SECTION II
San Bernardino County Overview

San Bernardino County's diverse geography and extensive natural resources, as well as its proximity to major economic and population centers, provide unique opportunities for varied industry sectors to thrive, including commerce, education, tourism and recreation. The County is the largest in the contiguous United States and covers over 20,000 sq. miles (enough to encompass the states of Connecticut, Delaware, Rhode Island, and Vermont). The County is commonly divided into four distinct areas – the Valley Region, the Mountain Region, the North Desert Region, and the South Desert Region. The Valley Region contains the majority of the County's incorporated areas and is the most populous region. The Mountain Region is primarily comprised of public lands owned and managed by federal and state agencies. The North Desert and South Desert Regions are the largest regions (approximately 94% of the County's land area) and include parts of the Mojave Desert. Table 2-1, below, breaks down the County's population by region.

Table 2-1:
San Bernardino County Population by Region

Region	Area (sq. miles)	Population 2016
Valley	665	1,538,716
North Desert	10,778	451,575
South Desert	8,093	77,078
Mountain	571	50,854

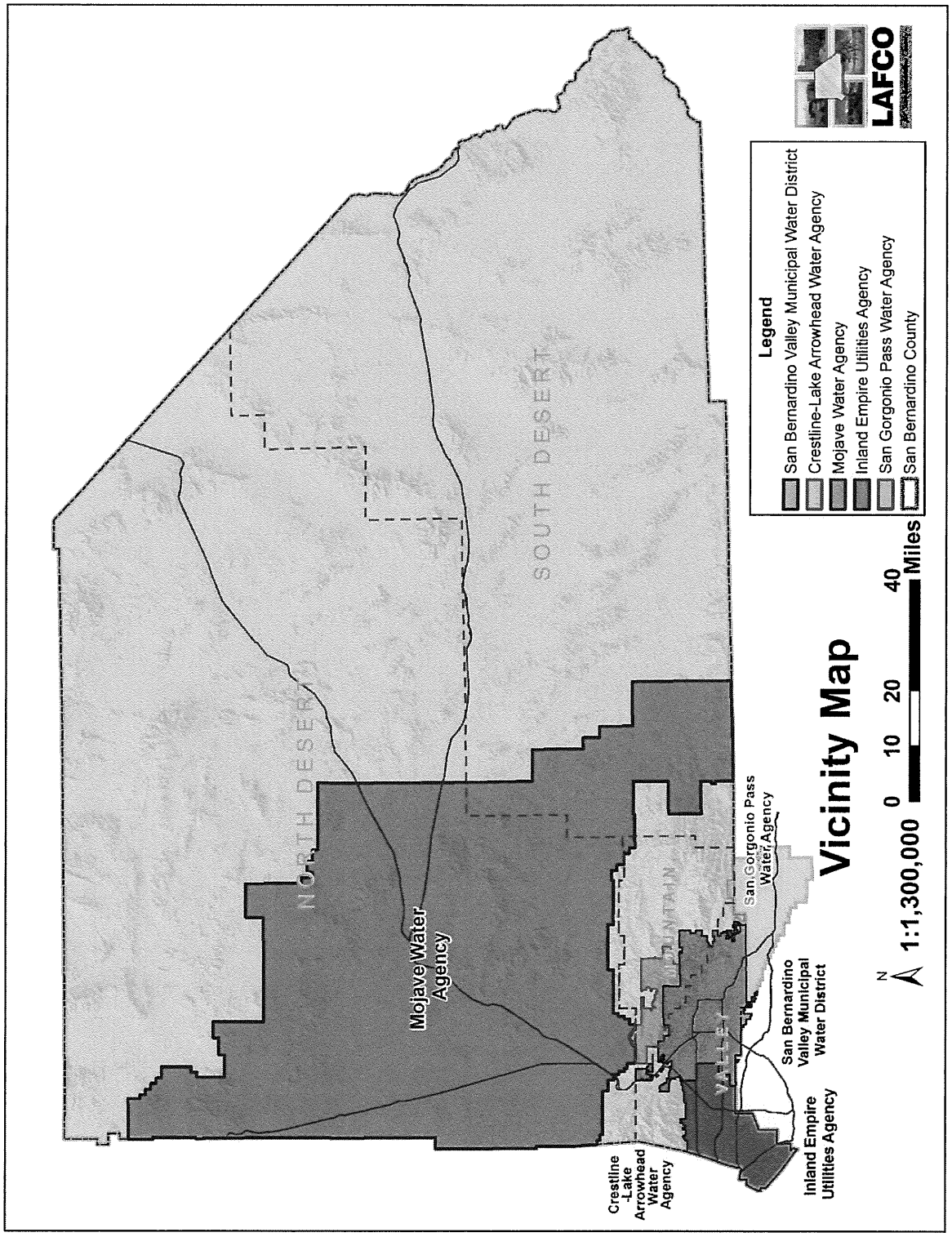
Given its vast land area, the County's overall population density is low, estimated at 105 people per square mile which is lower than neighboring Riverside, San Diego, Orange and Los Angeles Counties. Within the Valley Region, however, population density is 2,313 people per square mile which is on par with Los Angeles and Orange Counties. Figure 2-1, below, includes the county regions overlaid by water wholesalers.

Water Sources

San Bernardino County's water sources are supplied through both local and imported water. On average, 85 percent of the domestic water is supplied by local sources with the balance of 15 percent provided through imported purchased water.[1] Imported water is purchased from State Water Project contractors (the California Aqueduct) as a supplemental source to local water supplies. There are four active State Water Project contractors (Mojave Water Agency, San Bernardino Valley Municipal Water District, Metropolitan Water District of Southern California, Crestline-Lake Arrowhead Water Agency) and one sub-contractor (Inland Empire Utilities Agency) in the County.

[1] County of San Bernardino General Plan, Circulation and Infrastructure Element (2007)

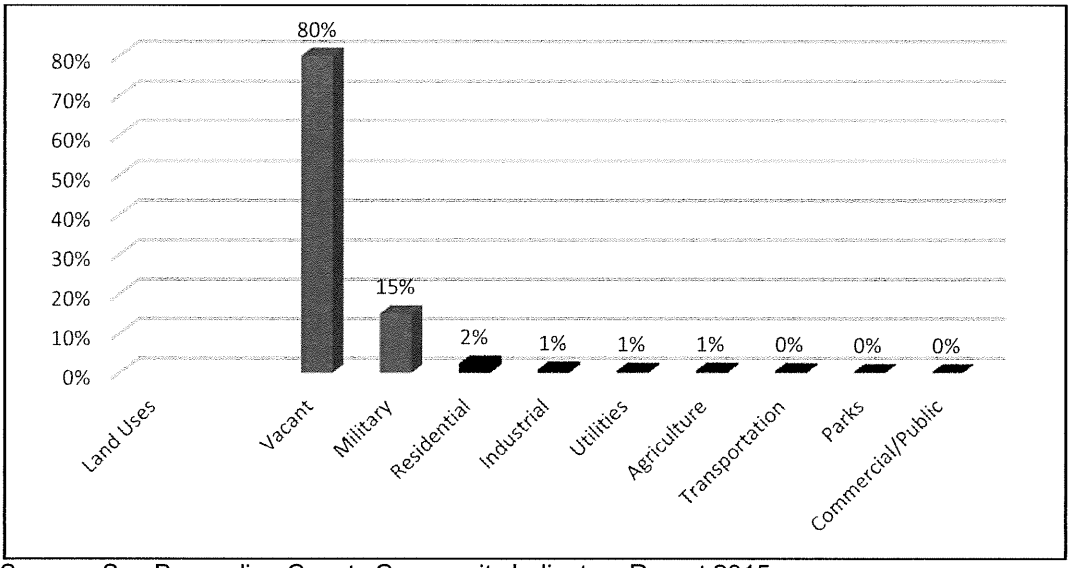
Figure 2-1:
Vicinity Map - Regions with Wholesale Provider



County Vacant Land

It is important to note – 80% of the land (roughly 16,200 sq. miles) is primarily vacant (Figure 2-2) and outside the governing control of the County's Board of Supervisors and 24 cities. This land is largely under federal government ownership and includes forests, wilderness areas, military facilities and national parks/preserves/monuments (Table 2-2). Figure 2-3 on the following page depicts land ownership within the County.

