2019-2020 Permit Year

Ventura Countywide Stormwater Quality Management Program Annual Report

Attachment E - TMDL Reports (Part 1/5)

December 15, 2020

Camarillo
County of Ventura
Fillmore
Moorpark
Ojai
Oxnard
Port Hueneme
Santa Paula
Simi Valley
Thousand Oaks
Ventura
Ventura County Watershed Protection District

county of ventura

PUBLIC
VENTURA COUNTY
WORKS

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Joseph Pope, Director

Watershed Protection
Glenn Shephard, Director

July 22, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of May 2019. Sites were sampled weekly on Tuesday (June 4, 11 & 18), except one instance when sites were sampled Monday (June 24) due to staffing conflicts. The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." Daily geomeans were calculated using results from the previous 30 days (actual sampling date marked with•), refer to Table 2. Weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous non-rain single sample value to calculate the geomean. Half the detection limit was used to calculate the daily geomean for sites with results reported as < 18 MPN/100ml or for dry weather when no sample was taken. Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
         Ewelina Mutkowska, County of Ventura (via email)
         Paul Jorgensen, City of Thousand Oaks (via email)
         Joe Bellomo, Willdan Associates (via email)
         Kelly Fisher, City of Agoura Hills (via email)
         Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled) E. coli
					(235 MPN)
MCW-8b (County)	1155	6/4/2019♦		=	130
MCW-8b (County)	1115	6/11/2019♦		=	20
MCW-8b (County)	1115	6/18/2019♦		=	790
MCW-8b (County)	1146	6/24/2019♦		=	45
MCW-9 (County)	-	6/4/2019♦			Dry
MCW-9 (County)	-	6/11/2019♦			Dry
MCW-9 (County)	-	6/18/2019♦			Dry
MCW-9 (County)	-	6/24/2019♦			Dry
MCW-12 (County)	1110	6/4/2019♦		<	18
MCW-12 (County)	1025	6/11/2019♦		=	130
MCW-12 (County)	1020	6/18/2019♦		=	490
MCW-12 (County)	1045	6/24/2019♦		=	45
MCW-14b (City and County)	1040	6/4/2019♦		=	45
MCW-14b (City and County)	950	6/11/2019♦		=	2,400
MCW-14b (City and County)	939	6/18/2019♦		=	230
MCW-14b (City and County)	1015	6/24/2019♦		=	330
MCW-15c (City)	1015	6/4/2019♦		=	45
MCW-15c (City)	925	6/11/2019♦		=	1,300
MCW-15c (City)	907	6/18/2019♦		=	20
MCW-15c (City)	932	6/24/2019♦		=	130
MCW-17 (City and County)	945	6/4/2019♦		=	5,400
MCW-17 (City and County)	900	6/11/2019♦		=	2,400
MCW-17 (City and County)	841	6/18/2019♦		=	220
MCW-17 (City and County)	906	6/24/2019♦		=	1,400
MCW-18 (County)	-	6/4/2019♦			Dry
MCW-18 (County)	-	6/11/2019♦			Dry
MCW-18 (County)	-	6/18/2019♦			Dry
MCW-18 (County)	-	6/24/2019♦			Dry

Notes:

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦ Date of sampling

- Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geomean

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)		Geomean E. coli (126 MPN)
MCW-8b (County)	1200	6/1/19		<	9	22
MCW-8b (County)	1200	6/2/19		<	9	21
MCW-8b (County)	1200	6/3/19		<	9	21
MCW-8b (County)	1155	6/4/2019♦		=	130	22
MCW-8b (County)	1155	6/5/19		=	130	23
MCW-8b (County)	1155	6/6/19		=	130	25
MCW-8b (County)	1155	6/7/19		=	130	27
MCW-8b (County)	1155	6/8/19		=	130	29
MCW-8b (County)	1155	6/9/19		=	130	31
MCW-8b (County)	1155	6/10/19		=	130	33
MCW-8b (County)	1115	6/11/2019♦		=	20	33
MCW-8b (County)	1115	6/12/19		=	20	33
MCW-8b (County)	1115	6/13/19		=	20	32
MCW-8b (County)	1115	6/14/19		=	20	30
MCW-8b (County)	1115	6/15/19		=	20	29
MCW-8b (County)	1115	6/16/19		=	20	28
MCW-8b (County)	1115	6/17/19		=	20	27
MCW-8b (County)	1115	6/18/2019♦		=	790	29
MCW-8b (County)	1115	6/19/19		=	790	33
MCW-8b (County)	1115	6/20/19		=	790	37
MCW-8b (County)	1115	6/21/19		=	790	42
MCW-8b (County)	1115	6/22/19		=	790	47
MCW-8b (County)	1115	6/23/19		=	790	54
MCW-8b (County)	1146	6/24/2019♦		=	45	55
MCW-8b (County)	1146	6/25/19		=	45	57
MCW-8b (County)	1146	6/26/19		=	45	58
MCW-8b (County)	1146	6/27/19		=	45	61
MCW-8b (County)	1146	6/28/19		=	45	65
MCW-8b (County)	1146	6/29/19		=	45	68
MCW-8b (County)	1146	6/30/19		=	45	72
MCW-9 (County)	-	6/1/19	Dry	<	9	9
MCW-9 (County)	-	6/2/19	Dry	<	9	9
MCW-9 (County)	-	6/3/19	Dry	<	9	9
MCW-9 (County)	-	6/4/2019♦	Dry	<	9	9
MCW-9 (County)	-	6/5/19	Dry	<	9	9
MCW-9 (County)	-	6/6/19	Dry	<	9	9
MCW-9 (County)	-	6/7/19	Dry	<	9	9
MCW-9 (County)	-	6/8/19	Dry	<	9	9
MCW-9 (County)	-	6/9/19	Dry	<	9	9
MCW-9 (County)	-	6/10/19	Dry	<	9	9
MCW-9 (County)	-	6/11/2019♦	Dry	<	9	9
MCW-9 (County)	-	6/12/19	Dry	<	9	9
MCW-9 (County)	-	6/13/19	Dry	<	9	9
MCW-9 (County)	-	6/14/19	Dry	<	9	9
MCW-9 (County)	-	6/15/19	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geomean E. coli (126 MPN)
MCW-9 (County)	-	6/16/19	Dry	<	9	9
MCW-9 (County)	-	6/17/19	Dry	<	9	9
MCW-9 (County)	-	6/18/2019♦	Dry	<	9	9
MCW-9 (County)	-	6/19/19	Dry	<	9	9
MCW-9 (County)	-	6/20/19	Dry	<	9	9
MCW-9 (County)	-	6/21/19	Dry	<	9	9
MCW-9 (County)	-	6/22/19	Dry	<	9	9
MCW-9 (County)	-	6/23/19	Dry	<	9	9
MCW-9 (County)	-	6/24/2019♦	Dry	<	9	9
MCW-9 (County)	-	6/25/19	Dry	<	9	9
MCW-9 (County)	-	6/26/19	Dry	<	9	9
MCW-9 (County)	-	6/27/19	Dry	<	9	9
MCW-9 (County)	-	6/28/19	Dry	<	9	9
MCW-9 (County)	-	6/29/19	Dry	<	9	9
MCW-9 (County)	-	6/30/19	Dry	<	9	9
MCW-12 (County)	1100	6/1/19		=	20	15
MCW-12 (County)	1100	6/2/19		=	20	15
MCW-12 (County)	1100	6/3/19		=	20	15
MCW-12 (County)	1110	6/4/2019♦		<	9	14
MCW-12 (County)	1110	6/5/19		<	9	13
MCW-12 (County)	1110	6/6/19		<	9	13
MCW-12 (County)	1110	6/7/19		<	9	13
MCW-12 (County)	1110	6/8/19		<	9	13
MCW-12 (County)	1110	6/9/19		<	9	13
MCW-12 (County)	1110	6/10/19		<	9	13
MCW-12 (County)	1025	6/11/2019♦		=	130	14
MCW-12 (County)	1025	6/12/19		=	130	16
MCW-12 (County)	1025	6/13/19		=	130	17
MCW-12 (County)	1025	6/14/19		=	130	18
MCW-12 (County)	1025	6/15/19		=	130	19
MCW-12 (County)	1025	6/16/19		=	130	20
MCW-12 (County)	1025	6/17/19		=	130	21
MCW-12 (County)	1020	6/18/2019♦		=	490	24
MCW-12 (County)	1020	6/19/19		=	490	27
MCW-12 (County)	1020	6/20/19		=	490	31
MCW-12 (County)	1020	6/21/19		=	490	35
MCW-12 (County)	1020	6/22/19		=	490	40
MCW-12 (County)	1020	6/23/19		=	490	46
MCW-12 (County)	1045	6/24/2019♦		=	45	49
MCW-12 (County)	1045	6/25/19		=	45	51
MCW-12 (County)	1045	6/26/19		=	45	53
MCW-12 (County)	1045	6/27/19		=	45	54
MCW-12 (County)	1045	6/28/19		=	45	56
MCW-12 (County)	1045	6/29/19		=	45	57

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geomean E. coli (126 MPN)
MCW-12 (County)	1045	6/30/19		=	45	59
MCW-14b (City and County)	1030	6/1/19		=	78	185
MCW-14b (City and County)	1030	6/2/19		=	78	180
MCW-14b (City and County)	1030	6/3/19		=	78	175
MCW-14b (City and County)	1040	6/4/2019♦		=	45	168
MCW-14b (City and County)	1040	6/5/19		=	45	160
MCW-14b (City and County)	1040	6/6/19		=	45	142
MCW-14b (City and County)	1040	6/7/19		=	45	126
MCW-14b (City and County)	1040	6/8/19		=	45	112
MCW-14b (City and County)	1040	6/9/19		=	45	99
MCW-14b (City and County)	1040	6/10/19		=	45	88
MCW-14b (City and County)	950	6/11/2019♦		=	2,400	89
MCW-14b (City and County)	950	6/12/19		=	2,400	90
MCW-14b (City and County)	950	6/13/19		=	2,400	97
MCW-14b (City and County)	950	6/14/19		=	2,400	105
MCW-14b (City and County)	950	6/15/19		=	2,400	113
MCW-14b (City and County)	950	6/16/19		=	2,400	122
MCW-14b (City and County)	950	6/17/19		=	2,400	132
MCW-14b (City and County)	939	6/18/2019♦		=	230	132
MCW-14b (City and County)	939	6/19/19		=	230	140
MCW-14b (City and County)	939	6/20/19		=	230	149
MCW-14b (City and County)	939	6/21/19		=	230	158
MCW-14b (City and County)	939	6/22/19		=	230	167
MCW-14b (City and County)	939	6/23/19		=	230	177
MCW-14b (City and County)	1015	6/24/2019♦		=	330	190
MCW-14b (City and County)	1015	6/25/19		=	330	204
MCW-14b (City and County)	1015	6/26/19		=	330	219
MCW-14b (City and County)	1015	6/27/19		=	330	230
MCW-14b (City and County)	1015	6/28/19		=	330	241
MCW-14b (City and County)	1015	6/29/19		=	330	253
MCW-14b (City and County)	1015	6/30/19		=	330	265
MCW-15c (City)	1000	6/1/19		=	18	64
MCW-15c (City)	1000	6/2/19		=	18	65
MCW-15c (City)	1000	6/3/19		=	18	67
MCW-15c (City)	1015	6/4/2019♦		=	45	70
MCW-15c (City)	1015	6/5/19		=	45	74
MCW-15c (City)	1015	6/6/19		=	45	72
MCW-15c (City)	1015	6/7/19		=	45	71
MCW-15c (City)	1015	6/8/19		=	45	69
MCW-15c (City)	1015	6/9/19		=	45	67
MCW-15c (City)	1015	6/10/19		=	45	66
MCW-15c (City)	925	6/11/2019♦		=	1,300	72

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geomean E. coli (126 MPN)
MCW-15c (City)	925	6/12/19		=	1,300	78
MCW-15c (City)	925	6/13/19		=	1,300	86
MCW-15c (City)	925	6/14/19		=	1,300	95
MCW-15c (City)	925	6/15/19		=	1,300	104
MCW-15c (City)	925	6/16/19		=	1,300	114
MCW-15c (City)	925	6/17/19		=	1,300	125
MCW-15c (City)	907	6/18/2019♦		=	20	120
MCW-15c (City)	907	6/19/19		=	20	110
MCW-15c (City)	907	6/20/19		=	20	102
MCW-15c (City)	907	6/21/19		=	20	94
MCW-15c (City)	907	6/22/19		=	20	86
MCW-15c (City)	907	6/23/19		=	20	80
MCW-15c (City)	932	6/24/2019♦		=	130	78
MCW-15c (City)	932	6/25/19		=	130	77
MCW-15c (City)	932	6/26/19		=	130	75
MCW-15c (City)	932	6/27/19		=	130	80
MCW-15c (City)	932	6/28/19		=	130	86
MCW-15c (City)	932	6/29/19		=	130	92
MCW-15c (City)	932	6/30/19		=	130	98
MCW-17 (City and County)	945	6/1/19		=	790	61
MCW-17 (City and County)	945	6/2/19		=	790	68
MCW-17 (City and County)	945	6/3/19		=	790	77
MCW-17 (City and County)	945	6/4/2019♦		=	5,400	93
MCW-17 (City and County)	945	6/5/19		=	5,400	112
MCW-17 (City and County)	945	6/6/19		=	5,400	139
MCW-17 (City and County)	945	6/7/19		=	5,400	172
MCW-17 (City and County)	945	6/8/19		=	5,400	213
MCW-17 (City and County)	945	6/9/19		=	5,400	264
MCW-17 (City and County)	945	6/10/19		=	5,400	326
MCW-17 (City and County)	900	6/11/2019♦		=	2,400	393
MCW-17 (City and County)	900	6/12/19		=	2,400	473
MCW-17 (City and County)	900	6/13/19		=	2,400	541
MCW-17 (City and County)	900	6/14/19		=	2,400	617
MCW-17 (City and County)	900	6/15/19		=	2,400	705
MCW-17 (City and County)	900	6/16/19		=	2,400	805
MCW-17 (City and County)	900	6/17/19		=	2,400	919
MCW-17 (City and County)	841	6/18/2019♦		=	220	969
MCW-17 (City and County)	841	6/19/19		=	220	983
MCW-17 (City and County)	841	6/20/19		=	220	998
MCW-17 (City and County)	841	6/21/19		=	220	1,013
MCW-17 (City and County)	841	6/22/19		=	220	1,029
MCW-17 (City and County)	841	6/23/19		=	220	1,044
MCW-17 (City and County)	906	6/24/2019♦		=	1,400	1,128
MCW-17 (City and County)	906	6/25/19		=	1,400	1,218
MCW-17 (City and County)	906	6/26/19		=	1,400	1315

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geomean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	906	6/27/19		=	1,400	1340
MCW-17 (City and County)	906	6/28/19		=	1,400	1366
MCW-17 (City and County)	906	6/29/19		=	1,400	1392
MCW-17 (City and County)	906	6/30/19		=	1,400	1419
MCW-18 (County)	-	6/1/19	Dry	<	9	9
MCW-18 (County)	-	6/2/19	Dry	<	9	9
MCW-18 (County)	-	6/3/19	Dry	<	9	9
MCW-18 (County)	-	6/4/2019♦	Dry	<	9	9
MCW-18 (County)	-	6/5/19	Dry	<	9	9
MCW-18 (County)	-	6/6/19	Dry	<	9	9
MCW-18 (County)	-	6/7/19	Dry	<	9	9
MCW-18 (County)	-	6/8/19	Dry	<	9	9
MCW-18 (County)	-	6/9/19	Dry	<	9	9
MCW-18 (County)	-	6/10/19	Dry	<	9	9
MCW-18 (County)	-	6/11/2019♦	Dry	<	9	9
MCW-18 (County)	-	6/12/19	Dry	<	9	9
MCW-18 (County)	-	6/13/19	Dry	<	9	9
MCW-18 (County)	-	6/14/19	Dry	<	9	9
MCW-18 (County)	-	6/15/19	Dry	<	9	9
MCW-18 (County)	-	6/16/19	Dry	<	9	9
MCW-18 (County)	-	6/17/19	Dry	<	9	9
MCW-18 (County)	-	6/18/2019♦	Dry	<	9	9
MCW-18 (County)	-	6/19/19	Dry	<	9	9
MCW-18 (County)	-	6/20/19	Dry	<	9	9
MCW-18 (County)	-	6/21/19	Dry	<	9	9
MCW-18 (County)	-	6/22/19	Dry	<	9	9
MCW-18 (County)	-	6/23/19	Dry	<	9	9
MCW-18 (County)	-	6/24/2019♦	Dry	<	9	9
MCW-18 (County)	-	6/25/19	Dry	<	9	9
MCW-18 (County)	-	6/26/19	Dry	<	9	9
MCW-18 (County)	-	6/27/19	Dry	<	9	9
MCW-18 (County)	-	6/28/19	Dry	<	9	9
MCW-18 (County)	-	6/29/19	Dry	<	9	9
MCW-18 (County)	-	6/30/19	Dry	<	9	9

Notes:

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geomean.
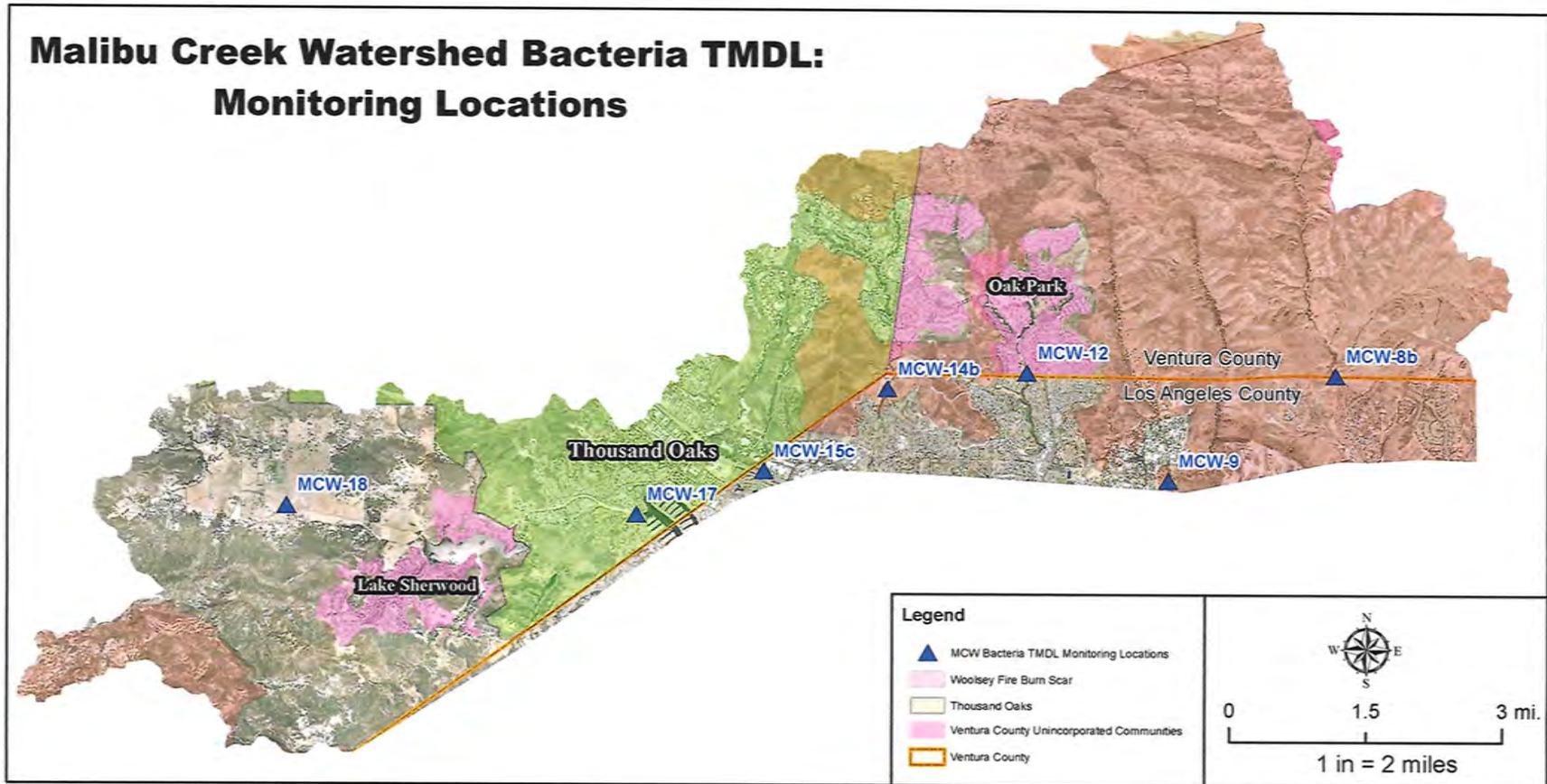
Results of <18 are adjusted to use half the MDL (=9) in the calculation of the geomean

Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

♦ Date of sampling

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

county of ventura

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Joseph Pope, Director

Watershed Protection
Glenn Shephard, Director

August 29, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of July 2019. Sites were sampled weekly on Tuesday (July 9, 16,
23, and 30, 2019) except one instance when sites were sampled on Monday (July 1,
2019) due to staffing conflicts. Beginning on and following July 23, 2019, Rincon
Consultants Inc. has been retained to conduct sampling activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry."

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect (< 18 MPN/100ml). Statistics are also calculated for
dry events at all sampling locations by assigning a concentration value of half the MRL,
as a zero value is undefined logarithmically, and as such would be unusable in the
geometric mean calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10
is applied to all samples to quantify results that exceed the standard upper reporting

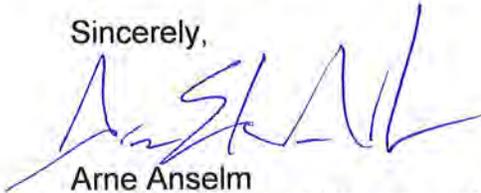limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire. A map showing the location of the monitoring sites and the footprint of the fire is included below.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
       Ewelina Mutkowska, County of Ventura (via email)
       Paul Jorgensen, City of Thousand Oaks (via email)
       Joe Bellomo, Willdan Associates (via email)
       Kelly Fisher, City of Agoura Hills (via email)
       Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain	Single Sample (as sampled)	
					E. coli
					(235 MPN)
MCW-8b (County)	1110	7/1/2019♦		=	110
MCW-8b (County)	1137	7/9/2019♦		=	40
MCW-8b (County)	1118	7/16/2019♦		=	45
MCW-8b (County)	1145	7/23/2019♦		<	18
MCW-8b (County)	1235	7/30/2019♦		<	18
MCW-9 (County)	-	7/1/2019♦			Dry
MCW-9 (County)	-	7/9/2019♦			Dry
MCW-9 (County)	-	7/16/2019♦			Dry
MCW-9 (County)	-	7/23/2019♦			Dry
MCW-9 (County)	-	7/30/2019♦			Dry
MCW-12 (County)	1025	7/1/2019♦		=	20
MCW-12 (County)	1053	7/9/2019♦		=	330
MCW-12 (County)	1028	7/16/2019♦		=	490
MCW-12 (County)	1110	7/23/2019♦		=	490
MCW-12 (County)	1205	7/30/2019♦		=	20
MCW-14b (City and County)	950	7/1/2019♦		=	78
MCW-14b (City and County)	1021	7/9/2019♦		=	490
MCW-14b (City and County)	955	7/16/2019♦		=	130
MCW-14b (City and County)	1040	7/23/2019♦		=	130
MCW-14b (City and County)	1145	7/30/2019♦		=	630
MCW-15c (City)	925	7/1/2019♦		=	20
MCW-15c (City)	950	7/9/2019♦		=	20
MCW-15c (City)	925	7/16/2019♦		=	20
MCW-15c (City)	1000	7/23/2019♦		=	170
MCW-15c (City)	1120	7/30/2019♦		=	45
MCW-17 (City and County)	905	7/1/2019♦		=	490
MCW-17 (City and County)	924	7/9/2019♦		=	330
MCW-17 (City and County)	859	7/16/2019♦		=	1,300
MCW-17 (City and County)	940	7/23/2019♦		=	45
MCW-17 (City and County)	-	7/30/2019♦			Dry
MCW-18 (County)	-	7/1/2019♦			Dry
MCW-18 (County)	-	7/9/2019♦			Dry
MCW-18 (County)	-	7/16/2019♦			Dry
MCW-18 (County)	-	7/23/2019♦			Dry
MCW-18 (County)	-	7/30/2019♦			Dry

Notes:

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦ Date of sampling

- Time is not applicable, as no sample was collected due to insufficient flow

Reporting limit has been changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml.

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)		Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1110	7/1/19◆		=	110	78
MCW-8b (County)	1110	7/2/19		=	110	85
MCW-8b (County)	1110	7/3/19		=	110	93
MCW-8b (County)	1110	7/4/19		=	110	92
MCW-8b (County)	1110	7/5/19		=	110	91
MCW-8b (County)	1110	7/6/19		=	110	91
MCW-8b (County)	1110	7/7/19		=	110	90
MCW-8b (County)	1110	7/8/19		=	110	90
MCW-8b (County)	1137	7/9/19◆		=	40	87
MCW-8b (County)	1137	7/10/19		=	40	83
MCW-8b (County)	1137	7/11/19		=	40	85
MCW-8b (County)	1137	7/12/19		=	40	87
MCW-8b (County)	1137	7/13/19		=	40	89
MCW-8b (County)	1137	7/14/19		=	40	91
MCW-8b (County)	1137	7/15/19		=	40	93
MCW-8b (County)	1118	7/16/19◆		=	45	96
MCW-8b (County)	1118	7/17/19		=	45	99
MCW-8b (County)	1118	7/18/19		=	45	90
MCW-8b (County)	1118	7/19/19		=	45	81
MCW-8b (County)	1118	7/20/19		=	45	74
MCW-8b (County)	1118	7/21/19		=	45	67
MCW-8b (County)	1118	7/22/19		=	45	61
MCW-8b (County)	1145	7/23/19◆		<	9	53
MCW-8b (County)	1145	7/24/19		<	9	50
MCW-8b (County)	1145	7/25/19		<	9	47
MCW-8b (County)	1145	7/26/19		<	9	45
MCW-8b (County)	1145	7/27/19		<	9	42
MCW-8b (County)	1145	7/28/19		<	9	40
MCW-8b (County)	1145	7/29/19		<	9	38
MCW-8b (County)	1235	7/30/19◆		<	9	36
MCW-8b (County)	1235	7/31/19		<	9	33
MCW-9 (County)	-	7/1/19◆	Dry	<	9	9
MCW-9 (County)	-	7/2/19	Dry	<	9	9
MCW-9 (County)	-	7/3/19	Dry	<	9	9
MCW-9 (County)	-	7/4/19	Dry	<	9	9
MCW-9 (County)	-	7/5/19	Dry	<	9	9
MCW-9 (County)	-	7/6/19	Dry	<	9	9
MCW-9 (County)	-	7/7/19	Dry	<	9	9
MCW-9 (County)	-	7/8/19	Dry	<	9	9
MCW-9 (County)	-	7/9/19◆	Dry	<	9	9
MCW-9 (County)	-	7/10/19	Dry	<	9	9
MCW-9 (County)	-	7/11/19	Dry	<	9	9
MCW-9 (County)	-	7/12/19	Dry	<	9	9
MCW-9 (County)	-	7/13/19	Dry	<	9	9
MCW-9 (County)	-	7/14/19	Dry	<	9	9
MCW-9 (County)	-	7/15/19	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	–	7/16/19◆	Dry	<	9	9
MCW-9 (County)	–	7/17/19	Dry	<	9	9
MCW-9 (County)	–	7/18/19	Dry	<	9	9
MCW-9 (County)	–	7/19/19	Dry	<	9	9
MCW-9 (County)	–	7/20/19	Dry	<	9	9
MCW-9 (County)	–	7/21/19	Dry	<	9	9
MCW-9 (County)	–	7/22/19	Dry	<	9	9
MCW-9 (County)	–	7/23/19◆	Dry	<	9	9
MCW-9 (County)	–	7/24/19	Dry	<	9	9
MCW-9 (County)	–	7/25/19	Dry	<	9	9
MCW-9 (County)	–	7/26/19	Dry	<	9	9
MCW-9 (County)	–	7/27/19	Dry	<	9	9
MCW-9 (County)	–	7/28/19	Dry	<	9	9
MCW-9 (County)	–	7/29/19	Dry	<	9	9
MCW-9 (County)	–	7/30/19◆	Dry	<	9	9
MCW-9 (County)	–	7/31/19	Dry	<	9	9
MCW-12 (County)	1025	7/1/19◆		=	20	59
MCW-12 (County)	1025	7/2/19		=	20	59
MCW-12 (County)	1025	7/3/19		=	20	59
MCW-12 (County)	1025	7/4/19		=	20	60
MCW-12 (County)	1025	7/5/19		=	20	62
MCW-12 (County)	1025	7/6/19		=	20	64
MCW-12 (County)	1025	7/7/19		=	20	65
MCW-12 (County)	1025	7/8/19		=	20	67
MCW-12 (County)	1053	7/9/19◆		=	330	76
MCW-12 (County)	1053	7/10/19		=	330	85
MCW-12 (County)	1053	7/11/19		=	330	88
MCW-12 (County)	1053	7/12/19		=	330	91
MCW-12 (County)	1053	7/13/19		=	330	94
MCW-12 (County)	1053	7/14/19		=	330	97
MCW-12 (County)	1053	7/15/19		=	330	100
MCW-12 (County)	1028	7/16/19◆		=	490	104
MCW-12 (County)	1028	7/17/19		=	490	109
MCW-12 (County)	1028	7/18/19		=	490	109
MCW-12 (County)	1028	7/19/19		=	490	109
MCW-12 (County)	1028	7/20/19		=	490	109
MCW-12 (County)	1028	7/21/19		=	490	109
MCW-12 (County)	1028	7/22/19		=	490	109
MCW-12 (County)	1110	7/23/19◆		=	490	109
MCW-12 (County)	1110	7/24/19		=	490	118
MCW-12 (County)	1110	7/25/19		=	490	128
MCW-12 (County)	1110	7/26/19		=	490	138
MCW-12 (County)	1110	7/27/19		=	490	150
MCW-12 (County)	1110	7/28/19		=	490	162
MCW-12 (County)	1110	7/29/19		=	490	176
MCW-12 (County)	1205	7/30/19◆		=	20	171
MCW-12 (County)	1205	7/31/2019		=	20	171

