

SAR Regional Bacteria Monitoring Program

2023-2024 Program Update

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**CDM
Smith**

Agenda

- Status of 2023-2024 Sampling Year
 - Number of samples collected vs planned to date
 - Overview of dry weather compliance for each priority group
 - Wet weather event - TBD
 - General Trends/Next Steps

<https://sawpa.cdmsmith.com/dashboard>

Review of RBMP Structure

Priority	Goal	Sampling Schedule	Water Quality Objective
1	Monitor fecal bacteria conditions in the areas of greatest risk of exposure including lakes and streams with designated beaches and active recreational use to ensure water quality objectives (WQOs) are being met or actively addressed	20 Consecutive dry, warm weeks and 5 consecutive cool, dry weeks	<i>E.Coli</i> STV: 320 MPN/100mL <i>E.Coli</i> Geomean: 100 MPN/100mL Enterococcus STV: 100 MPN/100mL Enterococcus Geomean: 30 MPN/100mL
2	Evaluate effectiveness of implementation actions taken to comply with the Middle Santa Ana River (MSAR) bacteria TMDL	20 Consecutive dry, warm weeks and 5 consecutive cool, dry weeks	<i>E. coli</i> : 5-sample/30-day logarithmic mean less than 113 organisms/100 mL and not more than 10 percent of the samples exceed 212 organisms/100 mL for any 30-day period.
3	Collect data to evaluate status and trends in other bacteria impaired waters throughout the Santa Ana Basin	5 Consecutive dry weeks	No TMDL requirement
4	Ensure that waters re-designated as 'REC2 Only' meet anti-degradation requirements in the absence of a numeric WQO	Once/per year If exceedance, continue to collect monthly until 3 consecutive samples are in compliance	Site Dependent antidegradation target