Figure 2-2: Land Uses within San Bernardino County



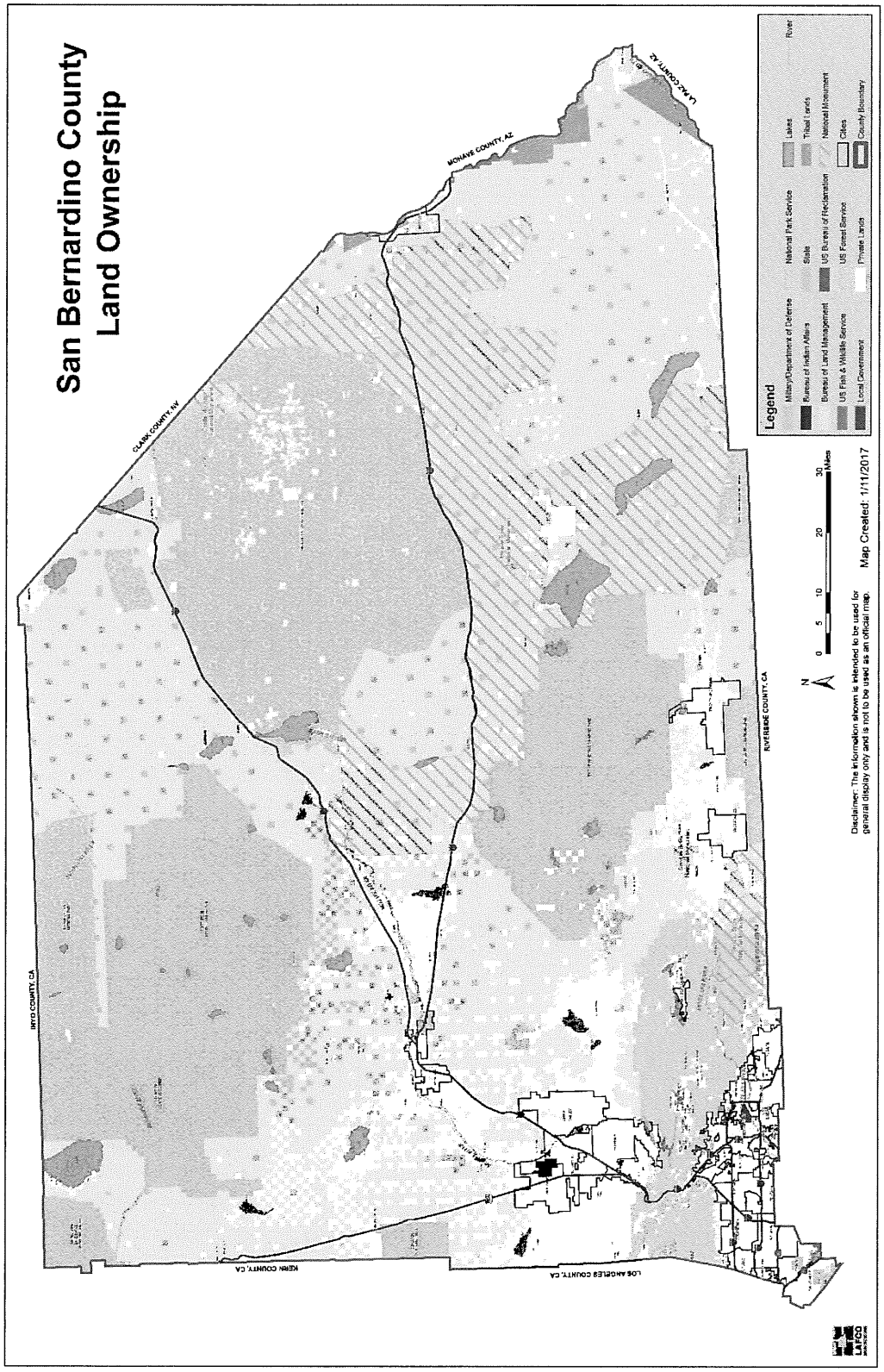
Source: San Bernardino County Community Indicators Report 2015

Table 2-2: Landownership within San Bernardino County

Land Ownership		
Land Owner	**Sq. Miles**	**Percent**
Bureau of Land Management	9,158	45.5%
Dept. of Defense	3,522	17.5%
Private Land	3,309	16.5%
National Park Service	2,849	14.2%
US Forest Service	736	3.7%
State of CA	412	2.0%
Bureau of Indian Affairs	99	0.5%
US Fish & Wildlife Service	10	0.0%
US Bureau of Reclamation	9	0.0%
Local Government	2	0.0%
TOTAL	20,106	100.0%
source: SB County		

In the past decade, four notable changes in public land ownership have occurred: (1) private lands along the railways from the Los Angeles County line to Barstow and east to Needles have transferred to the Bureau of Land Management, (2) expansion of Department of Defense lands, (3) increase of the National Parks Service Holdings with the expansion of Death Valley and Joshua Tree National Parks and the creation of the Mojave National Preserve, and (4) designation of four new national monuments in 2016.

Figure 2-3: Land Ownership Map



SECTION VI
South Desert Region

Organization

As detailed in the Introduction, this Service Review is organized by San Bernardino County's four regions (Valley, Mountain, North Desert, and South Desert), with each region and its respective retail agencies reviewed as a distinct geographic area.

This section of the service review provides a review of the South Desert Region, including:

A. Region Overview
B. Primer on Senate Bill 88
C. Hot Spot Identification
D. Hot Spot Substantiation, Analysis, and Staff Recommendations
E. Other Agencies Under LAFCO Purview – Staff Recommendations

Service Review Updates

In order to fulfill the requirements of Government Code §56430, service review updates are provided for the South Desert Region (Appendix E-1) and each public agency under LAFCO purview as well as the large private retail systems (Appendix E-2). A detailed listing of community water systems[1], wholesale entities, and joint powers authorities is included as a part of Appendix F.

A. SOUTH DESERT REGION OVERVIEW

According to the *County of San Bernardino General Plan* (2012), the South Desert covers approximately 40.2 percent of the total County land area but contains only 3.6 percent of the County's population, as shown in Table 6-1, below.

Table 6-1: County Population by Region

Region	Area (sq. miles)	Population 2016
Valley	665	1,538,716
North Desert	10,778	451,575
South Desert	**8,093**	**77,078**
Mountain	571	50,854
TOTAL	20,107	2,118,223

The South Desert Region is primarily desert area, the majority of which is within the Mojave Desert and a portion within the Sonoran Desert (along the Colorado River area). Large portions of the South Desert are under government ownership, including the Marine Air Ground Task Force Training Command in Twentynine Palms and portions of Joshua Tree National Park. Outside of these areas, the largest landowner is the United

[1] A community water system is defined as a public water system which serves at least 15 year-round service connections or regularly serves at least 25 year-long residents.

States (with the Bureau of Land Management as manager of numerous recreational and wilderness areas). In general, the desert landscape coupled with the lack of private land ownership, does not provide for large scale development opportunities. In 2016 President Obama designated three new national monuments which are within the South Desert Region: Sand to Snow, Castle Mountain, and Mojave Trails.

History

The history of the South Desert is largely tied to the development of nation's highway and rail systems. The Needles area was founded in 1883 as a result of the construction of the Atchison, Topeka and Santa Fe Railway, which crossed the Colorado River. The name is derived from pointed mountain peaks and the wind-blown holes in them (which can only be seen by boat from the Colorado River), the Needles, at the south end of the valley. In 1913 the City of Needles incorporated. The City of Needles was a major stop on the historic U.S. Route 66 highway from the 1920s through 1960s. For immigrants from the mid-west Dust Bowl in the 1930s it was the first town, marking arrival in California. In 1949 the US Bureau of Reclamation began a mass project to dredge a new channel for the Colorado River that would straighten out a river bend that was causing massive silt problems following the completion of Hoover Dam.

