

WATERMASTER SERVICE

IN THE WEST COAST BASIN - LOS ANGELES COUNTY

July 1, 2016 - June 30, 2017

November 2017



WEST COAST BASIN WATERMASTER

**WEST COAST BASIN
WATER RIGHTS PANEL**

Prepared by the Administrative Body



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WATER RIGHTS PANEL**



Prepared by

Water Replenishment District of Southern California

West Coast Basin Administrative Body

for the

West Coast Basin Watermaster Water Rights Panel

Adopted on

November 7, 2017

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Summary of Pertinent Data

Item	Administrative Year	Administrative Year
	2015 - 2016	2016 - 2017
Parties to judgment	60	60
Active pumpers	24	21
Active nonparties	0	0
Adjudicated Rights (acre-feet)	64,468.25	64,468.25
Rainfall (inches)	7.71	18.27
Injection at barrier projects (acre-feet)	20,991	20,842
Watermaster expenses, total	\$172,896 ¹	\$172,896
Watermaster expenses, per Adjudicated Rights	\$2.68 ¹	\$2.68
Adjudicated Rights Extractions (acre-feet) ²	31,635	26,805
Recycled water use by parties (acre-feet)	21,326	23,317
Imported water use by parties (acre-feet)	136,975	139,075
Exported water use by parties (acre-feet)	0	0
Total water use by parties (acre-feet)	189,936	189,197

¹ Budget reduction for 2015-2016 due to implementation of the new Watermaster structure under the terms of the 2014 amendment to the West Coast Basin Judgment.

² Excludes extractions by parties with non-consumptive water use permits and by non-parties.

Introduction

The West Coast Basin (Basin) underlies 160 square miles in the southwestern part of the coastal plain of Los Angeles County. Figure 1 shows the location and adjudicated boundaries of the West Coast Basin. The Basin is bounded on the west by the Santa Monica Bay, on the north by the Ballona Escarpment, on the east by the Newport-Inglewood Uplift, and on the south by the San Pedro Bay and the Palos Verdes Hills. Twenty incorporated cities and several unincorporated areas overlie the Basin. An essential portion of the water needed by the residents and industries in the area overlying the Basin is pumped directly from the groundwater in storage. In 1945, when intrusion of seawater caused by declining water levels threatened the quality of the groundwater supply, legal action was initiated to halt the overdraft and prevent further damage to the Basin. In 1955, the Superior Court of Los Angeles County (Court) appointed the Division of Water Resources as the Watermaster to administer an Interim Agreement, and in 1961, the Court retained the Department of Water Resources (DWR) as the Watermaster of the final West Coast Basin Judgment (Judgment).

On December 5, 2014, the West Coast Basin Judgment was amended (Amended Judgment). The Amended Judgement established a new Watermaster structure, which replaces the DWR. The new Watermaster structure includes an Administrative Body, a Water Rights Panel, and a Storage Panel. The Administrative Body administers the Watermaster accounting and reporting functions. The Water Replenishment District of Southern California (WRD) was appointed by the court to fulfill this role. The Water Rights Panel enforces issues related to the pumping rights within the adjudications and is composed of five West Coast Basin adjudicated rights holders. In addition, the Storage Panel is comprised of the Water Rights Panel and the WRD Board of Directors, which together approve certain groundwater storage efforts.

The Watermaster assists the Court in the administration and enforcement of the provisions of the Judgment. Among other duties, the Watermaster monitors groundwater levels and extractions and reports significant water-related events.

The 2016-2017 Watermaster Report is developed by the Administrative Body and adopted by the Water Rights Panel. This report summarizes information on groundwater extractions, storage accounts, use of imported water and recycled water. Replenishment operations and the budget and finances of Watermaster during the 2016-2017 administrative year.

Water Use

A. Adjudicated Extractions by Parties

The Judgment limits the amount of groundwater each party may extract annually from the Basin. This limit, referred to as the “adjudicated right” is shown in Table 1 for each party. A participant of the Exchange Pool, which provides the opportunity to purchase additional water rights if a party’s water requirement exceeds water supplies, may pump the amount released to it in addition to its adjudicated right. Parties are required to report water extractions to the Administrative Body each month. Appendix A lists, by party, the volume of groundwater extracted each month from each active well in the Basin. Figure 1 describes the variation of groundwater production by three distinct production classifications, including less than 500 acre-feet per year (afy), 500 to 2,000 afy, and more than 2,000 afy, during 2016-2017. In addition, Figure 2 describes the amount of pumping by month (including non-consumptive use) for 2016-2017.

To provide flexibility in regards to groundwater extractions, the Judgment contains provisions, such as “Carryover,” which allows each party to carry over into the succeeding administrative year its unused adjudicated rights. However, the amount of available carryover is reduced by the amount of Stored Water held by the party. Yet, such reduction will not cause the amount of carryover to be less than 20% of a party’s total adjudicated rights. This type of provision is necessary to meet unforeseen water demands.

B. Groundwater Storage Activity by Parties

The Amended Judgment permits parties holding water rights to store water in the West Coast Basin for later recovery. During 2016-2017, 4,766 acre-feet of water was put into storage and none was extracted or transferred. All of this water was put into storage pursuant to Section V.4.B of Judgment, which allows parties to convert carryover to storage upon payment of the Replenishment Assessment to WRD. Tables 2 through 5 provide information on water placed into storage, extracted from storage and transferred storage. Furthermore, Table 6 describes historic storage since 2014. The Judgment provides for the transfer of stored water between parties. There were no transfers of stored water during the 2016-2017 administrative year.

C. Excess Production

The Judgment provides for overextractions under certain conditions. A party may over extract by no more than two acre-feet or 10% of a Party’s adjudicated right, whichever is greater. When a party overextracts in violation of the Judgment, Watermaster notifies the party to resolve the overextraction issue. Under certain circumstances, a party may overextract in a greater amount; however, prior approval must be obtained from the Watermaster – Water Rights Panel. The Excess Production must be made up in the following administrative year unless the Court determines this requirement would create an unreasonable hardship for the party.

Table 7 lists the names of parties that have over extracted groundwater during the year and shows the amount of overextraction by each party. During 2016-2017, three parties had a combined excess production of 160.18 acre-feet.

D. Extractions of Contaminated Groundwater

Any party may petition the WRD for a Non-consumptive Water Use Permit (NCWUP) as part of a project to remedy or ameliorate groundwater contamination. If the petition is granted, the party may extract the groundwater without the production counting against its production rights, so long as conditions of the Judgement are met. Table 8 lists current NCWUPs issued by WRD and the amounts of groundwater extracted under those permits. A total of 567.10 acre-feet of water was extracted under NCWUPs in 2016-2017.