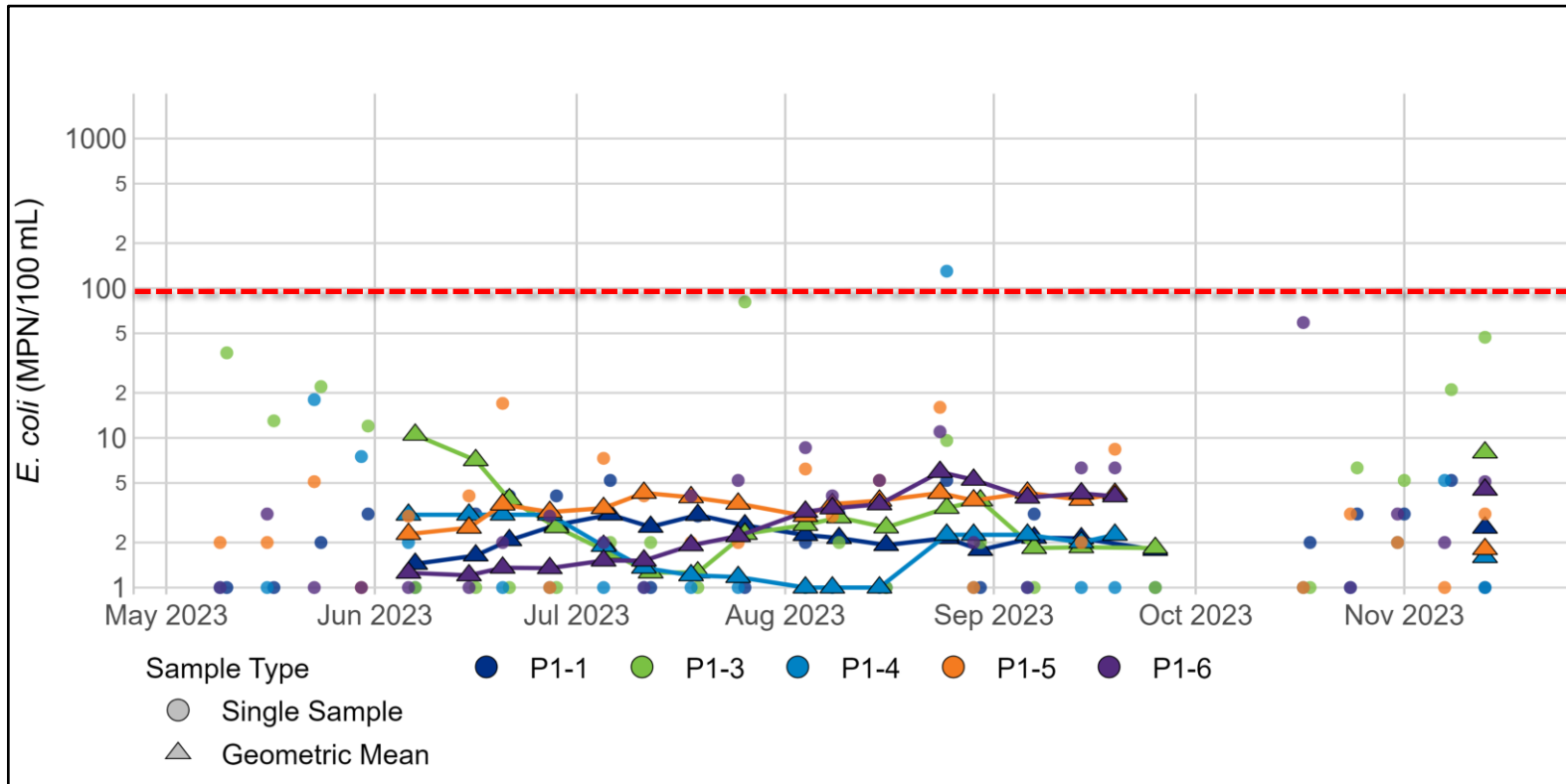
Samples Collected vs Planned

Priority	Planned/Collected	Dry Weather	Wet Weather
Priority 1	Planned	200	--
	Collected	200	--
Priority 2	Planned	150	20
	Collected	150	
Priority 3	Planned	40	--
	Collected	40	--
Priority 4	Planned	5	--
	Collected	5 ¹	--

¹ Additional Priority 4 samples -

- Santa Ana Delhi Channel in Tidal Prism (P4-OC2)
- Cucamonga Creek at Hellman (P4-SBC1)
- Follow up monthly samples collected by counties