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-14b (City and County)	950	7/1/19◆		=	78	265
MCW-14b (City and County)	950	7/2/19		=	78	265
MCW-14b (City and County)	950	7/3/19		=	78	265
MCW-14b (City and County)	950	7/4/19		=	78	270
MCW-14b (City and County)	950	7/5/19		=	78	275
MCW-14b (City and County)	950	7/6/19		=	78	280
MCW-14b (City and County)	950	7/7/19		=	78	285
MCW-14b (City and County)	950	7/8/19		=	78	291
MCW-14b (City and County)	1021	7/9/19◆		=	490	315
MCW-14b (City and County)	1021	7/10/19		=	490	341
MCW-14b (City and County)	1021	7/11/19		=	490	323
MCW-14b (City and County)	1021	7/12/19		=	490	307
MCW-14b (City and County)	1021	7/13/19		=	490	291
MCW-14b (City and County)	1021	7/14/19		=	490	276
MCW-14b (City and County)	1021	7/15/19		=	490	262
MCW-14b (City and County)	955	7/16/19◆		=	130	237
MCW-14b (City and County)	955	7/17/19		=	130	215
MCW-14b (City and County)	955	7/18/19		=	130	211
MCW-14b (City and County)	955	7/19/19		=	130	207
MCW-14b (City and County)	955	7/20/19		=	130	203
MCW-14b (City and County)	955	7/21/19		=	130	200
MCW-14b (City and County)	955	7/22/19		=	130	196
MCW-14b (City and County)	1040	7/23/19◆		=	130	192
MCW-14b (City and County)	1040	7/24/19		=	130	186
MCW-14b (City and County)	1040	7/25/19		=	130	181
MCW-14b (City and County)	1040	7/26/19		=	130	175
MCW-14b (City and County)	1040	7/27/19		=	130	170
MCW-14b (City and County)	1040	7/28/19		=	130	165
MCW-14b (City and County)	1040	7/29/19		=	130	159
MCW-14b (City and County)	1145	7/30/2019◆		=	630	163
MCW-14b (City and County)	1145	7/31/2019		=	630	175
MCW-15c (City)	1000	7/1/19◆		=	20	98
MCW-15c (City)	1000	7/2/19		=	20	99
MCW-15c (City)	1000	7/3/19		=	20	99
MCW-15c (City)	1015	7/4/19		=	20	96
MCW-15c (City)	1015	7/5/19		=	20	94
MCW-15c (City)	1015	7/6/19		=	20	91
MCW-15c (City)	1015	7/7/19		=	20	89
MCW-15c (City)	1015	7/8/19		=	20	87
MCW-15c (City)	1015	7/9/19◆		=	20	84
MCW-15c (City)	1015	7/10/19		=	20	82
MCW-15c (City)	925	7/11/19		=	20	71
MCW-15c (City)	925	7/12/19		=	20	62
MCW-15c (City)	925	7/13/19		=	20	54
MCW-15c (City)	925	7/14/19		=	20	47
MCW-15c (City)	925	7/15/19		=	20	41

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)	925	7/16/19♦		=	20	36
MCW-15c (City)	925	7/17/19		=	20	31
MCW-15c (City)	907	7/18/19		=	20	31
MCW-15c (City)	907	7/19/19		=	20	31
MCW-15c (City)	907	7/20/19		=	20	31
MCW-15c (City)	907	7/21/19		=	20	31
MCW-15c (City)	907	7/22/19		=	20	31
MCW-15c (City)	907	7/23/19♦		=	170	33
MCW-15c (City)	932	7/24/19		=	170	34
MCW-15c (City)	932	7/25/19		=	170	34
MCW-15c (City)	932	7/26/19		=	170	34
MCW-15c (City)	932	7/27/19		=	170	34
MCW-15c (City)	932	7/28/19		=	170	35
MCW-15c (City)	932	7/29/19		=	170	35
MCW-15c (City)	1120	7/30/2019♦		=	45	34
MCW-15c (City)	1120	7/31/2019		=	45	35
MCW-17 (City and County)	945	7/1/19♦		=	490	1,396
MCW-17 (City and County)	945	7/2/19		=	490	1,374
MCW-17 (City and County)	945	7/3/19		=	490	1,353
MCW-17 (City and County)	945	7/4/19		=	490	1,249
MCW-17 (City and County)	945	7/5/19		=	490	1,153
MCW-17 (City and County)	945	7/6/19		=	490	1,064
MCW-17 (City and County)	945	7/7/19		=	490	982
MCW-17 (City and County)	945	7/8/19		=	490	907
MCW-17 (City and County)	945	7/9/19♦		=	330	826
MCW-17 (City and County)	945	7/10/19		=	330	753
MCW-17 (City and County)	900	7/11/19		=	330	704
MCW-17 (City and County)	900	7/12/19		=	330	659
MCW-17 (City and County)	900	7/13/19		=	330	617
MCW-17 (City and County)	900	7/14/19		=	330	578
MCW-17 (City and County)	900	7/15/19		=	330	541
MCW-17 (City and County)	900	7/16/19♦		=	1,300	530
MCW-17 (City and County)	900	7/17/19		=	1,300	519
MCW-17 (City and County)	841	7/18/19		=	1,300	551
MCW-17 (City and County)	841	7/19/19		=	1,300	584
MCW-17 (City and County)	841	7/20/19		=	1,300	620
MCW-17 (City and County)	841	7/21/19		=	1,300	658
MCW-17 (City and County)	841	7/22/19		=	1,300	698
MCW-17 (City and County)	841	7/23/19♦		=	45	662
MCW-17 (City and County)	906	7/24/19		=	45	590
MCW-17 (City and County)	906	7/25/19		=	45	526
MCW-17 (City and County)	906	7/26/19		=	45	469
MCW-17 (City and County)	906	7/27/19		=	45	419
MCW-17 (City and County)	906	7/28/19		=	45	373
MCW-17 (City and County)	906	7/29/19		=	45	333
MCW-17 (City and County)	-	7/30/2019♦	Dry	<	9	281
MCW-17 (City and County)	-	7/31/2019	Dry	<	9	246

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
				E. coli		E. coli
				(235 MPN)		(126 MPN)
MCW-18 (County)	-	7/1/19♦	Dry	<	9	9
MCW-18 (County)	-	7/2/19	Dry	<	9	9
MCW-18 (County)	-	7/3/19	Dry	<	9	9
MCW-18 (County)	-	7/4/19	Dry	<	9	9
MCW-18 (County)	-	7/5/19	Dry	<	9	9
MCW-18 (County)	-	7/6/19	Dry	<	9	9
MCW-18 (County)	-	7/7/19	Dry	<	9	9
MCW-18 (County)	-	7/8/19	Dry	<	9	9
MCW-18 (County)	-	7/9/19♦	Dry	<	9	9
MCW-18 (County)	-	7/10/19	Dry	<	9	9
MCW-18 (County)	-	7/11/19	Dry	<	9	9
MCW-18 (County)	-	7/12/19	Dry	<	9	9
MCW-18 (County)	-	7/13/19	Dry	<	9	9
MCW-18 (County)	-	7/14/19	Dry	<	9	9
MCW-18 (County)	-	7/15/19	Dry	<	9	9
MCW-18 (County)	-	7/16/19♦	Dry	<	9	9
MCW-18 (County)	-	7/17/19	Dry	<	9	9
MCW-18 (County)	-	7/18/19	Dry	<	9	9
MCW-18 (County)	-	7/19/19	Dry	<	9	9
MCW-18 (County)	-	7/20/19	Dry	<	9	9
MCW-18 (County)	-	7/21/19	Dry	<	9	9
MCW-18 (County)	-	7/22/19	Dry	<	9	9
MCW-18 (County)	-	7/23/19♦	Dry	<	9	9
MCW-18 (County)	-	7/24/19	Dry	<	9	9
MCW-18 (County)	-	7/25/19	Dry	<	9	9
MCW-18 (County)	-	7/26/19	Dry	<	9	9
MCW-18 (County)	-	7/27/19	Dry	<	9	9
MCW-18 (County)	-	7/28/19	Dry	<	9	9
MCW-18 (County)	-	7/29/19	Dry	<	9	9
MCW-18 (County)	-	7/30/2019♦	Dry	<	9	9
MCW-18 (County)	-	7/31/2019	Dry	<	9	9

Notes:

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100mL. Results of <18 are adjusted to use half the MRL (=9) in the calculation of the geometric mean.
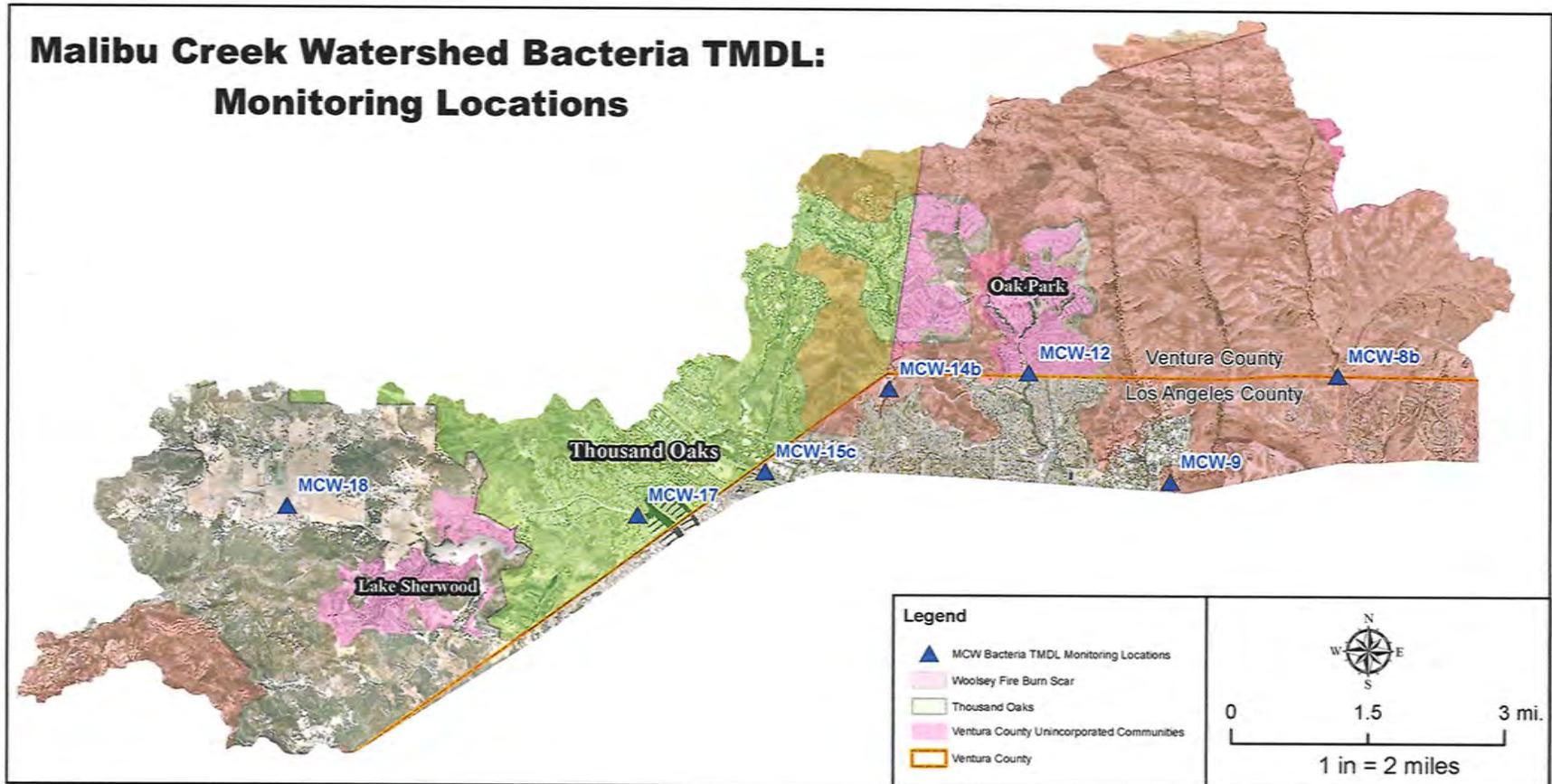
Reporting limit changed from 2.0 MPN/100 ml to 1.8 MPN/100 ml beginning November 7, 2017.

* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

♦ Date of sampling

- Time is not applicable, as no sample was collected due to insufficient flow

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

county of ventura

Jeff Pratt
Agency Director

Central Services
Joan Araujo, Director

Engineering Services
Christopher Cooper, Director

Transportation
David Fleisch, Director

Water & Sanitation
Joseph Pope, Director

Watershed Protection
Glenn Shephard, Director

September 30, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of August 2019. Sites were sampled weekly on Tuesday (August
6, 13, 20, and 27, 2019). Beginning on and following July 23, 2019, Rincon Consultants
Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry."

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect [e.g., < 18 most probable number per 100 milliliters
(MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by
assigning a concentration value of half the MRL, as a zero value is undefined
logarithmically, and as such would be unusable in the geometric mean calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10
is applied to all samples to quantify results that exceed the standard upper reporting
limit of a single dilution. As a result, the MRL for samples analyzed for this program is
18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire which may effect water quality in the watershed. A map showing the location of the monitoring sites and the footprint of the fire is included below.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

for

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
        Ewelina Mutkowska, County of Ventura (via email)
        Paul Jorgensen, City of Thousand Oaks (via email)
        Joe Bellomo, Willdan Associates (via email)
        Kelly Fisher, City of Agoura Hills (via email)
        Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain	Single Sample (as sampled)	E. coli (235 MPN)
MCW-8b (County)	1155	8/6/2019♦		<	18
MCW-8b (County)	1215	8/13/2019♦		<	18
MCW-8b (County)	1135	8/20/2019♦		=	45
MCW-8b (County)	1145	8/27/2019♦		=	45
MCW-9 (County)	-	8/6/2019♦			Dry
MCW-9 (County)	-	8/13/2019♦			Dry
MCW-9 (County)	-	8/20/2019♦			Dry
MCW-9 (County)	-	8/27/2019♦			Dry
MCW-12 (County)	1110	8/6/2019♦		=	120
MCW-12 (County)	1125	8/13/2019♦		=	130
MCW-12 (County)	1045	8/20/2019♦		=	20
MCW-12 (County)	1110	8/27/2019♦		=	20
MCW-14b (City and County)	1040	8/6/2019♦		=	110
MCW-14b (City and County)	1054	8/13/2019♦		=	130
MCW-14b (City and County)	1015	8/20/2019♦		=	220
MCW-14b (City and County)	1040	8/27/2019♦		=	330
MCW-15c (City)	950	8/6/2019♦		<	18
MCW-15c (City)	1005	8/13/2019♦		=	20
MCW-15c (City)	945	8/20/2019♦		<	18
MCW-15c (City)	1000	8/27/2019♦		=	20
MCW-17 (City and County)	-	8/6/2019♦			Dry
MCW-17 (City and County)	-	8/13/2019♦			Dry
MCW-17 (City and County)	-	8/20/2019♦			Dry
MCW-17 (City and County)	-	8/27/2019♦			Dry
MCW-18 (County)	-	8/6/2019♦			Dry
MCW-18 (County)	-	8/13/2019♦			Dry
MCW-18 (County)	-	8/20/2019♦			Dry
MCW-18 (County)	-	8/27/2019♦			Dry

Notes:
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦Date of sampling
- Time is not applicable, as no sample was collected due to insufficient flow
Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting
limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017
A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 mL.

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1235	8/1/2019		<	18	31
MCW-8b (County)	1235	8/2/2019		<	18	28
MCW-8b (County)	1235	8/3/2019		<	18	26
MCW-8b (County)	1235	8/4/2019		<	18	24
MCW-8b (County)	1235	8/5/2019		<	18	22
MCW-8b (County)	1155	8/6/2019 ♦		<	18	20
MCW-8b (County)	1155	8/7/2019		<	18	19
MCW-8b (County)	1155	8/8/2019		<	18	18
MCW-8b (County)	1155	8/9/2019		<	18	17
MCW-8b (County)	1155	8/10/2019		<	18	16
MCW-8b (County)	1155	8/11/2019		<	18	15
MCW-8b (County)	1155	8/12/2019		<	18	14
MCW-8b (County)	1215	8/13/2019 ♦		<	18	14
MCW-8b (County)	1215	8/14/2019		<	18	13
MCW-8b (County)	1215	8/15/2019		<	18	12
MCW-8b (County)	1215	8/16/2019		<	18	12
MCW-8b (County)	1215	8/17/2019		<	18	11
MCW-8b (County)	1215	8/18/2019		<	18	11
MCW-8b (County)	1215	8/19/2019		<	18	10
MCW-8b (County)	1135	8/20/2019 ♦		=	45	10
MCW-8b (County)	1135	8/21/2019		=	45	10
MCW-8b (County)	1135	8/22/2019		=	45	11
MCW-8b (County)	1135	8/23/2019		=	45	11
MCW-8b (County)	1135	8/24/2019		=	45	12
MCW-8b (County)	1135	8/25/2019		=	45	12
MCW-8b (County)	1135	8/26/2019		=	45	13
MCW-8b (County)	1145	8/27/2019 ♦		=	45	14
MCW-8b (County)	1145	8/28/2019		=	45	15
MCW-8b (County)	1145	8/29/2019		=	45	15
MCW-8b (County)	1145	8/30/2019		=	45	16
MCW-8b (County)	1145	8/31/2019		=	45	17
MCW-9 (County)	-	8/1/2019	Dry	<	9	9
MCW-9 (County)	-	8/2/2019	Dry	<	9	9
MCW-9 (County)	-	8/3/2019	Dry	<	9	9
MCW-9 (County)	-	8/4/2019	Dry	<	9	9
MCW-9 (County)	-	8/5/2019	Dry	<	9	9
MCW-9 (County)	-	8/6/2019 ♦	Dry	<	9	9
MCW-9 (County)	-	8/7/2019	Dry	<	9	9
MCW-9 (County)	-	8/8/2019	Dry	<	9	9
MCW-9 (County)	-	8/9/2019	Dry	<	9	9
MCW-9 (County)	-	8/10/2019	Dry	<	9	9
MCW-9 (County)	-	8/11/2019	Dry	<	9	9
MCW-9 (County)	-	8/12/2019	Dry	<	9	9
MCW-9 (County)	-	8/13/2019 ♦	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain	Single Sample	(adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-9 (County)	-	8/14/2019	Dry	<	9	9
MCW-9 (County)	-	8/15/2019	Dry	<	9	9
MCW-9 (County)	-	8/16/2019	Dry	<	9	9
MCW-9 (County)	-	8/17/2019	Dry	<	9	9
MCW-9 (County)	-	8/18/2019	Dry	<	9	9
MCW-9 (County)	-	8/19/2019	Dry	<	9	9
MCW-9 (County)	-	8/20/2019♦	Dry	<	9	9
MCW-9 (County)	-	8/21/2019	Dry	<	9	9
MCW-9 (County)	-	8/22/2019	Dry	<	9	9
MCW-9 (County)	-	8/23/2019	Dry	<	9	9
MCW-9 (County)	-	8/24/2019	Dry	<	9	9
MCW-9 (County)	-	8/25/2019	Dry	<	9	9
MCW-9 (County)	-	8/26/2019	Dry	<	9	9
MCW-9 (County)	-	8/27/2019♦	Dry	<	9	9
MCW-9 (County)	-	8/28/2019	Dry	<	9	9
MCW-9 (County)	-	8/29/2019	Dry	<	9	9
MCW-9 (County)	-	8/30/2019	Dry	<	9	9
MCW-9 (County)	-	8/31/2019	Dry	<	9	9
MCW-12 (County)	1205	8/1/2019		=	20	171
MCW-12 (County)	1205	8/2/2019		=	20	171
MCW-12 (County)	1205	8/3/2019		=	20	171
MCW-12 (County)	1205	8/4/2019		=	20	171
MCW-12 (County)	1205	8/5/2019		=	20	171
MCW-12 (County)	1110	8/6/2019♦		=	120	182
MCW-12 (County)	1110	8/7/2019		=	120	193
MCW-12 (County)	1110	8/8/2019		=	120	186
MCW-12 (County)	1110	8/9/2019		=	120	180
MCW-12 (County)	1110	8/10/2019		=	120	174
MCW-12 (County)	1110	8/11/2019		=	120	169
MCW-12 (County)	1110	8/12/2019		=	120	163
MCW-12 (County)	1125	8/13/2019♦		=	130	158
MCW-12 (County)	1125	8/14/2019		=	130	153
MCW-12 (County)	1125	8/15/2019		=	130	147
MCW-12 (County)	1125	8/16/2019		=	130	140
MCW-12 (County)	1125	8/17/2019		=	130	134
MCW-12 (County)	1125	8/18/2019		=	130	128
MCW-12 (County)	1125	8/19/2019		=	130	123
MCW-12 (County)	1045	8/20/2019♦		=	20	110
MCW-12 (County)	1045	8/21/2019		=	20	99
MCW-12 (County)	1045	8/22/2019		=	20	89
MCW-12 (County)	1045	8/23/2019		=	20	80
MCW-12 (County)	1045	8/24/2019		=	20	72
MCW-12 (County)	1045	8/25/2019		=	20	65
MCW-12 (County)	1045	8/26/2019		=	20	58
MCW-12 (County)	1110	8/27/2019♦		=	20	52
MCW-12 (County)	1110	8/28/2019		=	20	47

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-12 (County)	1110	8/29/2019		=	20	47
MCW-12 (County)	1110	8/30/2019		=	20	47
MCW-12 (County)	1110	8/31/2019		=	20	47
MCW-14b (City and County)	1145	8/1/2019		=	630	187
MCW-14b (City and County)	1145	8/2/2019		=	630	201
MCW-14b (City and County)	1145	8/3/2019		=	630	215
MCW-14b (City and County)	1145	8/4/2019		=	630	231
MCW-14b (City and County)	1145	8/5/2019		=	630	247
MCW-14b (City and County)	1040	8/6/2019 ♦		=	110	250
MCW-14b (City and County)	1040	8/7/2019		=	110	253
MCW-14b (City and County)	1040	8/8/2019		=	110	241
MCW-14b (City and County)	1040	8/9/2019		=	110	229
MCW-14b (City and County)	1040	8/10/2019		=	110	218
MCW-14b (City and County)	1040	8/11/2019		=	110	207
MCW-14b (City and County)	1040	8/12/2019		=	110	197
MCW-14b (City and County)	1054	8/13/2019 ♦		=	130	189
MCW-14b (City and County)	1054	8/14/2019		=	130	181
MCW-14b (City and County)	1054	8/15/2019		=	130	181
MCW-14b (City and County)	1054	8/16/2019		=	130	181
MCW-14b (City and County)	1054	8/17/2019		=	130	181
MCW-14b (City and County)	1054	8/18/2019		=	130	181
MCW-14b (City and County)	1054	8/19/2019		=	130	181
MCW-14b (City and County)	1015	8/20/2019 ♦		=	220	184
MCW-14b (City and County)	1015	8/21/2019		=	220	187
MCW-14b (City and County)	1015	8/22/2019		=	220	190
MCW-14b (City and County)	1015	8/23/2019		=	220	194
MCW-14b (City and County)	1015	8/24/2019		=	220	197
MCW-14b (City and County)	1015	8/25/2019		=	220	201
MCW-14b (City and County)	1015	8/26/2019		=	220	204
MCW-14b (City and County)	1040	8/27/2019 ♦		=	330	211
MCW-14b (City and County)	1040	8/28/2019		=	330	217
MCW-14b (City and County)	1040	8/29/2019		=	330	213
MCW-14b (City and County)	1040	8/30/2019		=	330	208
MCW-14b (City and County)	1040	8/31/2019		=	330	204
MCW-15c (City)	1120	8/1/2019		=	45	36
MCW-15c (City)	1120	8/2/2019		=	45	37
MCW-15c (City)	1120	8/3/2019		=	45	38
MCW-15c (City)	1120	8/4/2019		=	45	39
MCW-15c (City)	1120	8/5/2019		=	45	40
MCW-15c (City)	950	8/6/2019 ♦		<	18	39
MCW-15c (City)	950	8/7/2019		<	18	38
MCW-15c (City)	950	8/8/2019		<	18	37
MCW-15c (City)	950	8/9/2019		<	18	36
MCW-15c (City)	950	8/10/2019		<	18	35
MCW-15c (City)	950	8/11/2019		<	18	34

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c (City)	950	8/12/2019		<	18	33
MCW-15c (City)	1005	8/13/2019♦		=	20	33
MCW-15c (City)	1005	8/14/2019		=	20	33
MCW-15c (City)	1005	8/15/2019		=	20	33
MCW-15c (City)	1005	8/16/2019		=	20	33
MCW-15c (City)	1005	8/17/2019		=	20	33
MCW-15c (City)	1005	8/18/2019		=	20	33
MCW-15c (City)	1005	8/19/2019		=	20	33
MCW-15c (City)	945	8/20/2019♦		<	18	32
MCW-15c (City)	945	8/21/2019		<	18	31
MCW-15c (City)	945	8/22/2019		<	18	28
MCW-15c (City)	945	8/23/2019		<	18	26
MCW-15c (City)	945	8/24/2019		<	18	23
MCW-15c (City)	945	8/25/2019		<	18	21
MCW-15c (City)	945	8/26/2019		<	18	19
MCW-15c (City)	1000	8/27/2019♦		=	20	18
MCW-15c (City)	1000	8/28/2019		=	20	17
MCW-15c (City)	1000	8/29/2019		=	20	16
MCW-15c (City)	1000	8/30/2019		=	20	16
MCW-15c (City)	1000	8/31/2019		=	20	15
MCW-17 (City and County)	-	8/1/2019	Dry	<	9	216
MCW-17 (City and County)	-	8/2/2019	Dry	<	9	189
MCW-17 (City and County)	-	8/3/2019	Dry	<	9	165
MCW-17 (City and County)	-	8/4/2019	Dry	<	9	144
MCW-17 (City and County)	-	8/5/2019	Dry	<	9	126
MCW-17 (City and County)	-	8/6/2019♦	Dry	<	9	111
MCW-17 (City and County)	-	8/7/2019	Dry	<	9	97
MCW-17 (City and County)	-	8/8/2019	Dry	<	9	86
MCW-17 (City and County)	-	8/9/2019	Dry	<	9	76
MCW-17 (City and County)	-	8/10/2019	Dry	<	9	68
MCW-17 (City and County)	-	8/11/2019	Dry	<	9	60
MCW-17 (City and County)	-	8/12/2019	Dry	<	9	53
MCW-17 (City and County)	-	8/13/2019♦	Dry	<	9	47
MCW-17 (City and County)	-	8/14/2019	Dry	<	9	42
MCW-17 (City and County)	-	8/15/2019	Dry	<	9	35
MCW-17 (City and County)	-	8/16/2019	Dry	<	9	30
MCW-17 (City and County)	-	8/17/2019	Dry	<	9	25
MCW-17 (City and County)	-	8/18/2019	Dry	<	9	22
MCW-17 (City and County)	-	8/19/2019	Dry	<	9	18
MCW-17 (City and County)	-	8/20/2019♦	Dry	<	9	15
MCW-17 (City and County)	-	8/21/2019	Dry	<	9	13
MCW-17 (City and County)	-	8/22/2019	Dry	<	9	12
MCW-17 (City and County)	-	8/23/2019	Dry	<	9	12
MCW-17 (City and County)	-	8/24/2019	Dry	<	9	11
MCW-17 (City and County)	-	8/25/2019	Dry	<	9	11
MCW-17 (City and County)	-	8/26/2019	Dry	<	9	10

