



Memorandum

To: Santa Ana Watershed Project Authority

From: CDM Smith

Date: July 15, 2020

Subject: 2020 Quarter 2 Report

This technical memorandum summarizes the Santa Ana River Regional Monitoring Program activities that occurred during the second quarter (April 1 through June 30) of 2020. It includes a brief description of monitoring activities from the second quarter, upcoming monitoring activities, a summary of data resulting from monitoring activities, and status of the 2019-2020 Annual Report. These monitoring activities were conducted under the Monitoring Plan and Quality Assurance Project Plan (QAPP) for the Santa Ana River Watershed Bacteria Monitoring Program, which were finalized in August 2019.

Monitoring Activities

During the second quarter of 2020, dry weather monitoring activities began during the week of May 10. The first eight of the twenty weeks of monitoring have been completed to date for Priority 1 and 2 sites. The six-week monitoring program for Priority 3 Group 4, 5, and 6 sites have been partially or fully completed. Monitoring at and SAR Reach 4 (Priority 3 Group 4) is conducted weekly, per the revised Monitoring Plan (Version 2.0).

The Priority 3 Group 4, 5, and 6 sites are listed as follows:

- Group 4 – Santa Ana River Reach 4
- Group 6 – Warm Creek, San Timoteo Creek

Water Quality Data

Dry weather monitoring samples were analyzed for *E. coli* (**Table 1**), TSS (**Table 2**) and *Enterococcus* (**Table 3**) by Babcock Laboratories for Riverside and San Bernardino County sites. Rolling 6-week geomeans for Priority 1 and 2 sites can be found in **Table 4**.

Table 1 – 2020 Quarter 2 Dry Weather *E. coli* Concentrations (MPN/100 mL)

	County	Site	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
			5/10/2020	5/17/2020	5/24/2020	5/31/2020	6/7/2020	6/14/2020	6/21/2020	6/28/2020
P1-1	Riverside	Canyon Lake at Holiday Harbor	ND	1.0	2.0	ND	2.0	1.0	ND	2.0
P1-2	Riverside	Lake Elsinore	20	5.2	3.1	13	21	5.2	8.6	67
P1-3	Riverside	Lake Perris	2	ND	1.0	2.0	1.0	1.0	1.0	ND
P1-4	San Bernardino	Big Bear Lake at Swim Beach	2	4.1	ND	ND	ND	1.0	ND	1.0
P1-5	San Bernardino	Mill Creek Reach 2	3.1	2.0	4.1	4.1	ND	1.0	3.1	4.1
P1-6	San Bernardino	Lytle Creek	13	7.4	34	9.8	12	140	16	8.6
WW-S1	Riverside	Santa Ana River Reach 3 at MWD Crossing	75	170	210	320	84	140	930	NA
WW-S4	Riverside	Santa Ana River Reach 3 at Pedley Avenue	52	180	110	170	110	140	740	NA
WW-C3	San Bernardino	Prado Park Lake	10	52	98	51	30	63	10	63
WW-C7	San Bernardino	Chino Creek at Central Avenue	160	510	490	440	230	440	930	280
WW-M6	San Bernardino	Mill-Cucamonga Creek below Wetlands	100	260	160	180	150	240	130	440
WW-Mission	San Bernardino	Santa Ana River Reach 3 at Mission Avenue	110	150	260	140	20	260	1000	NA
P3-SBC1	San Bernardino	Santa Ana River Reach 4	41	1300	110	590	39	280	130	NA
P4-SBC1	San Bernardino	Cucamonga Creek at Hellman Ave.							41	
P4-RC2	Riverside	Temescal Creek at Lincoln Avenue							130	

Note: ND = below method detection limit
 NA = Data are not available from the laboratory yet

Table 2 – 2020 Quarter 2 Dry Weather TSS Concentrations (mg/L)

