

Lake Elsinore and Canyon Lake TMDL Water Quality Monitoring 2025-2026 Monitoring Year Summary

Lake Elsinore/Canyon Lake TMDL Task Force Meeting
September 14, 2026



Garth Engelhorn
NV5

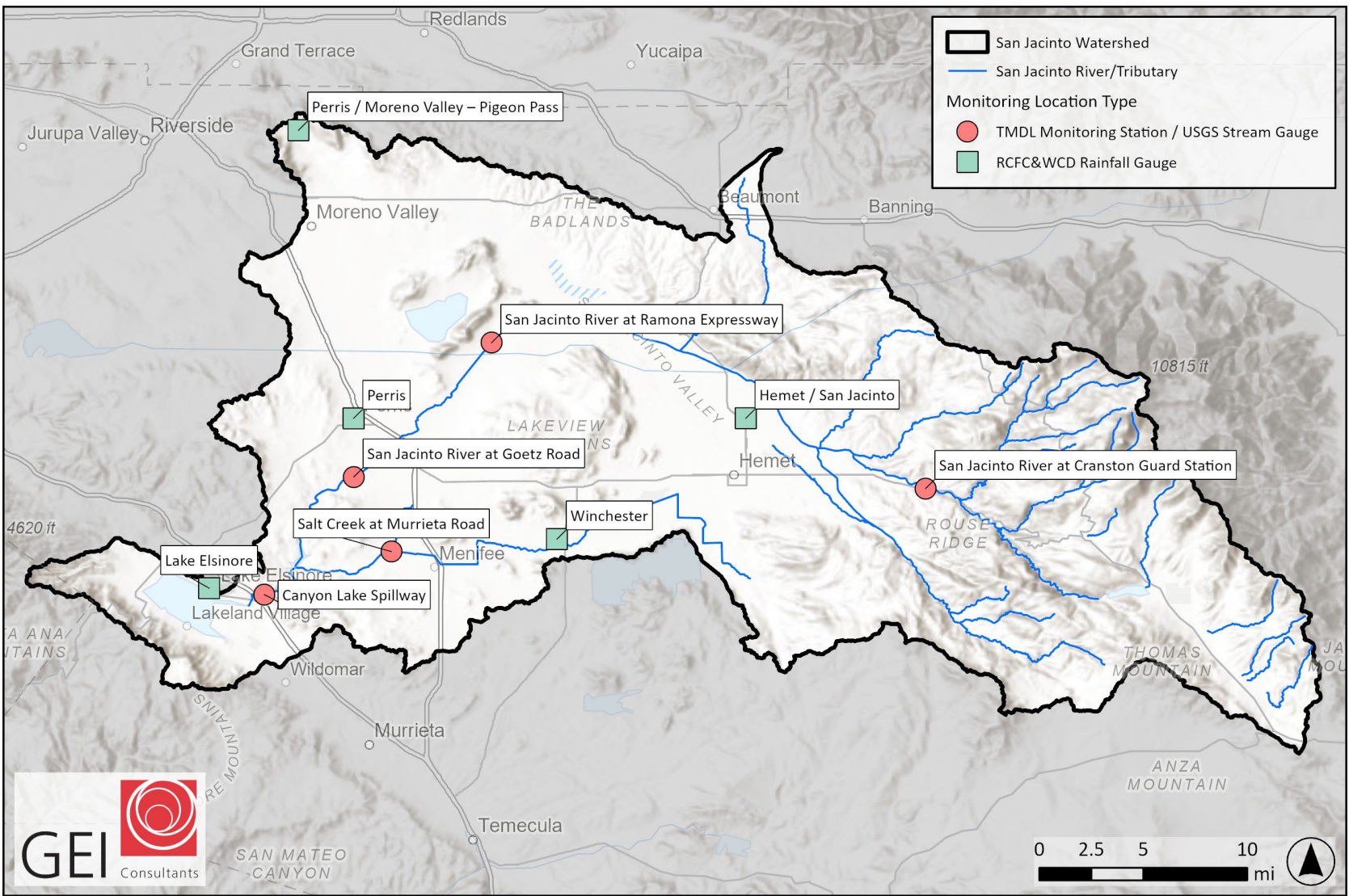
John Rudolph/Chris Stransky
GEI Consultants