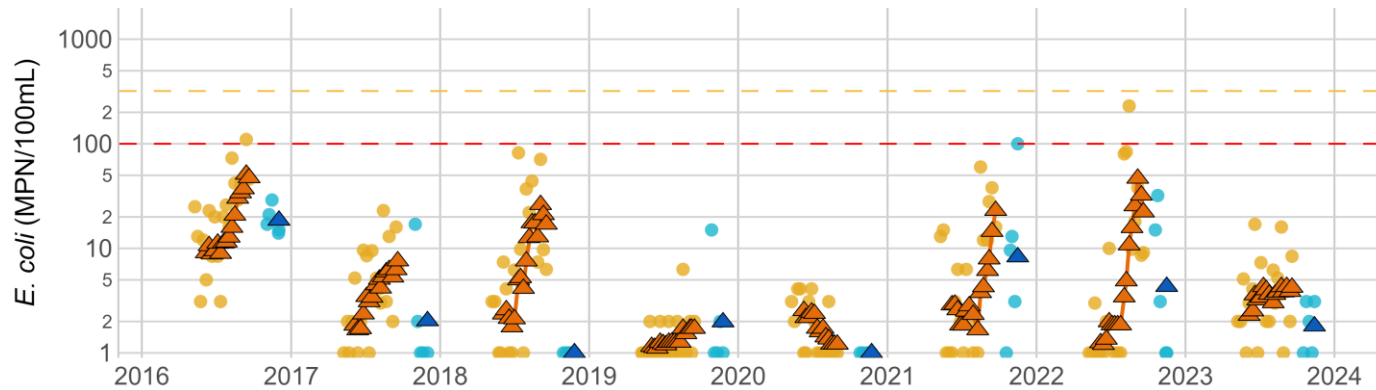
Priority 1 Compliance for *E. coli*



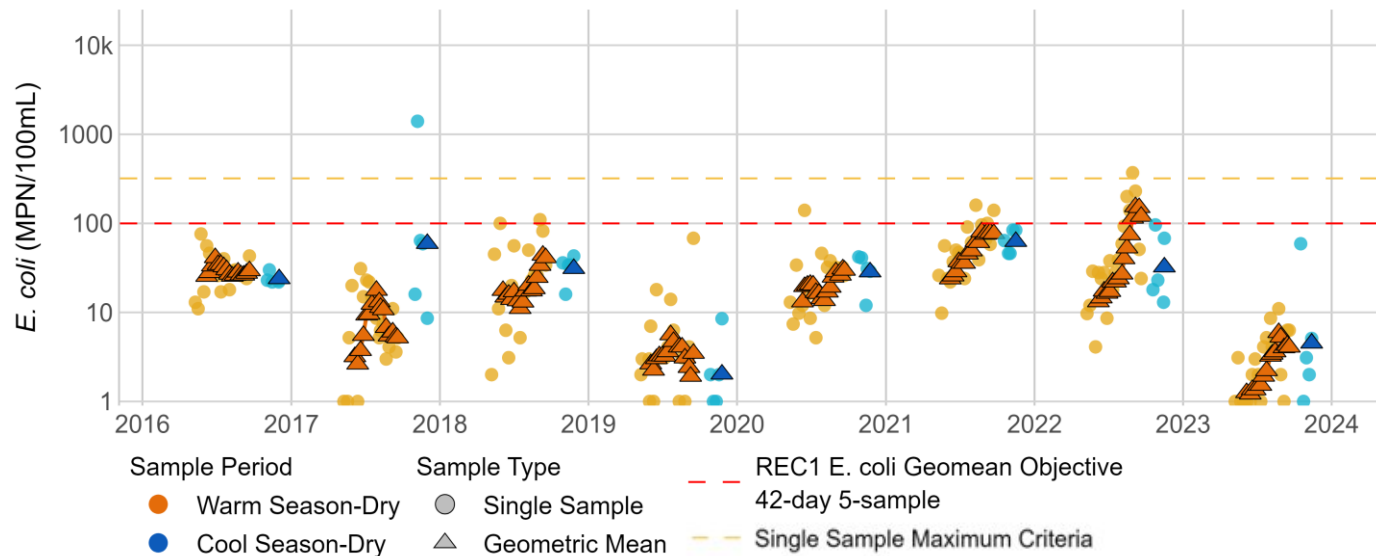
- Continued low concentrations and compliance at Canyon Lake (P1-1), Lake Perris (P1-3), and Big Bear (P1-4)
- Decrease in Mill Creek (P1-5) and Lytle Creek (P1-6) from previous years