E. Extractions by Non-Parties

Table 9 shows extractions by non-parties, if any, and Appendix A reports these extractions by well and month. In the 2016-2017 Administrative Year there were no extractions by non-parties reported.

F. Adjudicated Rights Transfers

Each year, Adjudicated Rights are transferred between parties through sales and leases. Appendix B shows the succession of Adjudicated Rights in the West Coast Basin as of June 30, 2017.

Table 10 shows transfers of Adjudicated Rights through leases. During 2016-2017 there were six leases that totaled 4,136.50 acre-feet. In addition, Table 11 shows transfers of Adjudicated Rights through sales. There was one sale totaling 11.80 acre-feet during 2016-2017. Each party's adjudicated right, as of June 30, 2017, is also listed in Table 1.

When land is sold on which a water right has been developed, the Watermaster must receive a copy of the sale document if the water right is also sold. The water right does not automatically pass to the new land owner unless the sale document specifies that the water right was sold with the land. For the proper accounting of the water right, the sale document must specify the exact amount of water rights sold.

In transferring water rights, parties must specify (1) the type of right (i.e., adjudicated rights, normal carryover, or drought carryover), (2) the amount of right to the nearest 0.01 acre-foot, and (3) the period of the lease, if applicable. Moreover, all leases must be made on an administrative year basis and must be executed by the parties and received by Watermaster Administrative Body by August 15 of the year in which the lease is effective.

G. Exchange Pool

The Judgment authorizes an Exchange Pool to provide additional water rights to parties without sufficient water. If a party's estimated water requirement for the following fiscal year exceeds its

total available water supply, that party may purchase additional water from the Exchange Pool. There were no requests for Exchange Pool water during 2016-2017 Administrative Year (Table 12).

H. Status of Extraction Wells

In the Basin there are 60 reported active extraction wells as of June 30, 2017. The locations of the active extraction wells are shown on Figure 1 by three distinct production classifications. Table 13 shows one new completed extraction well in the 2016-2017 Administrative Year. Table 14 shows that no extraction wells were reported as destroyed.

I. Meter Testing Program

Accurate measurement of groundwater extractions is essential for the successful management of groundwater in the Basin. Therefore, Watermaster requires an operative water meter to be installed at each extraction well. It is the responsibility of each party to ensure that its meter and test facilities are installed properly and are maintained in good working condition. It is the goal of Watermaster to test the water meter at each active extraction well at least once every two years or when a party requests a meter calibration. Watermaster tests meters by volumetric or pitot tube comparisons. Watermaster notifies a party that it must repair or replace its meter when the meter registers beyond five percent accuracy. Watermaster calculates the monthly water production for each well using the meter readings and Unit of Measure Code reported for the well that month. If the registration accuracy of the meter deviates by as much as five percent, the calculated well production could be subject to revision.

The West Coast Basin Water Rights Panel is responsible for the meter testing program. For the 2016-2017 Administrative Year, they report that no meters were tested, but are in discussions with the DWR to perform future testing.

Water Supply

A. Precipitation

During 2016-2017, 16.33 inches of precipitation were measured at Los Angeles International Airport, 19.98 inches at Long Beach Airport, and 18.49 inches at Torrance Airport. Figure 3 shows the location of the precipitation stations and other key facilities. The mean precipitation over the West Coast Basin was 18.27 inches, which is 145% of the long-term mean of 12.63 inches (Figure 4).

B. Groundwater Recharge

Replenishment in the West Coast Basin occurs primarily by underflow from the Central Basin, which bounds the West Coast Basin on the east, and injection of imported and recycled water into the West Coast and Dominguez Gap Seawater intrusion barriers located along the coast. Natural recharge also occurs from precipitation infiltration.

Water spread in the Central Basin percolates into the aquifers there and eventually some groundwater crosses the Newport-Inglewood Uplift to replenish the groundwater in the West Coast Basin. Although the recharge water is not directly applied to the West Coast Basin, this recharge process returns large quantities of water to the Basin by substantially increasing the natural subsurface flow from the Central Basin to the West Coast Basin. During 2016-2017, Los Angeles County Department of Public Works (LACDPW) spread 32,693 acre-feet of water in the Montebello Forebay. Table 15 identifies the sources and shows the amounts of replenishment water spread in the Central Basin.

Water injected in the sea water intrusion barrier projects also contributes greatly to the replenishment of the West Coast Basin (see Section I, Sea Water Intrusion Barrier Projects).

C. In-Lieu Replenishment

During the 1965-1966 water year, WRD, in cooperation with the Metropolitan Water District of Southern California (MWD), began an in-lieu replenishment program. WRD may contract with any producer having access to supplemental water that could be used in lieu of extracting groundwater from the Basin. However, in recent years, MWD discontinued the availability of its supplemental replenishment water, thereby making the In-Lieu Program economically unfeasible in the West Coast Basin. As a result, the In-Lieu Replenishment Program is suspended indefinitely and no in-lieu recharge occurred in 2016-2017 (Table 16).

D. Imported Water

For the area overlying the West Coast Basin, imported water has been the largest component of supply since the mid-1950s. Table 17 shows sources, users, and quantities of imported water. During

2016-2017, 12 parties and 1 non-party (California-American Water Company) imported a total of 139,075 acre-feet of water.

E. Quality of Imported Water

The table below summarizes MWD's imported water quality for injection, spreading, and potable use. In 2016-2017, only State Water Project water was used for spreading, while injection and potable demands were met with a blend of Colorado River and State Water Project Water.

Constituent	Colorado River Water ¹ (mg/L)	State Water Project Water ² (mg/L)
Chloride	98	93
Sulfate	251	80
Hardness (as CaCO ₃)	291	129
Total Dissolved Solids	638	368

F. Recycled Water

Table 18 shows that 23,317 acre-feet of recycled water was used in the area overlying the Basin during 2016-2017. This amount does not include the recycled water used to replenish groundwater in the Basin.

G. Total Water Use

Figure 5 shows the total water use in the Basin during 2016-2017, including extracted groundwater, imported water for direct use, and recycled water for direct use.

H. Exported Water

No groundwater was exported from the Basin. California Water Service Company exported purchased imported water from the Basin to portions of its service area in the Palos Verdes Hills.