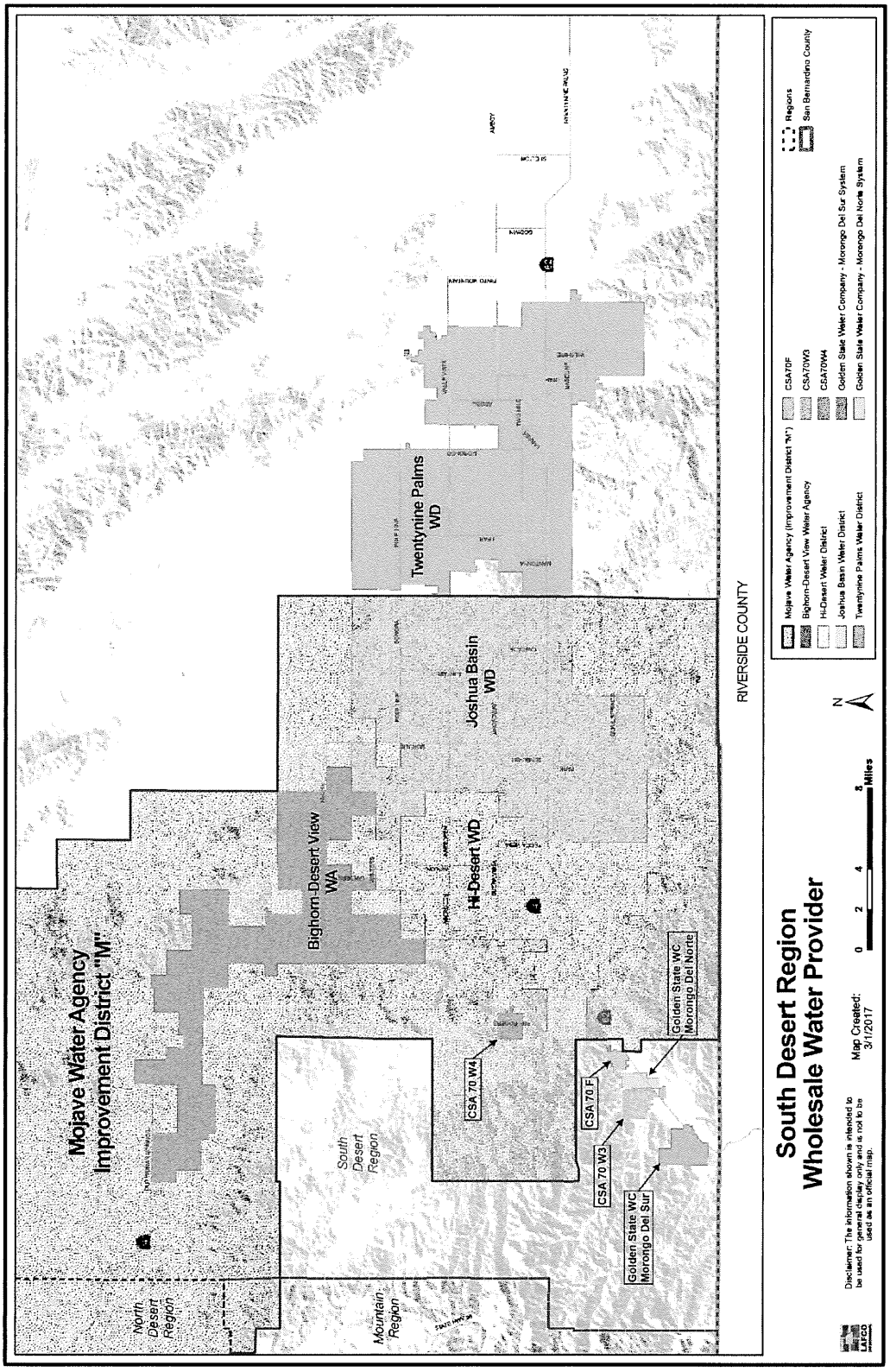
US Route 66, originally established on November 11, 1926, began in Chicago, Illinois and terminated in Santa Monica, California – a distance of 2,448 miles. It was one of the original highways in the US highway system and bisected the Region. Many roadside services such as service stations and diners established their business models as a result of this highway. After World War II, Route 66 prospered as tourism and commerce expanded westward. When the Interstate Highway System was developed in the late 1950s and early 1960s, however, some routes were delegated to secondary status. In the case of Route 66, several Interstate Routes – most notably I-40 in the southwest (solely I-40 in San Bernardino County) – completely bypassed it, significantly impacting the economic vitality of many communities within the South Desert Region. US Route 66 was decommissioned in 1985.

Highway extension west of Twentynine Palms was added to the state highway system in phases – with the portion from White Water to Morongo Valley added in 1935, and from Morongo Valley to Yucca Valley in 1959. Both were designated as Route 187. From Yucca Valley to Twentynine Palms, Route 218 was added in 1961. The portion from Twentynine Palms to Arizona was added to SR 62 in 1970. The South Desert provides the northern entrance to Joshua Tree National Park.

Location and Physical Setting

In general, South Desert communities are located along two major travel corridors: Interstate 40 (paralleling or overlaying historic Route 66) and Highway 62 (Twentynine Palms Highway). Communities include Morongo Valley, Yucca Valley, Yucca Mesa, Landers, Flamingo Heghts, Pionnertown, Joshua Tree, Twentynine Palms, Needles, and Big River. There is one wholesale water agency, Mojave Water Agency ("MWA"), whose service area extends from the North Desert Region into the South Desert Region. There are large portions of the South Desert located outside the MWA wholesale area including the Morongo Valley and the Cities of Needles and Twentynine Palms. MWA's area in the South Desert (Improvement District M) is shown below.