Priority 1 Compliance for *E. coli*

P1-5 - Mill Creek Reach 2 (*E. coli*) for 2016 - 2023



P1-6 - Lytle Creek (Middle Fork) (*E. coli*) for 2016 - 2023



Sample Period

● Warm Season-Dry

● Cool Season-Dry

Sample Type

○ Single Sample

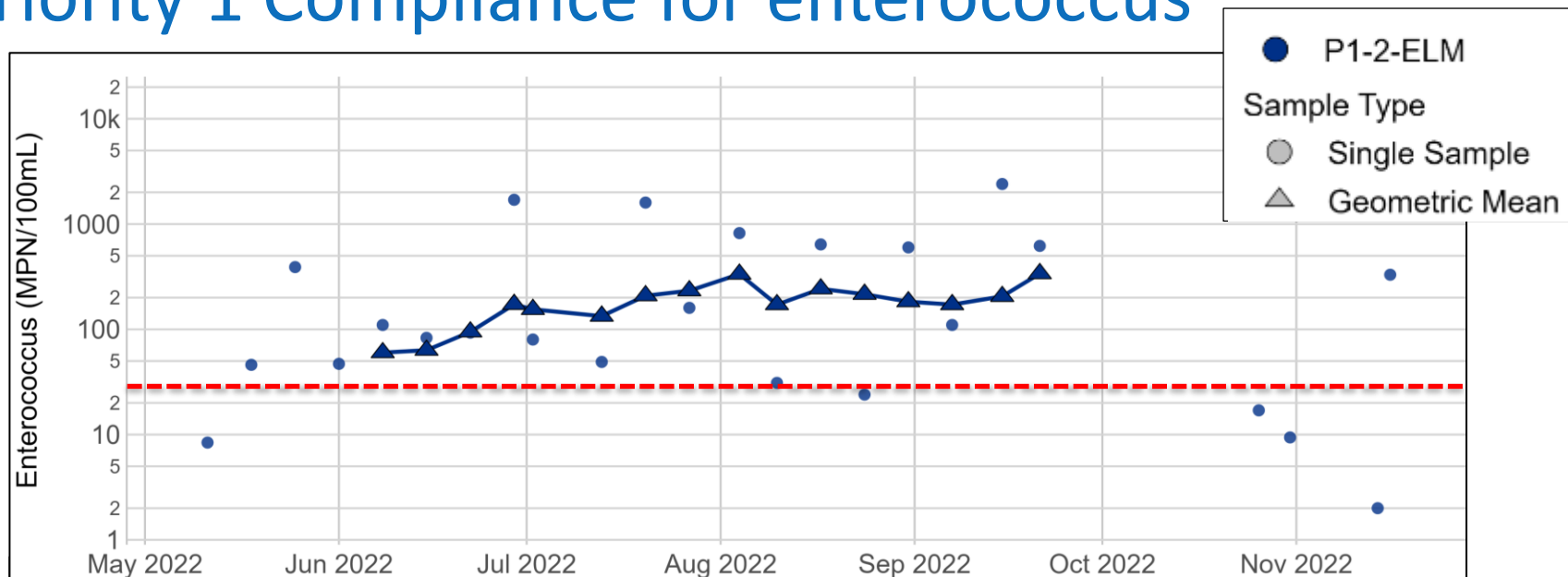
△ Geometric Mean

— REC1 *E. coli* Geomean Objective
42-day 5-sample

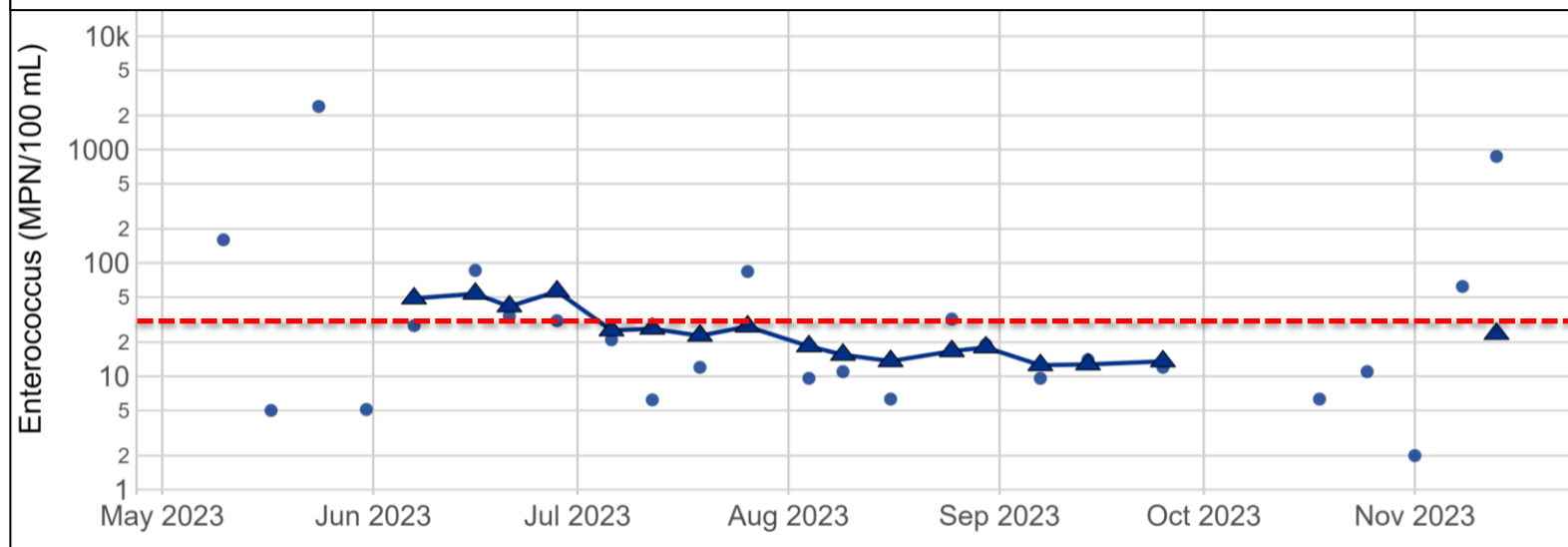
— Single Sample Maximum Criteria

Priority 1 Compliance for enterococcus