I. Seawater Intrusion Barrier Projects

The LACDPW operates two barrier projects, the West Coast Basin Barrier and the Dominguez Gap Barrier, within the West Coast Basin. Table 19 shows the quantities of imported and recycled water

¹ At Lake Mathews - from 2016 MWD Annual Water Quality Report

² At Castaic Lake - from 2016 MWD Annual Water Quality Report

injected into the two barrier wells. In 2016-2017, 20,842 acre-feet of water was injected into these two barrier systems.

J. Groundwater Levels

Figure 6 shows the location and water level elevations in the key wells located in the West Coast Basin.

Watermaster Administration Costs and Budget

To fund Watermaster activities, both the Administrative Body and the Water Rights Panel have annual assessments that are levied on water rights holders under the terms of the Judgment. The Administrative Body charges a flat fee of twenty dollars (\$20) per rights holder. The remaining amount of the Administrative Body budget is charged to rights holders based upon their proportional ownership of total adjudicated rights. The separate Water Rights Panel assessment is charged to all water rights holders at a rate of one dollar (\$1.00) per acre-foot.

The Watermaster budget for 2016-2017 is \$172,896.06. This amount is composed of the Water Rights Panel budget of \$64,468.25 and the Administrative Body budget of \$108,427.81. A summary of the 2016-2017 budget is provided in Table 20.

Table 2 - Storage Accounting

Party	Carryover from 2015-2016				2016-2017 Storage Activity						Carryover to 2017-2018			
	Transfers		Water put into Storage		Water Extracted From Storage		Balance		ISA	CSP	Total	ISA	CSP	
	ISA ¹	CSP ²	ISA	CSP	ISA	CSP	ISA	CSP						
Torrance, City of	2,255.54	1,917.16	-	-	1,466.00	-	2,255.54	3,383.16	5,638.70	2,255.54	3,383.16	5,638.70		
Golden State Water Company	0.00	0.00	-	-	3,000.90	299.10	3,000.90	299.10	3,300.00	3,000.90	299.10	3,300.00		
West Coast Basin Total	2,255.54	1,917.16	0.00	0.00	3,000.90	1,765.10	0.00	0.00	5,256.44	3,682.26	8,938.70	5,256.44	3,682.26	8,938.70

¹ Individual Storage Account.
² Community Storage Pool.

Table 7 - Overextractions

Party	Adjudicated Rights	Allowable Extraction	Amount Pumped	Overextraction¹	Allowable Overextraction²
Hillside Memorial Park	104.10	68.12	84.49	16.37 ³	10.41
Pacific Crest Cemetery	39.40	-57.81	83.79	141.60 ³	3.94
Vulkelich, Mike Jr.	10.00	36.63	38.84	2.21 ³	1.00
Total:	153.50	46.94	207.12	160.18	15.35

Table 8 - Non-Consumptive Water Use Permits

Party	Issued	Expires	2016-2017 Extraction (acre-feet)
Montrose Chemical Corporation	November 7, 2012	October 31, 2062	0.66
Brewer Desalter	July 22, 1992		390.55
Shell Oil	December 28, 2011	June 30, 2017	175.89
Total			567.10

Table 9. Extractions by Non-Parties

Non-party	Amount Pumped (acre-feet)
There were no extractions by non-parties in 2016-17	
Total	0.00

¹ Overextraction = Allowable Extraction - Amount Pumped.² Judgment allows overextractions computed as 2 acre-feet or 10 percent of Adjudicated Rights, whichever is greater.³ Violation of Judgment.

Table 10 - Adjudicated Rights Transfers (acre-feet)

Party	Transaction Type	Amount	Recordation Date	Party	Net Amount
California Water Service Co./Hawthorne Lease	Lease with flex	1,882.00	2/1/13	FROM Hawthorne, City of	1,882.00
Chevron USA Inc.	Lease with flex	950.00	10/15/15	TO Manhattan Beach, City of	-950.00
Hawthorne, City of	Lease with flex	1,882.00	2/1/13	TO California Water Service Co./Hawthorne Lease	-1,882.00
Lomita, City of	Lease with flex	250.00	5/16/17	TO Roman Catholic Archbishop of Los Angeles	-250.00
Manhattan Beach, City of	Lease with flex	950.00	10/15/15	FROM Chevron USA Inc.	950.00
Rolling Hills Country Club	Lease with flex	25.00	3/1/17	TO Vukelich, Mike Jr.	-35.00
Rolling Hills Country Club	Lease with flex	10.00	6/15/17	TO Vukelich, Mike Jr.	
Roman Catholic Archbishop of Los Angeles	Lease with flex	250.00	5/16/17	FROM Lomita, City of	250.00
Shell Oil Company	Lease with flex	1,019.50	5/25/12	TO Tesoro Refining & Marketing Company	-1,019.50
Tesoro Refining & Marketing Company	Lease with flex	1,019.50	5/25/12	FROM Shell Oil Company	1,019.50
Vukelich, Mike Jr.	Lease with flex	25.00	3/1/17	FROM Rolling Hills Country Club	35.00
Vukelich, Mike Jr.	Lease with flex	10.00	6/15/17	FROM Rolling Hills Country Club	
Total Leased Volume					4,136.50

Table 11 - Sales and Transfers 2016-2017 (acre-feet)

Party	Transaction Type	Amount	Recordation Date	Party	Net Amount
Aqua Capital Management LP	Sale	11.80	8/16/16	TO	Hillside Memorial Park -11.80
Hillside Memorial Park	Sale	11.80	8/16/16	FROM	Aqua Capital Management LP 11.80
Total Sales Volume					11.80

Table 12 - Exchange Pool (2016-2017)

Party	Adjudicated Rights	Required Offer	Actual Offer	Amount Sold	Payment due Exchanger
There were no requests for the Exchange Pool					

Table 13 - Extraction Wells Completed (2016-2017)

Party	Recordation No.	State Well No.	Owner Designation
Golden State Water Co.	1930097	3S/14W25P065	DA002

Table 14 - Extraction Wells Destroyed (2016-2017)

Party	Recordation No.	State Well No.	Owner Designation
There were no wells reported destroyed in 2016 - 2017			

Table 15 - Replenishment Operations

Water spread in the Montebello Forebay area of the Central Basin provides subsurface recharge to the West Coast Basin.

