



8 Tables of Monitoring Program Summaries and Trends

Table 8-1: Historical Number of Wells Measured for the Groundwater Level Monitoring Program in the Management Area

Management Zone		Canyon		S.J. Upper Pressure		Hemet North (partial)		Hemet South		Totals	
Responsibility	Year	Spr.	Fall	Spr.	Fall	Spr.	Fall	Spr.	Fall	Spr.	Fall
Wells Measured by EMWD	2009	14	16	84	75	21	21	31	35	150	147
	2010	13	12	67	73	21	21	41	37	142	143
	2011	13	13	85	86	23	24	42	42	163	165
	2012	13	13	82	77	17	18	54	54	166	162
	2013	10	8	12	56	12	21	39	45	73	130
	2014	11	12	65	67	23	24	49	47	148	150
	2015	12	11	61	70	25	22	45	45	143	148
	2016	13	14	75	73	24	21	46	47	158	155
	2017	14	12	72	78	22	20	48	43	156	153
	2018	12	13	78	65	24	23	45	41	159	142
Wells Measured by Other Agencies & Reported to EMWD	2009	7	7	16	15	0	0	17	17	40	39
	2010	11	11	11	12	0	0	17	16	39	39
	2011	11	11	11	12	0	0	17	16	39	39
	2012	9	11	16	16	0	0	15	14	40	41
	2013	11	11	17	18	0	0	13	13	41	42
	2014	10	8	19	16	0	0	14	13	43	37
	2015	14	10	15	15	0	0	13	11	42	36
	2016	12	9	12	12	0	0	11	11	35	32
	2017	13	12	12	11	0	0	11	11	37	34
	2018	13	10	9	11	0	0	10	9	32	30
Total Wells Measured	2009	21	23	100	90	21	21	48	52	190	186
	2010	24	23	78	85	21	21	58	53	181	182
	2011	24	24	96	98	23	24	59	58	202	204
	2012	22	24	98	93	17	18	69	68	206	203
	2013	21	19	29	74	12	21	52	58	114	172
	2014	21	20	84	83	23	24	63	60	191	187
	2015	26	21	76	85	25	22	58	56	185	184
	2016	25	23	87	85	24	21	57	58	193	187
	2017	27	24	84	89	22	20	59	54	192	187
	2018	25	23	87	76	24	23	55	50	191	172

Note: The above figures represent the number of wells actually sampled or measured rather than the number of wells participating in the program. Not all participating wells could be sampled or measured each year due to flooding, access, or other constraints.

Table 8-2: Historical Results of the Groundwater Level Monitoring Program in the Management Area

Maximum and Minimum Depth To Water (feet)										
Management Zone	Canyon		S.J. Upper Pressure		Hemet North (partial)		Hemet South		Totals	
	Year	Min	Max	Min	Max	Min	Max	Min	Max	Min
2009	48.3	473.5	67.8	548.1	163.1	283.2	1.1	384.0	1.1	548.1
2010	20.8	361.3	61.1	650.0	163.2	267.7	1.0	416.0	1.0	650.0
2011	44.5	407.6	61.8	570.0	163.3	301.2	1.1	353.1	1.1	570.0
2012	62.8	385.6	57.4	652.0	162.5	268.8	1.1	432.2	1.1	652.0
2013	59.6	292.0	40.7	616.8	162.7	267.1	1.1	363.1	1.1	616.8
2014	19.1	368.5	36.6	612.2	153.9	278.0	0.4	511.9	0.4	612.2
2015	11.0	334.0	30.9	660.7	155.5	258.5	4.1	195.6	4.1	660.7
2016	8.2	298.8	30.8	616.1	155.7	277.8	19.6	400.1	8.2	616.1
2017	5.1	320.4	29.8	612.0	156.3	265.1	13.3	480.2	5.1	612.0
2018	8.3	277.0	29.2	594.6	158.7	265.8	17.5	369.4	8.3	594.6

Table 8-3: Historical Number of Wells Sampled for the Groundwater Quality Monitoring Program in the Management Area

Management Zone Responsibility/Year		Canyon	S. J. Upper Pressure	Hemet North (partial)	Hemet South	Totals
Wells Sampled by EMWD	2009	14	45	19	20	98
	2010	15	47	16	18	96
	2011	15	35	16	22	88
	2012	11	26	16	28	81
	2013	14	30	22	20	86
	2014	12	38	22	18	90
	2015	6	27	19	15	67
	2016	10	40	24	25	99
	2017	9	33	23	14	79
	2018	10	41	26	22	99
Wells Sampled by Other Agencies and Delivered to EMWD	2009	6	13	0	7	26
	2010	6	13	0	6	25
	2011	6	12	0	7	25
	2012	7	14	1	7	29
	2013	6	13	0	7	26
	2014	7	10	0	5	22
	2015	1	8	0	5	14
	2016	7	9	0	2	18
	2017	4	8	0	3	15
	2018	5	8	0	3	16
Total Wells Sampled	2009	20	58	19	27	124
	2010	21	60	16	24	121
	2011	21	47	16	29	113
	2012	18	40	17	35	110
	2013	20	43	22	27	112
	2014	19	48	22	23	112
	2015	7	35	19	20	81
	2016	17	49	24	27	117
	2017	13	41	23	17	94
	2018	15	49	26	25	115