Location (Jurisdiction)	Time	Date	Rain	Single Sample	(adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	-	8/27/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	8/28/2019	Dry	<	9	9
MCW-17 (City and County)	-	8/29/2019	Dry	<	9	9
MCW-17 (City and County)	-	8/30/2019	Dry	<	9	9
MCW-17 (City and County)	-	8/31/2019	Dry	<	9	9
MCW-18 (County)	-	8/1/2019	Dry	<	9	9
MCW-18 (County)	-	8/2/2019	Dry	<	9	9
MCW-18 (County)	-	8/3/2019	Dry	<	9	9
MCW-18 (County)	-	8/4/2019	Dry	<	9	9
MCW-18 (County)	-	8/5/2019	Dry	<	9	9
MCW-18 (County)	-	8/6/2019♦	Dry	<	9	9
MCW-18 (County)	-	8/7/2019	Dry	<	9	9
MCW-18 (County)	-	8/8/2019	Dry	<	9	9
MCW-18 (County)	-	8/9/2019	Dry	<	9	9
MCW-18 (County)	-	8/10/2019	Dry	<	9	9
MCW-18 (County)	-	8/11/2019	Dry	<	9	9
MCW-18 (County)	-	8/12/2019	Dry	<	9	9
MCW-18 (County)	-	8/13/2019♦	Dry	<	9	9
MCW-18 (County)	-	8/14/2019	Dry	<	9	9
MCW-18 (County)	-	8/15/2019	Dry	<	9	9
MCW-18 (County)	-	8/16/2019	Dry	<	9	9
MCW-18 (County)	-	8/17/2019	Dry	<	9	9
MCW-18 (County)	-	8/18/2019	Dry	<	9	9
MCW-18 (County)	-	8/19/2019	Dry	<	9	9
MCW-18 (County)	-	8/20/2019♦	Dry	<	9	9
MCW-18 (County)	-	8/21/2019	Dry	<	9	9
MCW-18 (County)	-	8/22/2019	Dry	<	9	9
MCW-18 (County)	-	8/23/2019	Dry	<	9	9
MCW-18 (County)	-	8/24/2019	Dry	<	9	9
MCW-18 (County)	-	8/25/2019	Dry	<	9	9
MCW-18 (County)	-	8/26/2019	Dry	<	9	9
MCW-18 (County)	-	8/27/2019♦	Dry	<		9
MCW-18 (County)	-	8/28/2019	Dry	<	9	9
MCW-18 (County)	-	8/29/2019	Dry	<	9	9
MCW-18 (County)	-	8/30/2019	Dry	<	9	9
MCW-18 (County)	-	8/31/2019	Dry	<	9	9

Notes:

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Results of <18 are adjusted to use half the MRL (=9) in the calculation of the geometric mean

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017
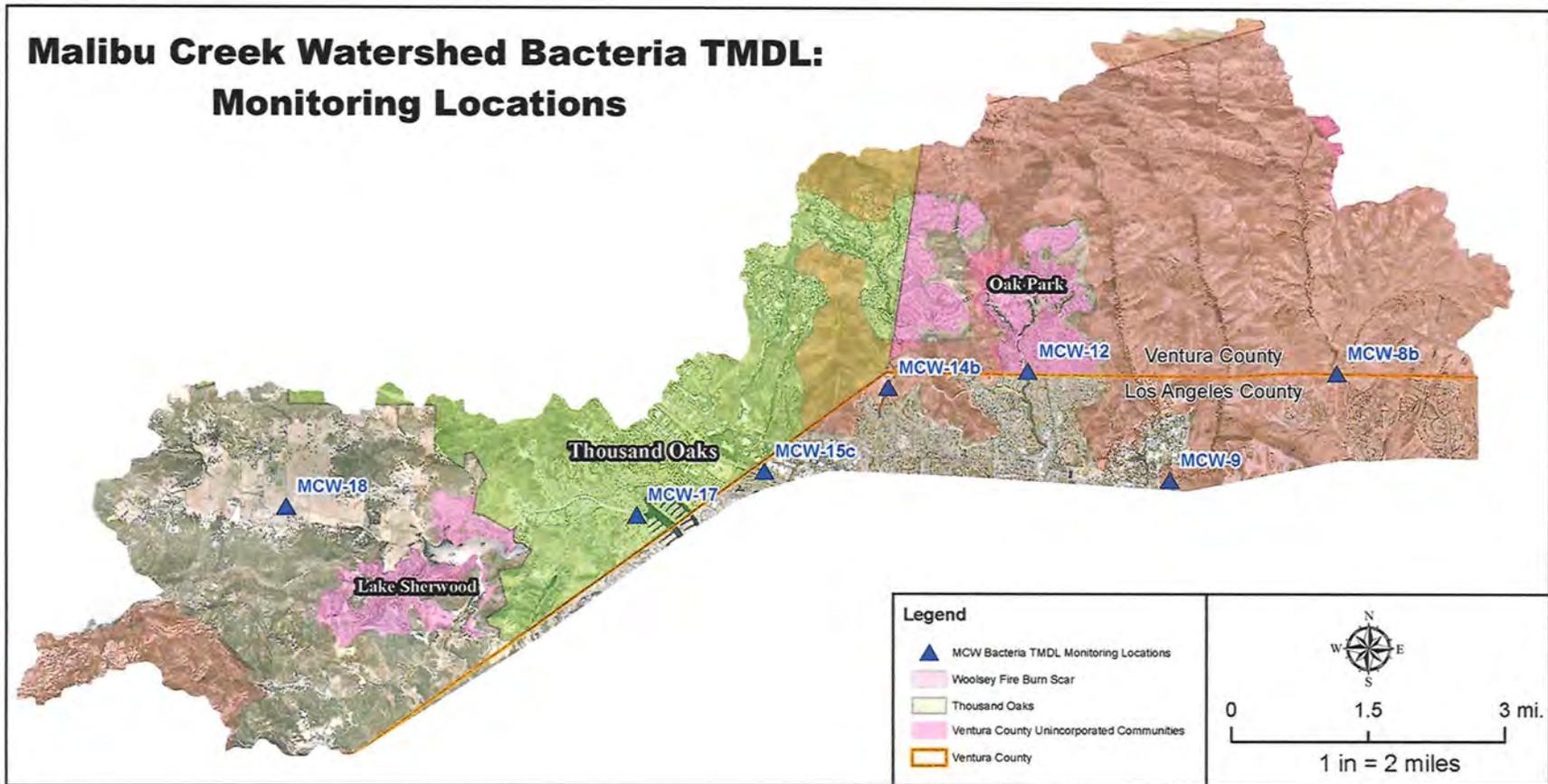
* The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

♦ Date of sampling

- Time is not applicable, as no sample was collected due to insufficient flow

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100mL

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

Legend

▲ MCW Bacteria TMDL Monitoring Locations
Woolsey Fire Burn Scar
Thousand Oaks
Ventura County Unincorporated Communities
Ventura County

0   1.5   3 mi.

1 in = 2 miles

PUBLIC
VENTURA COUNTY
WORKS

county of ventura

Jeff Pratt
Agency Director

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

October 30, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of September 2019. Sites were sampled weekly on Tuesday
(September 3, 10, 17, and 24, 2019). Beginning on and following July 23, 2019, Rincon
Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry."

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect [e.g., < 18 most probable number per 100 milliliters
(MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by
assigning a concentration value of half the MRL, as a zero value is undefined
logarithmically, and as such would be unusable in the geometric mean calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10
is applied to all samples to quantify results that exceed the standard upper reporting
limit of a single dilution. As a result, the MRL for samples analyzed for this program is
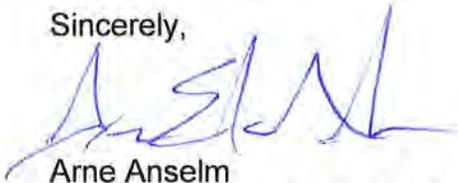18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

The Woolsey Fire burned the Malibu Creek Watershed in November 2018, including sites MCW-8b (Las Virgenes) and MCW-9 (Cheseboro Creek) and the surrounding area of MCW-12 (Medea Creek) and MCW-14b (Lindero Creek). All sites were exposed to smoke and ash from the fire which may affect water quality in the watershed. A map showing the location of the monitoring sites and the footprint of the fire is included below.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
      Ewelina Mutkowska, County of Ventura (via email)
      Paul Jorgensen, City of Thousand Oaks (via email)
      Joe Bellomo, Willdan Associates (via email)
      Kelly Fisher, City of Agoura Hills (via email)
      Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain	Single Sample (as sampled)	E. coli (235 MPN)
MCW-8b (County)	1305	9/3/2019◆		=	45
MCW-8b (County)	1230	9/10/2019◆		=	130
MCW-8b (County)	1250	9/17/2019◆		=	20
MCW-8b (County)	1210	9/24/2019◆		=	45
MCW-9 (County)	-	9/3/2019◆			Dry
MCW-9 (County)	-	9/10/2019◆			Dry
MCW-9 (County)	-	9/17/2019◆			Dry
MCW-9 (County)	-	9/24/2019◆			Dry
MCW-12 (County)	1145	9/3/2019◆		=	61
MCW-12 (County)	1150	9/10/2019◆		=	130
MCW-12 (County)	1205	9/17/2019◆		=	45
MCW-12 (County)	1140	9/24/2019◆		=	130
MCW-14b (City and County)	1110	9/3/2019◆		=	68
MCW-14b (City and County)	1100	9/10/2019◆		=	68
MCW-14b (City and County)	1130	9/17/2019◆		=	330
MCW-14b (City and County)	1115	9/24/2019◆		=	68
MCW-15c (City)	1035	9/3/2019◆		<	18
MCW-15c (City)	1030	9/10/2019◆		=	45
MCW-15c (City)	1055	9/17/2019◆		<	18
MCW-15c (City)	1040	9/24/2019◆		<	18
MCW-17 (City and County)	-	9/3/2019◆			Dry
MCW-17 (City and County)	-	9/10/2019◆			Dry
MCW-17 (City and County)	-	9/17/2019◆			Dry
MCW-17 (City and County)	-	9/24/2019◆			Dry
MCW-18 (County)	-	9/3/2019◆			Dry
MCW-18 (County)	-	9/10/2019◆			Dry
MCW-18 (County)	-	9/17/2019◆			Dry
MCW-18 (County)	-	9/24/2019◆			Dry

Notes:
*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
◆: Date of sampling
-: Time is not applicable, as no sample was collected due to insufficient flow
Dry: Samples were not collected due to insufficient flow
Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017
A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100mL

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1145	9/1/2019		=	45	18
MCW-8b (County)	1145	9/2/2019		=	45	19
MCW-8b (County)	1305	9/3/2019 ♦		=	45	20
MCW-8b (County)	1305	9/4/2019		=	45	21
MCW-8b (County)	1305	9/5/2019		=	45	22
MCW-8b (County)	1305	9/6/2019		=	45	24
MCW-8b (County)	1305	9/7/2019		=	45	25
MCW-8b (County)	1305	9/8/2019		=	45	26
MCW-8b (County)	1305	9/9/2019		=	45	28
MCW-8b (County)	1230	9/10/2019 ♦		=	130	30
MCW-8b (County)	1230	9/11/2019		=	130	33
MCW-8b (County)	1230	9/12/2019		=	130	36
MCW-8b (County)	1230	9/13/2019		=	130	40
MCW-8b (County)	1230	9/14/2019		=	130	43
MCW-8b (County)	1230	9/15/2019		=	130	47
MCW-8b (County)	1230	9/16/2019		=	130	52
MCW-8b (County)	1250	9/17/2019 ♦		=	20	53
MCW-8b (County)	1250	9/18/2019		=	20	55
MCW-8b (County)	1250	9/19/2019		=	20	53
MCW-8b (County)	1250	9/20/2019		=	20	52
MCW-8b (County)	1250	9/21/2019		=	20	50
MCW-8b (County)	1250	9/22/2019		=	20	49
MCW-8b (County)	1250	9/23/2019		=	20	48
MCW-8b (County)	1210	9/24/2019 ♦		=	45	48
MCW-8b (County)	1210	9/25/2019		=	45	48
MCW-8b (County)	1210	9/26/2019		=	45	48
MCW-8b (County)	1210	9/27/2019		=	45	48
MCW-8b (County)	1210	9/28/2019		=	45	48
MCW-8b (County)	1210	9/29/2019		=	45	48
MCW-8b (County)	1210	9/30/2019		=	45	48
MCW-9 (County)	-	9/1/2019	Dry	<	9	9
MCW-9 (County)	-	9/2/2019	Dry	<	9	9
MCW-9 (County)	-	9/3/2019 ♦	Dry	<	9	9
MCW-9 (County)	-	9/4/2019	Dry	<	9	9
MCW-9 (County)	-	9/5/2019	Dry	<	9	9
MCW-9 (County)	-	9/6/2019	Dry	<	9	9
MCW-9 (County)	-	9/7/2019	Dry	<	9	9
MCW-9 (County)	-	9/8/2019	Dry	<	9	9
MCW-9 (County)	-	9/9/2019	Dry	<	9	9
MCW-9 (County)	-	9/10/2019 ♦	Dry	<	9	9
MCW-9 (County)	-	9/11/2019	Dry	<	9	9
MCW-9 (County)	-	9/12/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	9/13/2019	Dry	<	9	9
MCW-9 (County)	-	9/14/2019	Dry	<	9	9
MCW-9 (County)	-	9/15/2019	Dry	<	9	9
MCW-9 (County)	-	9/16/2019	Dry	<	9	9
MCW-9 (County)	-	9/17/2019♦	Dry	<	9	9
MCW-9 (County)	-	9/18/2019	Dry	<	9	9
MCW-9 (County)	-	9/19/2019	Dry	<	9	9
MCW-9 (County)	-	9/20/2019	Dry	<	9	9
MCW-9 (County)	-	9/21/2019	Dry	<	9	9
MCW-9 (County)	-	9/22/2019	Dry	<	9	9
MCW-9 (County)	-	9/23/2019	Dry	<	9	9
MCW-9 (County)	-	9/24/2019♦	Dry	<	9	9
MCW-9 (County)	-	9/25/2019	Dry	<	9	9
MCW-9 (County)	-	9/26/2019	Dry	<	9	9
MCW-9 (County)	-	9/27/2019	Dry	<	9	9
MCW-9 (County)	-	9/28/2019	Dry	<	9	9
MCW-9 (County)	-	9/29/2019	Dry	<	9	9
MCW-9 (County)	-	9/30/2019	Dry	<	9	9
MCW-12 (County)	1110	9/1/2019		=	20	47
MCW-12 (County)	1110	9/2/2019		=	20	47
MCW-12 (County)	1145	9/3/2019♦		=	61	49
MCW-12 (County)	1145	9/4/2019		=	61	51
MCW-12 (County)	1145	9/5/2019		=	61	50
MCW-12 (County)	1145	9/6/2019		=	61	48
MCW-12 (County)	1145	9/7/2019		=	61	47
MCW-12 (County)	1145	9/8/2019		=	61	46
MCW-12 (County)	1145	9/9/2019		=	61	45
MCW-12 (County)	1150	9/10/2019♦		=	130	45
MCW-12 (County)	1150	9/11/2019		=	130	45
MCW-12 (County)	1150	9/12/2019		=	130	45
MCW-12 (County)	1150	9/13/2019		=	130	45
MCW-12 (County)	1150	9/14/2019		=	130	45
MCW-12 (County)	1150	9/15/2019		=	130	45
MCW-12 (County)	1150	9/16/2019		=	130	45
MCW-12 (County)	1205	9/17/2019♦		=	45	44
MCW-12 (County)	1205	9/18/2019		=	45	42
MCW-12 (County)	1205	9/19/2019		=	45	44
MCW-12 (County)	1205	9/20/2019		=	45	45
MCW-12 (County)	1205	9/21/2019		=	45	46
MCW-12 (County)	1205	9/22/2019		=	45	47
MCW-12 (County)	1205	9/23/2019		=	45	49
MCW-12 (County)	1140	9/24/2019♦		=	130	52
MCW-12 (County)	1140	9/25/2019		=	130	55

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1140	9/26/2019		=	130	59
MCW-12 (County)	1140	9/27/2019		=	130	62
MCW-12 (County)	1140	9/28/2019		=	130	66
MCW-12 (County)	1140	9/29/2019		=	130	71
MCW-12 (County)	1140	9/30/2019		=	130	75
MCW-14b (City and County)	1040	9/1/2019		=	330	199
MCW-14b (City and County)	1040	9/2/2019		=	330	195
MCW-14b (City and County)	1110	9/3/2019♦		=	68	181
MCW-14b (City and County)	1110	9/4/2019		=	68	168
MCW-14b (City and County)	1110	9/5/2019		=	68	166
MCW-14b (City and County)	1110	9/6/2019		=	68	163
MCW-14b (City and County)	1110	9/7/2019		=	68	160
MCW-14b (City and County)	1110	9/8/2019		=	68	158
MCW-14b (City and County)	1110	9/9/2019		=	68	155
MCW-14b (City and County)	1100	9/10/2019♦		=	68	153
MCW-14b (City and County)	1100	9/11/2019		=	68	150
MCW-14b (City and County)	1100	9/12/2019		=	68	147
MCW-14b (City and County)	1100	9/13/2019		=	68	144
MCW-14b (City and County)	1100	9/14/2019		=	68	141
MCW-14b (City and County)	1100	9/15/2019		=	68	138
MCW-14b (City and County)	1100	9/16/2019		=	68	135
MCW-14b (City and County)	1130	9/17/2019♦		=	330	139
MCW-14b (City and County)	1130	9/18/2019		=	330	144
MCW-14b (City and County)	1130	9/19/2019		=	330	146
MCW-14b (City and County)	1130	9/20/2019		=	330	148
MCW-14b (City and County)	1130	9/21/2019		=	330	150
MCW-14b (City and County)	1130	9/22/2019		=	330	152
MCW-14b (City and County)	1130	9/23/2019		=	330	154
MCW-14b (City and County)	1115	9/24/2019♦		=	68	148
MCW-14b (City and County)	1115	9/25/2019		=	68	142
MCW-14b (City and County)	1115	9/26/2019		=	68	135
MCW-14b (City and County)	1115	9/27/2019		=	68	128
MCW-14b (City and County)	1115	9/28/2019		=	68	121
MCW-14b (City and County)	1115	9/29/2019		=	68	115
MCW-14b (City and County)	1115	9/30/2019		=	68	109
MCW-15c (City)	1000	9/1/2019		=	20	15
MCW-15c (City)	1000	9/2/2019		=	20	15
MCW-15c (City)	1035	9/3/2019♦		<	9	14
MCW-15c (City)	1035	9/4/2019		<	9	13
MCW-15c (City)	1035	9/5/2019		<	9	13

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)	1035	9/6/2019		<	9	13
MCW-15c (City)	1035	9/7/2019		<	9	13
MCW-15c (City)	1035	9/8/2019		<	9	13
MCW-15c (City)	1035	9/9/2019		<	9	13
MCW-15c (City)	1030	9/10/2019♦		=	45	14
MCW-15c (City)	1030	9/11/2019		=	45	15
MCW-15c (City)	1030	9/12/2019		=	45	15
MCW-15c (City)	1030	9/13/2019		=	45	15
MCW-15c (City)	1030	9/14/2019		=	45	16
MCW-15c (City)	1030	9/15/2019		=	45	16
MCW-15c (City)	1030	9/16/2019		=	45	17
MCW-15c (City)	1055	9/17/2019♦		<	9	16
MCW-15c (City)	1055	9/18/2019		<	9	16
MCW-15c (City)	1055	9/19/2019		<	9	16
MCW-15c (City)	1055	9/20/2019		<	9	16
MCW-15c (City)	1055	9/21/2019		<	9	16
MCW-15c (City)	1055	9/22/2019		<	9	16
MCW-15c (City)	1055	9/23/2019		<	9	16
MCW-15c (City)	1040	9/24/2019♦		<	9	16
MCW-15c (City)	1040	9/25/2019		<	9	16
MCW-15c (City)	1040	9/26/2019		<	9	15
MCW-15c (City)	1040	9/27/2019		<	9	15
MCW-15c (City)	1040	9/28/2019		<	9	15
MCW-15c (City)	1040	9/29/2019		<	9	14
MCW-15c (City)	1040	9/30/2019		<	9	14
MCW-17 (City and County)	-	9/1/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/2/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/3/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	9/4/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/5/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/6/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/7/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/8/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/9/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/10/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	9/11/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/12/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/13/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/14/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/15/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/16/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/17/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	9/18/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	-	9/19/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/20/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/21/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/22/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/23/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/24/2019 ◆	Dry	<	9	9
MCW-17 (City and County)	-	9/25/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/26/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/27/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/28/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/29/2019	Dry	<	9	9
MCW-17 (City and County)	-	9/30/2019	Dry	<	9	9
MCW-18 (County)	-	9/1/2019	Dry	<	9	9
MCW-18 (County)	-	9/2/2019	Dry	<	9	9
MCW-18 (County)	-	9/3/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	9/4/2019	Dry	<	9	9
MCW-18 (County)	-	9/5/2019	Dry	<	9	9
MCW-18 (County)	-	9/6/2019	Dry	<	9	9
MCW-18 (County)	-	9/7/2019	Dry	<	9	9
MCW-18 (County)	-	9/8/2019	Dry	<	9	9
MCW-18 (County)	-	9/9/2019	Dry	<	9	9
MCW-18 (County)	-	9/10/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	9/11/2019	Dry	<	9	9
MCW-18 (County)	-	9/12/2019	Dry	<	9	9
MCW-18 (County)	-	9/13/2019	Dry	<	9	9
MCW-18 (County)	-	9/14/2019	Dry	<	9	9
MCW-18 (County)	-	9/15/2019	Dry	<	9	9
MCW-18 (County)	-	9/16/2019	Dry	<	9	9
MCW-18 (County)	-	9/17/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	9/18/2019	Dry	<	9	9
MCW-18 (County)	-	9/19/2019	Dry	<	9	9
MCW-18 (County)	-	9/20/2019	Dry	<	9	9
MCW-18 (County)	-	9/21/2019	Dry	<	9	9
MCW-18 (County)	-	9/22/2019	Dry	<	9	9
MCW-18 (County)	-	9/23/2019	Dry	<	9	9
MCW-18 (County)	-	9/24/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	9/25/2019	Dry	<	9	9
MCW-18 (County)	-	9/26/2019	Dry	<	9	9
MCW-18 (County)	-	9/27/2019	Dry	<	9	9
MCW-18 (County)	-	9/28/2019	Dry	<	9	9
MCW-18 (County)	-	9/29/2019	Dry	<	9	9
MCW-18 (County)	-	9/30/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli	Geometric Mean E. coli
					(235 MPN)	(126 MPN)

Notes:

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Results of <18 are adjusted to use half the MRL (=9) in the calculation of the geometric mean

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

**: Dry conditions were observed, and samples were not collected due to insufficient flow

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100mL

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

PUBLIC
VENTURA COUNTY
WORKS

county of ventura

Jeff Pratt
Agency Director
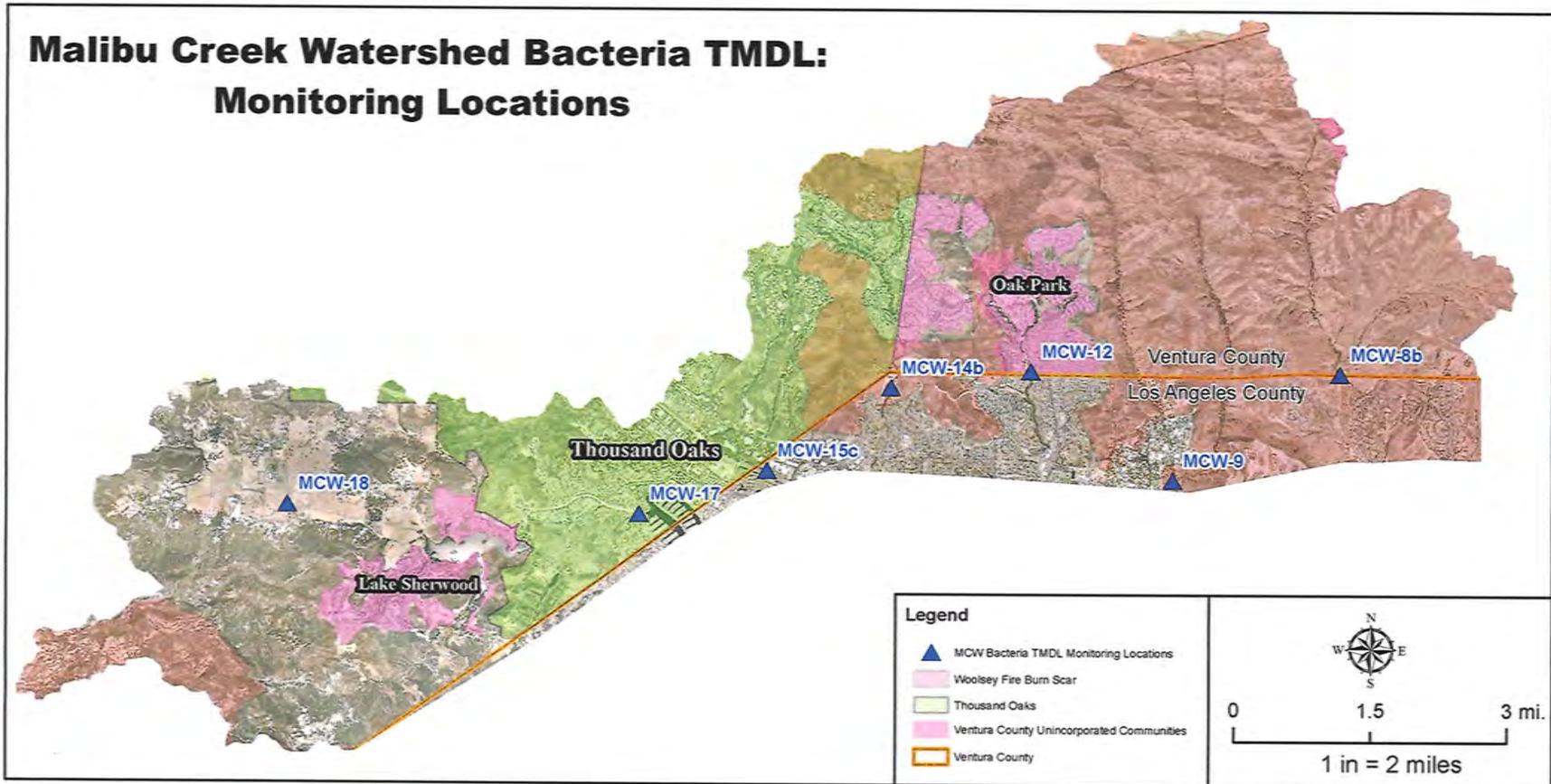
Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

November 25, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of October 2019. Sites were sampled weekly on Tuesday (October
1, 8, 15, 22, and 29, 2019). Beginning on and following July 23, 2019, Rincon
Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry." A map showing the location of the monitoring sites is
included below.