Source of Water	Quantity (acre-feet)	
	2015 - 2016	2016-2017
Local Runoff	11,374	57,188
Recycled water:		
Whittier Narrows Water Reclamation Plant	5,864	7,100
San Jose Water Reclamation Plant	46,782	51,571
Pomona Water Reclamation Plant	3,244	2,932
MWD untreated Tier 1 water purchased by WRD	23,961	32,693
Make-up water from Upper San Gabriel Basin	0	0
Total	91,225	151,484

Table 16 - Water Replenishment District In-Lieu Recharge (2016-2017)

Party	In-Lieu Amount (acre-feet)
There was no in-lieu recharge in FY 2016-17	
Total	0.00

Table 17 - Imported Water Use

Source of Water	Party	Quantity (acre-feet)	
		2015 - 2016	2016-2017
Colorado River and State Water Project	Long Beach, City of	17,860	19,324
Colorado River and State Water Project	West Coast Basin Municipal Water District:		
	California American Water Company	415	428
	California Water Service Company ¹	9,168	9,280
	California Water Service Company (Dominguez)	23,489	23,049
	California Water Service Company (Hawthorne Lease)	2,401	2,678
	El Segundo, City of	7,854	6,901
	Golden State Water Company	20,489	18,920
	Inglewood, City of	6,693	6,293
	Lomita, City of	1,374	1,549
	Manhattan Beach, City of	3,458	4,317
	West Basin MWD Subtotal	75,341	73,415
		13,668	
Colorado River and State Water Project	Torrance, City of		16,380
Owens River-Mono Basin, Colorado River, and State Water Project	Los Angeles, City of	27,804	27,605
Central Basin Groundwater	California-American Water Company	2,300	2,351
Total Imported Water		136,973	139,075

¹ Excludes 16,515.40 acre-feet of imported water that was exported to Palos Verdes.

Table 18 - Recycled Water Use

Source of Water	Party	Quantity (acre-feet)	
		2015-2016	2016-2017
West Basin Municipal Water District:	California Water Service Company	156	148
	California Water Service Company (Hawthorne Lease)	104	94
	California Water Service Company (Dominguez)	5,803	6,169
	El Segundo, City of	8,927	9,581
	Golden State Water Company	405	364
	Inglewood, City of	765	834
	Los Angeles, City of	874	825
	Manhattan Beach, City of	280	265
	Torrance, City of	4,012	5,037
Total Recycled Water		21,326	23,317

Table 19 - Seawater Intrusion Barrier Project Operations

Provisional data provided by the Los Angeles County Department of Public Works.

Barrier Project	Quantity (acre-feet)	
	2015-2016	2016-2017
West Coast Basin Barrier		
Imported water injection	1,080	3,861
Recycled water injection	13,410	13,006
Dominguez Gap Barrier		
Imported water injection	2,912	2,574
Recycled water injection	3,589	1,401
Total	20,991	20,842

Table 20 - Apportionment of Budget Among Parties (2016-2017)

Party	Adjudicated Rights	Water Rights Panel	Administrative Body	Total Amount Billed
ABC Nursery Inc.	24.10	\$24.10	\$60.11	\$84.21
Honeywell International Inc.	22.50	\$22.50	\$57.44	\$79.94
Aqua Capital Management LP	11.80	\$11.80	\$39.64	\$51.44
Asahi Fancy Koi Inc.	2.00	\$2.00	\$23.33	\$25.33
Automation Industries Inc.	0.70	\$0.70	\$21.16	\$21.86
CBS Inc.	9.50	\$9.50	\$35.81	\$45.31
California Water Service Company - Hermosa / Redondo	4,070.00	\$4,070.00	\$6,793.28	\$10,863.28
California Water Service Company - Dominquez	10,417.45	\$10,417.45	\$17,356.67	\$27,774.12
Carson Harbor Village Mobile Home Park	7.00	\$7.00	\$31.65	\$38.65
Carson-Madrona Company #3 Del Amo	104.00	\$104.00	\$193.08	\$297.08
Century Builders	4.70	\$4.70	\$27.82	\$32.52
Chandler Palos Verdes Sand & Gravel Company	4.20	\$4.20	\$26.99	\$31.19
Chevron U.S.A. Inc.	4,601.30	\$4,601.30	\$7,677.46	\$12,278.76
Coastline Church of Christ	0.70	\$0.70	\$21.16	\$21.86
Phillips 66 Company	6,170.00	\$6,170.00	\$10,288.09	\$16,458.09
Curtis, Owen	0.36	\$0.36	\$20.60	\$20.96
Estate of Golda Delaney	4.10	\$4.10	\$26.82	\$30.92
El Segundo, City of	953.00	\$953.00	\$1,605.98	\$2,558.98
Susan Engelsma Trust	12.10	\$12.10	\$40.14	\$52.24
Evergreen America Corporation	5.40	\$5.40	\$28.99	\$34.39
Fujimoto, S.R. & S.T. & J.K.	20.00	\$20.00	\$53.28	\$73.28
Gillingham, Florence R., et al	2.40	\$2.40	\$23.99	\$26.39
Golden State Water Company	7,502.24	\$7,502.24	\$12,505.19	\$20,007.43
Hawthorne, City of (California Water Service Co.)	1,882.00	\$1,882.00	\$3,152.02	\$5,034.02
Hillside Memorial Park	92.30	\$92.30	\$173.61	\$265.91
Hollywood Park Land Company, LLC	282.00	\$282.00	\$489.30	\$771.30
Honold, Kristin Brandsma	11.80	\$11.80	\$39.64	\$51.44
Inglewood, City of	4,449.89	\$4,449.89	\$7,425.49	\$11,875.38
Kinder Morgan Liquids Terminals, LLC	167.00	\$167.00	\$297.92	\$464.92
Estate of Emma L. Leuzinger	1.40	\$1.40	\$22.33	\$23.73
Long Beach, City of	0.70	\$0.70	\$21.16	\$21.86
Frank Lopes	3.70	\$3.70	\$26.16	\$29.86
Los Angeles Department of Water and Power, City of	1,503.00	\$1,503.00	\$2,521.29	\$4,024.29
Los Angeles County Recreation Facilities	363.70	\$363.70	\$625.27	\$988.97
Los Angeles County Sanitation District No. 2	102.00	\$102.00	\$189.75	\$291.75

Table 20 - Apportionment of Budget Among Parties (Continued)