Figure 6-1: South Desert Region – MWA Improvement District M

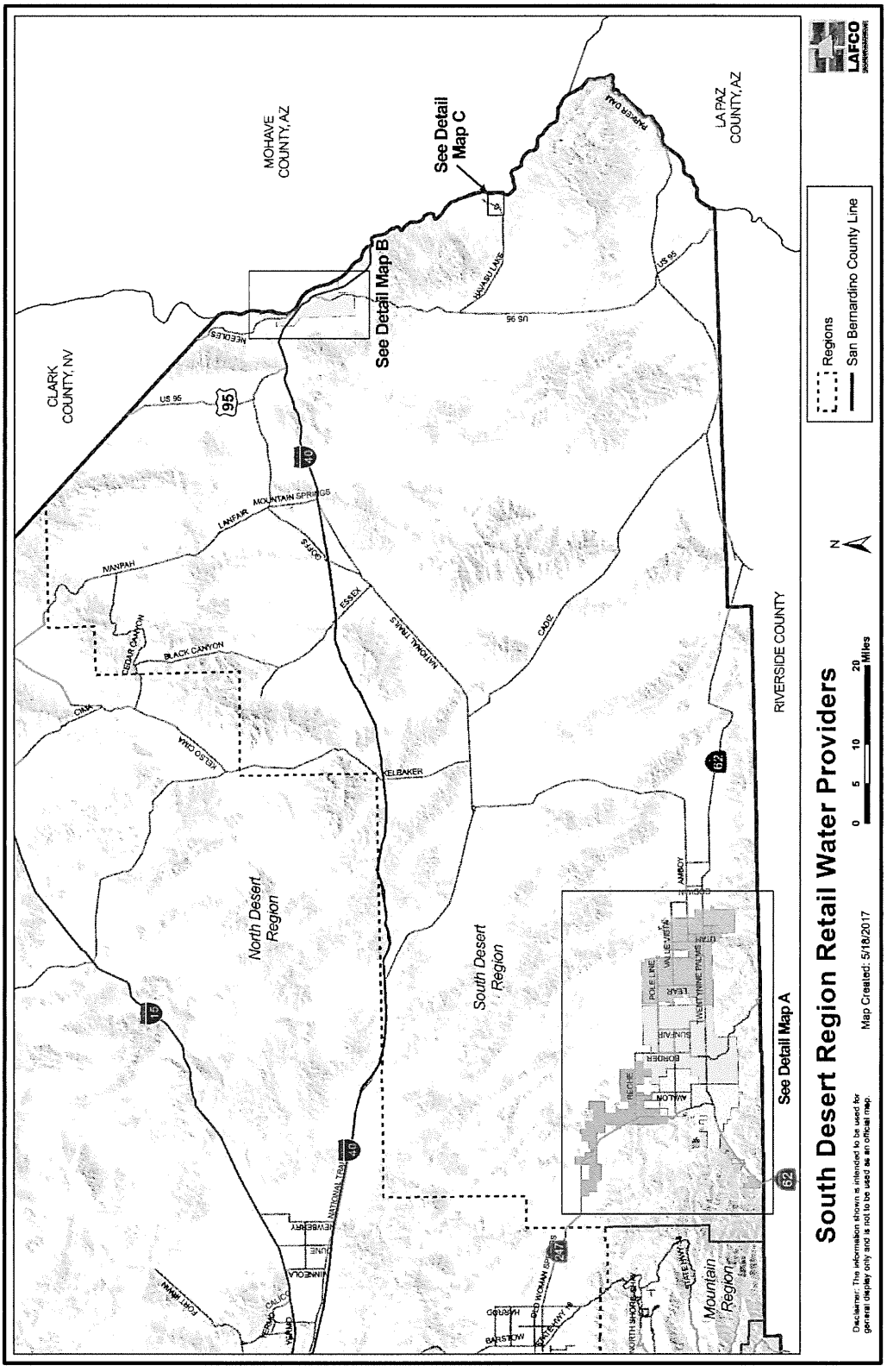


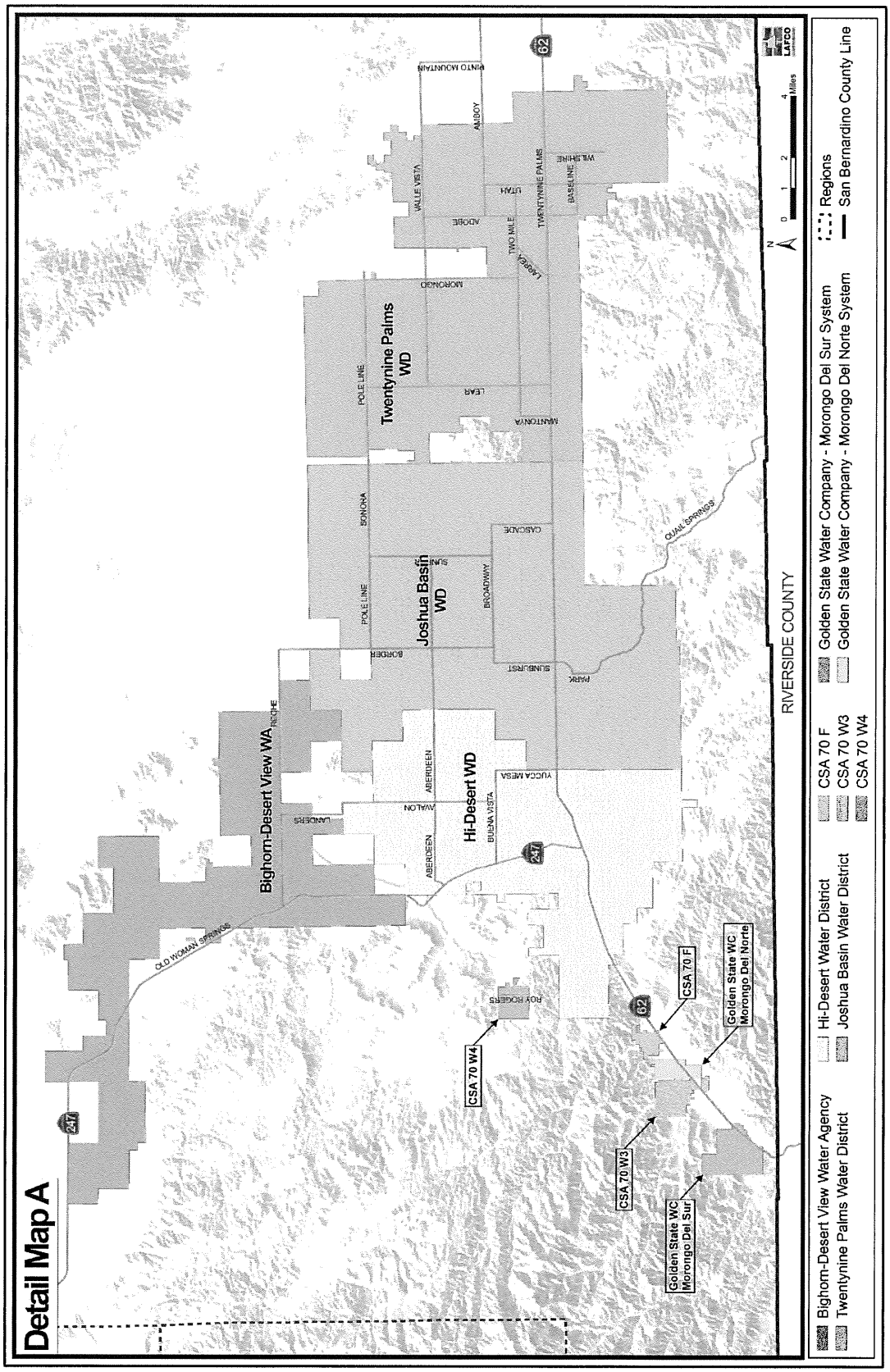
South Desert Water Purveyors

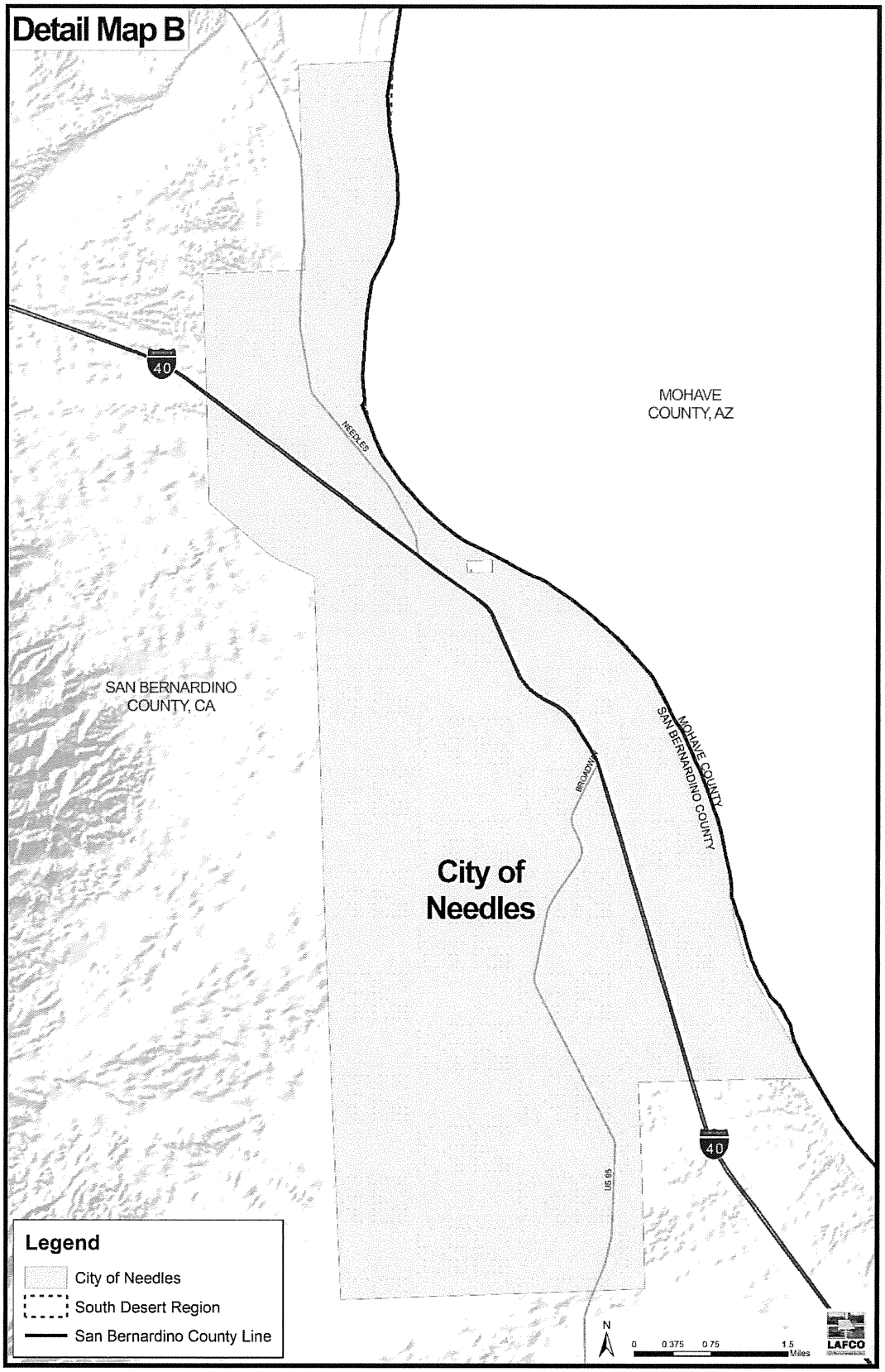
In the South Desert, there are nine agencies (one wholesaler) under direct San Bernardino LAFCO purview and three private water systems (see Figure 6-2). All the retailers supply water to their customers from groundwater; within MWA, water is replenished by natural percolation and imported water. Other strategies include storage and conjunctive use, recharge projects, conservation, and restoration.[2]