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect (ND) [e.g., < 18 most probable number per 100
milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling
locations by assigning a concentration value of half the MRL, as a zero value is
undefined logarithmically, and as such would be unusable in the geometric mean
calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
     Ewelina Mutkowska, County of Ventura (via email)
     Paul Jorgensen, City of Thousand Oaks (via email)
     Joe Bellomo, Willdan Associates (via email)
     Kelly Fisher, City of Agoura Hills (via email)
     Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1205	10/1/2019♦		=	20
MCW-8b (County)	1210	10/8/2019♦		<	18
MCW-8b (County)	1200	10/15/2019♦		=	330
MCW-8b (County)	1200	10/22/2019♦		=	40
MCW-8b (County)	1200	10/29/2019♦		<	18
MCW-9 (County)	-	10/1/2019♦			Dry
MCW-9 (County)	-	10/8/2019♦			Dry
MCW-9 (County)	-	10/15/2019♦			Dry
MCW-9 (County)	-	10/22/2019♦			Dry
MCW-9 (County)	-	10/29/2019♦			Dry
MCW-12 (County)	1120	10/1/2019♦		=	20
MCW-12 (County)	1115	10/8/2019♦		=	110
MCW-12 (County)	1110	10/15/2019♦		<	18
MCW-12 (County)	1110	10/22/2019♦		=	230
MCW-12 (County)	1110	10/29/2019♦		=	310
MCW-14b (City and County)	1045	10/1/2019♦		=	230
MCW-14b (City and County)	1040	10/8/2019♦		=	20
MCW-14b (City and County)	1040	10/15/2019♦		=	20
MCW-14b (City and County)	1040	10/22/2019♦		=	40
MCW-14b (City and County)	1045	10/29/2019♦		=	130
MCW-15c (City)*	1010	10/1/2019♦		=	230
MCW-15c (City)*	1000	10/8/2019♦		=	40
MCW-15c (City)*	1000	10/15/2019♦		=	230
MCW-15c (City)*	1010	10/22/2019♦		<	18
MCW-15c (City)*	1015	10/29/2019♦		<	18
MCW-17 (City and County)	-	10/1/2019♦			Dry
MCW-17 (City and County)	-	10/8/2019♦			Dry
MCW-17 (City and County)	-	10/15/2019♦			Dry
MCW-17 (City and County)	-	10/22/2019♦			Dry
MCW-17 (City and County)	-	10/29/2019♦			Dry
MCW-18 (County)	-	10/1/2019♦			Dry
MCW-18 (County)	-	10/8/2019♦			Dry
MCW-18 (County)	-	10/15/2019♦			Dry
MCW-18 (County)	-	10/22/2019♦			Dry
MCW-18 (County)	-	10/29/2019♦			Dry

Notes:
*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦ : Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1205	10/1/2019♦		=	20	46
MCW-8b (County)	1205	10/2/2019		=	20	45
MCW-8b (County)	1205	10/3/2019		=	20	44
MCW-8b (County)	1205	10/4/2019		=	20	43
MCW-8b (County)	1205	10/5/2019		=	20	42
MCW-8b (County)	1205	10/6/2019		=	20	41
MCW-8b (County)	1205	10/7/2019		=	20	39
MCW-8b (County)	1210	10/8/2019♦		<	9	37
MCW-8b (County)	1210	10/9/2019		<	9	35
MCW-8b (County)	1210	10/10/2019		<	9	32
MCW-8b (County)	1210	10/11/2019		<	9	30
MCW-8b (County)	1210	10/12/2019		<	9	27
MCW-8b (County)	1210	10/13/2019		<	9	25
MCW-8b (County)	1210	10/14/2019		<	9	23
MCW-8b (County)	1200	10/15/2019♦		=	330	23
MCW-8b (County)	1200	10/16/2019		=	330	24
MCW-8b (County)	1200	10/17/2019		=	330	27
MCW-8b (County)	1200	10/18/2019		=	330	29
MCW-8b (County)	1200	10/19/2019		=	330	32
MCW-8b (County)	1200	10/20/2019		=	330	35
MCW-8b (County)	1200	10/21/2019		=	330	39
MCW-8b (County)	1200	10/22/2019♦		=	40	39
MCW-8b (County)	1200	10/23/2019		=	40	40
MCW-8b (County)	1200	10/24/2019		=	40	40
MCW-8b (County)	1200	10/25/2019		=	40	40
MCW-8b (County)	1200	10/26/2019		=	40	40
MCW-8b (County)	1200	10/27/2019		=	40	40
MCW-8b (County)	1200	10/28/2019		=	40	40
MCW-8b (County)	1200	10/29/2019♦		<	9	38
MCW-8b (County)	1200	10/30/2019		<	9	36
MCW-8b (County)	1200	10/31/2019		<	9	35
MCW-9 (County)	-	10/1/2019♦	Dry	<	9	9
MCW-9 (County)	-	10/2/2019	Dry	<	9	9
MCW-9 (County)	-	10/3/2019	Dry	<	9	9
MCW-9 (County)	-	10/4/2019	Dry	<	9	9
MCW-9 (County)	-	10/5/2019	Dry	<	9	9
MCW-9 (County)	-	10/6/2019	Dry	<	9	9
MCW-9 (County)	-	10/7/2019	Dry	<	9	9
MCW-9 (County)	-	10/8/2019♦	Dry	<	9	9
MCW-9 (County)	-	10/9/2019	Dry	<	9	9
MCW-9 (County)	-	10/10/2019	Dry	<	9	9
MCW-9 (County)	-	10/11/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	10/12/2019	Dry	<	9	9
MCW-9 (County)	-	10/13/2019	Dry	<	9	9
MCW-9 (County)	-	10/14/2019	Dry	<	9	9
MCW-9 (County)	-	10/15/2019 ◆	Dry	<	9	9
MCW-9 (County)	-	10/16/2019	Dry	<	9	9
MCW-9 (County)	-	10/17/2019	Dry	<	9	9
MCW-9 (County)	-	10/18/2019	Dry	<	9	9
MCW-9 (County)	-	10/19/2019	Dry	<	9	9
MCW-9 (County)	-	10/20/2019	Dry	<	9	9
MCW-9 (County)	-	10/21/2019	Dry	<	9	9
MCW-9 (County)	-	10/22/2019 ◆	Dry	<	9	9
MCW-9 (County)	-	10/23/2019	Dry	<	9	9
MCW-9 (County)	-	10/24/2019	Dry	<	9	9
MCW-9 (County)	-	10/25/2019	Dry	<	9	9
MCW-9 (County)	-	10/26/2019	Dry	<	9	9
MCW-9 (County)	-	10/27/2019	Dry	<	9	9
MCW-9 (County)	-	10/28/2019	Dry	<	9	9
MCW-9 (County)	-	10/29/2019 ◆	Dry	<	9	9
MCW-9 (County)	-	10/30/2019	Dry	<	9	9
MCW-9 (County)	-	10/31/2019	Dry	<	9	9
MCW-12 (County)	1120	10/1/2019 ◆		=	20	75
MCW-12 (County)	1120	10/2/2019		=	20	75
MCW-12 (County)	1120	10/3/2019		=	20	72
MCW-12 (County)	1120	10/4/2019		=	20	70
MCW-12 (County)	1120	10/5/2019		=	20	67
MCW-12 (County)	1120	10/6/2019		=	20	65
MCW-12 (County)	1120	10/7/2019		=	20	62
MCW-12 (County)	1115	10/8/2019 ◆		=	110	64
MCW-12 (County)	1115	10/9/2019		=	110	65
MCW-12 (County)	1115	10/10/2019		=	110	64
MCW-12 (County)	1115	10/11/2019		=	110	64
MCW-12 (County)	1115	10/12/2019		=	110	64
MCW-12 (County)	1115	10/13/2019		=	110	63
MCW-12 (County)	1115	10/14/2019		=	110	63
MCW-12 (County)	1110	10/15/2019 ◆		<	9	58
MCW-12 (County)	1110	10/16/2019		<	9	53
MCW-12 (County)	1110	10/17/2019		<	9	50
MCW-12 (County)	1110	10/18/2019		<	9	47
MCW-12 (County)	1110	10/19/2019		<	9	45
MCW-12 (County)	1110	10/20/2019		<	9	43
MCW-12 (County)	1110	10/21/2019		<	9	40
MCW-12 (County)	1110	10/22/2019 ◆		=	230	43
MCW-12 (County)	1110	10/23/2019		=	230	45

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1110	10/24/2019		=	230	46
MCW-12 (County)	1110	10/25/2019		=	230	47
MCW-12 (County)	1110	10/26/2019		=	230	48
MCW-12 (County)	1110	10/27/2019		=	230	49
MCW-12 (County)	1110	10/28/2019		=	230	49
MCW-12 (County)	1110	10/29/2019♦		=	310	51
MCW-12 (County)	1110	10/30/2019		=	310	52
MCW-12 (County)	1110	10/31/2019		=	310	57
MCW-14b (City and County)	1045	10/1/2019♦		=	230	108
MCW-14b (City and County)	1045	10/2/2019		=	230	107
MCW-14b (City and County)	1045	10/3/2019		=	230	111
MCW-14b (City and County)	1045	10/4/2019		=	230	116
MCW-14b (City and County)	1045	10/5/2019		=	230	120
MCW-14b (City and County)	1045	10/6/2019		=	230	125
MCW-14b (City and County)	1045	10/7/2019		=	230	131
MCW-14b (City and County)	1040	10/8/2019♦		=	20	125
MCW-14b (City and County)	1040	10/9/2019		=	20	120
MCW-14b (City and County)	1040	10/10/2019		=	20	116
MCW-14b (City and County)	1040	10/11/2019		=	20	111
MCW-14b (City and County)	1040	10/12/2019		=	20	107
MCW-14b (City and County)	1040	10/13/2019		=	20	102
MCW-14b (City and County)	1040	10/14/2019		=	20	98
MCW-14b (City and County)	1040	10/15/2019♦		=	20	94
MCW-14b (City and County)	1040	10/16/2019		=	20	90
MCW-14b (City and County)	1040	10/17/2019		=	20	82
MCW-14b (City and County)	1040	10/18/2019		=	20	75
MCW-14b (City and County)	1040	10/19/2019		=	20	68
MCW-14b (City and County)	1040	10/20/2019		=	20	62
MCW-14b (City and County)	1040	10/21/2019		=	20	57
MCW-14b (City and County)	1040	10/22/2019♦		=	40	53
MCW-14b (City and County)	1040	10/23/2019		=	40	49
MCW-14b (City and County)	1040	10/24/2019		=	40	48
MCW-14b (City and County)	1040	10/25/2019		=	40	48
MCW-14b (City and County)	1040	10/26/2019		=	40	47
MCW-14b (City and County)	1040	10/27/2019		=	40	46
MCW-14b (City and County)	1040	10/28/2019		=	40	45
MCW-14b (City and County)	1045	10/29/2019♦		=	130	46
MCW-14b (City and County)	1045	10/30/2019		=	130	47
MCW-14b (City and County)	1045	10/31/2019		=	130	46
MCW-15c (City)*	1010	10/1/2019♦		=	230	15
MCW-15c (City)*	1010	10/2/2019		=	230	16
MCW-15c (City)*	1010	10/3/2019		=	230	18

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	1010	10/4/2019		=	230	20
MCW-15c (City)*	1010	10/5/2019		=	230	22
MCW-15c (City)*	1010	10/6/2019		=	230	25
MCW-15c (City)*	1010	10/7/2019		=	230	28
MCW-15c (City)*	1000	10/8/2019 ♦		=	40	29
MCW-15c (City)*	1000	10/9/2019		=	40	31
MCW-15c (City)*	1000	10/10/2019		=	40	31
MCW-15c (City)*	1000	10/11/2019		=	40	31
MCW-15c (City)*	1000	10/12/2019		=	40	30
MCW-15c (City)*	1000	10/13/2019		=	40	30
MCW-15c (City)*	1000	10/14/2019		=	40	30
MCW-15c (City)*	1000	10/15/2019 ♦		=	230	32
MCW-15c (City)*	1000	10/16/2019		=	230	34
MCW-15c (City)*	1000	10/17/2019		=	230	38
MCW-15c (City)*	1000	10/18/2019		=	230	42
MCW-15c (City)*	1000	10/19/2019		=	230	47
MCW-15c (City)*	1000	10/20/2019		=	230	52
MCW-15c (City)*	1000	10/21/2019		=	230	58
MCW-15c (City)*	1010	10/22/2019 ♦		<	9	58
MCW-15c (City)*	1010	10/23/2019		<	9	58
MCW-15c (City)*	1010	10/24/2019		<	9	58
MCW-15c (City)*	1010	10/25/2019		<	9	58
MCW-15c (City)*	1010	10/26/2019		<	9	58
MCW-15c (City)*	1010	10/27/2019		<	9	58
MCW-15c (City)*	1010	10/28/2019		<	9	58
MCW-15c (City)*	1015	10/29/2019 ♦		<	9	58
MCW-15c (City)*	1015	10/30/2019		<	9	58
MCW-15c (City)*	1015	10/31/2019		<	9	52
MCW-17 (City and County)	-	10/1/2019 ♦	Dry	<	9	9
MCW-17 (City and County)	-	10/2/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/3/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/4/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/5/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/6/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/7/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/8/2019 ♦	Dry	<	9	9
MCW-17 (City and County)	-	10/9/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/10/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/11/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/12/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/13/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/14/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/15/2019 ♦	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)		Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	-	10/16/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/17/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/18/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/19/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/20/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/21/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/22/2019 ◆	Dry	<	9	9
MCW-17 (City and County)	-	10/23/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/24/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/25/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/26/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/27/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/28/2019	Dry	<	9	9
MCW-17 (City and County)	-	10/29/2019 ◆	Dry	<	9	9
MCW-17 (City and County)	-	10/30/2019	Dry	<	9	9
MCW-17 (City and County)		10/31/2019	Dry	<	9	9
MCW-18 (County)	-	10/1/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	10/2/2019	Dry	<	9	9
MCW-18 (County)	-	10/3/2019	Dry	<	9	9
MCW-18 (County)	-	10/4/2019	Dry	<	9	9
MCW-18 (County)	-	10/5/2019	Dry	<	9	9
MCW-18 (County)	-	10/6/2019	Dry	<	9	9
MCW-18 (County)	-	10/7/2019	Dry	<	9	9
MCW-18 (County)	-	10/8/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	10/9/2019	Dry	<	9	9
MCW-18 (County)	-	10/10/2019	Dry	<	9	9
MCW-18 (County)	-	10/11/2019	Dry	<	9	9
MCW-18 (County)	-	10/12/2019	Dry	<	9	9
MCW-18 (County)	-	10/13/2019	Dry	<	9	9
MCW-18 (County)	-	10/14/2019	Dry	<	9	9
MCW-18 (County)	-	10/15/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	10/16/2019	Dry	<	9	9
MCW-18 (County)	-	10/17/2019	Dry	<	9	9
MCW-18 (County)	-	10/18/2019	Dry	<	9	9
MCW-18 (County)	-	10/19/2019	Dry	<	9	9
MCW-18 (County)	-	10/20/2019	Dry	<	9	9
MCW-18 (County)	-	10/21/2019	Dry	<	9	9
MCW-18 (County)	-	10/22/2019 ◆	Dry	<	9	9
MCW-18 (County)	-	10/23/2019	Dry	<	9	9
MCW-18 (County)	-	10/24/2019	Dry	<	9	9
MCW-18 (County)	-	10/25/2019	Dry	<	9	9
MCW-18 (County)	-	10/26/2019	Dry	<	9	9
MCW-18 (County)	-	10/27/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-18 (County)	-	10/28/2019	Dry	<	9	9
MCW-18 (County)	-	10/29/2019♦	Dry	<	9	9
MCW-18 (County)	-	10/30/2019	Dry	<	9	9
MCW-18 (County)	-	10/31/2019	Dry	<	9	9

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean

-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

PUBLIC VENTURA COUNTY **WORKS**

county of ventura

Jeff Pratt
Agency Director

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

December 23, 2019

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of November 2019. Sites were sampled weekly on Tuesday
(November 5, 12, and 19, 2019) except for one day where samples were collected on
Monday due to the Thanksgiving holiday schedule (November 25, 2019). Beginning on
and following July 23, 2019, Rincon Consultants Inc. has been retained to conduct
compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry." A map showing the location of the monitoring sites is
included below.

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect (ND) [e.g., < 18 most probable number per 100
milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling
locations by assigning a concentration value of half the MRL, as a zero value is
undefined logarithmically, and as such would be unusable in the geometric mean
calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
       Ewelina Mutkowska, County of Ventura (via email)
       Paul Jorgensen, City of Thousand Oaks (via email)
       Joe Bellomo, Willdan Associates (via email)
       Kelly Fisher, City of Agoura Hills (via email)
       Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1158	11/5/2019♦		=	130
MCW-8b (County)	1140	11/12/2019♦		=	78
MCW-8b (County)	1137	11/19/2019♦		<	18
MCW-8b (County)	1145	11/25/2019♦		=	45
MCW-9 (County)	-	11/5/2019♦			Dry
MCW-9 (County)	-	11/12/2019♦			Dry
MCW-9 (County)	-	11/19/2019♦			Dry
MCW-9 (County)	-	11/25/2019♦			Dry
MCW-12 (County)	1126	11/5/2019♦		=	40
MCW-12 (County)	1042	11/12/2019♦		=	45
MCW-12 (County)	1037	11/19/2019♦		=	45
MCW-12 (County)	1100	11/25/2019♦		=	140
MCW-14b (City and County)	1040	11/5/2019♦		=	170
MCW-14b (City and County)	936	11/12/2019♦		=	790
MCW-14b (City and County)	956	11/19/2019♦		=	78
MCW-14b (City and County)	1030	11/25/2019♦		=	490
MCW-15c (City)*	-	11/5/2019♦			Dry
MCW-15c (City)*	-	11/12/2019♦			Dry
MCW-15c (City)*	-	11/19/2019♦			Dry
MCW-15c (City)*	950	11/25/2019♦		<	18
MCW-17 (City and County)	-	11/5/2019♦			Dry
MCW-17 (City and County)	-	11/12/2019♦			Dry
MCW-17 (City and County)	-	11/19/2019♦			Dry
MCW-17 (City and County)	-	11/25/2019♦			Dry
MCW-18 (County)	-	11/5/2019♦			Dry
MCW-18 (County)	-	11/12/2019♦			Dry
MCW-18 (County)	-	11/19/2019♦			Dry
MCW-18 (County)	-	11/25/2019♦			Dry

Notes:
*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.
♦: Date of sampling
-: Time is not applicable, as no sample was collected due to insufficient flow
Dry: Samples were not collected due to insufficient flow
Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017
A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli	Geometric Mean E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1200	11/1/2019		<	9	34
MCW-8b (County)	1200	11/2/2019		<	9	33
MCW-8b (County)	1200	11/3/2019		<	9	32
MCW-8b (County)	1200	11/4/2019		<	9	31
MCW-8b (County)	1158	11/5/2019♦		=	130	33
MCW-8b (County)	1158	11/6/2019		=	130	35
MCW-8b (County)	1158	11/7/2019		=	130	39
MCW-8b (County)	1158	11/8/2019		=	130	42
MCW-8b (County)	1158	11/9/2019		=	130	46
MCW-8b (County)	1158	11/10/2019		=	130	50
MCW-8b (County)	1158	11/11/2019		=	130	55
MCW-8b (County)	1140	11/12/2019♦		=	78	59
MCW-8b (County)	1140	11/13/2019		=	78	64
MCW-8b (County)	1140	11/14/2019		=	78	61
MCW-8b (County)	1140	11/15/2019		=	78	58
MCW-8b (County)	1140	11/16/2019		=	78	55
MCW-8b (County)	1140	11/17/2019		=	78	52
MCW-8b (County)	1140	11/18/2019		=	78	50
MCW-8b (County)	1137	11/19/2019♦		<	9	44
MCW-8b (County)	1137	11/20/2019		<	9	39
MCW-8b (County)	1137	11/21/2019		<	9	37
MCW-8b (County)	1137	11/22/2019		<	9	36
MCW-8b (County)	1137	11/23/2019		<	9	34
MCW-8b (County)	1137	11/24/2019		<	9	32
MCW-8b (County)	1145	11/25/2019♦		=	45	32
MCW-8b (County)	1145	11/26/2019		=	45	32
MCW-8b (County)	1145	11/27/2019		=	45	33
MCW-8b (County)	1145	11/28/2019		=	45	34
MCW-8b (County)	1145	11/29/2019		=	45	36
MCW-8b (County)	1145	11/30/2019		=	45	38
MCW-9 (County)	-	11/1/2019		<	9	9
MCW-9 (County)	-	11/2/2019		<	9	9
MCW-9 (County)	-	11/3/2019		<	9	9
MCW-9 (County)	-	11/4/2019		<	9	9
MCW-9 (County)	-	11/5/2019♦		<	9	9
MCW-9 (County)	-	11/6/2019		<	9	9
MCW-9 (County)	-	11/7/2019		<	9	9
MCW-9 (County)	-	11/8/2019		<	9	9
MCW-9 (County)	-	11/9/2019		<	9	9
MCW-9 (County)	-	11/10/2019		<	9	9
MCW-9 (County)	-	11/11/2019		<	9	9
MCW-9 (County)	-	11/12/2019♦		<	9	9

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-9 (County)	-	11/13/2019		<	9	9
MCW-9 (County)	-	11/14/2019		<	9	9
MCW-9 (County)	-	11/15/2019		<	9	9
MCW-9 (County)	-	11/16/2019		<	9	9
MCW-9 (County)	-	11/17/2019		<	9	9
MCW-9 (County)	-	11/18/2019		<	9	9
MCW-9 (County)	-	11/19/2019 ◆		<	9	9
MCW-9 (County)	-	11/20/2019		<	9	9
MCW-9 (County)	-	11/21/2019		<	9	9
MCW-9 (County)	-	11/22/2019		<	9	9
MCW-9 (County)	-	11/23/2019		<	9	9
MCW-9 (County)	-	11/24/2019		<	9	9
MCW-9 (County)	-	11/25/2019 ◆		<	9	9
MCW-9 (County)	-	11/26/2019		<	9	9
MCW-9 (County)	-	11/27/2019		<	9	9
MCW-9 (County)	-	11/28/2019		<	9	9
MCW-9 (County)	-	11/29/2019		<	9	9
MCW-9 (County)	-	11/30/2019		<	9	9
MCW-12 (County)	1110	11/1/2019		=	310	63
MCW-12 (County)	1110	11/2/2019		=	310	69
MCW-12 (County)	1110	11/3/2019		=	310	76
MCW-12 (County)	1110	11/4/2019		=	310	83
MCW-12 (County)	1126	11/5/2019 ◆		=	310	91
MCW-12 (County)	1126	11/6/2019		=	40	93
MCW-12 (County)	1126	11/7/2019		=	40	90
MCW-12 (County)	1126	11/8/2019		=	40	87
MCW-12 (County)	1126	11/9/2019		=	40	84
MCW-12 (County)	1126	11/10/2019		=	40	81
MCW-12 (County)	1126	11/11/2019		=	40	78
MCW-12 (County)	1042	11/12/2019 ◆		=	40	76
MCW-12 (County)	1042	11/13/2019		=	45	74
MCW-12 (County)	1042	11/14/2019		=	45	78
MCW-12 (County)	1042	11/15/2019		=	45	82
MCW-12 (County)	1042	11/16/2019		=	45	86
MCW-12 (County)	1042	11/17/2019		=	45	91
MCW-12 (County)	1042	11/18/2019		=	45	96
MCW-12 (County)	1037	11/19/2019 ◆		=	45	102
MCW-12 (County)	1037	11/20/2019		=	45	107
MCW-12 (County)	1037	11/21/2019		=	45	102
MCW-12 (County)	1037	11/22/2019		=	45	96
MCW-12 (County)	1037	11/23/2019		=	45	91
MCW-12 (County)	1037	11/24/2019		=	45	86
MCW-12 (County)	1100	11/25/2019 ◆		=	45	82

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)		Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1100	11/26/2019		=	140	80
MCW-12 (County)	1100	11/27/2019		=	140	79
MCW-12 (County)	1100	11/28/2019		=	140	77
MCW-12 (County)	1100	11/29/2019		=	140	75
MCW-12 (County)	1100	11/30/2019		=	140	73
MCW-14b (City and County)	1045	11/1/2019		=	130	45
MCW-14b (City and County)	1045	11/2/2019		=	130	44
MCW-14b (City and County)	1045	11/3/2019		=	130	44
MCW-14b (City and County)	1045	11/4/2019		=	130	43
MCW-14b (City and County)	1040	11/5/2019♦		=	170	42
MCW-14b (City and County)	1040	11/6/2019		=	170	42
MCW-14b (City and County)	1040	11/7/2019		=	170	45
MCW-14b (City and County)	1040	11/8/2019		=	170	48
MCW-14b (City and County)	1040	11/9/2019		=	170	52
MCW-14b (City and County)	1040	11/10/2019		=	170	56
MCW-14b (City and County)	1040	11/11/2019		=	170	60
MCW-14b (City and County)	936	11/12/2019♦		=	790	68
MCW-14b (City and County)	936	11/13/2019		=	790	77
MCW-14b (City and County)	936	11/14/2019		=	790	87
MCW-14b (City and County)	936	11/15/2019		=	790	98
MCW-14b (City and County)	936	11/16/2019		=	790	111
MCW-14b (City and County)	936	11/17/2019		=	790	125
MCW-14b (City and County)	936	11/18/2019		=	790	141
MCW-14b (City and County)	956	11/19/2019♦		=	78	148
MCW-14b (City and County)	956	11/20/2019		=	78	155
MCW-14b (City and County)	956	11/21/2019		=	78	158
MCW-14b (City and County)	956	11/22/2019		=	78	162
MCW-14b (City and County)	956	11/23/2019		=	78	165
MCW-14b (City and County)	956	11/24/2019		=	78	169
MCW-14b (City and County)	1030	11/25/2019♦		=	490	184
MCW-14b (City and County)	1030	11/26/2019		=	490	200
MCW-14b (City and County)	1030	11/27/2019		=	490	217
MCW-14b (City and County)	1030	11/28/2019		=	490	227
MCW-14b (City and County)	1030	11/29/2019		=	490	237
MCW-14b (City and County)	1030	11/30/2019		=	490	248
MCW-15c (City)*	1015	11/1/2019		<	9	47
MCW-15c (City)*	1015	11/2/2019		<	9	42
MCW-15c (City)*	1015	11/3/2019		<	9	38
MCW-15c (City)*	1015	11/4/2019		<	9	34
MCW-15c (City)*	-	11/5/2019♦	Dry	<	9	30
MCW-15c (City)*	-	11/6/2019	Dry	<	9	27
MCW-15c (City)*	-	11/7/2019	Dry	<	9	26

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	-	11/8/2019	Dry	<	9	25
MCW-15c (City)*	-	11/9/2019	Dry	<	9	23
MCW-15c (City)*	-	11/10/2019	Dry	<	9	22
MCW-15c (City)*	-	11/11/2019	Dry	<	9	21
MCW-15c (City)*	-	11/12/2019♦	Dry	<	9	20
MCW-15c (City)*	-	11/13/2019	Dry	<	9	19
MCW-15c (City)*	-	11/14/2019	Dry	<	9	17
MCW-15c (City)*	-	11/15/2019	Dry	<	9	15
MCW-15c (City)*	-	11/16/2019	Dry	<	9	14
MCW-15c (City)*	-	11/17/2019	Dry	<	9	12
MCW-15c (City)*	-	11/18/2019	Dry	<	9	11
MCW-15c (City)*	-	11/19/2019♦	Dry	<	9	10
MCW-15c (City)*	-	11/20/2019	Dry	<	9	9
MCW-15c (City)*	-	11/21/2019	Dry	<	9	9
MCW-15c (City)*	-	11/22/2019	Dry	<	9	9
MCW-15c (City)*	-	11/23/2019	Dry	<	9	9
MCW-15c (City)*	-	11/24/2019	Dry	<	9	9
MCW-15c (City)*	950	11/25/2019♦		<	9	9
MCW-15c (City)*	950	11/26/2019		<	9	9
MCW-15c (City)*	950	11/27/2019		<	9	9
MCW-15c (City)*	950	11/28/2019		<	9	9
MCW-15c (City)*	950	11/29/2019		<	9	9
MCW-15c (City)*	950	11/30/2019		<	9	9
MCW-17 (City and County)	-	11/1/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/2/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/3/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/4/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/5/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	11/6/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/7/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/8/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/9/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/10/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/11/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/12/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	11/13/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/14/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/15/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/16/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/17/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/18/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/19/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	11/20/2019	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	-	11/21/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/22/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/23/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/24/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/25/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	11/26/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/27/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/28/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/29/2019	Dry	<	9	9
MCW-17 (City and County)	-	11/30/2019	Dry	<	9	9
MCW-18 (County)	-	11/1/2019	Dry	<	9	9
MCW-18 (County)	-	11/2/2019	Dry	<	9	9
MCW-18 (County)	-	11/3/2019	Dry	<	9	9
MCW-18 (County)	-	11/4/2019	Dry	<	9	9
MCW-18 (County)	-	11/5/2019♦	Dry	<	9	9
MCW-18 (County)	-	11/6/2019	Dry	<	9	9
MCW-18 (County)	-	11/7/2019	Dry	<	9	9
MCW-18 (County)	-	11/8/2019	Dry	<	9	9
MCW-18 (County)	-	11/9/2019	Dry	<	9	9
MCW-18 (County)	-	11/10/2019	Dry	<	9	9
MCW-18 (County)	-	11/11/2019	Dry	<	9	9
MCW-18 (County)	-	11/12/2019♦	Dry	<	9	9
MCW-18 (County)	-	11/13/2019	Dry	<	9	9
MCW-18 (County)	-	11/14/2019	Dry	<	9	9
MCW-18 (County)	-	11/15/2019	Dry	<	9	9
MCW-18 (County)	-	11/16/2019	Dry	<	9	9
MCW-18 (County)	-	11/17/2019	Dry	<	9	9
MCW-18 (County)	-	11/18/2019	Dry	<	9	9
MCW-18 (County)	-	11/19/2019♦	Dry	<	9	9
MCW-18 (County)	-	11/20/2019	Dry	<	9	9
MCW-18 (County)	-	11/21/2019	Dry	<	9	9
MCW-18 (County)	-	11/22/2019	Dry	<	9	9
MCW-18 (County)	-	11/23/2019	Dry	<	9	9
MCW-18 (County)	-	11/24/2019	Dry	<	9	9
MCW-18 (County)	-	11/25/2019♦	Dry	<	9	9
MCW-18 (County)	-	11/26/2019	Dry	<	9	9
MCW-18 (County)	-	11/27/2019	Dry	<	9	9
MCW-18 (County)	-	11/28/2019	Dry	<	9	9
MCW-18 (County)	-	11/29/2019	Dry	<	9	9
MCW-18 (County)	-	11/30/2019	Dry	<	9	9

Notes:
♦: Date of sampling
A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
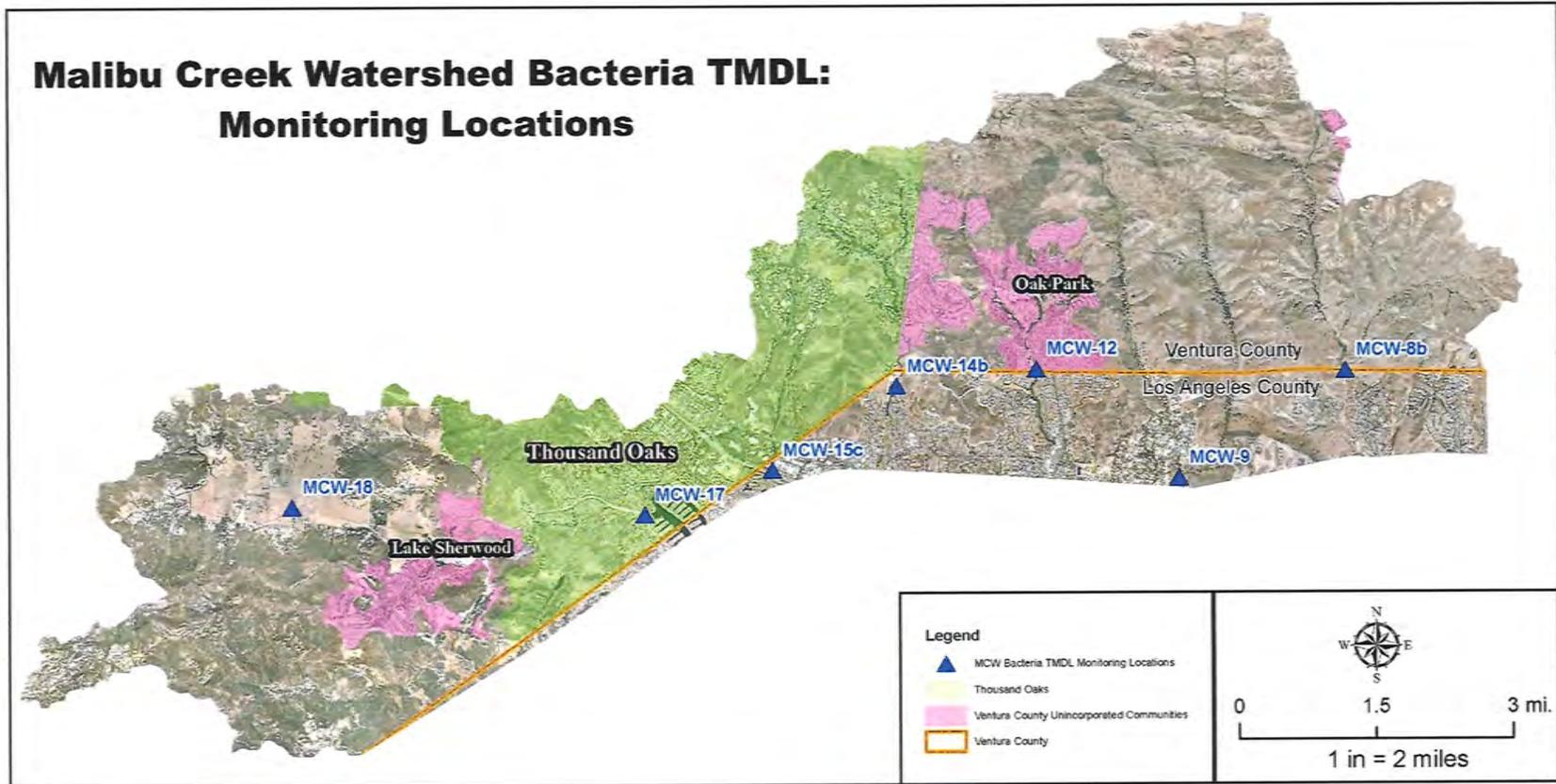
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

January 28, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of December 2019. Sites were sampled weekly on Tuesday (December 3, 10, and 17, 2019) except for one day where samples were collected on Thursday due to the Christmas Holiday Schedule (December 26, 2019). Beginning on and following July 23, 2019, Rincon Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day geometric means for the sampling locations. Sample collection dates are marked with a diamond (♦) symbol. Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." A map showing the location of the monitoring sites is included below.