GEI
Consultants



Watershed Monitoring



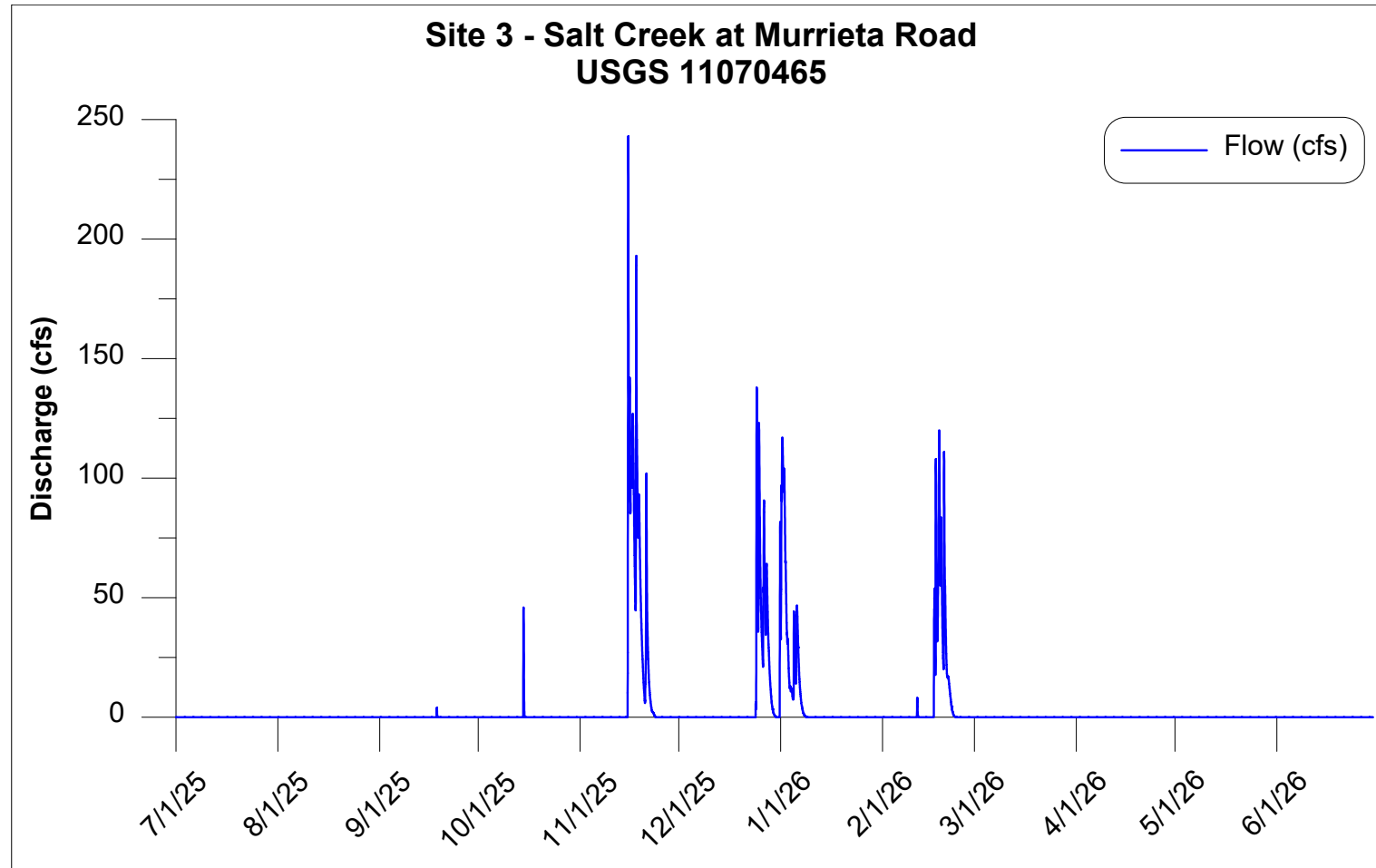
Summary of 2025-2026 Rainfall

Monthly Rainfall (inches)	Lake Elsinore	Perris CDF	Pigeon Pass	Hemet / San Jacinto	Winchester
Jul	0.06	0.20	0.00	0.05	0.02
Aug	0.09	0.64	0.00	0.03	0.00
Sep	0.18	0.26	0.10	0.37	0.42
Oct	0.24	0.42	0.54	0.51	0.47
Nov	2.59	2.94	3.04	2.24	2.63
Dec	1.08	0.87	1.11	1.17	1.27
Jan	1.09	1.04	1.62	1.52	1.45
Feb	1.93	1.65	3.08	1.74	1.63
Mar	0.00	0.00	0.00	0.00	0.00
Apr	0.40	0.19	1.05	0.51	0.46
May	0.12	0.04	0.31	0.21	0.05
Jun	0.00	0.00	0.00	0.02	0.00
Annual Rainfall (inches)	7.78	8.25	10.85	8.37	8.40