2022



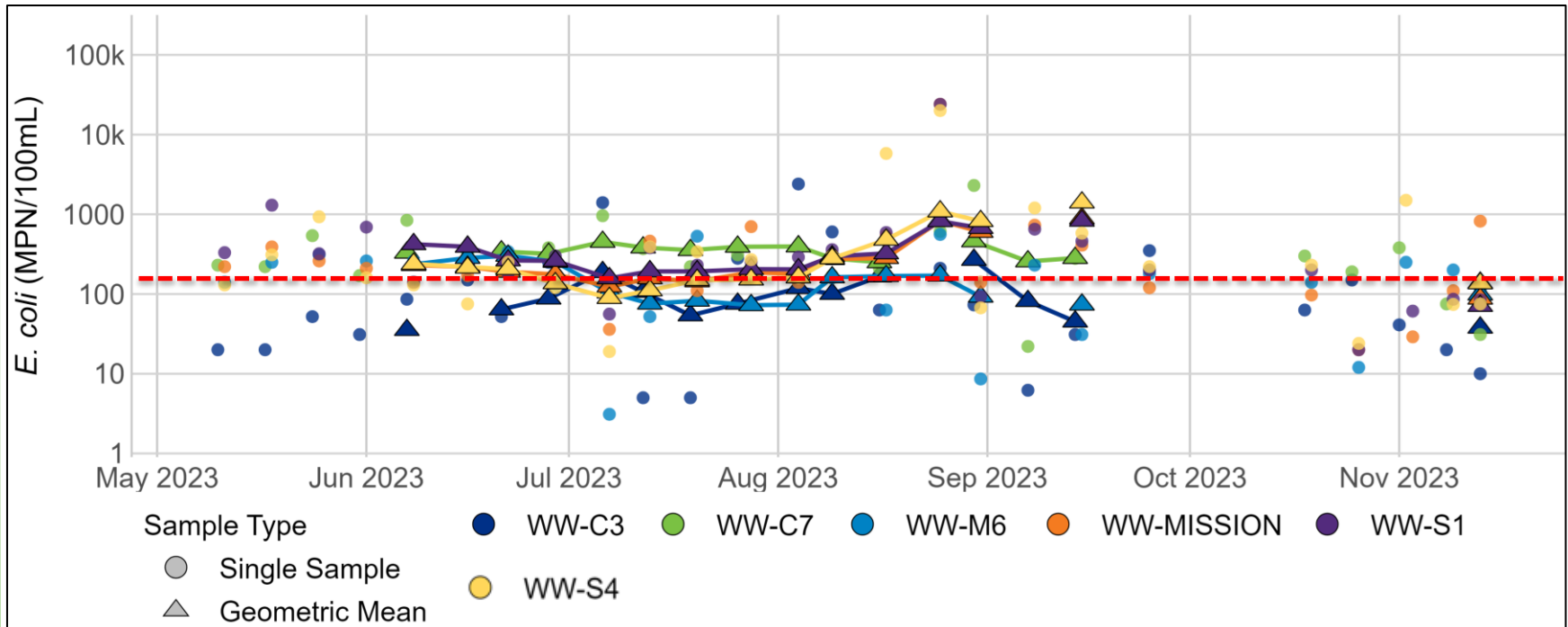
2023



Priority 1 Compliance

Site ID	Site	Geometric Mean Criterion Exceedance Frequency (%)	STV Criterion Exceedance Frequency (%)
P1-1	Canyon Lake	0	0
P1-2-ELM	Lake Elsinore at Elm Grove Beach	24	12
P1-3	Lake Perris	0	0
P1-4	Big Bear Lake	0	0
P1-5	Mill Creek Reach	0	0
P1-6	Lytle Creek (Middle Fork)	0	0
WW-S1	Santa Ana River Reach 3 at MWD Crossing	94	60
WW-S4	Santa Ana River Reach 3 at Pedley Avenue	94	56