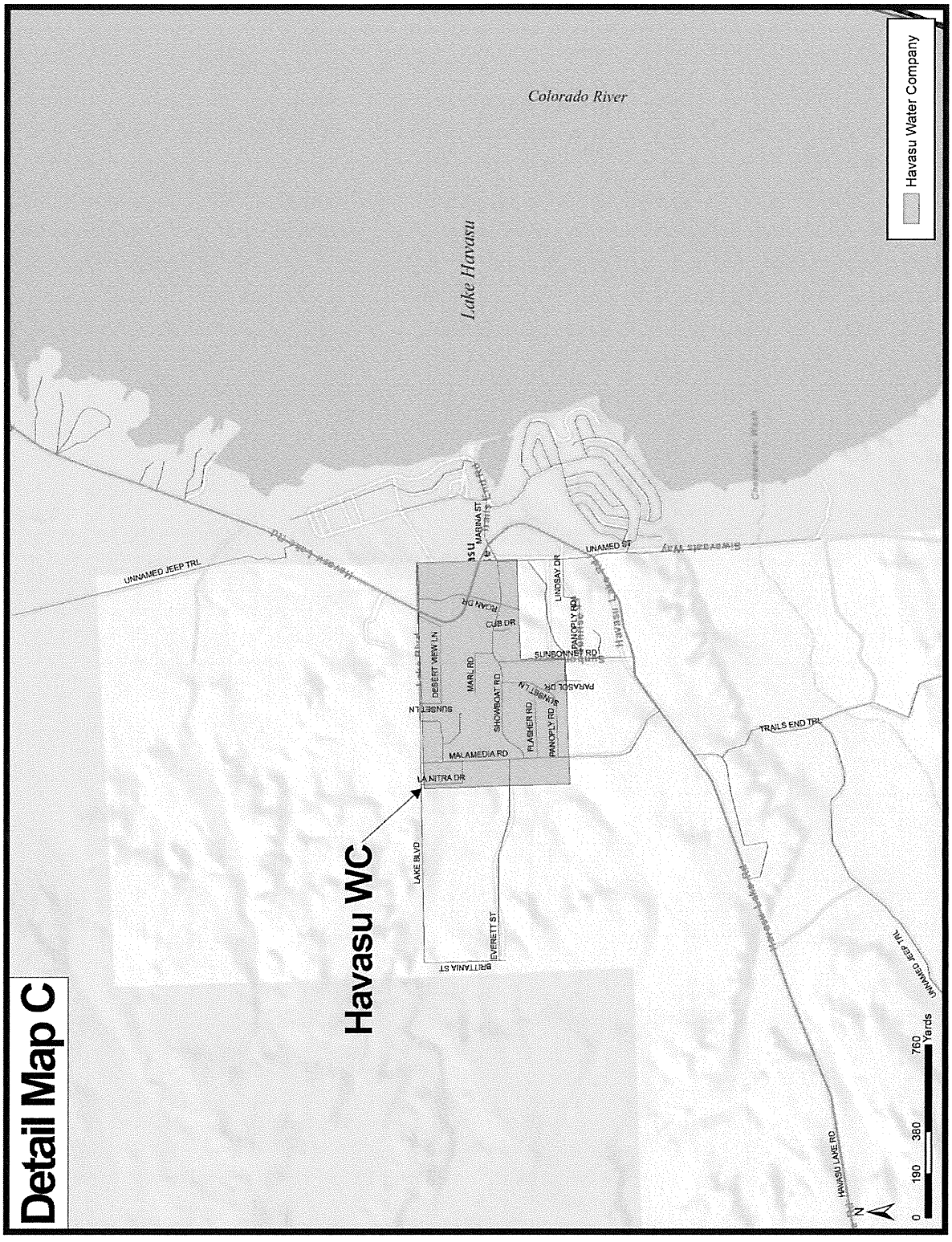
[2] "An Evaluation of California's Adjudicated Groundwater Basins" prepared by the Center for Global, International and Regional Studies at the University of California, Santa Cruz for the State Water Resources Control Board. 2016.

Figure 6-2: South Desert Region – Retail Providers




Detail Map A
Bighorn-Desert View WA
Twentynine Palms WD
Joshua Basin WD
Hi-Desert WD
RIVERSIDE COUNTY
CSA 70 W4
CSA 70 W3
CSA 70 F
Golden State WC Morongo Del Sur
Golden State WC Morongo Del Norte
Bighorn-Desert View Water Agency
Twentynine Palms Water District
Hi-Desert Water District
Joshua Basin Water District
CSA 70 F
CSA 70 W3
CSA 70 W4
Golden State Water Company - Morongo Del Sur System
Golden State Water Company - Morongo Del Norte System
Regions
San Bernardino County Line
Miles


Detail Map B
40
NEEDLES
MOHAVE
COUNTY, AZ
SAN BERNARDINO
COUNTY, CA
MOHAVE COUNTY
SAN BERNARDINO COUNTY
BROADWAY
City of
Needles
40
US 95
Legend
City of Needles
South Desert Region
San Bernardino County Line
N
0 0.375 0.75 1.5
Miles
LAFCO


Detail Map C
Havasu WC
Colorado River
Lake Havasu
Havasu Water Company
UNNAMED JEEP TRL
UNAMED ST
MARINA ST
LINDSAY DR
PANOPLY RD
CUB DR
SLINBONNET RD
PARASOL DR
DESERT MEW LN
MARL RD
SHOWBOAT RD
FLASHER RD
SUNSET LN
MALAMEDIA RD
LA NITRA DR
LAKE BLVD
EVERETT ST
BRITTANIA ST
TRAILS END TRL
UNNAMED JEEP TRL
HAVASU LAKE RD
0
190
380
760
Yards
N

B. PRIMER ON SB 88 (SMALL WATER SYSTEMS) – CARROT & STICK

Many small community water systems are disadvantaged and isolated. This can lead to limited access to skilled operators and managers, lack of funding to operate or improve systems, and lack of financial acumen to navigate State funding process.

As the number of failing water systems climbed due in large part to the State's continuing drought conditions, SB 88 authorizes the State Water Board to order consolidation with a receiving water system where a public water system[3], or a state small water system[4] within a disadvantaged community[5], consistently fails to provide an adequate supply of safe drinking water. This law expedites permanent solutions for failing water systems and those that have run out of water. Consolidation may involve physical consolidation of the participating water systems, management of the participating water systems, or both. Consolidation and extending service from existing public water systems generally reduces costs and improves reliability by extending development costs to a larger ratepayer pool.