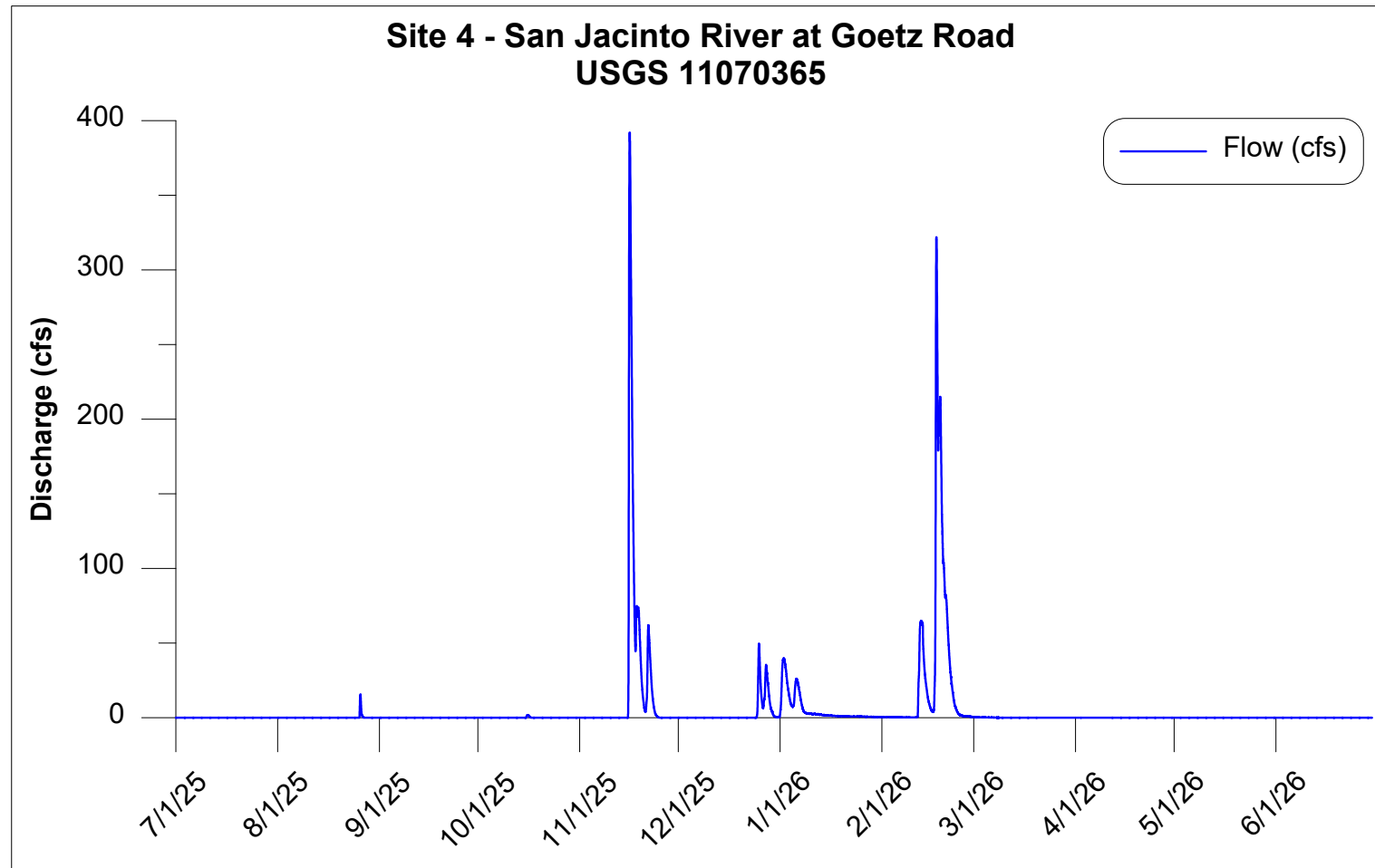
Summary of 2025-2026 Monitoring

Number and Location Description	Total Annual Flow ^a (Mgal)	Annual Event Mean Storm Concentration (mg/L)		Estimated Annual Load (kg)	
		Total Nitrogen	Total Phosphorus	Total Nitrogen	Total Phosphorus
Site 3 - Salt Creek at Murrieta Road (USGS 11070465)	797	2.17	0.35	6,637	1,061
Site 4 - San Jacinto River at Goetz Road (USGS 11070365)	1,101	1.40	0.31	5,822	1,274
Site 6 - San Jacinto River at Ramona Expressway	0	Not Measured	Not Measured	Not Measured	Not Measured
Site 30 - Canyon Lake Spillway (USGS 11070500)	2,123	1.67	0.06	13,390	494
Site 1 - San Jacinto River at Cranston Guard Station	631	Not Measured	Not Measured	Not Measured	Not Measured