Daily geometric means for wet weather and dry weather are calculated using the past 30 days of the respective sampling data (Table 2). For example, weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous wet weather single sample values to calculate the geometric mean. Non-sampling-day values are assigned the value of the most recent sampling event. Half the method reporting limit (MRL) was used to calculate the daily geometric means for sites with results reported as non-detect (ND) [e.g., < 18 most probable number per 100 milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by assigning a concentration value of half the MRL, as a zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.
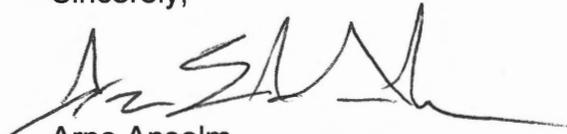
Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC:　　Glenn Shephard, Director, Watershed Protection District (via email)
　　　　Ewelina Mutkowska, County of Ventura (via email)
　　　　Paul Jorgensen, City of Thousand Oaks (via email)
　　　　Joe Bellomo, Willdan Associates (via email)
　　　　Kelly Fisher, City of Agoura Hills (via email)
　　　　Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1130	12/3/2019♦		=	78
MCW-8b (County)	1150	12/10/2019♦	Rain	<	18
MCW-8b (County)	1205	12/17/2019♦		<	18
MCW-8b (County)	1105	12/26/2019♦	Rain	=	130
MCW-9 (County)	-	12/3/2019♦			Dry
MCW-9 (County)	-	12/10/2019♦	Rain		Dry
MCW-9 (County)	-	12/17/2019♦			Dry
MCW-9 (County)	-	12/26/2019♦	Rain		Dry
MCW-12 (County)	1030	12/3/2019♦		=	330
MCW-12 (County)	1105	12/10/2019♦	Rain	=	230
MCW-12 (County)	1115	12/17/2019♦		=	20
MCW-12 (County)	1030	12/26/2019♦	Rain	=	1700
MCW-14b (City and County)	1000	12/3/2019♦		=	170
MCW-14b (City and County)	1030	12/10/2019♦	Rain	=	170
MCW-14b (City and County)	1030	12/17/2019♦		=	78
MCW-14b (City and County)	1005	12/26/2019♦	Rain	=	1300
MCW-15c (City)*	925	12/3/2019♦		=	130
MCW-15c (City)*	945	12/10/2019♦	Rain	<	18
MCW-15c (City)*	1000	12/17/2019♦		=	20
MCW-15c (City)*	945	12/26/2019♦	Rain	=	490
MCW-17 (City and County)	-	12/3/2019♦			Dry
MCW-17 (City and County)	-	12/10/2019♦	Rain		Dry
MCW-17 (City and County)	-	12/17/2019♦			Dry
MCW-17 (City and County)	930	12/26/2019♦	Rain	=	330
MCW-18 (County)	-	12/3/2019♦			Dry
MCW-18 (County)	-	12/10/2019♦	Rain		Dry
MCW-18 (County)	-	12/17/2019♦			Dry
MCW-18 (County)	905	12/26/2019♦	Rain	=	9200

Notes:

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1145	12/1/2019		=	45	40
MCW-8b (County)	1145	12/2/2019		=	45	43
MCW-8b (County)	1130	12/3/2019 ◆		=	78	46
MCW-8b (County)	1130	12/4/2019		=	78	49
MCW-8b (County)	1130	12/5/2019		=	78	48
MCW-8b (County)	1130	12/6/2019		=	78	48
MCW-8b (County)	1130	12/7/2019		=	78	47
MCW-8b (County)	1130	12/8/2019		=	78	46
MCW-8b (County)	1130	12/9/2019		=	78	45
MCW-8b (County)	1150	12/10/2019 ◆	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/11/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/12/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/13/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/14/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/15/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	12/16/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1205	12/17/2019 ◆		<	9	41
MCW-8b (County)	1205	12/18/2019		<	9	38
MCW-8b (County)	1205	12/19/2019		<	9	35
MCW-8b (County)	1205	12/20/2019		<	9	33
MCW-8b (County)	1205	12/21/2019		<	9	31
MCW-8b (County)	1205	12/22/2019		<	9	28
MCW-8b (County)	1205	12/23/2019		<	9	26
MCW-8b (County)	1205	12/24/2019		<	9	25
MCW-8b (County)	1205	12/25/2019		<	9	23
MCW-8b (County)	1105	12/26/2019 ◆	Rain		**Rain**	**Rain**
MCW-8b (County)	1105	12/27/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1105	12/28/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1105	12/29/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1105	12/30/2019	Rain		**Rain**	**Rain**
MCW-8b (County)	1105	12/31/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/1/2019		<	9	9
MCW-9 (County)	-	12/2/2019		<	9	9
MCW-9 (County)	-	12/3/2019 ◆		<	9	9
MCW-9 (County)	-	12/4/2019		<	9	9
MCW-9 (County)	-	12/5/2019		<	9	9
MCW-9 (County)	-	12/6/2019		<	9	9
MCW-9 (County)	-	12/7/2019		<	9	9
MCW-9 (County)	-	12/8/2019		<	9	9
MCW-9 (County)	-	12/9/2019		<	9	9
MCW-9 (County)	-	12/10/2019 ◆	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/11/2019	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	12/12/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/13/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/14/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/15/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/16/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/17/2019 ◆		<	9	9
MCW-9 (County)	-	12/18/2019		<	9	9
MCW-9 (County)	-	12/19/2019		<	9	9
MCW-9 (County)	-	12/20/2019		<	9	9
MCW-9 (County)	-	12/21/2019		<	9	9
MCW-9 (County)	-	12/22/2019		<	9	9
MCW-9 (County)	-	12/23/2019		<	9	9
MCW-9 (County)	-	12/24/2019		<	9	9
MCW-9 (County)	-	12/25/2019		<	9	9
MCW-9 (County)	-	12/26/2019 ◆	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/27/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/28/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/29/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/30/2019	Rain		**Rain**	**Rain**
MCW-9 (County)	-	12/31/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	12/1/2019		=	140	71
MCW-12 (County)	1100	12/2/2019		=	140	69
MCW-12 (County)	1030	12/3/2019 ◆		=	330	69
MCW-12 (County)	1030	12/4/2019		=	330	69
MCW-12 (County)	1030	12/5/2019		=	330	70
MCW-12 (County)	1030	12/6/2019		=	330	75
MCW-12 (County)	1030	12/7/2019		=	330	80
MCW-12 (County)	1030	12/8/2019		=	330	86
MCW-12 (County)	1030	12/9/2019		=	330	92
MCW-12 (County)	1105	12/10/2019 ◆	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/11/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/12/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/13/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/14/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/15/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1105	12/16/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1115	12/17/2019 ◆		=	20	90
MCW-12 (County)	1115	12/18/2019		=	20	88
MCW-12 (County)	1115	12/19/2019		=	20	86
MCW-12 (County)	1115	12/20/2019		=	20	84
MCW-12 (County)	1115	12/21/2019		=	20	82
MCW-12 (County)	1115	12/22/2019		=	20	79
MCW-12 (County)	1115	12/23/2019		=	20	77

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1115	12/24/2019		=	20	75
MCW-12 (County)	1115	12/25/2019		=	20	73
MCW-12 (County)	1030	12/26/2019♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1030	12/27/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1030	12/28/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1030	12/29/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1030	12/30/2019	Rain		**Rain**	**Rain**
MCW-12 (County)	1030	12/31/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/1/2019		=	490	259
MCW-14b (City and County)	1030	12/2/2019		=	490	271
MCW-14b (City and County)	1000	12/3/2019♦		=	170	274
MCW-14b (City and County)	1000	12/4/2019		=	170	276
MCW-14b (City and County)	1000	12/5/2019		=	170	276
MCW-14b (City and County)	1000	12/6/2019		=	170	276
MCW-14b (City and County)	1000	12/7/2019		=	170	276
MCW-14b (City and County)	1000	12/8/2019		=	170	276
MCW-14b (City and County)	1000	12/9/2019		=	170	276
MCW-14b (City and County)	1030	12/10/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/11/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/12/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/13/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/14/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/15/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/16/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	12/17/2019♦		=	78	269
MCW-14b (City and County)	1030	12/18/2019		=	78	262
MCW-14b (City and County)	1030	12/19/2019		=	78	243
MCW-14b (City and County)	1030	12/20/2019		=	78	225
MCW-14b (City and County)	1030	12/21/2019		=	78	208
MCW-14b (City and County)	1030	12/22/2019		=	78	192
MCW-14b (City and County)	1030	12/23/2019		=	78	178
MCW-14b (City and County)	1030	12/24/2019		=	78	165
MCW-14b (City and County)	1030	12/25/2019		=	78	153
MCW-14b (City and County)	1005	12/26/2019♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1005	12/27/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1005	12/28/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1005	12/29/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1005	12/30/2019	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1005	12/31/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	950	12/1/2019		<	9	9
MCW-15c (City)*	950	12/2/2019		<	9	9
MCW-15c (City)*	925	12/3/2019♦		=	130	10

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	925	12/4/2019		=	130	11
MCW-15c (City)*	925	12/5/2019		=	130	12
MCW-15c (City)*	925	12/6/2019		=	130	13
MCW-15c (City)*	925	12/7/2019		=	130	14
MCW-15c (City)*	925	12/8/2019		=	130	15
MCW-15c (City)*	925	12/9/2019		=	130	17
MCW-15c (City)*	945	12/10/2019 ◆	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/11/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/12/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/13/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/14/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/15/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/16/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	12/17/2019 ◆		=	20	17
MCW-15c (City)*	1000	12/18/2019		=	20	18
MCW-15c (City)*	1000	12/19/2019		=	20	18
MCW-15c (City)*	1000	12/20/2019		=	20	19
MCW-15c (City)*	1000	12/21/2019		=	20	19
MCW-15c (City)*	1010	12/22/2019		=	20	20
MCW-15c (City)*	1010	12/23/2019		=	20	20
MCW-15c (City)*	1010	12/24/2019		=	20	21
MCW-15c (City)*	1010	12/25/2019		=	20	21
MCW-15c (City)*	945	12/26/2019 ◆	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/27/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/28/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/29/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/30/2019	Rain		**Rain**	**Rain**
MCW-15c (City)*	945	12/31/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/1/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/2/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/3/2019 ◆	Dry	<	9	9
MCW-17 (City and County)	-	12/4/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/5/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/6/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/7/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/8/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/9/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/10/2019 ◆	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/11/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/12/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/13/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/14/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/15/2019	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	-	12/16/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	12/17/2019♦	Dry	<	9	9
MCW-17 (City and County)	-	12/18/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/19/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/20/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/21/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/22/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/23/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/24/2019	Dry	<	9	9
MCW-17 (City and County)	-	12/25/2019	Dry	<	9	9
MCW-17 (City and County)	930	12/26/2019♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	930	12/27/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	930	12/28/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	930	12/29/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	930	12/30/2019	Rain		**Rain**	**Rain**
MCW-17 (City and County)	930	12/31/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/1/2019	Dry	<	9	9
MCW-18 (County)	-	12/2/2019	Dry	<	9	9
MCW-18 (County)	-	12/3/2019♦	Dry	<	9	9
MCW-18 (County)	-	12/4/2019	Dry	<	9	9
MCW-18 (County)	-	12/5/2019	Dry	<	9	9
MCW-18 (County)	-	12/6/2019	Dry	<	9	9
MCW-18 (County)	-	12/7/2019	Dry	<	9	9
MCW-18 (County)	-	12/8/2019	Dry	<	9	9
MCW-18 (County)	-	12/9/2019	Dry	<	9	9
MCW-18 (County)	-	12/10/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/11/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/12/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/13/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/14/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/15/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/16/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	-	12/17/2019♦	Dry	<	9	9
MCW-18 (County)	-	12/18/2019	Dry	<	9	9
MCW-18 (County)	-	12/19/2019	Dry	<	9	9
MCW-18 (County)	-	12/20/2019	Dry	<	9	9
MCW-18 (County)	-	12/21/2019	Dry	<	9	9
MCW-18 (County)	-	12/22/2019	Dry	<	9	9
MCW-18 (County)	-	12/23/2019	Dry	<	9	9
MCW-18 (County)	-	12/24/2019	Dry	<	9	9
MCW-18 (County)	-	12/25/2019	Dry	<	9	9
MCW-18 (County)	905	12/26/2019♦	Rain		**Rain**	**Rain**
MCW-18 (County)	905	12/27/2019	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-18 (County)	905	12/28/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	905	12/29/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	905	12/30/2019	Rain		**Rain**	**Rain**
MCW-18 (County)	905	12/31/2019	Rain		**Rain**	**Rain**

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
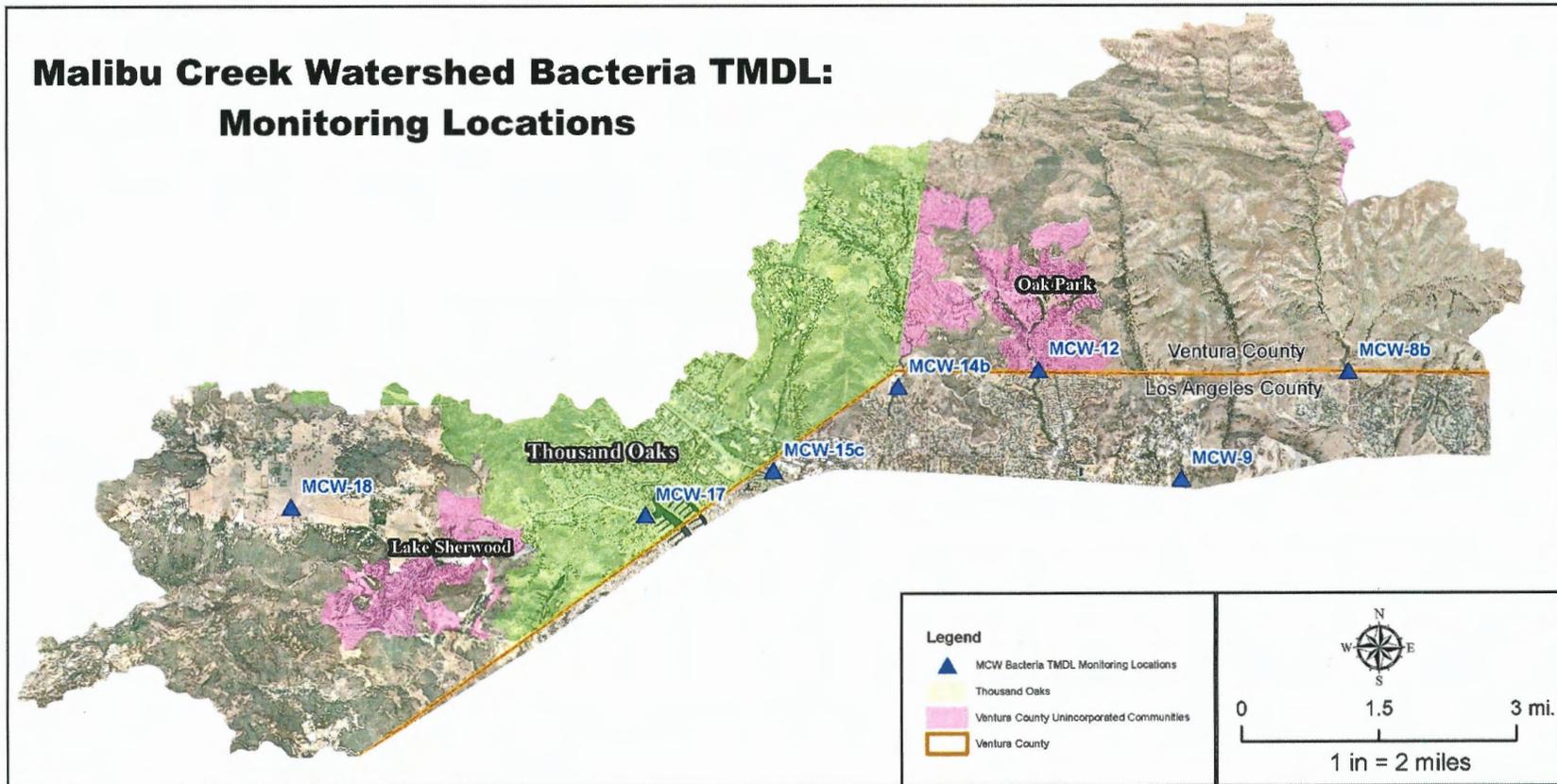
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL:
Monitoring Locations

PUBLIC **county of ventura**
VENTURA COUNTY
WORKS

Jeff Pratt
Agency Director

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

February 25, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of January 2020. Sites were sampled weekly on Tuesday (January
7, 14, and 28, 2020) except one instance when sites were sampled Wednesday
(January 2, 2020) and one instance when sites were sampled on Monday (January 20,
2020). Beginning on and following July 23, 2019, Rincon Consultants Inc. has been
retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry." A map showing the location of the monitoring sites is
included below.

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect (ND) [e.g., < 18 most probable number per 100
milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling
locations by assigning a concentration value of half the MRL, as a zero value is
undefined logarithmically, and as such would be unusable in the geometric mean
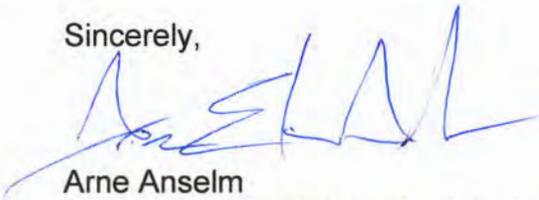calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
        Ewelina Mutkowska, County of Ventura (via email)
        Paul Jorgensen, City of Thousand Oaks (via email)
        Joe Bellomo, Willdan Associates (via email)
        Kelly Fisher, City of Agoura Hills (via email)
        Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1145	1/2/2020♦		=	20
MCW-8b (County)	1215	1/7/2020♦		=	45
MCW-8b (County)	1135	1/14/2020♦		<	18
MCW-8b (County)	1200	1/20/2020♦		<	18
MCW-8b (County)	1200	1/28/2020♦		<	18
MCW-9 (County)	-	1/2/2020♦			Dry
MCW-9 (County)	-	1/7/2020♦			Dry
MCW-9 (County)	-	1/14/2020♦			Dry
MCW-9 (County)	-	1/20/2020♦			Dry
MCW-9 (County)	-	1/28/2020♦			Dry
MCW-12 (County)	1110	1/2/2020♦		=	230
MCW-12 (County)	1130	1/7/2020♦		=	45
MCW-12 (County)	1053	1/14/2020♦		=	45
MCW-12 (County)	1115	1/20/2020♦		=	110
MCW-12 (County)	1125	1/28/2020♦		=	230
MCW-14b (City and County)	1040	1/2/2020♦		=	130
MCW-14b (City and County)	1100	1/7/2020♦		=	78
MCW-14b (City and County)	1013	1/14/2020♦		=	40
MCW-14b (City and County)	1045	1/20/2020♦		=	20
MCW-14b (City and County)	1100	1/28/2020♦		=	20
MCW-15c (City)*	1010	1/2/2020♦		=	45
MCW-15c (City)*	1030	1/7/2020♦		=	790
MCW-15c (City)*	940	1/14/2020♦		=	1,700
MCW-15c (City)*	1020	1/20/2020♦		=	20
MCW-15c (City)*	1030	1/28/2020♦		=	20
MCW-17 (City and County)	-	1/2/2020♦			Dry
MCW-17 (City and County)	1000	1/7/2020♦		=	20
MCW-17 (City and County)	845	1/14/2020♦		=	45
MCW-17 (City and County)	955	1/20/2020♦		=	130
MCW-17 (City and County)	1000	1/28/2020♦		=	170
MCW-18 (County)	-	1/2/2020♦			Dry
MCW-18 (County)	-	1/7/2020♦			Dry
MCW-18 (County)	-	1/14/2020♦			Dry
MCW-18 (County)	-	1/20/2020♦			Dry
MCW-18 (County)	-	1/28/2020♦			Dry

Notes:
*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1105	1/1/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	1/2/2020◆		=	20	23
MCW-8b (County)	1145	1/3/2020		=	20	24
MCW-8b (County)	1145	1/4/2020		=	20	25
MCW-8b (County)	1145	1/5/2020		=	20	25
MCW-8b (County)	1145	1/6/2020		=	20	26
MCW-8b (County)	1215	1/7/2020◆		=	45	28
MCW-8b (County)	1135	1/8/2020		=	45	28
MCW-8b (County)	1135	1/9/2020		=	45	28
MCW-8b (County)	1135	1/10/2020		=	45	28
MCW-8b (County)	1135	1/11/2020		=	45	28
MCW-8b (County)	1135	1/12/2020		=	45	28
MCW-8b (County)	1135	1/13/2020		=	45	27
MCW-8b (County)	1135	1/14/2020◆		<	9	26
MCW-8b (County)	1200	1/15/2020		<	9	25
MCW-8b (County)	1200	1/16/2020		<	9	23
MCW-8b (County)	1200	1/17/2020		<	9	21
MCW-8b (County)	1200	1/18/2020		<	9	20
MCW-8b (County)	1200	1/19/2020		<	9	19
MCW-8b (County)	1200	1/20/2020◆		<	9	17
MCW-8b (County)	1200	1/21/2020		<	9	16
MCW-8b (County)	1200	1/22/2020		<	9	15
MCW-8b (County)	1200	1/23/2020		<	9	15
MCW-8b (County)	1200	1/24/2020		<	9	15
MCW-8b (County)	1200	1/25/2020		<	9	15
MCW-8b (County)	1200	1/26/2020		<	9	15
MCW-8b (County)	1200	1/27/2020		<	9	15
MCW-8b (County)	1200	1/28/2020◆		<	9	15
MCW-8b (County)	1200	1/29/2020		<	9	15
MCW-8b (County)	1200	1/30/2020		<	9	15
MCW-8b (County)	1200	1/31/2020		<	9	15
MCW-9 (County)	-	1/1/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	1/2/2020◆	Dry	<	9	9
MCW-9 (County)	-	1/3/2020	Dry	<	9	9
MCW-9 (County)	-	1/4/2020	Dry	<	9	9
MCW-9 (County)	-	1/5/2020	Dry	<	9	9
MCW-9 (County)	-	1/6/2020	Dry	<	9	9
MCW-9 (County)	-	1/7/2020◆	Dry	<	9	9
MCW-9 (County)	-	1/8/2020	Dry	<	9	9
MCW-9 (County)	-	1/9/2020	Dry	<	9	9
MCW-9 (County)	-	1/10/2020	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	1/11/2020	Dry	<	9	9
MCW-9 (County)	-	1/12/2020	Dry	<	9	9
MCW-9 (County)	-	1/13/2020	Dry	<	9	9
MCW-9 (County)	-	1/14/2020♦	Dry	<	9	9
MCW-9 (County)	-	1/15/2020	Dry	<	9	9
MCW-9 (County)	-	1/16/2020	Dry	<	9	9
MCW-9 (County)	-	1/17/2020	Dry	<	9	9
MCW-9 (County)	-	1/18/2020	Dry	<	9	9
MCW-9 (County)	-	1/19/2020	Dry	<	9	9
MCW-9 (County)	-	1/20/2020♦	Dry	<	9	9
MCW-9 (County)	-	1/21/2020	Dry	<	9	9
MCW-9 (County)	-	1/22/2020	Dry	<	9	9
MCW-9 (County)	-	1/23/2020	Dry	<	9	9
MCW-9 (County)	-	1/24/2020	Dry	<	9	9
MCW-9 (County)	-	1/25/2020	Dry	<	9	9
MCW-9 (County)	-	1/26/2020	Dry	<	9	9
MCW-9 (County)	-	1/27/2020	Dry	<	9	9
MCW-9 (County)	-	1/28/2020♦	Dry	<	9	9
MCW-9 (County)	-	1/29/2020	Dry	<	9	9
MCW-9 (County)	-	1/30/2020	Dry	<	9	9
MCW-9 (County)	-	1/31/2020	Dry	<	9	9
MCW-12 (County)	1030	1/1/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1110	1/2/2020♦		=	230	77
MCW-12 (County)	1110	1/3/2020		=	230	82
MCW-12 (County)	1110	1/4/2020		=	230	86
MCW-12 (County)	1110	1/5/2020		=	230	91
MCW-12 (County)	1110	1/6/2020		=	230	96
MCW-12 (County)	1130	1/7/2020♦		=	45	96
MCW-12 (County)	1130	1/8/2020		=	45	96
MCW-12 (County)	1130	1/9/2020		=	45	92
MCW-12 (County)	1130	1/10/2020		=	45	89
MCW-12 (County)	1130	1/11/2020		=	45	86
MCW-12 (County)	1130	1/12/2020		=	45	83
MCW-12 (County)	1130	1/13/2020		=	45	81
MCW-12 (County)	1053	1/14/2020♦		=	45	77
MCW-12 (County)	1053	1/15/2020		=	45	74
MCW-12 (County)	1053	1/16/2020		=	45	69
MCW-12 (County)	1053	1/17/2020		=	45	65
MCW-12 (County)	1053	1/18/2020		=	45	60
MCW-12 (County)	1053	1/19/2020		=	45	57
MCW-12 (County)	1115	1/20/2020♦		=	110	54
MCW-12 (County)	1115	1/21/2020		=	110	53
MCW-12 (County)	1115	1/22/2020		=	110	51