The Carrot

As an inducement for consolidation, SB 88 added §116684 to the Health and Safety Code, limiting the liability of water systems, wholesalers, or any other agencies that deliver water to consolidated water systems. This liability relief is available regardless of whether the consolidation occurs through the mandatory consolidation process or through a voluntary act. To date, a number of systems have voluntarily consolidated, and many of these projects were funded by the Drinking Water State Revolving Fund Program, proceeds from the sale of state bonds (Prop. 1 and 84), and monies made available from the emergency drought relief package for consolidation or extension of service, including infrastructure improvements.

Particular to small water systems within the boundaries of MWA, Mojave Water Agency's Small Water Systems Assistance Program[6] provides resources for disadvantaged and severely disadvantaged small water systems that lack staff, expertise, and funding to meet their individual water reliability, conservation and quality standards. The MWA service area includes 36 small water systems of which 65 percent meet the criteria of disadvantaged communities.

The Stick

As a last resort, if voluntary consolidation cannot be negotiated in a reasonable time period, the State Water Board may direct mandatory consolidation or a mandatory extension of service.

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[3] A public water system is a system that supplies water that has 15 or more service connections or regularly serves 25 individuals daily at least 60 days out of the year.

[4] A state small water system is a system which provides water to the public that serves 5 to 14 service connections and does not serve more than an average of 25 people for more than 60 days of the year.

[5] "Disadvantaged community" means a disadvantaged community, as defined in Section 79505.5 of the Water Code, which is located in an unincorporated area or is served by a mutual water company.

[6] http://www.smallwatersystems.org/index.html

C. HOT SPOT IDENTIFICATION

The primary objective of this service review is to provide the Commission with recommendations to: (1) update the determinations from previous service reviews, and (2) initiate sphere of influence updates where appropriate. The identification of "hot spots" is used to arrive at these recommendations – those areas or agencies within the county which have significant water-related issues including, but not limited to, insufficient water supply, water quality related issues, deficient infrastructure, financial challenges and/or inadequate oversight and monitoring.

To identify the county's water "hot spots", staff utilized a multi-pronged approach. Previous service review reports and findings, audits and budgets, consumer confidence reports, and sanitary surveys were reviewed as well as state and county water reports. LAFCO's geographic information system ("GIS") was also used to identify future population growth areas, disadvantaged unincorporated communities, and small community water systems (between 15 and 1,000 connections)[7] adjacent to another water system (which addresses SB 88). GIS data was obtained from the U.S. Census, ESRI, San Bernardino County Transportation Authority (formerly San Bernardino Associated Governments), County of San Bernardino, State Department of Water Resources, State Regional Water Quality Control Board, and the wholesale and retail water agencies.

The criteria listed in Table 6-2, below, were used to identify hot spots. Following the table, the hotspots are mapped in Figure 6-3.

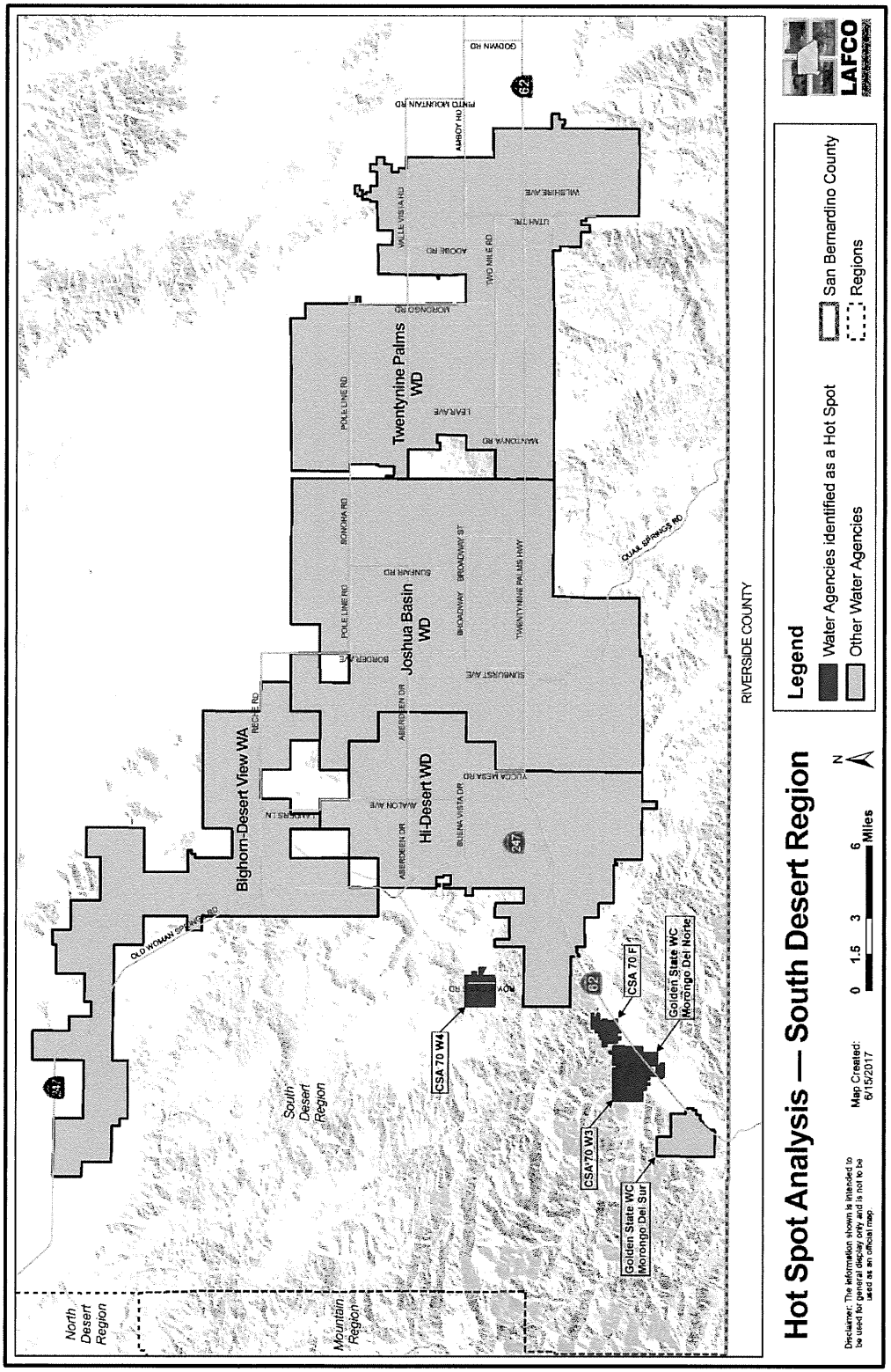
[7] A community water system is defined as a public water system which serves at least 15 year-round service connections or regularly serves at least 25 year-long residents. A small community water system is more than 15 connections (25 people) but less than 1,000 connections (3,300 people).

Table 6-2:
Hot Spot Summary Identification – South Desert Region

Key Code			
●	Yes or High	CSD = Community Services District	
◑	Portion	CWD = County Water District	
○	No or Low	MWC = Mutual Water Company	
?	Unknown	WC = Water Company	
–	N/A	WD = Water District	

Water Purveyor	Within a Disadvantaged Unincorporated Community	Groundwater Basin Priority	Basin Population Growth	Lack of Intertie	Significant Deficiencies identified in Sanitary Survey Report	Financial Challenges per Audit	Small Community Water System (between 15 and 1,000 connections)	Other Matters Identified by LAFCO	Hot Spot	Reference Page in Report
Bighorn-Desert View Water Agency	●	Very Low	○	○	○	○	○	○		
City of Needles	○	Low	○	○	○	○	○	○		
County Service Area 70 Zone F	●	Very Low	◑	●	●	○	●	○	●	VI-13
County Service Area 70 Zone W-3	●	Very Low	◑	●	●	○	●	○	●	VI-13
County Service Area 70 Zone W-4	●	Very Low	○	●	●	○	●	○	●	VI-16
Golden State WC, Morongo Del Norte	●	Very Low	●	?	●	–	●	○	●	VI-13
Golden State WC Morongo Del Sur	◔	Very Low	●	?	●	–	○	○		
Havasu Lake WC	○	Low	○	●	○	–	●	○		
Hi-Desert WD	◑	Med	●	○	○	○	○	○		
Joshua Basin WD	●	Med	●	○	○	○	○	○		
Twentynine Palms WD	◑	Low	○	○	○	○	○	○		

Figure 6-3:
Hot Spot Summary Identification – South Desert Region



D. HOT SPOT SUBSTANTIATION, ANALYSIS, AND STAFF RECOMMENDATIONS

As previously stated, the primary goal of this service review is to provide the Commission with recommendations to: (1) update the determinations from previous service reviews, and (2) initiate sphere of influence updates where appropriate. The remainder of this Section substantiates the hot spots identified in Table 6-2 above and includes staff's recommendations for Commission action.