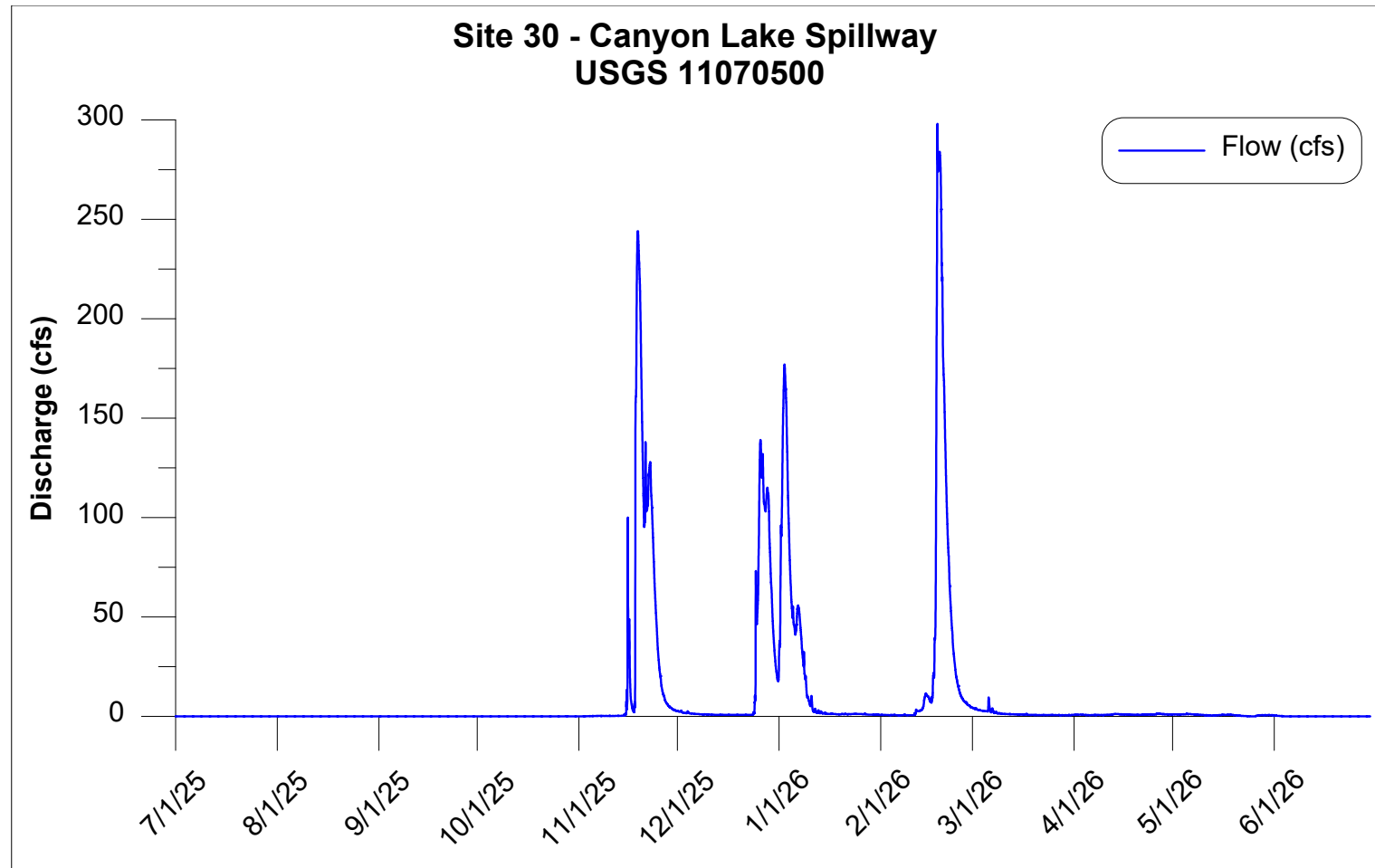
2025-2026 Annual Hydrograph