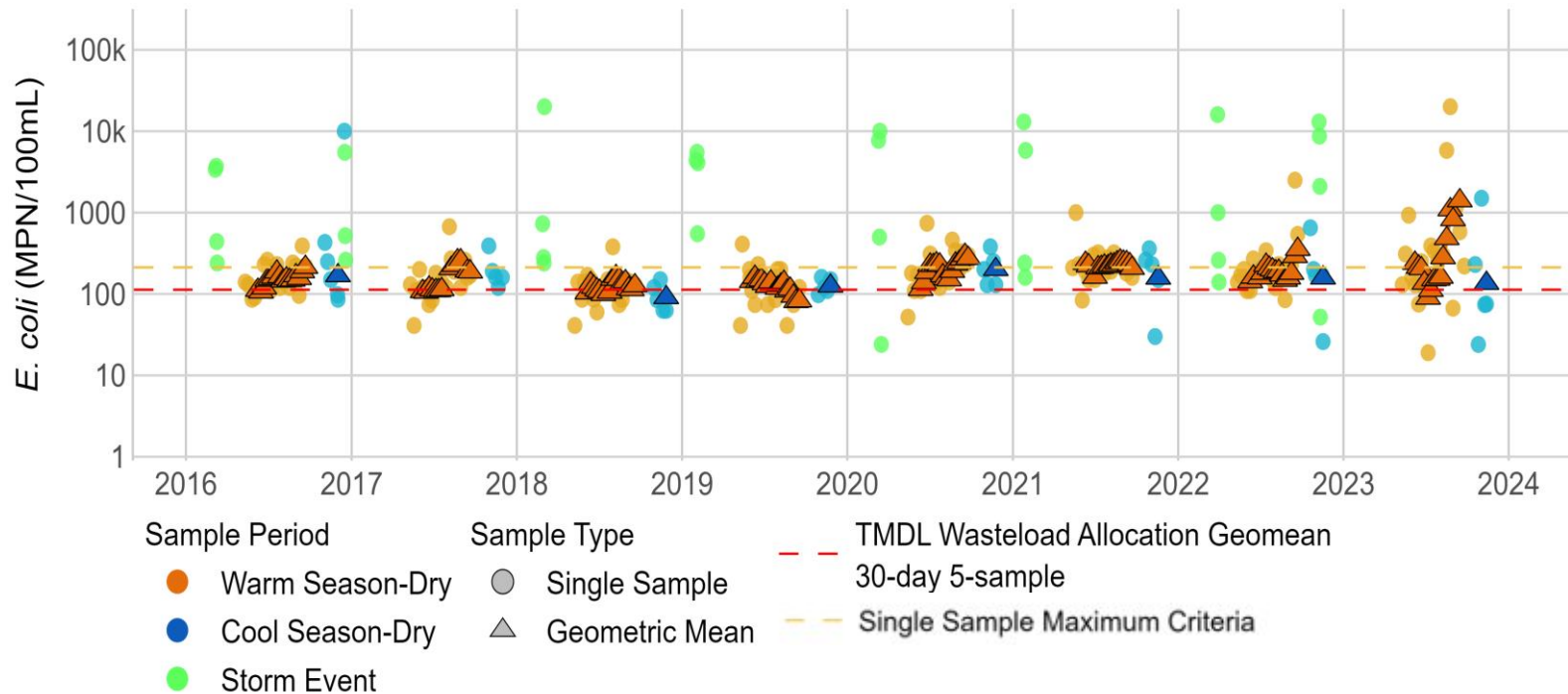
Priority 2 Compliance



- Mission Avenue (WW-MISSION) continues to have elevated bacteria levels, but does decrease in the cool dry season
- Santa Ana River at Pedley Ave. (WW-S4) had record high geomeans at the end of the warm dry season