MORONGO VALLEY CLUSTER
COUNTY SERVICE AREA 70 ZONE F, COUNTY SERVICE AREA 70 ZONE W-3, AND GOLDEN STATE WATER COMPANY MORONGO DEL NORTE

Substantiation

Water Quality

The Morongo Valley in general has adequate groundwater supplies, but water quality is poor. A review of the water quality reports for all of the retail water systems indicates that there are high levels of uranium in the community's groundwater. Additionally, the previous service review conducted in 2012 identified that there were no intertie connections amoungst the systems. This circumstance has not changed.

CSA 70 Zone F

According to the 2015 Consumer Confidence Report (water quality report) for CSA 70 Zone F, the source water is in violation of gross alpha and uranium by exceeding the maximum contaminant level ("MCL"). The report states that the likely source of contamination is from the erosion of natural deposits. In February 2016, County Special Districts Department issued a notice that gross alpha levels exceeded the MCL. For uranium exceeding the MCL, notices have been issued for the past four quarters. These notices were issued February 2016, May 2016, September 2016, and November 2016.

A review of the most recent Sanitary Survey Report on file with the County Department of Public Health dated 18 July 2016, identifies that the distribution lines are aging and require frequent maintenance. Further, the water exceeds the uranium MCL, and the system is required to sample for uranium and gross alpha on a continuous quarterly basis, and notify customers.

CSA 70 Zone W-3

According to the 2015 Consumer Confidence Report for CSA 70 Zone W-3, the source water is in violation of uranium by exceeding the MCL. The report indicates that the likely source of contamination is from the erosion of natural deposits. The last four notices issued by County Special Districts Department that uranium levels have exceeded the MCL area dated: 30 September 2015, 8 January 2016, 29 June 2016, and 28 February 2017.

A review of the most recent Sanitary Survey Report on file with the County Department of Public Health dated 18 July 2016, identifies that the distribution lines are old and require frequent maintenance. Further, Well #1 exceeds the MCL for gross alpha and uranium, and Well #2 is very close to the MCL for both gross alpha and uranium. The survey states that the operator is blending water from both wells to be in compliance for gross alpha and uranium MCL.

Golden State WC Morongo del Norte

A review of the 2016 Consumer Confidence Report for 2015 identifies that the system meets all current federal and state requirements.

However, a review of the most recent Sanitary Survey Report on file with the County Department of Public Health dated 23 June 2016, identifies that the Elm well exceeds the uranium MCL and shall not be placed in service until a uranium treatment system is in place and operational or the district submits a compliance plan. Gross alpha and uranium levels are at or near MCL for Bella Vista and Highway wells.

Lack of Access to Supplemental Water

When Mojave Water Agency proposed to annex into the Morongo Basin in 1965, the communities of Morongo Valley and Twentynine Palms (as defined at that time) were excluded at their request. The sphere establishment for MWA in 1973 included only the existing territory of MWA in this area. Therefore, the Morongo Valley community lacks access to delivery of water for recharge via the Morongo Basin pipeline. Today, those residents who have their own on-site wells are susceptible to high uranium levels as well, especially in the northeastern portion of the community.

Bottled Water

In 2012 the County applied for State Revolving Loan Fund money for a treatment plant but was denied. In 2016 the County applied for roughly $750,000 in state grant funds to deliver five gallons of bottled water to its Morongo and Pioneertown customers every two weeks for the next three years. However, the state denied the grant.

For the FY 2016-17 first quarter budget report, the County approved a budget adjustment of $50,000 for Zone F and $100,000 for Zone W-3 to offer bottled water service as an interim solution to providing potable well water. Both actions were funded by state grants.

Analysis

These three systems (CSA 70 Zone F, CSA Zone W-3, Golden State WC Morongo del Norte) are not under direct LAFCO purview. Even though these systems provide a municipal service, as a private entity or zones to a county service area, they do not have a sphere of influence.

The fourth system in the Morongo Valley is not identified in this service as a hot spot - Golden State WC Morongo del Sur. The State Water Resources Control Board has

amended the Golden State WC Morongo del Sur system permit to allow for an ion exchange treatment system for the removal of uranium from the system's wells. The permit amendment states that the treatment system is acceptable for producing drinking water complies with all State drinking water requirements.

Nonetheless, each of these systems is classified as a small water system, and therefore is subject to SB 88 and its potential funds (carrot) and consolidation mandate (stick). It is staff's position that the systems strongly consider initiating consolidation on their own terms. This would make a consolidation application to the state more competitive since additional resources are available when three or more agencies consolidate. Further, with an existing ion exchange treatment system for the Golden State WC Morongo del Sur system, coupled with a similar system in the process of beign installed for the Golden State WC Morongo del Norte system, the community as a whole could benefit from these treatments sytems should consolidation occur.

Staff Recommendation

Based upon new information received since the previous service review and the hot spot substantiation above, staff recommends that the Commission update the previous service review determinations for CSA 70 Zones F and W-3 to include:

- ***a.*** *The information described above.*
- ***b.*** *Population and disadvantaged unincorporated communities as described in Appendix E-1.*
- ***c.*** *Information from the Agency's Profile Sheet in Appendix E-2.*

COUNTY SERVICE AREA 70 ZONE W-4 (PIONEERTOWN)

Substantiation

County Service Area 70 Zone W-4 ("CSA 70 W-4") is a small, isolated rural water system that extracts water from the Ames Valley Groundwater Basin to provide water to the community of Pioneertown located west of the Town of Yucca Valley.

According to the County's Department of Health Services Small Water System Sanitary Survey Report (October 13, 2014), the Pioneertown water system consists of five active wells, four inactive wells and two storage tanks which serve a residential community (115 connections) and a small commercial area (five connections). A Notice of Violation was issued on March 28, 2016 by the U.S. Environmental Protection Agency indicating that the water system is in violation of the Safe Drinking Water Act and its National Primary Drinking Water Regulations for exceeding the MCL for arsenic, fluoride and uranium.

Bottled Water

In 2016 the County applied for roughly $750,000 in state grant funds to deliver five gallons of bottled water to its Morongo and Pioneertown customers every two weeks for the next three years. However, the state denied the grant.

For the FY 2016-17 first quarter budget report, the County approved a budget adjustment of $20,000 to offer bottled water service as an interim solution to providing potable well water. Both actions were funded by state grants.

Analysis

High levels of naturally occurring fluoride, arsenic and uranium in the Pioneertown wells currently require quarterly notifications be sent to residents. In 2012, the Health and Human Services Agency/California Department of Public Health provided a design grant project for CSA 70 W-4 to address design needs for remediation of water quality issues. Under the design grant, a number of long-term solutions to resolve the CSA 70 W-4 contamination issues were considered and evaluated for feasibility. The County determined that the most cost effective, feasible and sustainable solution would be a water exchange agreement between CSA 70 W-4 and a neighboring water agency – the Hi-Desert Water District.

CSA 70 W-4 completed a preliminary design (Webb & Associates) for construction of the interconnect pipeline and required booster stations on February 4, 2016, with a preliminary construction estimate of $5 million. The County submitted a $5 million grant application and was advised that about $3 million is eligible for funding. Should that funding be received, that leaves about $2 million to be financed possibly by the federal or state government. However, such financing would have to be repaid by the Pioneertown customers – roughly 120 service connections.