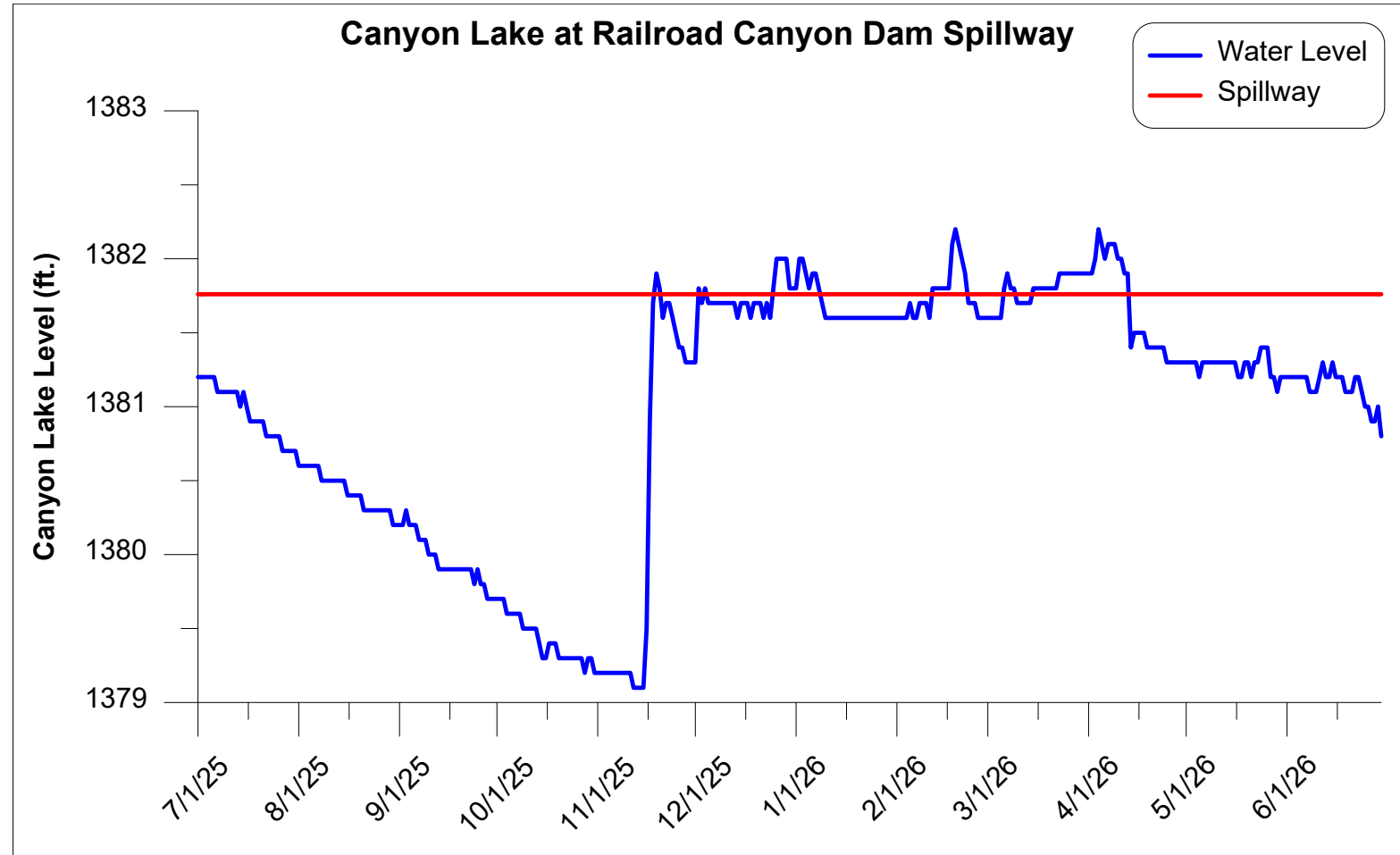
2025-2026 Annual Hydrograph