Table 8-4: Historical Results of the Groundwater Quality Monitoring Program in the Management Area

Management Zone	Year	No. of Wells	TDS (mg/L)		NO ₃ -N (mg/L)	
			High	Low	High	Low
Canyon	2009	20	1,360	120	13.0	< 0.1
	2010	15	1,400	180	11.0	< 0.1
	2011	21	1,400	150	15.0	< 0.1
	2012	18	1,400	170	7.3	< 0.1
	2013	20	1,500	160	14.0	< 0.2
	2014	19	1,100	170	9.9	< 0.2
	2015	7	1,200	200	8.6	< 0.1
	2016	17	1,100	190	17.0	< 0.1
	2017	13	1,200	200	5.8	< 0.1
	2018	15	1,350	218	10.7	< 0.4
S.J. Upper Pressure	2009	58	5,160	160	22.0	< 0.1
	2010	60	5,100	180	30.0	< 0.1
	2011	47	2,600	170	30.0	< 0.1
	2012	40	1,100	190	22.0	< 0.1
	2013	43	1,100	170	35.0	< 0.2
	2014	48	1,900	160	32.0	< 0.2
	2015	35	6,500	200	28.0	< 0.1
	2016	49	5,100	150	37.0	< 0.1
	2017	41	2,600	170	28.0	< 0.1
	2018	49	7,410	168	35.6	< 0.4
Hemet North (partial)	2009	19	1,040	340	13.0	< 0.1
	2010	16	1,100	400	13.0	< 0.1
	2011	16	990	350	14.0	< 0.1
	2012	17	1,100	420	7.6	< 0.1
	2013	22	1,200	320	9.4	< 0.2
	2014	22	1,100	300	9.0	< 0.2
	2015	19	950	350	7.6	< 0.1
	2016	24	1,000	340	9.0	< 0.1
	2017	23	1,100	340	11.0	< 0.117
	2018	26	1,100	332	10.3	< 0.4
Hemet South	2009	27	1,430	210	48.0	0.4
	2010	24	1,400	250	50.0	1.2
	2011	29	1,700	220	51.0	< 0.1
	2012	35	2,100	220	38.0	0.2
	2013	27	1,500	230	39.0	< 0.2
	2014	23	1,500	190	35.0	0.43
	2015	20	1,400	220	50.0	0.65
	2016	27	1,400	170	42.0	< 0.1
	2017	17	1,400	190	39.0	< 0.1
	2018	25	1,290	190	39.0	< 0.4

It should be noted that the same wells were not necessarily sampled each year, which may cause fluctuations in high and low values. It should also be noted that water quality and the character of groundwater are determined by a number of factors including: mineral content of sediments; recharge and drainage patterns; historic land use practices; and screening intervals and depths of wells sampled, to name a few.

Table 8-5: Historical Number of Wells Measured for the Groundwater Extraction Monitoring Program in the Management Area

Year	Method of Determining Groundwater Extraction			
	Number of Meters Read by EMWD	Number of Meters Read by Other Agencies & Reported to EMWD	Number of Wells with Extraction Estimated by EMWD	Total Wells
2009	111	34	23	168
2010	108	40	22	170
2011	106	34	30	170
2012	102	43	34	179
2013	93	41	38	172
2014	75	43	39	157
2015	75	39	39	153
2016	75	38	39	152
2017	74	39	39	152
2018	73	40	39	152

Table 8-6: Historical Results of the Groundwater Extraction Monitoring Program in the Management Area

Management Zone Year	Groundwater Extraction (AF)				
	Canyon	S. J. Upper Pressure	Hemet North (partial)	Hemet South	Totals
2009	10,032	24,464	2,684	8,000	45,180
2010	8,129	23,855	2,289	6,949	41,222
2011	8,423	23,822	2,223	6,586	41,054
2012	8,539	24,046	2,114	6,888	41,587
2013	10,903	27,697	2,409	8,688	49,697
2014	7,814	24,794	2,195	7,785	42,588
2015	2,567	26,628	2,192	7,563	38,950
2016	4,307	25,188	2,344	6,556	38,395
2017	7,181	23,251	2,231	6,023	38,686
2018	6,663	25,960	2,662	4,721	40,006

Table 8-7: Historical Number of Wells Participating in the San Jacinto Watershed Groundwater Recordation Program in the Management Area