Party	Adjudicated Rights	Water Rights Panel	Administrative Body	Total Amount Billed
Lomita Water System, City of	1,352.00	\$1,352.00	\$2,269.99	\$3,621.99
Loyola Marymount University	48.10	\$48.10	\$100.05	\$148.15
Manhattan Beach, City of	1,131.20	\$1,131.20	\$1,902.54	\$3,033.74
McDonnell Douglas Corporation	1.70	\$1.70	\$22.83	\$24.53
Exxon Mobil Oil Corporation	2,596.40	\$2,596.40	\$4,340.92	\$6,937.32
Montrose Chemical Corporation of California	1.20	\$1.20	\$22.00	\$23.20
Roy H. and Kenji Mori	3.60	\$3.60	\$25.99	\$29.59
Northrop Corporation	38.15	\$38.15	\$83.49	\$121.64
Nozaki, Sumikichi	7.00	\$7.00	\$31.65	\$38.65
Pacific Crest Cemetery Company	39.40	\$39.40	\$85.57	\$124.97
Josephine P. Rehor	2.20	\$2.20	\$23.66	\$25.86
Eco Services Operations LLC	521.00	\$521.00	\$887.05	\$1,408.05
Rolling Hills Country Club	290.00	\$290.00	\$502.62	\$792.62
Roman Catholic Archbishop of Los Angeles	72.30	\$72.30	\$140.32	\$212.62
Shell Oil Company	1,019.50	\$1,019.50	\$1,716.65	\$2,736.15
Southern California Edison Company	57.10	\$57.10	\$115.03	\$172.13
Tesoro Refining & Marketing Company LLC	8,741.00	\$8,741.00	\$14,566.73	\$23,307.73
Torrance, City of	5,638.86	\$5,638.86	\$9,404.17	\$15,043.03
Vukelich, Mike, Jr.	10.00	\$10.00	\$36.64	\$46.64
Watson Land Company	80.20	\$80.20	\$153.47	\$233.67
Watt Industrial Properties	0.10	\$0.10	\$20.17	\$20.27
Wiseburn School District	8.20	\$8.20	\$33.65	\$41.85
Total	64,468.25	\$64,468.25	\$108,427.81	\$172,896.06

Figure 1 - West Coast Basin
(showing groundwater production and key wells)

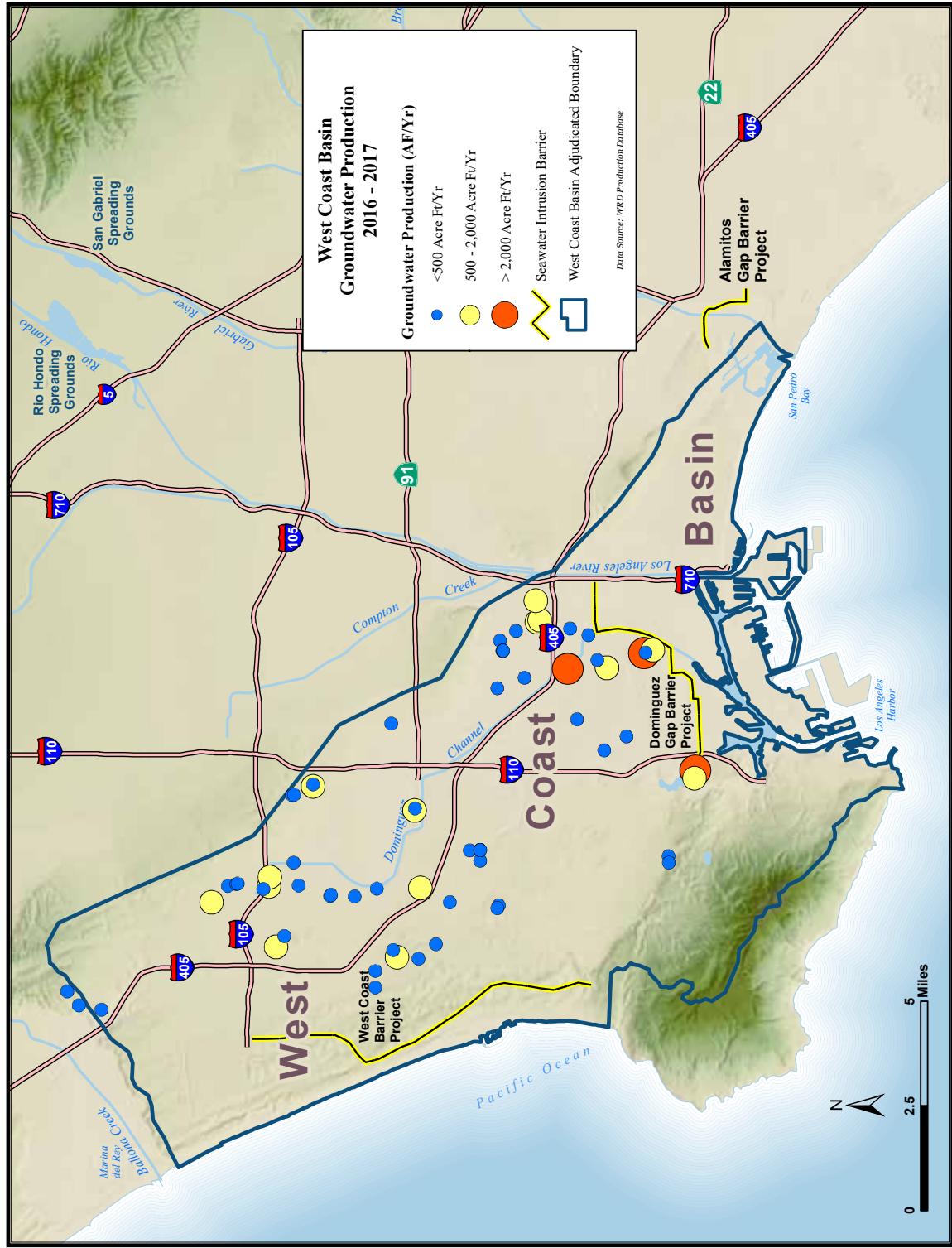
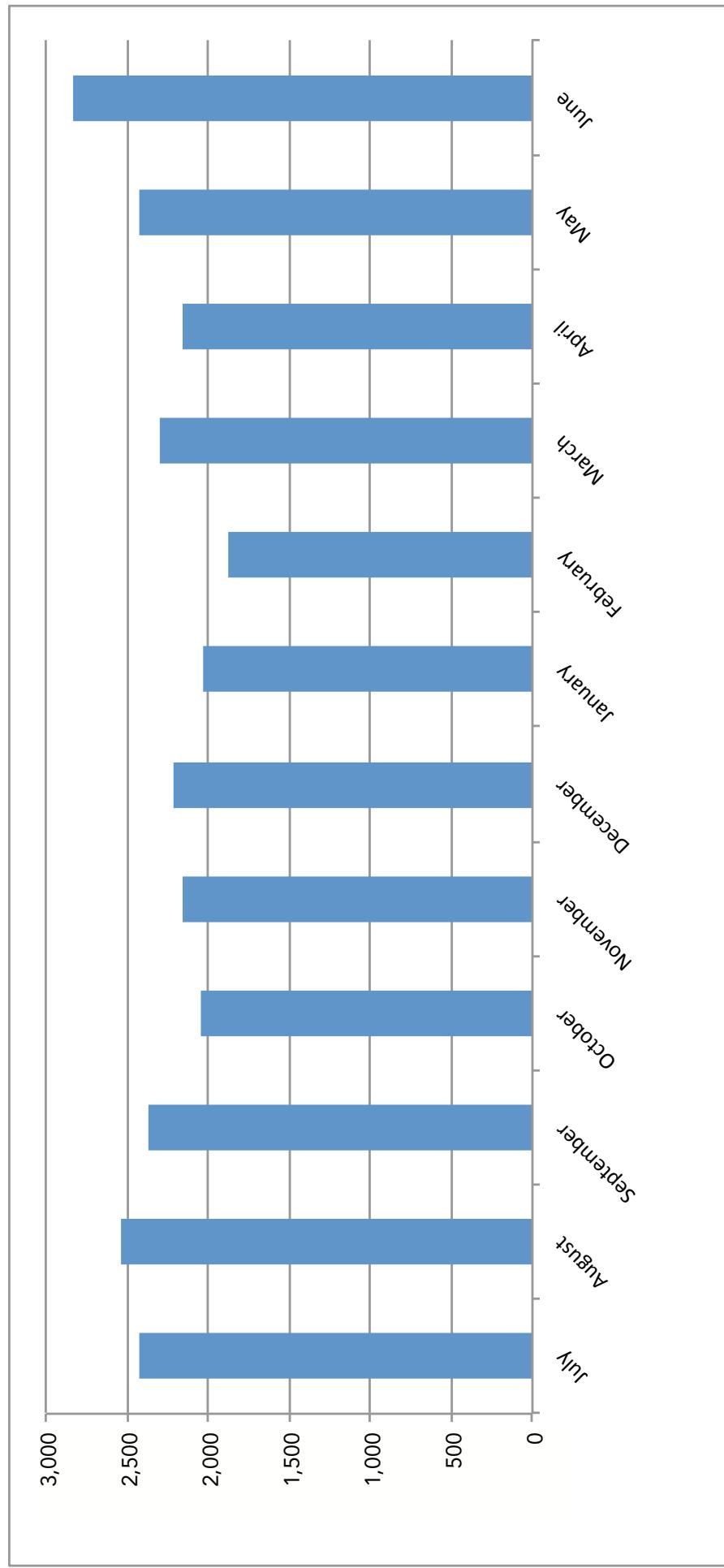