- Prado Park Lake (WW-C3) had highly variable bacteria samples leading to fluctuating geomean

Priority 2 Compliance

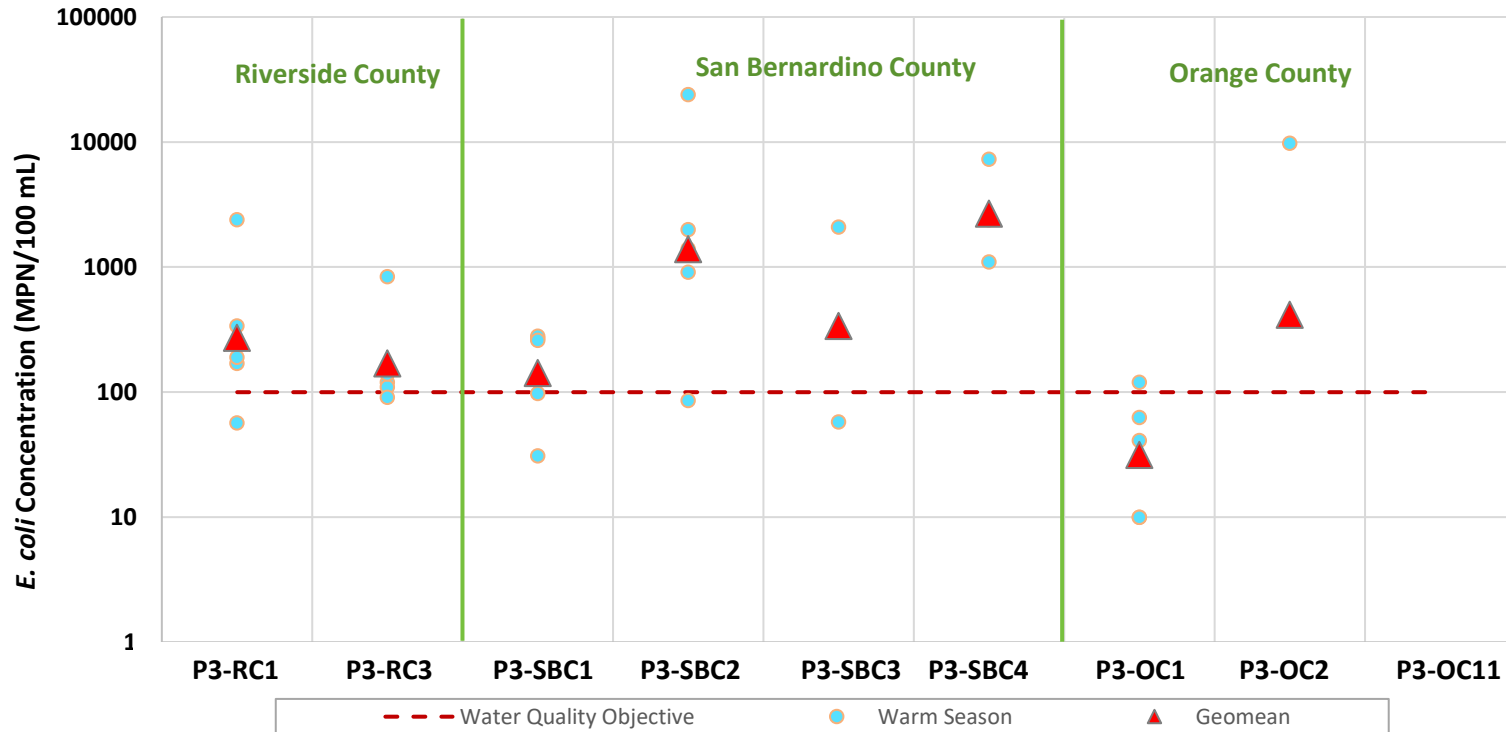
WW-S4 - Santa Ana River Reach 3 at Pedley Avenue (*E. coli*) for 2016 - 2023