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-12 (County)	1115	1/23/2020		=	110	54
MCW-12 (County)	1115	1/24/2020		=	110	57
MCW-12 (County)	1115	1/25/2020		=	110	60
MCW-12 (County)	1115	1/26/2020		=	110	64
MCW-12 (County)	1115	1/27/2020		=	110	67
MCW-12 (County)	1125	1/28/2020♦		=	230	73
MCW-12 (County)	1125	1/29/2020		=	230	79
MCW-12 (County)	1125	1/30/2020		=	230	86
MCW-12 (County)	1125	1/31/2020		=	230	93
MCW-14b (City and County)	1005	1/1/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1040	1/2/2020♦		=	130	155
MCW-14b (City and County)	1040	1/3/2020		=	130	158
MCW-14b (City and County)	1040	1/4/2020		=	130	161
MCW-14b (City and County)	1040	1/5/2020		=	130	163
MCW-14b (City and County)	1040	1/6/2020		=	130	166
MCW-14b (City and County)	1100	1/7/2020♦		=	78	166
MCW-14b (City and County)	1100	1/8/2020		=	78	156
MCW-14b (City and County)	1100	1/9/2020		=	78	147
MCW-14b (City and County)	1100	1/10/2020		=	78	138
MCW-14b (City and County)	1100	1/11/2020		=	78	130
MCW-14b (City and County)	1100	1/12/2020		=	78	122
MCW-14b (City and County)	1100	1/13/2020		=	78	115
MCW-14b (City and County)	1013	1/14/2020♦		=	40	106
MCW-14b (City and County)	1013	1/15/2020		=	40	97
MCW-14b (City and County)	1013	1/16/2020		=	40	93
MCW-14b (City and County)	1013	1/17/2020		=	40	88
MCW-14b (City and County)	1013	1/18/2020		=	40	84
MCW-14b (City and County)	1013	1/19/2020		=	40	80
MCW-14b (City and County)	1045	1/20/2020♦		=	20	75
MCW-14b (City and County)	1045	1/21/2020		=	20	70
MCW-14b (City and County)	1045	1/22/2020		=	20	65
MCW-14b (City and County)	1045	1/23/2020		=	20	62
MCW-14b (City and County)	1045	1/24/2020		=	20	59
MCW-14b (City and County)	1045	1/25/2020		=	20	57
MCW-14b (City and County)	1045	1/26/2020		=	20	54
MCW-14b (City and County)	1045	1/27/2020		=	20	52
MCW-14b (City and County)	1100	1/28/2020♦		=	20	49
MCW-14b (City and County)	1100	1/29/2020		=	20	47
MCW-14b (City and County)	1100	1/30/2020		=	20	45
MCW-14b (City and County)	1100	1/31/2020		=	20	43
MCW-15c (City)*	945	1/1/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1010	1/2/2020♦		=	45	22

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-15c (City)*	1010	1/3/2020		=	45	24
MCW-15c (City)*	1010	1/4/2020		=	45	25
MCW-15c (City)*	1010	1/5/2020		=	45	26
MCW-15c (City)*	1010	1/6/2020		=	45	28
MCW-15c (City)*	1030	1/7/2020♦		=	790	32
MCW-15c (City)*	1030	1/8/2020		=	790	38
MCW-15c (City)*	1030	1/9/2020		=	790	44
MCW-15c (City)*	1030	1/10/2020		=	790	51
MCW-15c (City)*	1030	1/11/2020		=	790	59
MCW-15c (City)*	1030	1/12/2020		=	790	68
MCW-15c (City)*	1030	1/13/2020		=	790	79
MCW-15c (City)*	940	1/14/2020♦		=	1,700	94
MCW-15c (City)*	940	1/15/2020		=	1,700	112
MCW-15c (City)*	940	1/16/2020		=	1,700	122
MCW-15c (City)*	940	1/17/2020		=	1,700	133
MCW-15c (City)*	940	1/18/2020		=	1,700	145
MCW-15c (City)*	940	1/19/2020		=	1,700	158
MCW-15c (City)*	1020	1/20/2020♦		=	20	149
MCW-15c (City)*	1020	1/21/2020		=	20	140
MCW-15c (City)*	1020	1/22/2020		=	20	131
MCW-15c (City)*	1020	1/23/2020		=	20	131
MCW-15c (City)*	1020	1/24/2020		=	20	131
MCW-15c (City)*	1020	1/25/2020		=	20	131
MCW-15c (City)*	1020	1/26/2020		=	20	131
MCW-15c (City)*	1020	1/27/2020		=	20	131
MCW-15c (City)*	1030	1/28/2020♦		=	20	131
MCW-15c (City)*	1030	1/29/2020		=	20	131
MCW-15c (City)*	1030	1/30/2020		=	20	131
MCW-15c (City)*	1030	1/31/2020		=	20	131
MCW-17 (City and County)	930	1/1/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	-	1/2/2020♦	Dry	<	9	9
MCW-17 (City and County)	-	1/3/2020	Dry	<	9	9
MCW-17 (City and County)	-	1/4/2020	Dry	<	9	9
MCW-17 (City and County)	-	1/5/2020	Dry	<	9	9
MCW-17 (City and County)	-	1/6/2020	Dry	<	9	9
MCW-17 (City and County)	1000	1/7/2020♦		=	20	9
MCW-17 (City and County)	1000	1/8/2020		=	20	9
MCW-17 (City and County)	1000	1/9/2020		=	20	10
MCW-17 (City and County)	1000	1/10/2020		=	20	10
MCW-17 (City and County)	1000	1/11/2020		=	20	10
MCW-17 (City and County)	1000	1/12/2020		=	20	11
MCW-17 (City and County)	1000	1/13/2020		=	20	11
MCW-17 (City and County)	845	1/14/2020♦		=	45	11

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	845	1/15/2020		=	45	12
MCW-17 (City and County)	845	1/16/2020		=	45	13
MCW-17 (City and County)	845	1/17/2020		=	45	13
MCW-17 (City and County)	845	1/18/2020		=	45	14
MCW-17 (City and County)	845	1/19/2020		=	45	15
MCW-17 (City and County)	955	1/20/2020 ♦		=	130	16
MCW-17 (City and County)	955	1/21/2020		=	130	18
MCW-17 (City and County)	955	1/22/2020		=	130	20
MCW-17 (City and County)	955	1/23/2020		=	130	23
MCW-17 (City and County)	955	1/24/2020		=	130	23
MCW-17 (City and County)	955	1/25/2020		=	130	26
MCW-17 (City and County)	955	1/26/2020		=	130	28
MCW-17 (City and County)	955	1/27/2020		=	130	30
MCW-17 (City and County)	1000	1/28/2020 ♦		=	170	34
MCW-17 (City and County)	1000	1/29/2020		=	170	37
MCW-17 (City and County)	1000	1/30/2020		=	170	41
MCW-17 (City and County)	1000	1/31/2020		=	170	45
MCW-18 (County)	-	1/1/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	1/2/2020 ♦	Dry	<	9	9
MCW-18 (County)	-	1/3/2020	Dry	<	9	9
MCW-18 (County)	-	1/4/2020	Dry	<	9	9
MCW-18 (County)	-	1/5/2020	Dry	<	9	9
MCW-18 (County)	-	1/6/2020	Dry	<	9	9
MCW-18 (County)	-	1/7/2020 ♦	Dry	<	9	9
MCW-18 (County)	-	1/8/2020	Dry	<	9	9
MCW-18 (County)	-	1/9/2020	Dry	<	9	9
MCW-18 (County)	-	1/10/2020	Dry	<	9	9
MCW-18 (County)	-	1/11/2020	Dry	<	9	9
MCW-18 (County)	-	1/12/2020	Dry	<	9	9
MCW-18 (County)	-	1/13/2020	Dry	<	9	9
MCW-18 (County)	-	1/14/2020 ♦	Dry	<	9	9
MCW-18 (County)	-	1/15/2020	Dry	<	9	9
MCW-18 (County)	-	1/16/2020	Dry	<	9	9
MCW-18 (County)	-	1/17/2020	Dry	<	9	9
MCW-18 (County)	-	1/18/2020	Dry	<	9	9
MCW-18 (County)	-	1/19/2020	Dry	<	9	9
MCW-18 (County)	-	1/20/2020 ♦	Dry	<	9	9
MCW-18 (County)	-	1/21/2020	Dry	<	9	9
MCW-18 (County)	-	1/22/2020	Dry	<	9	9
MCW-18 (County)	-	1/23/2020	Dry	<	9	9
MCW-18 (County)	-	1/24/2020	Dry	<	9	9
MCW-18 (County)	-	1/25/2020	Dry	<	9	9
MCW-18 (County)	-	1/26/2020	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-18 (County)	-	1/27/2020	Dry	<	9	9
MCW-18 (County)	-	1/28/2020◆	Dry	<	9	9
MCW-18 (County)	-	1/29/2020	Dry	<	9	9
MCW-18 (County)	-	1/30/2020	Dry	<	9	9
MCW-18 (County)	-	1/31/2020	Dry	<	9	9

Notes:

◆: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
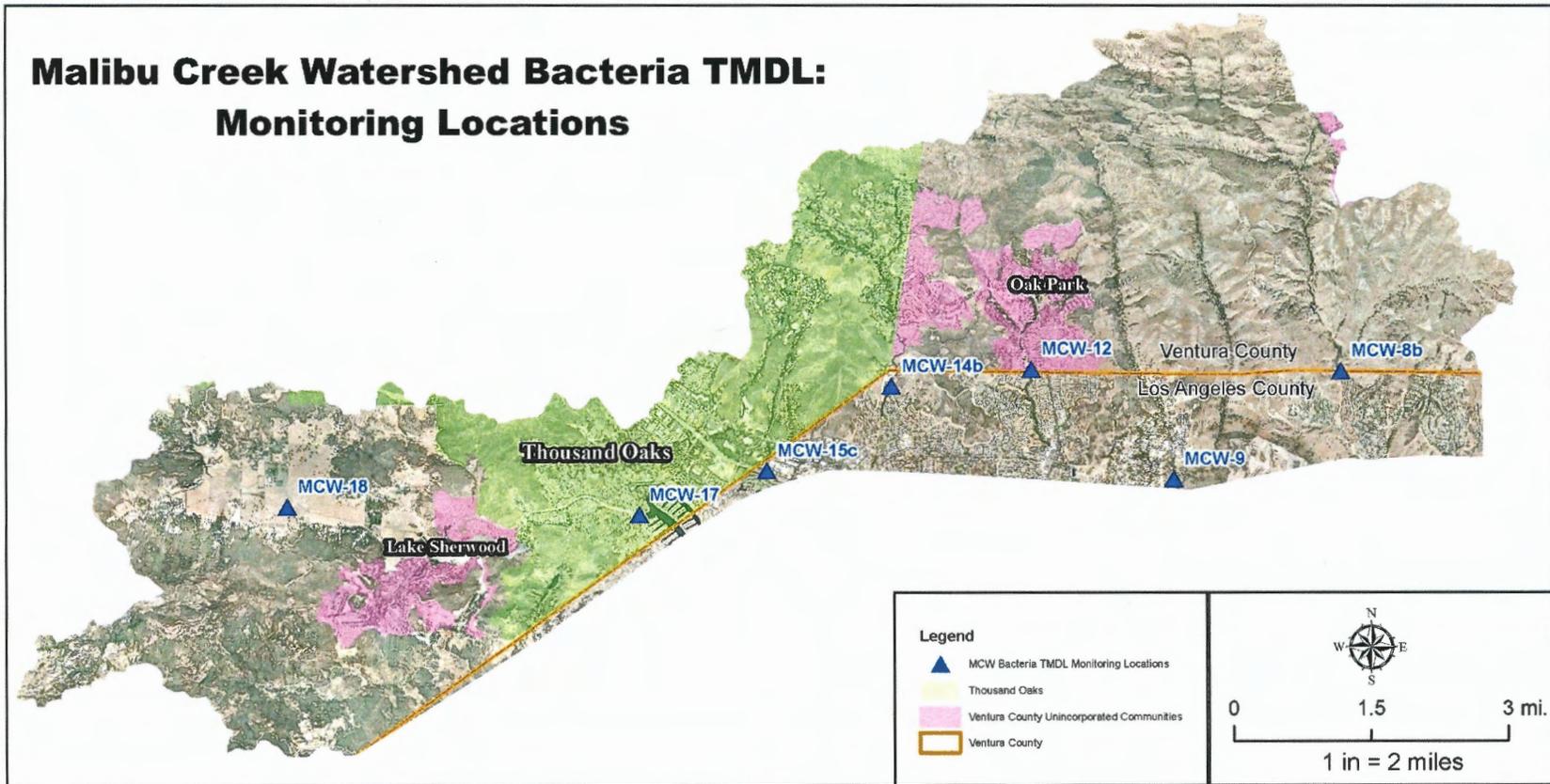
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

March 17, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of February 2020. Sites were sampled weekly on Tuesday (February 4, 11, 18 and 25, 2020). Beginning on and following July 23, 2019, Rincon Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day geometric means for the sampling locations. Sample collection dates are marked with a diamond (♦) symbol. Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." A map showing the location of the monitoring sites is included below.

Daily geometric means for wet weather and dry weather are calculated using the past 30 days of the respective sampling data (Table 2). For example, weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous wet weather single sample values to calculate the geometric mean. Non-sampling-day values are assigned the value of the most recent sampling event. Half the method reporting limit (MRL) was used to calculate the daily geometric means for sites with results reported as non-detect (ND) [e.g., < 18 most probable number per 100 milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by assigning a concentration value of half the MRL, as a zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
       Ewelina Mutkowska, County of Ventura (via email)
       Paul Jorgensen, City of Thousand Oaks (via email)
       Joe Bellomo, Willdan Associates (via email)
       Kelly Fisher, City of Agoura Hills (via email)
       Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled) E. coli (235 MPN)
MCW-8b (County)	1230	2/4/2020♦	Dry	<	18
MCW-8b (County)	1151	2/11/2020♦	Dry	=	20
MCW-8b (County)	1149	2/18/2020♦	Dry	<	18
MCW-8b (County)	1145	2/25/2020♦	Rain	<	18
MCW-9 (County)	-	2/4/2020♦	Dry		Dry
MCW-9 (County)	-	2/11/2020♦	Dry		Dry
MCW-9 (County)	-	2/18/2020♦	Dry		Dry
MCW-9 (County)	-	2/25/2020♦	Rain		Dry
MCW-12 (County)	1203	2/4/2020♦	Dry	=	45
MCW-12 (County)	1133	2/11/2020♦	Dry	=	78
MCW-12 (County)	1119	2/18/2020♦	Dry	=	330
MCW-12 (County)	1100	2/25/2020♦	Rain	=	230
MCW-14b (City and County)	1130	2/4/2020♦	Dry	=	40
MCW-14b (City and County)	1054	2/11/2020♦	Dry	=	130
MCW-14b (City and County)	1057	2/18/2020♦	Dry	=	490
MCW-14b (City and County)	1030	2/25/2020♦	Rain	=	700
MCW-15c (City)*	1054	2/4/2020♦	Dry	=	460
MCW-15c (City)*	1023	2/11/2020♦	Dry	=	1,700
MCW-15c (City)*	1031	2/18/2020♦	Dry	=	130
MCW-15c (City)*	1000	2/25/2020♦	Rain	<	18
MCW-17 (City and County)	1036	2/4/2020♦	Dry	=	78
MCW-17 (City and County)	950	2/11/2020♦	Dry	=	45
MCW-17 (City and County)	1014	2/18/2020♦	Dry	=	170
MCW-17 (City and County)	935	2/25/2020♦	Rain	=	230
MCW-18 (County)	-	2/4/2020♦	Dry		Dry
MCW-18 (County)	-	2/11/2020♦	Dry		Dry
MCW-18 (County)	-	2/18/2020♦	Dry		Dry
MCW-18 (County)	-	2/25/2020♦	Rain		Dry

Notes:

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-8b (County)	1200	2/1/2020	Dry	<	9	15
MCW-8b (County)	1200	2/2/2020	Dry	<	9	14
MCW-8b (County)	1200	2/3/2020	Dry	<	9	14
MCW-8b (County)	1230	2/4/2020♦	Dry	<	9	13
MCW-8b (County)	1230	2/5/2020	Dry	<	9	13
MCW-8b (County)	1230	2/6/2020	Dry	<	9	12
MCW-8b (County)	1230	2/7/2020	Dry	<	9	12
MCW-8b (County)	1230	2/8/2020	Dry	<	9	11
MCW-8b (County)	1230	2/9/2020	Dry	<	9	11
MCW-8b (County)	1230	2/10/2020	Dry	<	9	10
MCW-8b (County)	1151	2/11/2020♦	Dry	=	20	10
MCW-8b (County)	1151	2/12/2020	Dry	=	20	9
MCW-8b (County)	1151	2/13/2020	Dry	=	20	10
MCW-8b (County)	1151	2/14/2020	Dry	=	20	10
MCW-8b (County)	1151	2/15/2020	Dry	=	20	10
MCW-8b (County)	1151	2/16/2020	Dry	=	20	11
MCW-8b (County)	1151	2/17/2020	Dry	=	20	11
MCW-8b (County)	1149	2/18/2020♦	Dry	<	9	11
MCW-8b (County)	1149	2/19/2020	Dry	<	9	11
MCW-8b (County)	1149	2/20/2020	Dry	<	9	11
MCW-8b (County)	1149	2/21/2020	Dry	<	9	11
MCW-8b (County)	1149	2/22/2020	Dry	<	9	11
MCW-8b (County)	1149	2/23/2020	Dry	<	9	11
MCW-8b (County)	1149	2/24/2020	Dry	<	9	11
MCW-8b (County)	1145	2/25/2020♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	2/26/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	2/27/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	2/28/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	2/29/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	2/1/2020	Dry	<	9	9
MCW-9 (County)	-	2/2/2020	Dry	<	9	9
MCW-9 (County)	-	2/3/2020	Dry	<	9	9
MCW-9 (County)	-	2/4/2020♦	Dry	<	9	9
MCW-9 (County)	-	2/5/2020	Dry	<	9	9
MCW-9 (County)	-	2/6/2020	Dry	<	9	9
MCW-9 (County)	-	2/7/2020	Dry	<	9	9
MCW-9 (County)	-	2/8/2020	Dry	<	9	9
MCW-9 (County)	-	2/9/2020	Dry	<	9	9
MCW-9 (County)	-	2/10/2020	Dry	<	9	9
MCW-9 (County)	-	2/11/2020♦	Dry	<	9	9
MCW-9 (County)	-	2/12/2020	Dry	<	9	9
MCW-9 (County)	-	2/13/2020	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	2/14/2020	Dry	<	9	9
MCW-9 (County)	-	2/15/2020	Dry	<	9	9
MCW-9 (County)	-	2/16/2020	Dry	<	9	9
MCW-9 (County)	-	2/17/2020	Dry	<	9	9
MCW-9 (County)	-	2/18/2020◆	Dry	<	◦9	9
MCW-9 (County)	-	2/19/2020	Dry	<	9	9
MCW-9 (County)	-	2/20/2020	Dry	<	9	9
MCW-9 (County)	-	2/21/2020	Dry	<	9	9
MCW-9 (County)	-	2/22/2020	Dry	<	9	9
MCW-9 (County)	-	2/23/2020	Dry	<	9	9
MCW-9 (County)	-	2/24/2020	Dry	<	9	9
MCW-9 (County)	-	2/25/2020◆	Rain		**Rain**	**Rain**
MCW-9 (County)	-	2/26/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	2/27/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	2/28/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	2/29/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1125	2/1/2020	Dry	=	230	93
MCW-12 (County)	1125	2/2/2020	Dry	=	230	93
MCW-12 (County)	1125	2/3/2020	Dry	=	230	93
MCW-12 (County)	1203	2/4/2020◆	Dry	=	45	88
MCW-12 (County)	1203	2/5/2020	Dry	=	45	84
MCW-12 (County)	1203	2/6/2020	Dry	=	45	84
MCW-12 (County)	1203	2/7/2020	Dry	=	45	84
MCW-12 (County)	1203	2/8/2020	Dry	=	45	84
MCW-12 (County)	1203	2/9/2020	Dry	=	45	84
MCW-12 (County)	1203	2/10/2020	Dry	=	45	84
MCW-12 (County)	1133	2/11/2020◆	Dry	=	78	85
MCW-12 (County)	1133	2/12/2020	Dry	=	78	87
MCW-12 (County)	1133	2/13/2020	Dry	=	78	88
MCW-12 (County)	1133	2/14/2020	Dry	=	78	90
MCW-12 (County)	1133	2/15/2020	Dry	=	78	92
MCW-12 (County)	1133	2/16/2020	Dry	=	78	93
MCW-12 (County)	1133	2/17/2020	Dry	=	78	95
MCW-12 (County)	1119	2/18/2020◆	Dry	=	330	102
MCW-12 (County)	1119	2/19/2020	Dry	=	330	105
MCW-12 (County)	1119	2/20/2020	Dry	=	330	109
MCW-12 (County)	1119	2/21/2020	Dry	=	330	113
MCW-12 (County)	1119	2/22/2020	Dry	=	330	118
MCW-12 (County)	1119	2/23/2020	Dry	=	330	122
MCW-12 (County)	1119	2/24/2020	Dry	=	330	126
MCW-12 (County)	1100	2/25/2020◆	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	2/26/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	2/27/2020	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1100	2/28/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	2/29/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	2/1/2020	Dry	=	20	41
MCW-14b (City and County)	1100	2/2/2020	Dry	=	20	38
MCW-14b (City and County)	1100	2/3/2020	Dry	=	20	36
MCW-14b (City and County)	1130	2/4/2020♦	Dry	=	40	34
MCW-14b (City and County)	1130	2/5/2020	Dry	=	40	33
MCW-14b (City and County)	1130	2/6/2020	Dry	=	40	32
MCW-14b (City and County)	1130	2/7/2020	Dry	=	40	32
MCW-14b (City and County)	1130	2/8/2020	Dry	=	40	31
MCW-14b (City and County)	1130	2/9/2020	Dry	=	40	30
MCW-14b (City and County)	1130	2/10/2020	Dry	=	40	30
MCW-14b (City and County)	1054	2/11/2020♦	Dry	=	130	30
MCW-14b (City and County)	1054	2/12/2020	Dry	=	130	31
MCW-14b (City and County)	1054	2/13/2020	Dry	=	130	32
MCW-14b (City and County)	1054	2/14/2020	Dry	=	130	33
MCW-14b (City and County)	1054	2/15/2020	Dry	=	130	34
MCW-14b (City and County)	1054	2/16/2020	Dry	=	130	36
MCW-14b (City and County)	1054	2/17/2020	Dry	=	130	37
MCW-14b (City and County)	1057	2/18/2020♦	Dry	=	490	40
MCW-14b (City and County)	1057	2/19/2020	Dry	=	490	45
MCW-14b (City and County)	1057	2/20/2020	Dry	=	490	50
MCW-14b (City and County)	1057	2/21/2020	Dry	=	490	56
MCW-14b (City and County)	1057	2/22/2020	Dry	=	490	62
MCW-14b (City and County)	1057	2/23/2020	Dry	=	490	69
MCW-14b (City and County)	1057	2/24/2020	Dry	=	490	77
MCW-14b (City and County)	1030	2/25/2020♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	2/26/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	2/27/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	2/28/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	2/29/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1030	2/1/2020	Dry	=	20	128
MCW-15c (City)*	1030	2/2/2020	Dry	=	20	124
MCW-15c (City)*	1030	2/3/2020	Dry	=	20	121
MCW-15c (City)*	1054	2/4/2020♦	Dry	=	460	131
MCW-15c (City)*	1054	2/5/2020	Dry	=	460	141
MCW-15c (City)*	1054	2/6/2020	Dry	=	460	139
MCW-15c (City)*	1054	2/7/2020	Dry	=	460	136
MCW-15c (City)*	1054	2/8/2020	Dry	=	460	134
MCW-15c (City)*	1054	2/9/2020	Dry	=	460	131
MCW-15c (City)*	1054	2/10/2020	Dry	=	460	129
MCW-15c (City)*	1023	2/11/2020♦	Dry	=	1,700	132

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	1023	2/12/2020	Dry	=	1,700	136
MCW-15c (City)*	1023	2/13/2020	Dry	=	1,700	136
MCW-15c (City)*	1023	2/14/2020	Dry	=	1,700	136
MCW-15c (City)*	1023	2/15/2020	Dry	=	1,700	136
MCW-15c (City)*	1023	2/16/2020	Dry	=	1,700	136
MCW-15c (City)*	1023	2/17/2020	Dry	=	1,700	136
MCW-15c (City)*	1031	2/18/2020◆	Dry	=	130	125
MCW-15c (City)*	1031	2/19/2020	Dry	=	130	133
MCW-15c (City)*	1031	2/20/2020	Dry	=	130	141
MCW-15c (City)*	1031	2/21/2020	Dry	=	130	150
MCW-15c (City)*	1031	2/22/2020	Dry	=	130	160
MCW-15c (City)*	1031	2/23/2020	Dry	=	130	170
MCW-15c (City)*	1031	2/24/2020	Dry	=	130	181
MCW-15c (City)*	1000	2/25/2020◆	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	2/26/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	2/27/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	2/28/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	2/29/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1000	2/1/2020	Dry	=	170	50
MCW-17 (City and County)	1000	2/2/2020	Dry	=	170	55
MCW-17 (City and County)	1000	2/3/2020	Dry	=	170	61
MCW-17 (City and County)	1036	2/4/2020◆	Dry	=	78	65
MCW-17 (City and County)	1036	2/5/2020	Dry	=	78	70
MCW-17 (City and County)	1036	2/6/2020	Dry	=	78	73
MCW-17 (City and County)	1036	2/7/2020	Dry	=	78	77
MCW-17 (City and County)	1036	2/8/2020	Dry	=	78	80
MCW-17 (City and County)	1036	2/9/2020	Dry	=	78	84
MCW-17 (City and County)	1036	2/10/2020	Dry	=	78	88
MCW-17 (City and County)	950	2/11/2020◆	Dry	=	45	90
MCW-17 (City and County)	950	2/12/2020	Dry	=	45	93
MCW-17 (City and County)	950	2/13/2020	Dry	=	45	93
MCW-17 (City and County)	950	2/14/2020	Dry	=	45	93
MCW-17 (City and County)	950	2/15/2020	Dry	=	45	93
MCW-17 (City and County)	950	2/16/2020	Dry	=	45	93
MCW-17 (City and County)	950	2/17/2020	Dry	=	45	93
MCW-17 (City and County)	1014	2/18/2020◆	Dry	=	170	97
MCW-17 (City and County)	1014	2/19/2020	Dry	=	170	98
MCW-17 (City and County)	1014	2/20/2020	Dry	=	170	99
MCW-17 (City and County)	1014	2/21/2020	Dry	=	170	99
MCW-17 (City and County)	1014	2/22/2020	Dry	=	170	100
MCW-17 (City and County)	1014	2/23/2020	Dry	=	170	101
MCW-17 (City and County)	1014	2/24/2020	Dry	=	170	102
MCW-17 (City and County)	935	2/25/2020◆	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	935	2/26/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	935	2/27/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	935	2/28/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	935	2/29/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/1/2020	Dry	<	9	9
MCW-18 (County)	-	2/2/2020	Dry	<	9	9
MCW-18 (County)	-	2/3/2020	Dry	<	9	9
MCW-18 (County)	-	2/4/2020♦	Dry	<	9	9
MCW-18 (County)	-	2/5/2020	Dry	<	9	9
MCW-18 (County)	-	2/6/2020	Dry	<	9	9
MCW-18 (County)	-	2/7/2020	Dry	<	9	9
MCW-18 (County)	-	2/8/2020	Dry	<	9	9
MCW-18 (County)	-	2/9/2020	Dry	<	9	9
MCW-18 (County)	-	2/10/2020	Dry	<	9	9
MCW-18 (County)	-	2/11/2020♦	Dry	<	9	9
MCW-18 (County)	-	2/12/2020	Dry	<	9	9
MCW-18 (County)	-	2/13/2020	Dry	<	9	9
MCW-18 (County)	-	2/14/2020	Dry	<	9	9
MCW-18 (County)	-	2/15/2020	Dry	<	9	9
MCW-18 (County)	-	2/16/2020	Dry	<	9	9
MCW-18 (County)	-	2/17/2020	Dry	<	9	9
MCW-18 (County)	-	2/18/2020♦	Dry	<	9	9
MCW-18 (County)	-	2/19/2020	Dry	<	9	9
MCW-18 (County)	-	2/20/2020	Dry	<	9	9
MCW-18 (County)	-	2/21/2020	Dry	<	9	9
MCW-18 (County)	-	2/22/2020	Dry	<	9	9
MCW-18 (County)	-	2/23/2020	Dry	<	9	9
MCW-18 (County)	-	2/24/2020	Dry	<	9	9
MCW-18 (County)	-	2/25/2020♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/26/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/27/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/28/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	2/29/2020	Rain		**Rain**	**Rain**

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
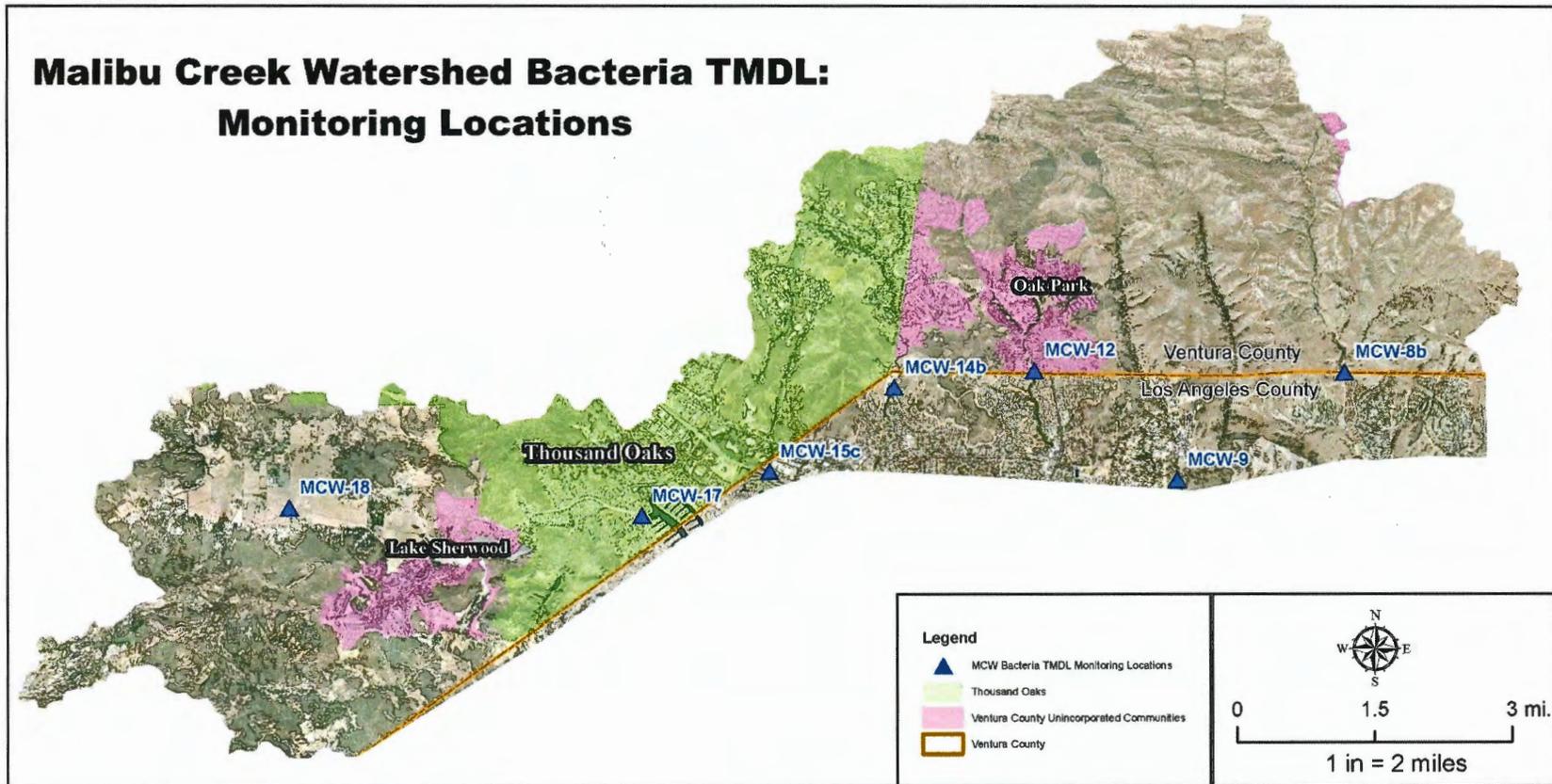
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

county of ventura

Jeff Pratt
Agency Director

April 27, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of March 2020. Sites were sampled weekly on Tuesday (March 3, 17, 24, and 31, 2020) with the exception of one sampling event on Wednesday, March 11, 2020. Beginning on and following July 23, 2019, Rincon Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day geometric means for the sampling locations. Sample collection dates are marked with a diamond (♦) symbol. Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." A map showing the location of the monitoring sites is included below.