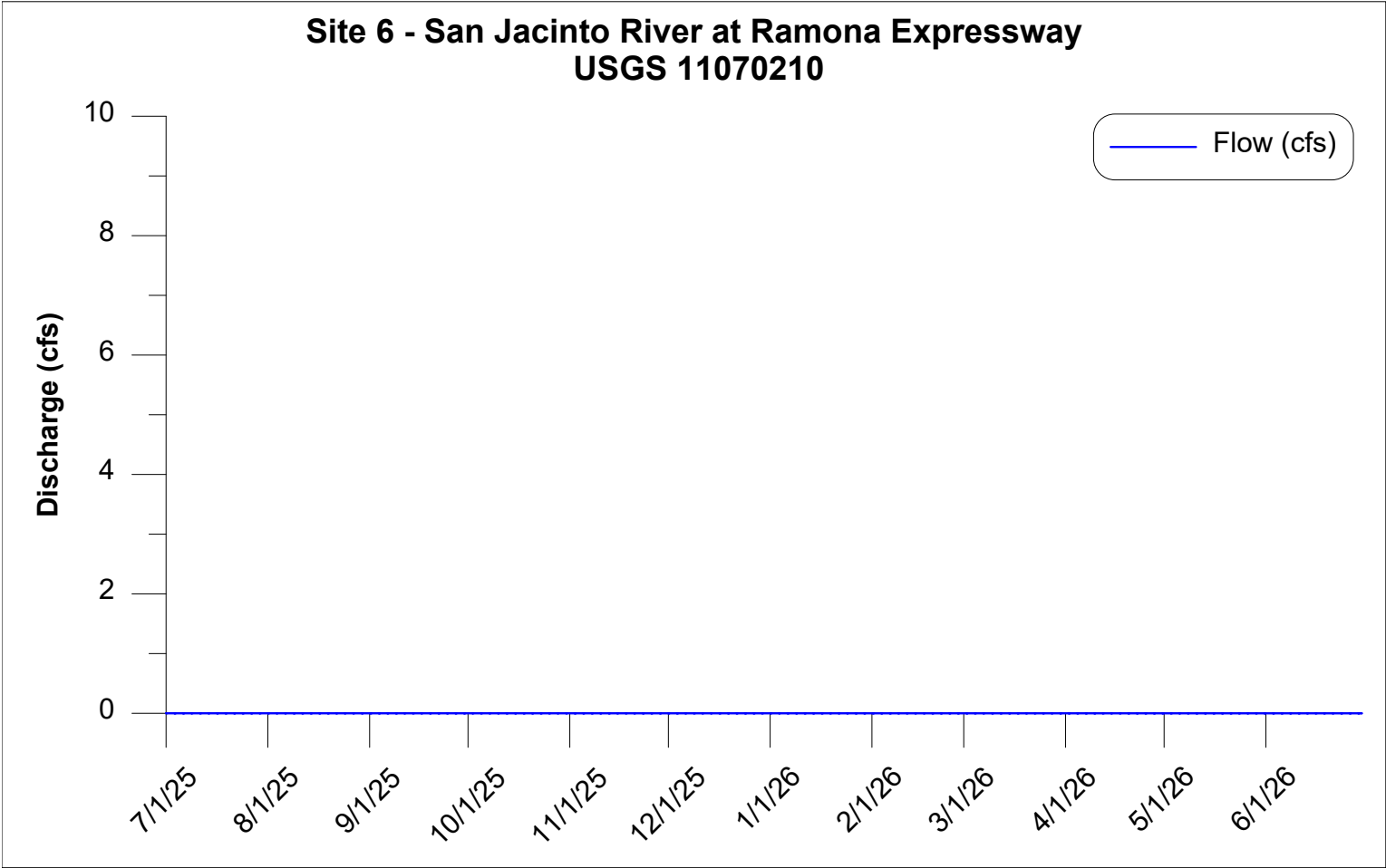
2025-2026 Annual Hydrograph