Priority 2 Compliance

Month	# of Samples Collected	STV Criterion Exceedance Frequency (%)				
		Prado Park Lake	Chino Creek at Central Avenue	Mill-Cucamonga Creek	SAR @ MWD Crossing	SAR @ Pedley Avenue
May	4	0%	75%	75%	100%	50%
June	4	25%	75%	75%	50%	25%
July	4	50%	100%	25%	75%	75%
August	5	40%	60%	25%	75%	60%
September	3	33%	33%	33%	67%	100%
October	2	0%	50%	0%	0%	50%
November	3	0%	0%	33%	0%	33%

Priority 3 Compliance



- Continued elevated levels of bacteria in San Timoteo Creek (P3-SBC2, 3, and 4)
- Increase in Goldenstar Creek (P3-RC1) geomean from 2022 (from 74 cfu/100mL in 2022 to 272 cfu/100mL in 2023)

Priority 4 Compliance

Site ID	Site Description	Single Sample Antidegradation Target	EC Result	ENT Result	Sample Date
P4-OC1	Santa Ana Delhi Channel Upstream of Irvine Avenue	1067	238		8/30/2023
P4-OC2	Santa Ana Delhi Channel in Tidal Prism	464		1125	8/30/2023
P4-OC3	Greenville-Banning Channel in Tidal Prism	64		41	8/30/2023
P4-RC2	Temescal Creek at Lincoln Avenue	725	260		6/23/2023
P4-SBC1	Cucamonga Creek at Hellman Avenue	1385	3800		6/23/2023

- SBC continues dry weather follow-up monitoring at Cucamonga Creek at Hellman (P4-SBC1). Note that the antidegradation target was updated in 2021 for this site.

General Trends/Next Steps

- General Trends
 - Non MSAR Priority 1 sites had lower bacteria levels in 2023
 - Cool Dry Samples were generally lower than previous year
 - Priority 2 sites continue to exceed water quality objectives
- Wet Weather Event
 - Wet weather sample collection can occur November 1 – March 31
 - Historically avoided sampling the first few storms of the season and targeted a storm of > 0.5 inches
- Draft Annual Report
 - Due April 30, 2024
 - CDM Smith will reach out to stakeholders to include site-specific information and updates on any projects near sampling sites
 - Make recommendations for future sampling years



Questions/Comments?