Daily geometric means for wet weather and dry weather are calculated using the past 30 days of the respective sampling data (Table 2). For example, weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous wet weather single sample values to calculate the geometric mean. Non-sampling-day values are assigned the value of the most recent sampling event. Half the method reporting limit (MRL) was used to calculate the daily geometric means for sites with results reported as non-detect (ND) [e.g., < 18 most probable number per 100 milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by assigning a concentration value of half the MRL, as a zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.
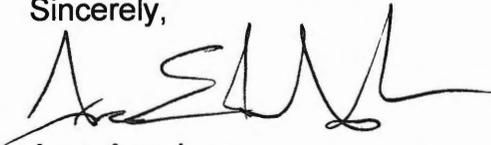
Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
       Ewelina Mutkowska, County of Ventura (via email)
       Paul Jorgensen, City of Thousand Oaks (via email)
       Joe Bellomo, Willdan Associates (via email)
       Kelly Fisher, City of Agoura Hills (via email)
       Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli (235 MPN)
MCW-8b (County)	1140	3/3/2020♦		<	18
MCW-8b (County)	1308	3/11/2020♦	Rain	=	170
MCW-8b (County)	1125	3/17/2020♦	Rain	=	330
MCW-8b (County)	1127	3/24/2020♦	Rain	=	330
MCW-8b (County)	1200	3/31/2020♦		=	130
MCW-9 (County)	-	3/3/2020♦	Dry		Dry
MCW-9 (County)	-	3/11/2020♦	Rain		Dry
MCW-9 (County)	-	3/17/2020♦	Rain		Dry
MCW-9 (County)	-	3/24/2020♦	Rain		Dry
MCW-9 (County)	-	3/31/2020♦	Dry		Dry
MCW-12 (County)	1113	3/3/2020♦		=	170
MCW-12 (County)	1242	3/11/2020♦	Rain	=	9,200
MCW-12 (County)	905	3/17/2020♦	Rain	=	3,500
MCW-12 (County)	1050	3/24/2020♦	Rain	=	700
MCW-12 (County)	1137	3/31/2020♦		=	330
MCW-14b (City and County)	1050	3/3/2020♦		=	310
MCW-14b (City and County)	1200	3/11/2020♦	Rain	=	1,300
MCW-14b (City and County)	849	3/17/2020♦	Rain	=	3,500
MCW-14b (City and County)	1030	3/24/2020♦	Rain	=	1,300
MCW-14b (City and County)	1115	3/31/2020♦		=	790
MCW-15c (City)*	1023	3/3/2020♦		=	78
MCW-15c (City)*	1128	3/11/2020♦	Rain	=	330
MCW-15c (City)*	830	3/17/2020♦	Rain	=	330
MCW-15c (City)*	1008	3/24/2020♦	Rain	=	230
MCW-15c (City)*	1046	3/31/2020♦		=	170
MCW-17 (City and County)	1009	3/3/2020♦		=	790
MCW-17 (City and County)	1021	3/11/2020♦	Rain	=	700
MCW-17 (City and County)	800	3/17/2020♦	Rain	=	330
MCW-17 (City and County)	957	3/24/2020♦	Rain	=	330
MCW-17 (City and County)	1020	3/31/2020♦		=	40
MCW-18 (County)	-	3/3/2020♦	Dry		Dry
MCW-18 (County)	-	3/11/2020♦	Rain		Dry
MCW-18 (County)	745	3/17/2020♦	Rain	=	5,400
MCW-18 (County)	-	3/24/2020♦	Rain		Dry
MCW-18 (County)	-	3/31/2020♦	Dry		Dry

Notes:

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1145	3/1/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1145	3/2/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1140	3/3/2020♦		<	9	11
MCW-8b (County)	1140	3/4/2020		<	9	11
MCW-8b (County)	1140	3/5/2020		<	9	11
MCW-8b (County)	1140	3/6/2020		<	9	11
MCW-8b (County)	1140	3/7/2020		<	9	11
MCW-8b (County)	1140	3/8/2020		<	9	11
MCW-8b (County)	1140	3/9/2020		<	9	11
MCW-8b (County)	1140	3/10/2020		<	9	11
MCW-8b (County)	1308	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1308	3/12/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1308	3/13/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1308	3/14/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1308	3/15/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1308	3/16/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/18/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/19/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/20/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/21/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/22/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1125	3/23/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/25/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/26/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/27/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/28/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/29/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1127	3/30/2020	Rain		**Rain**	**Rain**
MCW-8b (County)	1200	3/31/2020♦		=	130	12
MCW-9 (County)	-	3/1/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/2/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/3/2020♦	Dry	<	9	9
MCW-9 (County)	-	3/4/2020	Dry	<	9	9
MCW-9 (County)	-	3/5/2020	Dry	<	9	9
MCW-9 (County)	-	3/6/2020	Dry	<	9	9
MCW-9 (County)	-	3/7/2020	Dry	<	9	9
MCW-9 (County)	-	3/8/2020	Dry	<	9	9
MCW-9 (County)	-	3/9/2020	Dry	<	9	9
MCW-9 (County)	-	3/10/2020	Dry	<	9	9
MCW-9 (County)	-	3/11/2020♦	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
				E. coli		E. coli
				(235 MPN)		(126 MPN)
MCW-9 (County)	-	3/12/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/13/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/14/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/15/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/16/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/18/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/19/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/20/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/21/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/22/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/23/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/25/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/26/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/27/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/28/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/29/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/30/2020	Rain		**Rain**	**Rain**
MCW-9 (County)	-	3/31/2020♦	Dry	<	9	9
MCW-12 (County)	1100	3/1/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1100	3/2/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1113	3/3/2020♦		=	170	128
MCW-12 (County)	1113	3/4/2020		=	170	130
MCW-12 (County)	1113	3/5/2020		=	170	129
MCW-12 (County)	1113	3/6/2020		=	170	128
MCW-12 (County)	1113	3/7/2020		=	170	126
MCW-12 (County)	1113	3/8/2020		=	170	125
MCW-12 (County)	1113	3/9/2020		=	170	124
MCW-12 (County)	1113	3/10/2020		=	170	123
MCW-12 (County)	1242	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1242	3/12/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1242	3/13/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1242	3/14/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1242	3/15/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1242	3/16/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/18/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/19/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/20/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/21/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/22/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	905	3/23/2020	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1050	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/25/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/26/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/27/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/28/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/29/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1050	3/30/2020	Rain		**Rain**	**Rain**
MCW-12 (County)	1137	3/31/2020♦		=	330	124
MCW-14b (City and County)	1030	3/1/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/2/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1050	3/3/2020♦		=	310	84
MCW-14b (City and County)	1050	3/4/2020		=	310	92
MCW-14b (City and County)	1050	3/5/2020		=	310	101
MCW-14b (City and County)	1050	3/6/2020		=	310	111
MCW-14b (City and County)	1050	3/7/2020		=	310	121
MCW-14b (City and County)	1050	3/8/2020		=	310	133
MCW-14b (City and County)	1050	3/9/2020		=	310	145
MCW-14b (City and County)	1050	3/10/2020		=	310	159
MCW-14b (City and County)	1200	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	3/12/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	3/13/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	3/14/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	3/15/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	3/16/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/18/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/19/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/20/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/21/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/22/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	849	3/23/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/25/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/26/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/27/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/28/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/29/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1030	3/30/2020	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1115	3/31/2020♦		=	790	180
MCW-15c (City)*	1000	3/1/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1000	3/2/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1023	3/3/2020♦		=	78	190

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	1023	3/4/2020		=	78	199
MCW-15c (City)*	1023	3/5/2020		=	78	208
MCW-15c (City)*	1023	3/6/2020		=	78	217
MCW-15c (City)*	1023	3/7/2020		=	78	228
MCW-15c (City)*	1023	3/8/2020		=	78	238
MCW-15c (City)*	1023	3/9/2020		=	78	249
MCW-15c (City)*	1023	3/10/2020		=	78	261
MCW-15c (City)*	1128	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-15c (City)*	1128	3/12/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1128	3/13/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1128	3/14/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1128	3/15/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1128	3/16/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/18/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/19/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/20/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/21/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/22/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	830	3/23/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/25/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/26/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/27/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/28/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/29/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1008	3/30/2020	Rain		**Rain**	**Rain**
MCW-15c (City)*	1046	3/31/2020♦		=	170	280
MCW-17 (City and County)	935	3/1/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	935	3/2/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1009	3/3/2020♦		=	790	108
MCW-17 (City and County)	1009	3/4/2020		=	790	115
MCW-17 (City and County)	1009	3/5/2020		=	790	121
MCW-17 (City and County)	1009	3/6/2020		=	790	128
MCW-17 (City and County)	1009	3/7/2020		=	790	134
MCW-17 (City and County)	1009	3/8/2020		=	790	141
MCW-17 (City and County)	1009	3/9/2020		=	790	149
MCW-17 (City and County)	1009	3/10/2020		=	790	157
MCW-17 (City and County)	1021	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1021	3/12/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1021	3/13/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1021	3/14/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1021	3/15/2020	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	1021	3/16/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/18/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/19/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/20/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/21/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/22/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	800	3/23/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/25/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/26/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/27/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/28/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/29/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	957	3/30/2020	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1020	3/31/2020♦		=	40	149
MCW-18 (County)	-	3/1/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/2/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/3/2020♦	Dry	<	9	9
MCW-18 (County)	-	3/4/2020	Dry	<	9	9
MCW-18 (County)	-	3/5/2020	Dry	<	9	9
MCW-18 (County)	-	3/6/2020	Dry	<	9	9
MCW-18 (County)	-	3/7/2020	Dry	<	9	9
MCW-18 (County)	-	3/8/2020	Dry	<	9	9
MCW-18 (County)	-	3/9/2020	Dry	<	9	9
MCW-18 (County)	-	3/10/2020	Dry	<	9	9
MCW-18 (County)	-	3/11/2020♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/12/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/13/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/14/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/15/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/16/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/17/2020♦	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/18/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/19/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/20/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/21/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/22/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	745	3/23/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/24/2020♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/25/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/26/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/27/2020	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)		Geometric Mean E. coli (126 MPN)
MCW-18 (County)	-	3/28/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/29/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/30/2020	Rain		**Rain**	**Rain**
MCW-18 (County)	-	3/31/2020♦	Dry	<	9	9

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
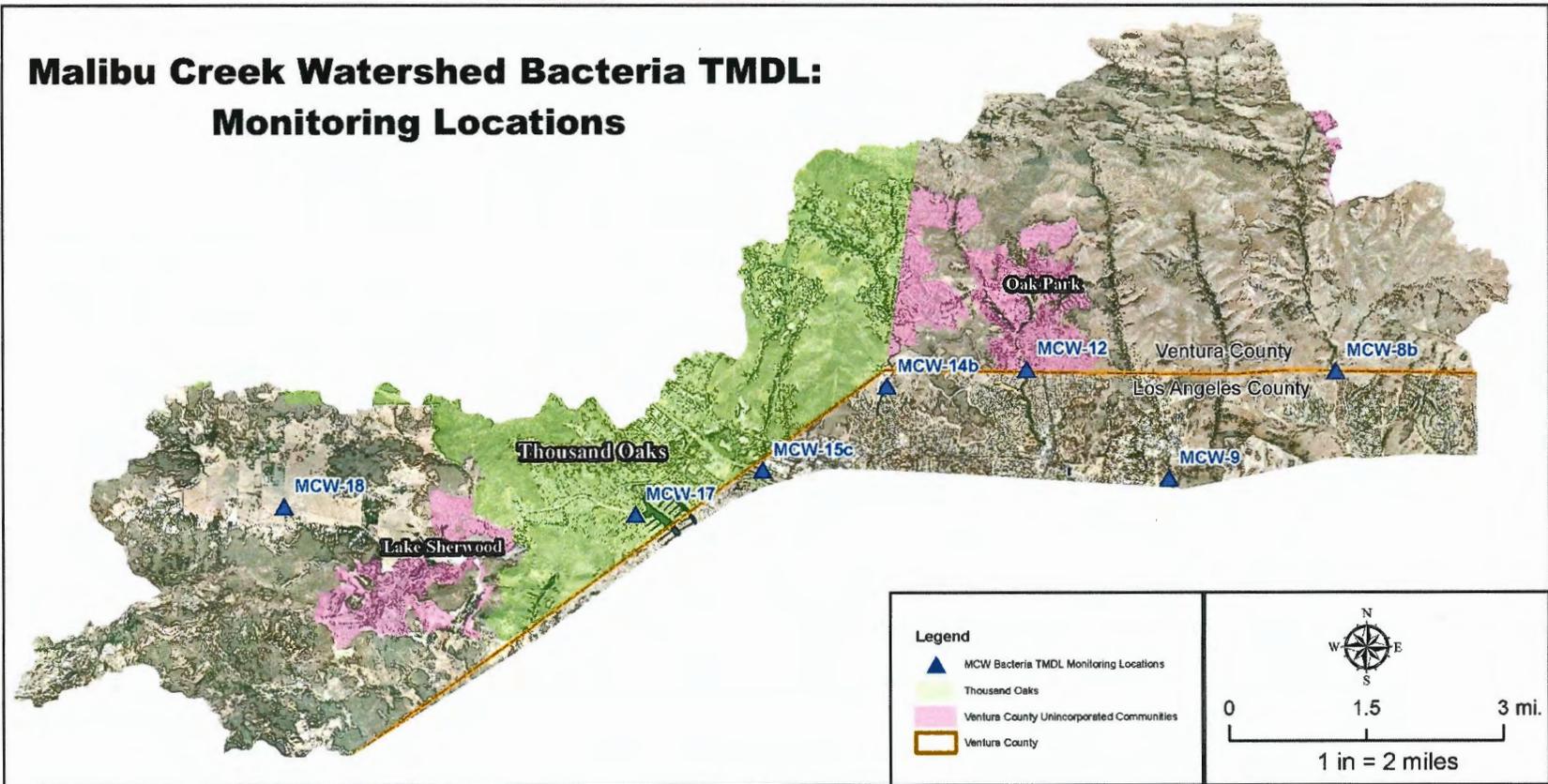
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

PUBLIC
VENTURA COUNTY
WORKS

county of ventura

Jeff Pratt
Agency Director

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

May 26, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of Ventura, Ventura County Watershed Protection District, and City of Thousand Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan (CMP) for the month of April 2020. Sites were sampled weekly on Tuesday (April 7, 14, 21, and 28, 2020). Beginning on and following July 23, 2019, Rincon Consultants Inc. has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day geometric means for the sampling locations. Sample collection dates are marked with a diamond (♦) symbol. Sites without results reported were not sampled due to insufficient flow and are labeled "Dry." A map showing the location of the monitoring sites is included below.

Daily geometric means for wet weather and dry weather are calculated using the past 30 days of the respective sampling data (Table 2). For example, weeks with wet weather samples (collected less than 72 hours after a day with > 0.1" rain) use the previous wet weather single sample values to calculate the geometric mean. Non-sampling-day values are assigned the value of the most recent sampling event. Half the method reporting limit (MRL) was used to calculate the daily geometric means for sites with results reported as non-detect (ND) [e.g., < 18 most probable number per 100 milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling locations by assigning a concentration value of half the MRL, as a zero value is undefined logarithmically, and as such would be unusable in the geometric mean calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
     Ewelina Mutkowska, County of Ventura (via email)
     Paul Jorgensen, City of Thousand Oaks (via email)
     Joe Bellomo, Willdan Associates (via email)
     Kelly Fisher, City of Agoura Hills (via email)
     Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1300	4/7/2020♦	Rain	=	700
MCW-8b (County)	1150	4/14/2020♦		=	230
MCW-8b (County)	1230	4/21/2020♦		=	490
MCW-8b (County)	1210	4/28/2020♦		=	790
MCW-9 (County)	-	4/7/2020♦	Rain		Dry
MCW-9 (County)	-	4/14/2020♦	Dry		Dry
MCW-9 (County)	-	4/21/2020♦	Dry		Dry
MCW-9 (County)	-	4/28/2020♦	Dry		Dry
MCW-12 (County)	1230	4/7/2020♦	Rain	=	490
MCW-12 (County)	1115	4/14/2020♦		=	330
MCW-12 (County)	1200	4/21/2020♦		=	490
MCW-12 (County)	1140	4/28/2020♦		=	170
MCW-14b (City and County)	1200	4/7/2020♦	Rain	=	490
MCW-14b (City and County)	1100	4/14/2020♦		=	110
MCW-14b (City and County)	1140	4/21/2020♦		=	490
MCW-14b (City and County)	1120	4/28/2020♦		=	790
MCW-15c (City)*	1145	4/7/2020♦	Rain	=	460
MCW-15c (City)*	1030	4/14/2020♦		=	45
MCW-15c (City)*	1100	4/21/2020♦		=	490
MCW-15c (City)*	1100	4/28/2020♦		=	790
MCW-17 (City and County)	1130	4/7/2020♦	Rain	=	170
MCW-17 (City and County)	1010	4/14/2020♦		=	170
MCW-17 (City and County)	1040	4/21/2020♦		=	110
MCW-17 (City and County)	1030	4/28/2020♦		=	230
MCW-18 (County)	-	4/7/2020♦	Rain		Dry
MCW-18 (County)	-	4/14/2020♦	Dry		Dry
MCW-18 (County)	-	4/21/2020♦	Dry		Dry
MCW-18 (County)	-	4/28/2020♦	Dry		Dry

Notes:

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1200	4/1/20		=	130	13
MCW-8b (County)	1200	4/2/20		=	130	14
MCW-8b (County)	1200	4/3/20		=	130	15
MCW-8b (County)	1200	4/4/20		=	130	17
MCW-8b (County)	1200	4/5/20		=	130	18
MCW-8b (County)	1200	4/6/20		=	130	20
MCW-8b (County)	1300	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/8/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/9/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/10/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/11/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/12/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1300	4/13/20	Rain		**Rain**	**Rain**
MCW-8b (County)	1150	4/14/2020♦		=	230	23
MCW-8b (County)	1150	4/15/20		=	230	24
MCW-8b (County)	1150	4/16/20		=	230	27
MCW-8b (County)	1150	4/17/20		=	230	29
MCW-8b (County)	1150	4/18/20		=	230	31
MCW-8b (County)	1150	4/19/20		=	230	34
MCW-8b (County)	1150	4/20/20		=	230	37
MCW-8b (County)	1230	4/21/2020♦		=	490	41
MCW-8b (County)	1230	4/22/20		=	490	47
MCW-8b (County)	1230	4/23/20		=	490	53
MCW-8b (County)	1230	4/24/20		=	490	61
MCW-8b (County)	1230	4/25/20		=	490	70
MCW-8b (County)	1230	4/26/20		=	490	80
MCW-8b (County)	1230	4/27/20		=	490	91
MCW-8b (County)	1210	4/28/2020♦		=	790	105
MCW-8b (County)	1210	4/29/20		=	790	122
MCW-8b (County)	1210	4/30/20		=	790	142
MCW-9 (County)	-	4/1/20	Dry	<	9	9
MCW-9 (County)	-	4/2/20	Dry	<	9	9
MCW-9 (County)	-	4/3/20	Dry	<	9	9
MCW-9 (County)	-	4/4/20	Dry	<	9	9
MCW-9 (County)	-	4/5/20	Dry	<	9	9
MCW-9 (County)	-	4/6/20	Dry	<	9	9
MCW-9 (County)	-	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/8/20	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/9/20	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain	Single Sample (adjusted for rain, dry and NDs)		Geometric Mean
				E. coli		E. coli
				(235 MPN)		(126 MPN)
MCW-9 (County)	-	4/10/20	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/11/20	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/12/20	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/13/20	Rain		**Rain**	**Rain**
MCW-9 (County)	-	4/14/2020♦	Dry	<	9	9
MCW-9 (County)	-	4/15/20	Dry	<	9	9
MCW-9 (County)	-	4/16/20	Dry	<	9	9
MCW-9 (County)	-	4/17/20	Dry	<	9	9
MCW-9 (County)	-	4/18/20	Dry	<	9	9
MCW-9 (County)	-	4/19/20	Dry	<	9	9
MCW-9 (County)	-	4/20/20	Dry	<	9	9
MCW-9 (County)	-	4/21/2020♦	Dry	<	9	9
MCW-9 (County)	-	4/22/20	Dry	<	9	9
MCW-9 (County)	-	4/23/20	Dry	<	9	9
MCW-9 (County)	-	4/24/20	Dry	<	9	9
MCW-9 (County)	-	4/25/20	Dry	<	9	9
MCW-9 (County)	-	4/26/20	Dry	<	9	9
MCW-9 (County)	-	4/27/20	Dry	<	9	9
MCW-9 (County)	-	4/28/2020♦	Dry	<	9	9
MCW-9 (County)	-	4/29/20	Dry	<	9	9
MCW-9 (County)	-	4/30/20	Dry	<	9	9
MCW-12 (County)	1137	4/1/20		=	330	133
MCW-12 (County)	1137	4/2/20		=	330	142
MCW-12 (County)	1137	4/3/20		=	330	151
MCW-12 (County)	1137	4/4/20		=	330	162
MCW-12 (County)	1137	4/5/20		=	330	173
MCW-12 (County)	1137	4/6/20		=	330	185
MCW-12 (County)	1230	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/8/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/9/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/10/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/11/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/12/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1230	4/13/20	Rain		**Rain**	**Rain**
MCW-12 (County)	1115	4/14/2020♦		=	330	197
MCW-12 (County)	1115	4/15/20		=	330	207
MCW-12 (County)	1115	4/16/20		=	330	217
MCW-12 (County)	1115	4/17/20		=	330	228
MCW-12 (County)	1115	4/18/20		=	330	239
MCW-12 (County)	1115	4/19/20		=	330	251
MCW-12 (County)	1115	4/20/20		=	330	264

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1200	4/21/2020♦		=	490	280
MCW-12 (County)	1200	4/22/20		=	490	284
MCW-12 (County)	1200	4/23/20		=	490	288
MCW-12 (County)	1200	4/24/20		=	490	291
MCW-12 (County)	1200	4/25/20		=	490	295
MCW-12 (County)	1200	4/26/20		=	490	299
MCW-12 (County)	1200	4/27/20		=	490	303
MCW-12 (County)	1140	4/28/2020♦		=	170	297
MCW-12 (County)	1140	4/29/20		=	170	297
MCW-12 (County)	1140	4/30/20		=	170	297
MCW-14b (City and County)	1115	4/1/20		=	790	199
MCW-14b (City and County)	1115	4/2/20		=	790	220
MCW-14b (City and County)	1115	4/3/20		=	790	243
MCW-14b (City and County)	1115	4/4/20		=	790	268
MCW-14b (City and County)	1115	4/5/20		=	790	296
MCW-14b (City and County)	1115	4/6/20		=	790	327
MCW-14b (City and County)	1200	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/8/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/9/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/10/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/11/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/12/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1200	4/13/20	Rain		**Rain**	**Rain**
MCW-14b (City and County)	1100	4/14/2020♦		=	110	338
MCW-14b (City and County)	1100	4/15/20		=	110	337
MCW-14b (City and County)	1100	4/16/20		=	110	335
MCW-14b (City and County)	1100	4/17/20		=	110	333
MCW-14b (City and County)	1100	4/18/20		=	110	331
MCW-14b (City and County)	1100	4/19/20		=	110	329
MCW-14b (City and County)	1100	4/20/20		=	110	327
MCW-14b (City and County)	1140	4/21/2020♦		=	490	342
MCW-14b (City and County)	1140	4/22/20		=	490	342
MCW-14b (City and County)	1140	4/23/20		=	490	342
MCW-14b (City and County)	1140	4/24/20		=	490	342
MCW-14b (City and County)	1140	4/25/20		=	490	342
MCW-14b (City and County)	1140	4/26/20		=	490	342
MCW-14b (City and County)	1140	4/27/20		=	490	342
MCW-14b (City and County)	1120	4/28/2020♦		=	790	348
MCW-14b (City and County)	1120	4/29/20		=	790	359
MCW-14b (City and County)	1120	4/30/20		=	790	370