Figure 2 - Monthly Water Production (2016-2017)
(includes non-consumptive use)



**Figure 3 - West Coast Basin
(showing key wells and facilities)**



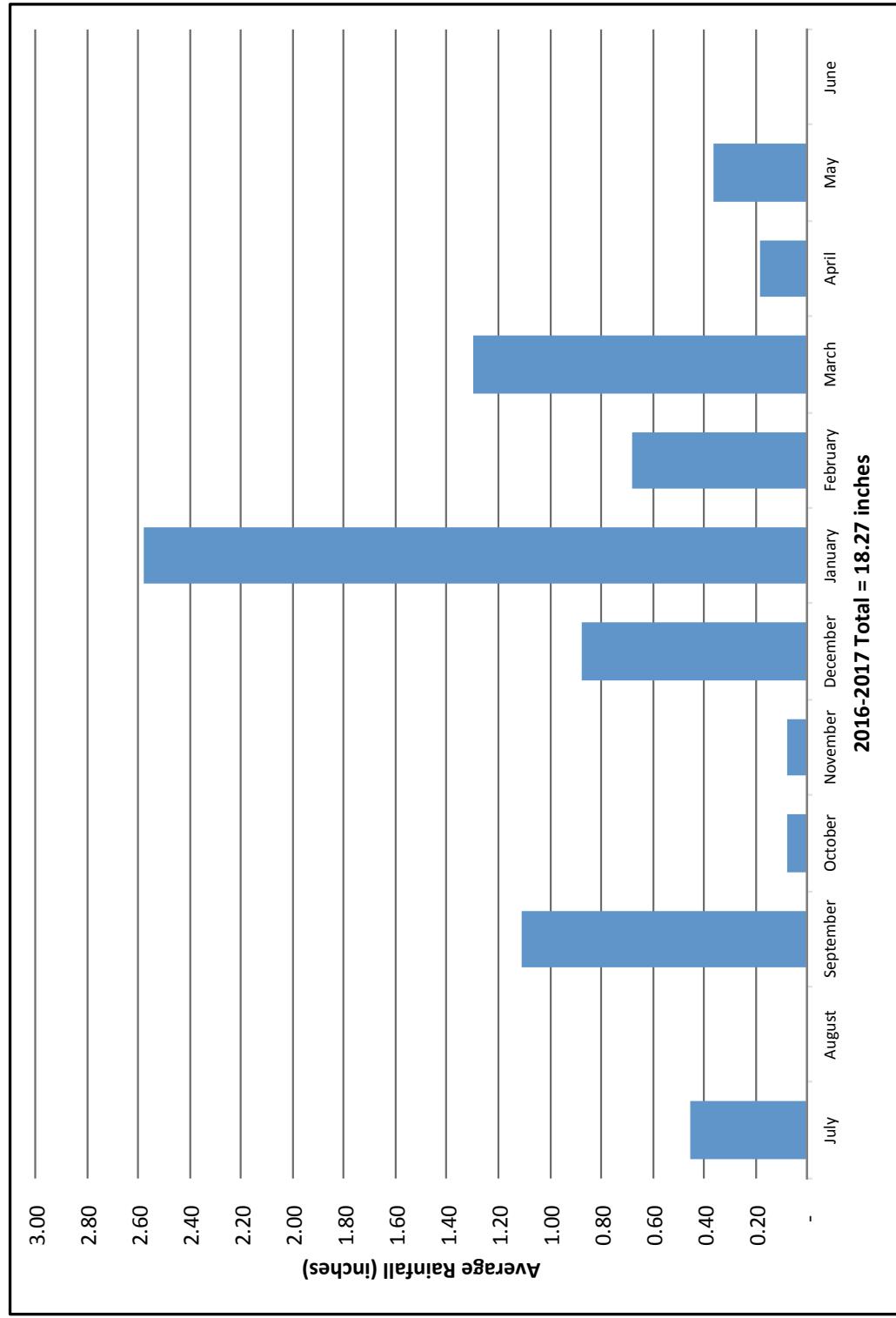
