRs for cities and counties throughout the Southern California region were reviewed, as listed in **Table 6-34**. The general plan documents selected and reviewed for this analysis include those prepared by the six counties, those from representative jurisdictions within the service areas of the participating water providers, and those prepared by representative jurisdictions projected to grow the most by 2035. The selected EIRs cover a broad range of environmental conditions (in terms of geography, existing levels of development, climate, and ecosystems) in the Project Water Area of Use. Appendix J presents the summary table that reviews the findings of the General Plan EIRs with respect to significant and unavoidable impacts associated with planned growth in the respective communities.

TABLE 6-34
DOCUMENTS THAT HAVE ANALYZED GROWTH IN THE PROJECT WATER AREA OF USE

Document	Lead Agency
Los Angeles County General Plan EIR	Los Angeles County
Orange County Environmental Determination for Orange County General Plan Technical Update	Orange County
Riverside County General Plan EIR	Riverside County
San Bernardino County General Plan EIR	San Bernardino County
San Diego County General Plan EIR	San Diego County
City of Los Angeles General Plan EIR	City of Los Angeles
City of Ontario General Plan EIR	City of Ontario
City of Anaheim General Plan EIR	City of Anaheim
City of Riverside General Plan EIR	City of Riverside
City of Rancho Santa Margarita General Plan EIR	City of Rancho Santa Margarita

SOURCE: ESA, 2011.

6.3.2 Impact and Mitigation

Although the Project has limited growth inducement potential, for purposes of this CEQA analysis and full disclosure of potential indirect effects, the significant and unavoidable impacts associated with planned growth in the Project Water Area of Use are summarized below and identified as potential indirect effects of Project implementation.

Significance Criteria

The EIRs prepared for the local general plans by the cities and counties within the Project Water Area of Use (Metropolitan Service Area) evaluate the environmental effects associated with planned land uses and growth in accordance with impact significance criteria established by those local jurisdictions. This section summarizes the impact findings from those General Plan EIRs based on the impact significance criteria used by the local jurisdictions.

Impacts

Impact 6.1: Secondary Effects of Growth. The Project would contribute to provision of adequate water supply and improved reliability for the participating water providers (SMWD, Golden State, Three Valleys, Suburban, JCSD, and Cal Water) as well as within the broad Metropolitan service area covering portions of Los Angeles, Orange, Riverside, San Bernardino, San Diego, and Ventura counties. No appreciable growth in population or employment would occur as a direct result of construction or operation of the proposed Project. However, as intended, the water supply and supply reliability benefits of the Project would help participating water providers meet the supply needs of both existing and future customers. Therefore, indirectly the Project would

support planned growth, which, in turn, could result in secondary environmental effects. As determined by the local city and county land use jurisdictions within the service area of the participating water providers and within the Metropolitan service area in the General Plan EIRs, some of the secondary environmental effects of planned growth were determined to be less than significant with mitigation in some communities, and some were determined to be significant and unavoidable.

Table J-1, included in Appendix J, summarizes the effects that have been identified as significant and unavoidable in the majority of EIRs reviewed for this analysis. Secondary effects of growth typically found to be significant and unavoidable include:

- Effects to or loss of agricultural resources;
- Air quality degradation;
- Hydrology and water quality modification and degradation;
- Traffic congestion;
- Transportation demand increase;
- Increased noise; and
- Increased demand on public services and utilities.

Most communities in Southern California and within the services areas of the participating water providers adopted their General Plans and completed the associated EIR prior to current CEQA requirements to analyze greenhouse gas emissions. It is expected that planned growth and development within the Project Water Area of Use could result in a significant and unavoidable contribution to increased greenhouse gas emissions as well.

Pursuant to CEQA, the local lead agencies that have adopted their General Plans have also adopted statements of overriding consideration for the anticipated significant unavoidable effects.

Mitigation Measures

Measures to mitigate secondary impacts of growth have been identified in the general plan EIRs of jurisdictions in the Project Water Area of Use. As summarized in 6-35 at the end of the chapter, some impacts would not be reduced to a less than significant level and remain significant and unavoidable. As described in Section 6.1.3, participating water providers do not have the authority to control land use within their service area or mitigate for the secondary effects of those land use decisions; that authority to regulate growth resides primarily with the cities and counties through the land use planning and development approval process. **Table 6-35** identifies other agencies with the authority to implement measures to reduce or mitigate the environmental impacts of growth in the area.

TABLE 6-35
AGENCIES HAVING AUTHORITY TO IMPLEMENT MAJOR MITIGATION MEASURES FOR GROWTH-RELATED IMPACTS

Agency	Authority
Counties within the Study Area	Responsible for planning, land use, and environmental protection of unincorporated areas. Of particular importance is development of presently undeveloped lands, provision of regional solid waste management facilities, and regional transportation, air quality and flood control improvement programs.
Cities within the Study Area	Responsible for adoption of the *General Plan* and various planning elements and local land use regulations. Responsible for managing some wastewater treatment facilities. Adopts and implement local ordinances for control of noise and other environmental concerns. Participates in regional air quality maintenance planning through adoption of local programs to control emissions via transportation improvements. Responsible for enforcing adopted energy efficiency standards in new construction.
Local Agency Formation Commissions	Empowered to approve or disapprove all proposals to incorporate cities to form special districts or to annex territories to cities or special districts. Also empowered to guide growth of governmental service responsibilities.
Councils of Government	Under State and federal law, have authority and responsibility over transportation planning and funding. Allocate transportation infrastructure and housing.
Regional Water Quality Control Boards, Los Angeles, Santa Ana, San Diego, Colorado River	Share responsibility with SWRCB to coordinate and control water quality. Formulates and adopts water quality control plans. Implements portions of the Clean Water Act when EPA and SWRCB delegate authority, as is the case with issuance of NPDES permits for waste discharge, reclamation, and storm water drainage.
State Department of Health	Responsible for the purity and potability of domestic water supplies for the State. Assists SWRCB and RWQCBs in setting quality standards.
California Air Resources Board	Responsible for adopting and enforcing standards, rules, and regulations for the control of air pollution from mobile sources throughout the State.
South Coast Air Quality Management District, San Diego Air Pollution Control District, and Ventura County Air Pollution Control District	Adopt and enforce local regulations governing stationary sources of air pollutants. Issue Authority to Construct Permits and Permits to Operate. Provide compliance inspections of facilities and monitors regional air quality. Developed the Clean Air Plan in compliance with the Clean Air Act.
U.S. Fish and Wildlife Service	Requires consultation under Section 7 or Section 10 of the Endangered Species Act for projects which could potentially impact endangered or threatened species. Prepares biological opinions on the status of species in specific areas and potential effects of proposed projects. Approves mitigation measures to reduce impacts and establishes Habitat Conservation Plans.
U.S. Army Corps of Engineers	Issues permits to place fill in waterways pursuant to Section 404 of the Clean Water Act.
California Department of Fish and Game	Issues Stream Bed Alteration Agreements for projects potentially impacting waterways.

SOURCE: ESA, 2011.

Significance after Mitigation: Significant and Unavoidable. As determined by the appropriate local city and county land use jurisdictions, some of the effects of planned growth within the Project Water Area of Use are significant and unavoidable. To the limited extent that the Project would help create adequate and reliable water supply to support planned growth, it would indirectly result in the secondary effects of planned growth, including those effects determined in some communities to be significant and unavoidable.