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-15c (City)*	1046	4/1/20		=	170	271
MCW-15c (City)*	1046	4/2/20		=	170	262
MCW-15c (City)*	1046	4/3/20		=	170	254
MCW-15c (City)*	1046	4/4/20		=	170	245
MCW-15c (City)*	1046	4/5/20		=	170	237
MCW-15c (City)*	1046	4/6/20		=	170	229
MCW-15c (City)*	1145	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/8/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/9/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/10/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/11/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/12/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1145	4/13/20	Rain		**Rain**	**Rain**
MCW-15c (City)*	1030	4/14/2020♦		=	45	212
MCW-15c (City)*	1030	4/15/20		=	45	188
MCW-15c (City)*	1030	4/16/20		=	45	167
MCW-15c (City)*	1030	4/17/20		=	45	148
MCW-15c (City)*	1030	4/18/20		=	45	131
MCW-15c (City)*	1030	4/19/20		=	45	116
MCW-15c (City)*	1030	4/20/20		=	45	103
MCW-15c (City)*	1100	4/21/2020♦		=	490	99
MCW-15c (City)*	1100	4/22/20		=	490	103
MCW-15c (City)*	1100	4/23/20		=	490	108
MCW-15c (City)*	1100	4/24/20		=	490	113
MCW-15c (City)*	1100	4/25/20		=	490	118
MCW-15c (City)*	1100	4/26/20		=	490	123
MCW-15c (City)*	1100	4/27/20		=	490	129
MCW-15c (City)*	1100	4/28/2020♦		=	790	136
MCW-15c (City)*	1100	4/29/20		=	790	147
MCW-15c (City)*	1100	4/30/20		=	790	159
MCW-17 (City and County)	1020	4/1/20		=	40	146
MCW-17 (City and County)	1020	4/2/20		=	40	143
MCW-17 (City and County)	1020	4/3/20		=	40	140
MCW-17 (City and County)	1020	4/4/20		=	40	136
MCW-17 (City and County)	1020	4/5/20		=	40	133
MCW-17 (City and County)	1020	4/6/20		=	40	131
MCW-17 (City and County)	1130	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1130	4/8/20	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1130	4/9/20	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1130	4/10/20	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1130	4/11/20	Rain		**Rain**	**Rain**

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-17 (City and County)	1130	4/12/20	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1130	4/13/20	Rain		**Rain**	**Rain**
MCW-17 (City and County)	1010	4/14/2020♦		=	170	134
MCW-17 (City and County)	1010	4/15/20		=	170	140
MCW-17 (City and County)	1010	4/16/20		=	170	146
MCW-17 (City and County)	1010	4/17/20		=	170	153
MCW-17 (City and County)	1010	4/18/20		=	170	160
MCW-17 (City and County)	1010	4/19/20		=	170	167
MCW-17 (City and County)	1010	4/20/20		=	170	175
MCW-17 (City and County)	1040	4/21/2020♦		=	110	180
MCW-17 (City and County)	1040	4/22/20		=	110	177
MCW-17 (City and County)	1040	4/23/20		=	110	175
MCW-17 (City and County)	1040	4/24/20		=	110	172
MCW-17 (City and County)	1040	4/25/20		=	110	170
MCW-17 (City and County)	1040	4/26/20		=	110	167
MCW-17 (City and County)	1040	4/27/20		=	110	165
MCW-17 (City and County)	1030	4/28/2020♦		=	230	167
MCW-17 (City and County)	1030	4/29/20		=	230	160
MCW-17 (City and County)	1030	4/30/20		=	230	154
MCW-18 (County)	-	4/1/20	Dry	<	9	9
MCW-18 (County)	-	4/2/20	Dry	<	9	9
MCW-18 (County)	-	4/3/20	Dry	<	9	9
MCW-18 (County)	-	4/4/20	Dry	<	9	9
MCW-18 (County)	-	4/5/20	Dry	<	9	9
MCW-18 (County)	-	4/6/20	Dry	<	9	9
MCW-18 (County)	-	4/7/2020♦	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/8/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/9/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/10/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/11/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/12/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/13/20	Rain		**Rain**	**Rain**
MCW-18 (County)	-	4/14/2020♦	Dry	<	9	9
MCW-18 (County)	-	4/15/20	Dry	<	9	9
MCW-18 (County)	-	4/16/20	Dry	<	9	9
MCW-18 (County)	-	4/17/20	Dry	<	9	9
MCW-18 (County)	-	4/18/20	Dry	<	9	9
MCW-18 (County)	-	4/19/20	Dry	<	9	9
MCW-18 (County)	-	4/20/20	Dry	<	9	9
MCW-18 (County)	-	4/21/2020♦	Dry	<	9	9
MCW-18 (County)	-	4/22/20	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-18 (County)	-	4/23/20	Dry	<	9	9
MCW-18 (County)	-	4/24/20	Dry	<	9	9
MCW-18 (County)	-	4/25/20	Dry	<	9	9
MCW-18 (County)	-	4/26/20	Dry	<	9	9
MCW-18 (County)	-	4/27/20	Dry	<	9	9
MCW-18 (County)	-	4/28/2020♦	Dry	<	9	9
MCW-18 (County)	-	4/29/20	Dry	<	9	9
MCW-18 (County)	-	4/30/20	Dry	<	9	9

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml
Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean
Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean
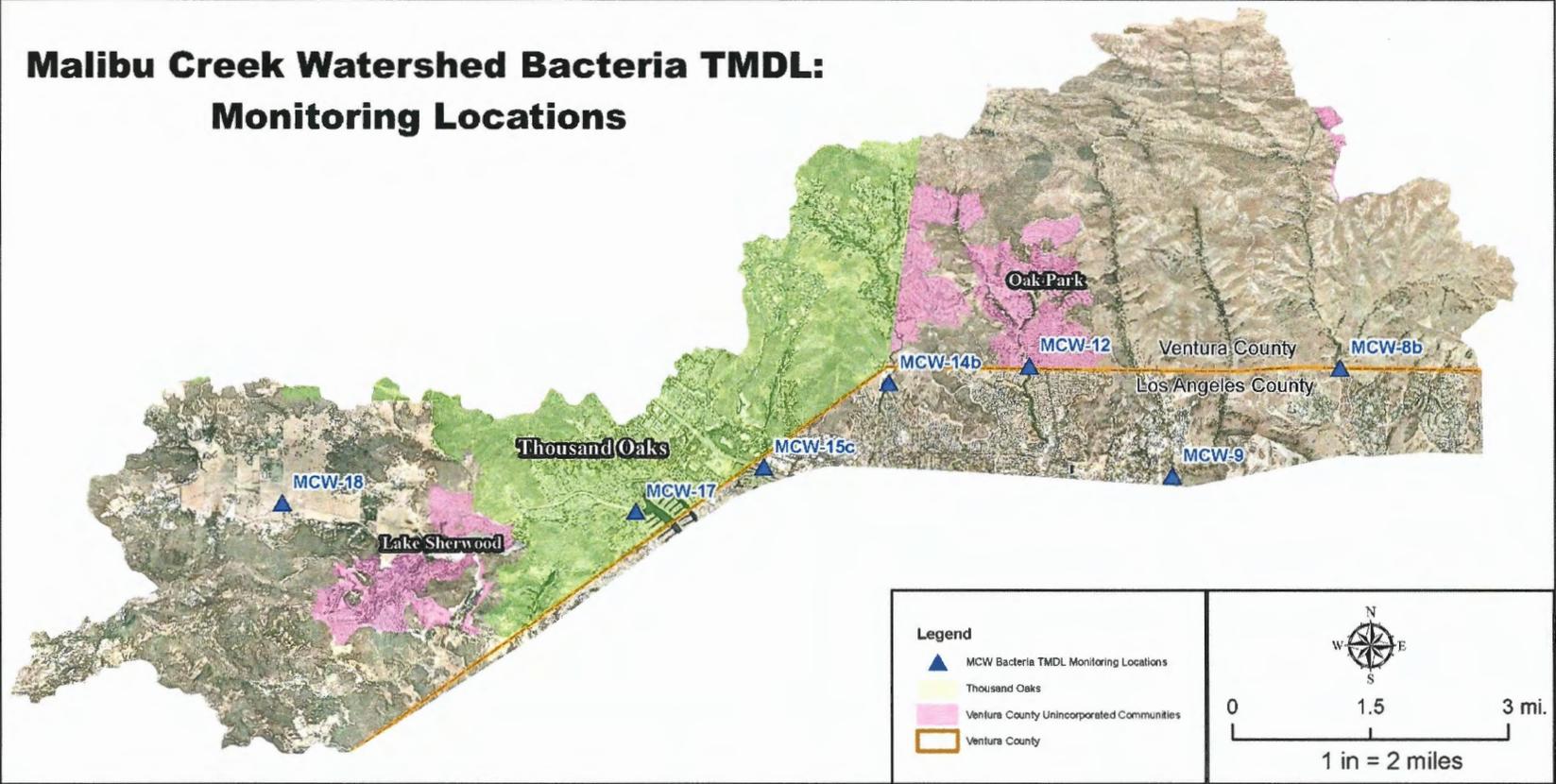
-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the
previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations

PUBLIC
VENTURA COUNTY
WORKS

county of ventura

Jeff Pratt
Agency Director

Central Services	Engineering Services	Transportation	Water & Sanitation	Watershed Protection
Joan Araujo, Director	**Christopher Cooper**, Director	**David Fleisch**, Director	**Joseph Pope**, Director	**Glenn Shephard**, Director

June 23, 2020

VIA EMAIL

Kangshi Wang, Ph.D.
California Regional Water Quality Control Board
Los Angeles Region
Standards & TMDL Unit
320 West 4th Street, Suite 200
Los Angeles, CA 90013

Subject: Malibu Creek and Lagoon Bacteria TMDL Compliance Monitoring for County of
Ventura, Ventura County Watershed Protection District, and City of Thousand
Oaks

Dear Dr. Wang:

Please find attached the report for the results of the weekly monitoring effort required by
the Malibu Creek and Lagoon Bacteria TMDL (TMDL) Compliance Monitoring Plan
(CMP) for the month of May 2020. Sites were sampled weekly on Tuesday (May 5, 12,
19, and 26, 2020). Beginning on and following July 23, 2019, Rincon Consultants Inc.
has been retained to conduct compliance monitoring activities.

Table 1 presents the weekly sampling results, while Table 2 presents the rolling 30-day
geometric means for the sampling locations. Sample collection dates are marked with a
diamond (♦) symbol. Sites without results reported were not sampled due to insufficient
flow and are labeled "Dry." A map showing the location of the monitoring sites is
included below.

Daily geometric means for wet weather and dry weather are calculated using the past
30 days of the respective sampling data (Table 2). For example, weeks with wet
weather samples (collected less than 72 hours after a day with > 0.1" rain) use the
previous wet weather single sample values to calculate the geometric mean. Non-
sampling-day values are assigned the value of the most recent sampling event. Half the
method reporting limit (MRL) was used to calculate the daily geometric means for sites
with results reported as non-detect (ND) [e.g., < 18 most probable number per 100
milliliters (MPN/100 ml)]. Statistics are also calculated for dry events at all sampling
locations by assigning a concentration value of half the MRL, as a zero value is
undefined logarithmically, and as such would be unusable in the geometric mean
calculation.

Due to regularly occurring high concentrations in analytical results, a dilution factor of 10 is applied to all samples to quantify results that exceed the standard upper reporting limit of a single dilution. As a result, the MRL for samples analyzed for this program is 18 MPN/100mL.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017.

Fecal coliform monitoring has been discontinued, as approved by the Los Angeles Regional Water Quality Control Board on October 31, 2014, in alignment with the Regional Board's removal of the fecal coliform objective for REC-1 freshwaters from the TMDL on June 7, 2012 and subsequent approval by the U.S. Environmental Protection Agency on July 2, 2014.

If you have any questions regarding this matter, please contact me at (805) 654-3942.

Sincerely,

Arne Anselm
Deputy Director, Watershed Protection District

CC: Glenn Shephard, Director, Watershed Protection District (via email)
        Ewelina Mutkowska, County of Ventura (via email)
        Paul Jorgensen, City of Thousand Oaks (via email)
        Joe Bellomo, Willdan Associates (via email)
        Kelly Fisher, City of Agoura Hills (via email)
        Allen Ma, County of Los Angeles (via email)

Table 1. Weekly sampling results

Location (Jurisdiction)	Time	Date	Rain		Single Sample (as sampled)
					E. coli
					(235 MPN)
MCW-8b (County)	1135	5/5/2020♦	Dry	=	790
MCW-8b (County)	1130	5/12/2020♦	Dry	=	170
MCW-8b (County)	1445	5/19/2020♦	Dry	=	170
MCW-8b (County)	1125	5/26/2020♦	Dry	=	78
MCW-9 (County)	-	5/5/2020♦	Dry		Dry
MCW-9 (County)	-	5/12/2020♦	Dry		Dry
MCW-9 (County)	-	5/19/2020♦	Dry		Dry
MCW-9 (County)	-	5/26/2020♦	Dry		Dry
MCW-12 (County)	1040	5/5/2020♦	Dry	=	330
MCW-12 (County)	1040	5/12/2020♦	Dry	=	78
MCW-12 (County)	1400	5/19/2020♦	Dry	=	330
MCW-12 (County)	1040	5/26/2020♦	Dry	=	130
MCW-14b (City and County)	1010	5/5/2020♦	Dry	=	1,100
MCW-14b (City and County)	1005	5/12/2020♦	Dry	=	310
MCW-14b (City and County)	1330	5/19/2020♦	Dry	=	790
MCW-14b (City and County)	1025	5/26/2020♦	Dry	=	700
MCW-15c (City)*	950	5/5/2020♦	Dry	=	330
MCW-15c (City)*	940	5/12/2020♦	Dry	=	130
MCW-15c (City)*	1305	5/19/2020♦	Dry	=	330
MCW-15c (City)*	950	5/26/2020♦	Dry	=	460
MCW-17 (City and County)	920	5/5/2020♦	Dry	=	1,300
MCW-17 (City and County)	915	5/12/2020♦	Dry	=	1,100
MCW-17 (City and County)	1245	5/19/2020♦	Dry	=	790
MCW-17 (City and County)	930	5/26/2020♦	Dry	=	330
MCW-18 (County)	-	5/5/2020♦	Dry		Dry
MCW-18 (County)	-	5/12/2020♦	Dry		Dry
MCW-18 (County)	-	5/19/2020♦	Dry		Dry
MCW-18 (County)	-	5/26/2020♦	Dry		Dry

Notes:

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010.

♦: Date of sampling

-: Time is not applicable, as no sample was collected due to insufficient flow

Dry: Samples were not collected due to insufficient flow

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in a MRL of 18 MPN/100 ml

Table 2. Computation of daily geometric mean

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-8b (County)	1210	5/1/20		=	790	165
MCW-8b (County)	1210	5/2/20		=	790	192
MCW-8b (County)	1210	5/3/20		=	790	222
MCW-8b (County)	1210	5/4/20		=	790	258
MCW-8b (County)	1135	5/5/2020◆		=	790	300
MCW-8b (County)	1135	5/6/20		=	790	348
MCW-8b (County)	1135	5/7/20		=	790	369
MCW-8b (County)	1135	5/8/20		=	790	392
MCW-8b (County)	1135	5/9/20		=	790	417
MCW-8b (County)	1135	5/10/20		=	790	442
MCW-8b (County)	1135	5/11/20		=	790	470
MCW-8b (County)	1130	5/12/2020◆		=	170	474
MCW-8b (County)	1130	5/13/20		=	170	478
MCW-8b (County)	1130	5/14/20		=	170	474
MCW-8b (County)	1130	5/15/20		=	170	469
MCW-8b (County)	1130	5/16/20		=	170	464
MCW-8b (County)	1130	5/17/20		=	170	459
MCW-8b (County)	1130	5/18/20		=	170	455
MCW-8b (County)	1445	5/19/2020◆		=	170	450
MCW-8b (County)	1445	5/20/20		=	170	446
MCW-8b (County)	1445	5/21/20		=	170	430
MCW-8b (County)	1445	5/22/20		=	170	415
MCW-8b (County)	1445	5/23/20		=	170	401
MCW-8b (County)	1445	5/24/20		=	170	387
MCW-8b (County)	1445	5/25/20		=	170	374
MCW-8b (County)	1125	5/26/2020◆		=	78	351
MCW-8b (County)	1125	5/27/20		=	78	331
MCW-8b (County)	1125	5/28/20		=	78	306
MCW-8b (County)	1125	5/29/20		=	78	283
MCW-8b (County)	1125	5/30/20		=	78	262
MCW-8b (County)	1125	5/31/20		=	78	243
MCW-9 (County)	-	5/1/20	Dry	<	9	9
MCW-9 (County)	-	5/2/20	Dry	<	9	9
MCW-9 (County)	-	5/3/20	Dry	<	9	9
MCW-9 (County)	-	5/4/20	Dry	<	9	9
MCW-9 (County)	-	5/5/2020◆	Dry	<	9	9
MCW-9 (County)	-	5/6/20	Dry	<	9	9
MCW-9 (County)	-	5/7/20	Dry	<	9	9
MCW-9 (County)	-	5/8/20	Dry	<	9	9
MCW-9 (County)	-	5/9/20	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-9 (County)	-	5/10/20	Dry	<	9	9
MCW-9 (County)	-	5/11/20	Dry	<	9	9
MCW-9 (County)	-	5/12/2020♦	Dry	<	9	9
MCW-9 (County)	-	5/13/20	Dry	<	9	9
MCW-9 (County)	-	5/14/20	Dry	<	9	9
MCW-9 (County)	-	5/15/20	Dry	<	9	9
MCW-9 (County)	-	5/16/20	Dry	<	9	9
MCW-9 (County)	-	5/17/20	Dry	<	9	9
MCW-9 (County)	-	5/18/20	Dry	<	9	9
MCW-9 (County)	-	5/19/2020♦	Dry	<	9	9
MCW-9 (County)	-	5/20/20	Dry	<	9	9
MCW-9 (County)	-	5/21/20	Dry	<	9	9
MCW-9 (County)	-	5/22/20	Dry	<	9	9
MCW-9 (County)	-	5/23/20	Dry	<	9	9
MCW-9 (County)	-	5/24/20	Dry	<	9	9
MCW-9 (County)	-	5/25/20	Dry	<	9	9
MCW-9 (County)	-	5/26/2020♦	Dry	<	9	9
MCW-9 (County)	-	5/27/20	Dry	<	9	9
MCW-9 (County)	-	5/28/20	Dry	<	9	9
MCW-9 (County)	-	5/29/20	Dry	<	9	9
MCW-9 (County)	-	5/30/20	Dry	<	9	9
MCW-9 (County)	-	5/31/20	Dry	<	9	9
MCW-12 (County)	1140	5/1/20		=	170	297
MCW-12 (County)	1140	5/2/20		=	170	297
MCW-12 (County)	1140	5/3/20		=	170	297
MCW-12 (County)	1140	5/4/20		=	170	297
MCW-12 (County)	1040	5/5/2020♦		=	330	303
MCW-12 (County)	1040	5/6/20		=	330	310
MCW-12 (County)	1040	5/7/20		=	330	310
MCW-12 (County)	1040	5/8/20		=	330	310
MCW-12 (County)	1040	5/9/20		=	330	310
MCW-12 (County)	1040	5/10/20		=	330	310
MCW-12 (County)	1040	5/11/20		=	330	310
MCW-12 (County)	1040	5/12/2020♦		=	78	295
MCW-12 (County)	1040	5/13/20		=	78	282
MCW-12 (County)	1040	5/14/20		=	78	268
MCW-12 (County)	1040	5/15/20		=	78	256
MCW-12 (County)	1040	5/16/20		=	78	244
MCW-12 (County)	1040	5/17/20		=	78	232
MCW-12 (County)	1040	5/18/20		=	78	221
MCW-12 (County)	1400	5/19/2020♦		=	330	221

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-12 (County)	1400	5/20/20		=	330	221
MCW-12 (County)	1400	5/21/20		=	330	219
MCW-12 (County)	1400	5/22/20		=	330	216
MCW-12 (County)	1400	5/23/20		=	330	213
MCW-12 (County)	1400	5/24/20		=	330	210
MCW-12 (County)	1400	5/25/20		=	330	207
MCW-12 (County)	1040	5/26/2020♦		=	130	198
MCW-12 (County)	1040	5/27/20		=	130	190
MCW-12 (County)	1040	5/28/20		=	130	188
MCW-12 (County)	1040	5/29/20		=	130	186
MCW-12 (County)	1040	5/30/20		=	130	185
MCW-12 (County)	1040	5/31/20		=	130	183
MCW-14b (City and County)	1120	5/1/20		=	790	382
MCW-14b (City and County)	1120	5/2/20		=	790	394
MCW-14b (City and County)	1120	5/3/20		=	790	406
MCW-14b (City and County)	1120	5/4/20		=	790	419
MCW-14b (City and County)	1010	5/5/2020♦		=	1,100	437
MCW-14b (City and County)	1010	5/6/20		=	1,100	456
MCW-14b (City and County)	1010	5/7/20		=	1,100	461
MCW-14b (City and County)	1010	5/8/20		=	1,100	466
MCW-14b (City and County)	1010	5/9/20		=	1,100	471
MCW-14b (City and County)	1010	5/10/20		=	1,100	477
MCW-14b (City and County)	1010	5/11/20		=	1,100	482
MCW-14b (City and County)	1005	5/12/2020♦		=	310	467
MCW-14b (City and County)	1005	5/13/20		=	310	453
MCW-14b (City and County)	1005	5/14/20		=	310	469
MCW-14b (City and County)	1005	5/15/20		=	310	485
MCW-14b (City and County)	1005	5/16/20		=	310	502
MCW-14b (City and County)	1005	5/17/20		=	310	520
MCW-14b (City and County)	1005	5/18/20		=	310	538
MCW-14b (City and County)	1330	5/19/2020♦		=	790	575
MCW-14b (City and County)	1330	5/20/20		=	790	614
MCW-14b (City and County)	1330	5/21/20		=	790	624
MCW-14b (City and County)	1330	5/22/20		=	790	634
MCW-14b (City and County)	1330	5/23/20		=	790	644
MCW-14b (City and County)	1330	5/24/20		=	790	654
MCW-14b (City and County)	1330	5/25/20		=	790	665
MCW-14b (City and County)	1025	5/26/2020♦		=	700	673
MCW-14b (City and County)	1025	5/27/20		=	700	681
MCW-14b (City and County)	1025	5/28/20		=	700	678
MCW-14b (City and County)	1025	5/29/20		=	700	675

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs)	Geometric Mean
					E. coli	E. coli
					(235 MPN)	(126 MPN)
MCW-14b (City and County)	1025	5/30/20		=	700	672
MCW-14b (City and County)	1025	5/31/20		=	700	670
MCW-15c (City)*	1100	5/1/20		=	790	172
MCW-15c (City)*	1100	5/2/20		=	790	186
MCW-15c (City)*	1100	5/3/20		=	790	201
MCW-15c (City)*	1100	5/4/20		=	790	217
MCW-15c (City)*	950	5/5/2020♦		=	330	228
MCW-15c (City)*	950	5/6/20		=	330	239
MCW-15c (City)*	950	5/7/20		=	330	244
MCW-15c (City)*	950	5/8/20		=	330	250
MCW-15c (City)*	950	5/9/20		=	330	255
MCW-15c (City)*	950	5/10/20		=	330	261
MCW-15c (City)*	950	5/11/20		=	330	267
MCW-15c (City)*	940	5/12/2020♦		=	130	264
MCW-15c (City)*	940	5/13/20		=	130	262
MCW-15c (City)*	940	5/14/20		=	130	271
MCW-15c (City)*	940	5/15/20		=	130	281
MCW-15c (City)*	940	5/16/20		=	130	291
MCW-15c (City)*	940	5/17/20		=	130	302
MCW-15c (City)*	940	5/18/20		=	130	313
MCW-15c (City)*	1305	5/19/2020♦		=	330	334
MCW-15c (City)*	1305	5/20/20		=	330	357
MCW-15c (City)*	1305	5/21/20		=	330	352
MCW-15c (City)*	1305	5/22/20		=	330	348
MCW-15c (City)*	1305	5/23/20		=	330	343
MCW-15c (City)*	1305	5/24/20		=	330	339
MCW-15c (City)*	1305	5/25/20		=	330	334
MCW-15c (City)*	950	5/26/2020♦		=	460	334
MCW-15c (City)*	950	5/27/20		=	460	333
MCW-15c (City)*	950	5/28/20		=	460	327
MCW-15c (City)*	950	5/29/20		=	460	321
MCW-15c (City)*	950	5/30/20		=	460	315
MCW-15c (City)*	950	5/31/20		=	460	310
MCW-17 (City and County)	1030	5/1/20		=	230	147
MCW-17 (City and County)	1030	5/2/20		=	230	141
MCW-17 (City and County)	1030	5/3/20		=	230	136
MCW-17 (City and County)	1030	5/4/20		=	230	130
MCW-17 (City and County)	920	5/5/2020♦		=	1,300	132
MCW-17 (City and County)	920	5/6/20		=	1,300	135
MCW-17 (City and County)	920	5/7/20		=	1,300	151

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-17 (City and County)	920	5/8/20		=	1,300	170
MCW-17 (City and County)	920	5/9/20		=	1,300	191
MCW-17 (City and County)	920	5/10/20		=	1,300	214
MCW-17 (City and County)	920	5/11/20		=	1,300	241
MCW-17 (City and County)	915	5/12/2020♦		=	1,100	269
MCW-17 (City and County)	915	5/13/20		=	1,100	300
MCW-17 (City and County)	915	5/14/20		=	1,100	319
MCW-17 (City and County)	915	5/15/20		=	1,100	340
MCW-17 (City and County)	915	5/16/20		=	1,100	362
MCW-17 (City and County)	915	5/17/20		=	1,100	385
MCW-17 (City and County)	915	5/18/20		=	1,100	410
MCW-17 (City and County)	1245	5/19/2020♦		=	790	431
MCW-17 (City and County)	1245	5/20/20		=	790	454
MCW-17 (City and County)	1245	5/21/20		=	790	485
MCW-17 (City and County)	1245	5/22/20		=	790	517
MCW-17 (City and County)	1245	5/23/20		=	790	553
MCW-17 (City and County)	1245	5/24/20♦		=	790	590
MCW-17 (City and County)	1245	5/25/20		=	790	630
MCW-17 (City and County)	930	5/26/2020♦		=	330	654
MCW-17 (City and County)	930	5/27/20		=	330	678
MCW-17 (City and County)	930	5/28/20		=	330	686
MCW-17 (City and County)	930	5/29/20		=	330	695
MCW-17 (City and County)	930	5/30/20		=	330	703
MCW-17 (City and County)	930	5/31/20		=	330	712
MCW-18 (County)	-	5/1/20	Dry	<	9	9
MCW-18 (County)	-	5/2/20	Dry	<	9	9
MCW-18 (County)	-	5/3/20	Dry	<	9	9
MCW-18 (County)	-	5/4/20	Dry	<	9	9
MCW-18 (County)	-	5/5/2020♦	Dry	<	9	9
MCW-18 (County)	-	5/6/20	Dry	<	9	9
MCW-18 (County)	-	5/7/20	Dry	<	9	9
MCW-18 (County)	-	5/8/20	Dry	<	9	9
MCW-18 (County)	-	5/9/20	Dry	<	9	9
MCW-18 (County)	-	5/10/20	Dry	<	9	9
MCW-18 (County)	-	5/11/20	Dry	<	9	9
MCW-18 (County)	-	5/12/2020♦	Dry	<	9	9
MCW-18 (County)	-	5/13/20	Dry	<	9	9
MCW-18 (County)	-	5/14/20	Dry	<	9	9
MCW-18 (County)	-	5/15/20	Dry	<	9	9
MCW-18 (County)	-	5/16/20	Dry	<	9	9
MCW-18 (County)	-	5/17/20	Dry	<	9	9

Location (Jurisdiction)	Time	Date	Rain		Single Sample (adjusted for rain, dry and NDs) E. coli (235 MPN)	Geometric Mean E. coli (126 MPN)
MCW-18 (County)	-	5/18/20	Dry	<	9	9
MCW-18 (County)	-	5/19/2020♦	Dry	<	9	9
MCW-18 (County)	-	5/20/20	Dry	<	9	9
MCW-18 (County)	-	5/21/20	Dry	<	9	9
MCW-18 (County)	-	5/22/20	Dry	<	9	9
MCW-18 (County)	-	5/23/20	Dry	<	9	9
MCW-18 (County)	-	5/24/20	Dry	<	9	9
MCW-18 (County)	-	5/25/20	Dry	<	9	9
MCW-18 (County)	-	5/26/2020♦	Dry	<	9	9
MCW-18 (County)	-	5/27/20	Dry	<	9	9
MCW-18 (County)	-	5/28/20	Dry	<	9	9
MCW-18 (County)	-	5/29/20	Dry	<	9	9
MCW-18 (County)	-	5/30/20	Dry	<	9	9
MCW-18 (County)	-	5/31/20	Dry	<	9	9

Notes:

♦: Date of sampling

A dilution factor of 10 is applied to all samples analyzed for this program, resulting in an MRL of 18 MPN/100 ml

Results of <18 MPN/100 ml are adjusted to use half the MRL (=9) in the calculation of the geometric mean. As such, Table 2 presents a value of 9 MPN/100mL to distinguish the value used for calculation of the 30-day geometric mean

Dry: Samples were not collected due to insufficient flow and a value of 9 MPN/100 ml (half the MRL) was used for calculation of the 30-day geometric mean

-: Time is not applicable, as no sample was collected due to insufficient flow

Weeks with wet weather samples (collected less than 72 hours after a day with >0.1" rain) use the previous non-rain single sample value to calculate the geometric mean.

Coliform tables from SM9221 in standard methods 22nd and 23rd have been adopted thus changing the reporting limit from 2.0 MPN/100 ml to 1.8 MPN/100 ml as of November 7, 2017

*: The RWQCB granted permission to replace site MCW-15b with site Special-05 (renamed MCW-15c) on August 11th, 2010

Malibu Creek Watershed Bacteria TMDL: Monitoring Locations