Figure 4 - Monthly Rainfall

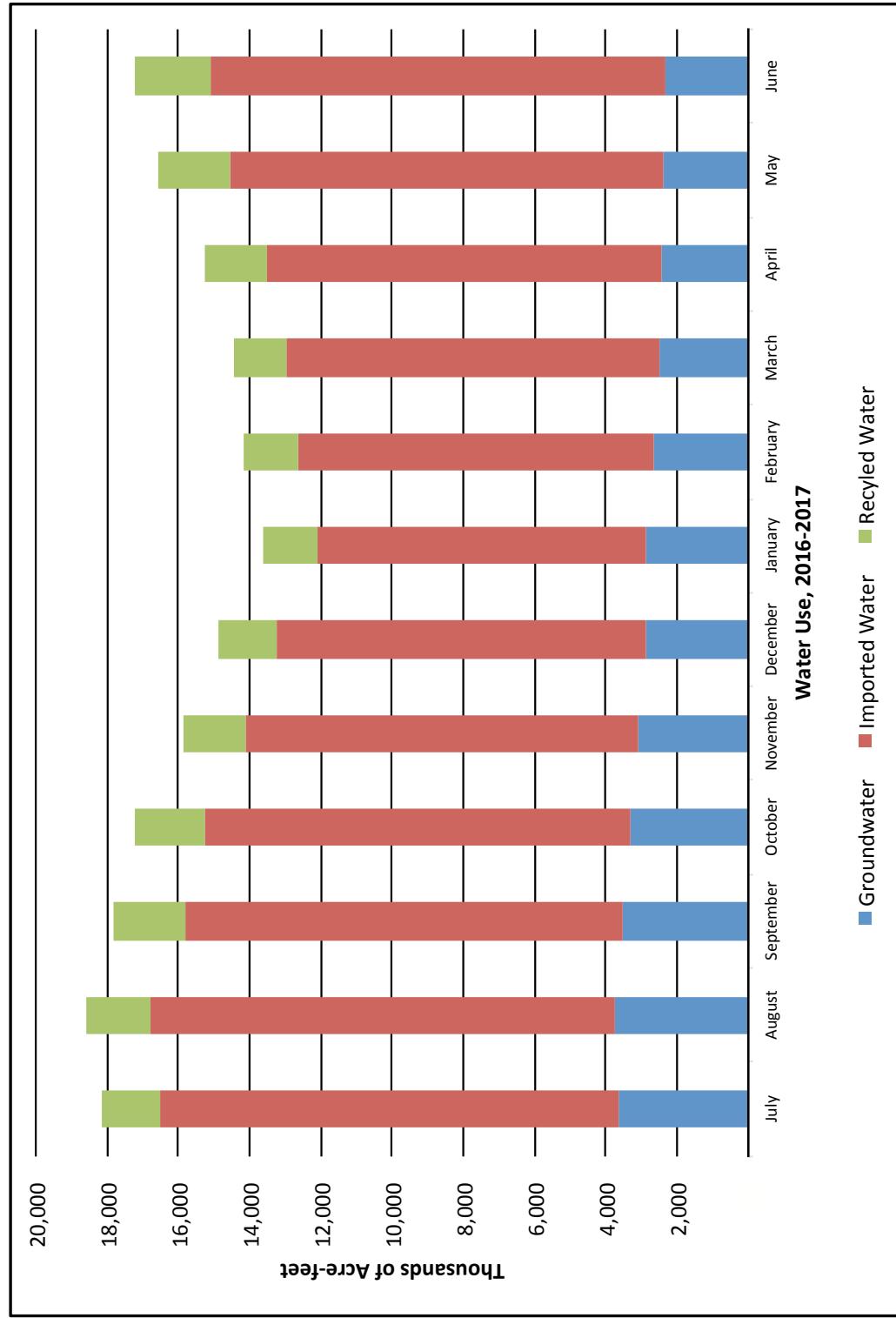
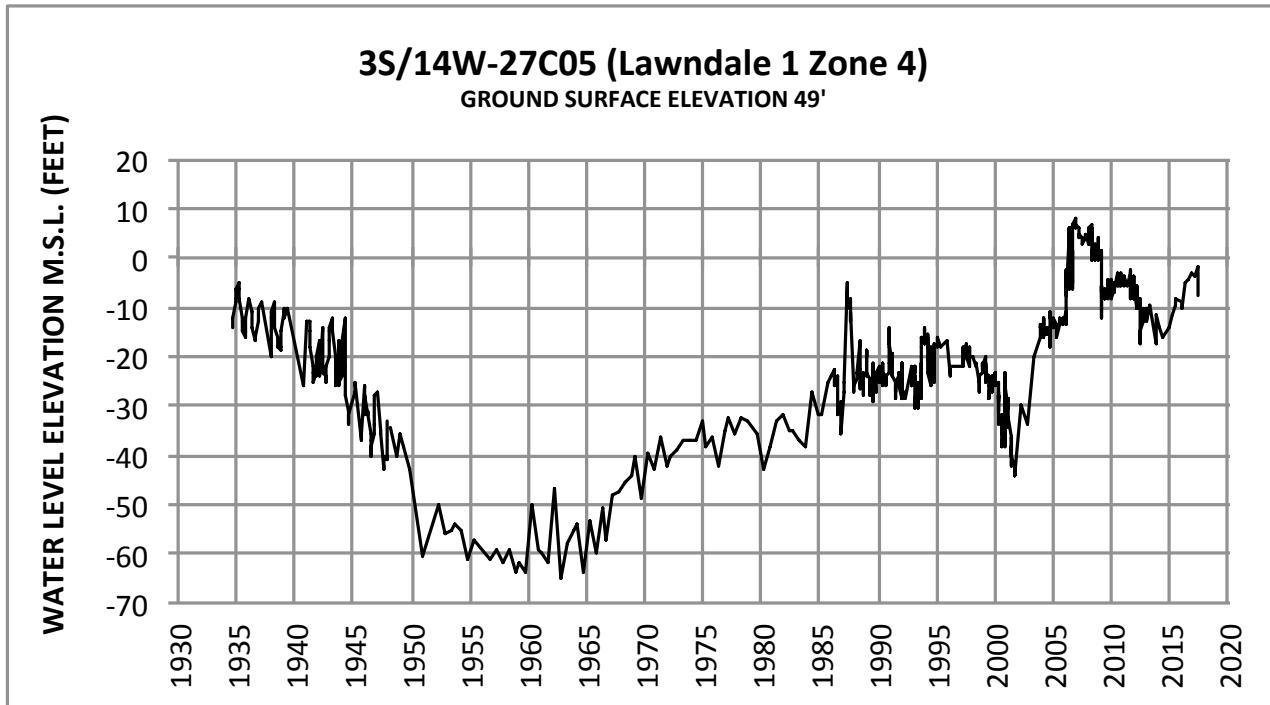
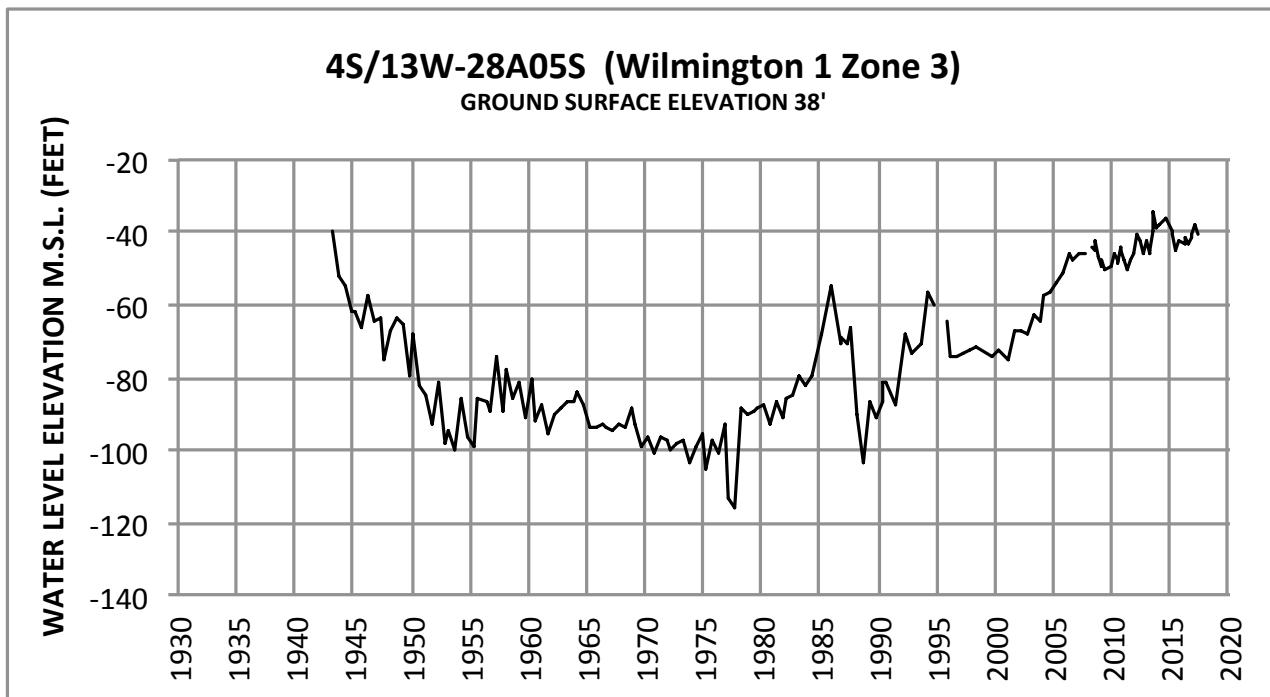
Figure 5 - Total Water Use