Site ID	County	Site	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
			5/10/2020	5/17/2020	5/24/2020	5/31/2020	6/7/2020	6/14/2020	6/21/2020	6/28/2020
P1-1	Riverside	Canyon Lake at Holiday Harbor	4	13	8	5	6	8	7	7
P1-2	Riverside	Lake Elsinore	20	24	32	26	80	30	23	35
P1-3	Riverside	Lake Perris	ND	4	ND	4	14	8	10	8
P1-4	San Bernardino	Big Bear Lake at Swim Beach	24	32	11	5	10	12	18	46
P1-5	San Bernardino	Mill Creek Reach 2	2	ND	ND	ND	ND	ND	ND	2
P1-6	San Bernardino	Lytle Creek	4	2	ND	2	ND	2	ND	ND
WW-S1	Riverside	Santa Ana River Reach 3 at MWD Crossing	4	9	5	7	4	7	10	NA
WW-S4	Riverside	Santa Ana River Reach 3 at Pedley Avenue	14	8	14	13	8	10	8	NA
WW-C3	San Bernardino	Prado Park Lake	24	24	16	42	47	22	28	38
WW-C7	San Bernardino	Chino Creek at Central Avenue	4	4	4	4	2	6	8	4
WW-M6	San Bernardino	Mill-Cucamonga Creek below Wetlands	18	6	8	7	6	8	5	24
WW-Mission	San Bernardino	Santa Ana River Reach 3 at Mission Avenue	9	9	10	34	10	12	10	NA
P3-SBC1	San Bernardino	Santa Ana River Reach 4	2	2	2	2	2	2	7	NA
P4-SBC1	San Bernardino	Cucamonga Creek at Hellman Ave.							11	
P4-RC2	Riverside	Temescal Creek at Lincoln Avenue							6	

Note: ND = below method detection limit
 NA = Data not available from the laboratory yet\

Table 3 – 2020 Quarter 2 Dry Weather *Enterococcus* Concentrations (MPN/100 mL)

Site ID	County	Site	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
			5/10/2020	5/17/2020	5/24/2020	5/31/2020	6/7/2020	6/14/2020	6/21/2020	6/28/2020
P1-2	Riverside	Lake Elsinore	18	7.3	8.5	2.0	5.2	6.2	4.1	4.1

Table 4 – 2020 Quarter 2 Dry Weather 6-week Rolling *E. coli* Geomean Concentrations (MPN/100 mL)

	County	Site	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
			5/10/2020	5/17/2020	5/24/2020	5/31/2020	6/7/2020	6/14/2020	6/21/2020	6/28/2020
P1-1	Riverside	Canyon Lake at Holiday Harbor						1.0	1.0	1.1
P1-2	Riverside	Lake Elsinore						8.8	7.6	11.7
P1-3	Riverside	Lake Perris						1.3	1.1	1.0
P1-4	San Bernardino	Big Bear Lake at Swim Beach						1.0	0.8	0.6
P1-5	San Bernardino	Mill Creek Reach 2						2.5	2.5	2.9
P1-6	San Bernardino	Lytle Creek						19.4	20.1	20.6
WW-S1	Riverside	Santa Ana River Reach 3 at MWD Crossing						147.0	223.6	NA
WW-S4	Riverside	Santa Ana River Reach 3 at Pedley Avenue						118.0	183.6	NA
WW-C3	San Bernardino	Prado Park Lake						41.2	41.2	42.6
WW-C7	San Bernardino	Chino Creek at Central Avenue						348.1	466.8	422.4
WW-M6	San Bernardino	Mill-Cucamonga Creek below Wetlands						173.2	180.9	197.5
WW-Mission	San Bernardino	Santa Ana River Reach 3 at Mission Avenue						120.9	174.7	NA

NA = Data are not available from the laboratory yet

QA/QC

No QA/QC concerns were reported during the second quarter of 2020.

Other

- The 2019-2020 Annual Report was finalized based on comments received from the Task Force and provided to SAWPA on June 30th for distribution to the Task Force.
- A monthly sample at Cucamonga at Hellman Avenue (P4-SBC1) was missed in May. An additional make up sample will be collected in July.

Upcoming Activities

- The Orange County Public Works (OCPW) Monitoring Manager will continue to coordinate with Orange County Public Health Laboratory (OCPHL) and Orange County sampling personnel regarding Priority 3 and 4 sites located in their jurisdiction. CDM Smith will continue to coordinate with Babcock Laboratories and CWE sampling personnel regarding all sites located in Riverside and San Bernardino Counties.
- Dry weather monitoring will continue at Priority 1, 2, and 3 sites through the third quarter of 2020 and temporarily conclude on the week of September 20 until the cool season begins during the fourth quarter. Priority 4 Orange County sites will be sampled during the upcoming quarter.