Year	Groundwater Recordations				
	Filed with the State		Filed with EMWD		Totals
	Annual Notices	First Notices	Annual Notices	First Notices	
2007	-	-	103	10	113
2008	-	-	111	8	119
2009	-	-	115	2	117
2010	-	-	112	3	115
2011	-	-	121	3	124
2012	-	-	111	0	111
2013	-	-	113	2	115
2014	-	-	116	0	116
2015	-	-	94	0	94
2016	-	-	111	0	111
2017	-	-	135	0	135

Table 8-8: Historical Results of the San Jacinto Watershed Groundwater Recordation Program in the Management Area

Management Zone Year	Groundwater Recordations (AF)				
	Canyon	S. J. Upper Pressure	Hemet North (partial)	Hemet South	Totals
2007	8,664	27,892	1,041	8,679	46,276
2008	8,060	24,377	436	12,763	45,636
2009	8,374	23,473	1,523	7,132	40,502
2010	6,566	22,669	1,751	5,372	36,358
2011	7,137	24,571	1,376	5,398	38,482
2012	7,209	22,383	637	6,748	36,977
2013	11,070	22,026	1,490	7,577	42,163
2014	5,660	21,263	953	6,983	34,859
2015	614	23,788	11	5,459	29,872
2016	1,949	20,362	487	5,459	28,257
2017	5,000	22,870	277	4,648	32,795

Table 8-9: Historical Results of the Inactive Well Capping/Sealing Program in the Management Area

Management Zone Year	Inactive Well Capping/Sealing Program				
	Canyon	S. J. Upper Pressure	Hemet North (partial)	Hemet South	Totals
2001	2	2	0	1	5
2002	2	11	2	6	21
2003	0	0	0	3	3
2004	0	7	3	0	10
2005	0	0	0	0	0
2006	0	2	0	0	2
2007	0	1	0	0	1
2008	0	0	0	0	0
2009	0	0	0	0	0
2010	0	0	0	0	0
2011	0	0	0	0	0
2012	0	0	0	0	0
2013	0	0	0	0	0
2014	0	0	0	0	0
2015	0	0	0	0	0
2016	0	0	0	0	0
2017	0	0	0	0	0
2018	0	0	0	0	0
Totals	4	23	5	10	42

Table 8-10: Historical Results of the Recycled Water Monitoring Program in the Management Area

Management Zone Year	Recycled Water Usage (AF)				
	Canyon	S. J. Upper Pressure	Hemet North (partial)	Hemet South	Totals
2007	0	2,132	1,291	2,536	5,959
2008	0	4,718	1,357	2,679	8,754
2009	0	7,468	1,191	2,477	11,136
2010	0	5,390	1,846	1,896	9,132
2011	0	8,267	2,007	1,854	12,128
2012	0	9,683	2,056	1,797	13,536
2013	0	8,977	1,897	1,894	12,768
2014	0	7,175	2,545	2,476	12,196
2015	0	7,170	2,580	2,543	12,293
2016	0	6,776	2,596	3,247	12,619
2017	0	6,769	2,620	2,695	12,084
2018	0	6,390	4,128	2,645	13,163

Table 8-11: Historical Results of Incidental Recycled Water Recharge Monitoring in the Management Area

Facility Year	Incidental Recycled Water Recharge (AF)		
	Alessandro Ponds	MWD San Jacinto Reservoir	San Jacinto Valley RWRP Ponds
2009	630	374	-
2010	87	227	-
2011	611	872	-
2012	802	565	-
2013	728	427	-
2014	76	36	-
2015	101	102	582
2016	48	162	413
2017	45	209	447
2018	30	5	189

Table 8-12: Historical Results of River Diversion Monitoring in the Management Area

Agency Location	LHMWD Diversions (AF)				EMWD Diversions (AF)	Total Diversions (AF)
	Lake Hemet	South Fork	North Fork	Strawberry Creek	Grant Ave.	
2009	1,837	38	1,152	162	1,772	4,961
2010	987	30	2,406	858	4,423	8,704
2011	2,773	0	3,120	383	4,165	10,441
2012	3,943	86	1,130	206	0	5,365
2013	0	183	650	203	0	1,036
2014	300	0	308	78	211	897
2015	0	0	287	3	78	368
2016	0	0	789	70	515	1,374
2017	2,919	15	1,914	338	3,150	8,336
2018	0	0	243	10	279	532

Table 8-13: Historical Results of Rainfall Monitoring in the Management Area

Location	Rainfall (inches)			
	San Jacinto		Hemet	
Historic High	28.63	1961	26.60	1978
Historic Low	4.98	1969	3.64	2002
Long-term Average	12.13		11.29	
Location	Rainfall (inches)			
	San Jacinto		Hemet	
2007	6.61		5.12	
2008	11.43		9.75	
2009	7.44		5.48	
2010	19.52		15.90	
2011	9.56		7.41	
2012	7.51		5.91	
2013	5.58		5.47	
2014	10.30		9.78	
2015	7.06		6.63	
2016	9.22		7.97	
2017	8.89		7.43	
2018	8.42		6.45	

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