Figure 6 - Water Level Hydrographs



Appendix A

Groundwater Extractions

Appendix B

Successions of Adjudicated Rights

June 2017

Appendix C

Parties to the Judgment

June 2017

ABC Nursery, Inc
 Aqua Capital Management LP
 Asahi Fancy Koi, Inc.
 Atlantic Richfield Company
 Automation Industries, Inc.
 CBS, Inc.
 California Water Service Company
 California Water Service Company (Dominguez)
 California Water Service Company (Hawthorne Lease)
 Carson-Harbor Village Mobile Home Park
 Carson-Madrona Company
 Century Builders
 Chandler's Palos Verdes Sand & Gravel Company
 Chevron USA, Inc
 Coastline Church of Christ
 Curtis, Owen W.
 Delaney, Golda, Estate of
 El Segundo, City of
 Engelsma, Susan Trust
 Evergreen America Corp.
 Fujimoto, S.R., S.T. & J.K.
 Gillingham, Florence R., et al.
 Golden State Water Company
 Hawthorne, City of
 Hillside Memorial Park
 Hollywood Park Land Company, LLC
 Honeywell International, Inc.
 Honold, Kristin Brandsma
 Hughes Aircraft Company
 Inglewood, City of
 Inglewood Park Cemetery
 Kinder Morgan Liquids Terminals, LLC
 Leuzinger, Emma L. Estate of
 Lomita, City of Water System
 Long Beach, City of
 Lopes, Frank
 Los Angeles, City of
 Los Angeles County Recreation Facilities
 Los Angeles County Sanitation District 2
 Loyola Marymount University
 Manhattan Beach, City of
 Mayflower Nurseries
 McDonnell Douglas Corporation
 Torrance Refining Co.
 Montrose Chemical Corporation
 Mori, Roy H. and Kenji
 Myron Z. Chlavin & Nettie Desser Trust & JHD Pr.
 Northrop Corporation
 Nozaki, Sumikichi
 Pacific Crest Cemetery Company
 Palos Verdes Begonia Farm
 Phillips 66 Company
 Rehor, Josephine P.
 Eco Services Operation, LLC
 Rolling Hills Country Club
 Rolling Hills Vista
 Roman Catholic Archbishop of Los Angeles
 Shell Oil Company
 Southern California Edison Company
 Tesoro Refining and Marketing Company
 Torrance, City of
 Vukelich, Mike Jr.
 Watson Land Company
 Watt Industrial Properties
 Western Water Service Company
 Wiseburn School District
 Zeigler, Maxwell T.