Following the EPA's issuance of the March 2016 Notice of Violation (referenced above), the EPA issued a Consent Order in July 2016 to the San Bernardino Special Districts

Department which includes specific actions and timeframes to bring the Pioneertown public water system into compliance with the requirements of the federal Safe Drinking Water Act and its National Primary Drinking Water Regulations. Key components of the Consent Order and their current status are listed below:

Table 6-3:
CSA 70 W-4 Compliance Plan

Compliance Plan Milestones	Status as of March 2017
Award of State Water Resources Control Board Contract and approval of grant funding by November 30, 2017	On September 1, 2015, County approved Resolution for grant submission to SWRCB; CSA 70 W-4 is considering additional avenues of funding to reduce costs that would be assumed by customers. CSA 70 W-4 Special Districts Department anticipates having a funding agreement in place by May 30, 2017.
Acquisition of the Wildlands Conservancy property by November 30, 2017	A section of Wildlands Conservancy property along the proposed pipeline course is needed by CSA 70 W- 4 to establish an upper booster pump station. On February 22, 2017, the EPA granted an extension to the County to acquire the Wildlands Conservancy property until April 18, 2017. County Real Estate Services is currently negotiating a purchase agreement with the Wildlands Conservancy and believes that the revised agreement will be approved by the Board of Supervisors on April 18, 2017.
Finalize Water Exchange Agreement between the County and Hi-Desert Water District by November 30, 2017	The Interconnect Pipeline Project requires establishing a water exchange agreement with the Hi-Desert Water District ("HDWD"). On February 22, 2016, the EPA granted an extension to the County to finalize the agreement until April 18, 2017. The County is currently completing final construction documents. Once finalized, the agreement must be approved by both HDWD and the County which is anticipated by April 18, 2017.
Project completion by June 30, 2019	The County indicates that the project completion date of June 30, 2019 is feasible.

The CSA 70 W-4 system is currently within the sphere of influence of the Hi-Desert Water District, which is party to the proposed water exchange. Although there is no LAFCO solution for this circumstance at this time, the CSA 70 W-4 system is classified as a small water system, and is eligible for SB 88 grant funds. This would require consolidation with an adjacent system – the Hi-Desert Water District. Further, the system is also under consideration by the State Water Board for potential Small Water System (SB 88) consolidation with the Hi-Desert Water District.

Staff Recommendation
Based upon new information received since the previous service review and the hot spot substantiation above, staff recommends that the Commission update the previous service review determinations for CSA 70 Zone W-4 to include:

- ***a.*** *The information described above.*
- ***b.*** *Population and disadvantaged unincorporated communities as described in Appendix E-1.*
- ***c.*** *Information from the Agency's Profile Sheet in Appendix E-2.*

E. REMAINING AGENCIES UNDER LAFCO PURVIEW – STAFF RECOMMENDATIONS

The following agencies under LAFCO purview were not identified as a hot spot.

Bighorn-Desert View Water Agency
City of Needles
Hi-Desert Water District
Joshua Basin Water District
Mojave Water Agency (wholesale)
Twentynine Palms Water District

Recommendation for Remaining Agencies under LAFCO Purview

Based upon new information received since the previous service review, staff recommends that the Commission update the previous service review determinations for the agencies listed above to include:

- ***a.*** *Population and disadvantaged unincorporated communities as described in Appendix E-1.*
- ***b.*** *Regional and wholesale information from Appendix E-1.*
- ***c.*** *Information from the Agency's Profile Sheet in Appendix E-2.*

APPENDIX A

Comments from Water Purveyors with LAFCO Staff Responses

APPENDIX E
South Desert Service Review Update

E-1. Regional Update

E-2. City and District Updates

APPENDIX E-1
Service Review Update – Regional Services and Structure
South Desert Region

OVERVIEW

As stated in the Introduction to this report, the primary goal of this service review is to provide the Commission with recommendations to: (1) update the determinations from previous service reviews, and (2) initiate sphere of influence updates where appropriate. In order to fulfill the service review requirements of Government Code §56430, a review of the items, listed below, are included in this Appendix as they pertain to the South Desert Region.

A. Population
B. Disadvantaged Communities
   (1) Primer
   (2) Identification and Characteristics
C. Groundwater Basins
   (1) Basin Prioritization by the State
   (2) Warren Basin Adjudication and Ames Valley Basin Agreement
   (3) Sustainable Groundwater Management Act of 2014
D. Mojave Water Agency Improvement District M Wholesale Area
   (1) Supply and Demand
   (2) Recycled Water
   (3) Water Infrastructure/Planned Improvements
E. Communities without Access to Wholesale Water
   (1) Morongo Valley
   (2) Twentynine Palms
   (3) Needles
F. Additional Area of Interest – Cadiz Inc.

Additional information related to each public agency under LAFCO purview as well as the large private retail systems is included in Appendix E-2. A detailed listing of community water systems[1], wholesale entities, and joint powers authorities is included as a part of Appendix F.

The South Desert Region, with approximately 8,093 square miles, is the second largest region geographically in San Bernardino County. The region generally includes:

- The area of Mojave Water Agency Improvement District M – this wholesale area includes the communities of Homestead Valley (Bighorn-Desert View Water Agency), Yucca Valley (Hi-Desert Water Agency and CSA 70 Zone W-4), and Joshua Tree (Joshua Basin Water District).

[1] A community water system is defined as a public water system which serves at least 15 year-round service connections or regularly serves at least 25 year-long residents.

- Morongo Valley – west of MWA Improvement District M, includes two zones to County Service Area 70 (F and W-3), two systems of Golden State Water Company (del Norte and del Sur)
- Twentynine Palms – east of MWA Improvement District M (Twentynine Palms Water District)
- River Communities – includes the communities of Needles (City of Needles) and Havasu Lake (Havasu Lake Water Company)

A. POPULATION

Population projections for the South Desert Region, are provided in Table E-1. Overall population for the region is expected to grow by approximately 37 percent by 2040, which equates to an annual growth rate of approximately 1.3 percent.

Table E-1:
Current and Projected Population Estimates – South Desert Region

Agency	2015	2020	2025	2030	2035	2040
MWA Improvement District M	**39,291**	**41,314**	**43,931**	**46,823**	**49,674**	**52,234**
Bighorn-Desert View Water	4,116	4,554	5,135	5,794	6,463	7,082
Hi-Desert Water District	24,520	25,548	26,911	28,435	29,939	31,276
Joshua Basin Water District	9,830	10,287	10,860	11,469	12,047	12,551
Remaining Areas	825	925	1,025	1,125	1,225	1,325
Morongo Valley	**3,602**	**3,662**	**3,897**	**4,146**	**4,412**	**4,695**
Twentynine Palms Water District [1]	**18,165**	**18,659**	**20,528**	**22,790**	**25,096**	**27,400**
City of Needles	**4,976**	**5,600**	**6,000**	**6,400**	**6,800**	**7,000**
Remaining Areas	**11,044**	**11,596**	**12,176**	**12,785**	**13,424**	**14,095**
South Desert Region Total	**77,078**	**80,831**	**86,532**	**92,944**	**99,406**	**105,424**

[1] Revised by LAFCO. See Tables E-8 and E-9.

Sources: Morongo Valley Service Review (November 2012); MWA UWMP (2015); Twentynine Palms Water District UWMP (2015) with LAFCO revision; SCAG 2016 RTP (Needles); ESRI estimate for 2015 (South Desert Region)

Figure E-1 compares population density between 2012 and 2040[2] (there are two sets of data: Morongo Basin and Needles). As the Mojave water Agency ("MWA") 2015 Urban Water Management Plan ("UWMP") states, the MWA service area, in terms of housing prices, is even more affordable than other parts of San Bernardino County, and it is expected that these dynamics will help drive population growth. However, as the figure below illustrates, the relative density of the populated areas is not projected to increase significantly by year 2040 given the availability of developable land, remote nature of the desert communities removed from passthorugh traffic, and the local economic structure. Based on this data, LAFCO staff concludes that the availability of affordable housing will not result in significant increased density; rather, additional population growth will expand to available land at the periphery of the currently developed areas.

[2] The data source is transportation analysis zones from SCAG's 2040 Regional Transportation Plan. For this map, non-developable areas include lands in the name of: United States of America, Government Land, State of California, and County of San Bernardino, as identified by the County Assessor.