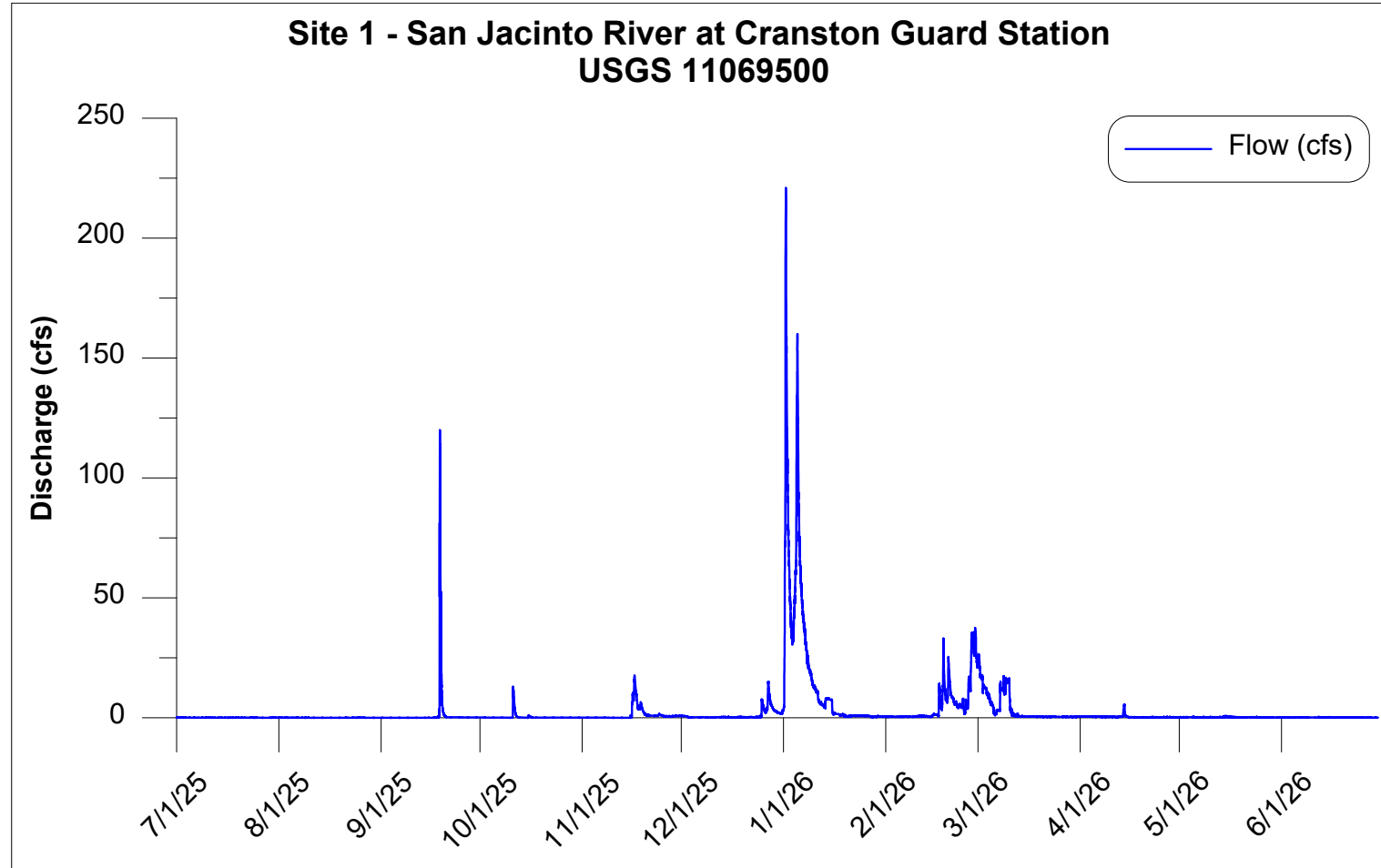
2025-2026 Annual Hydrograph

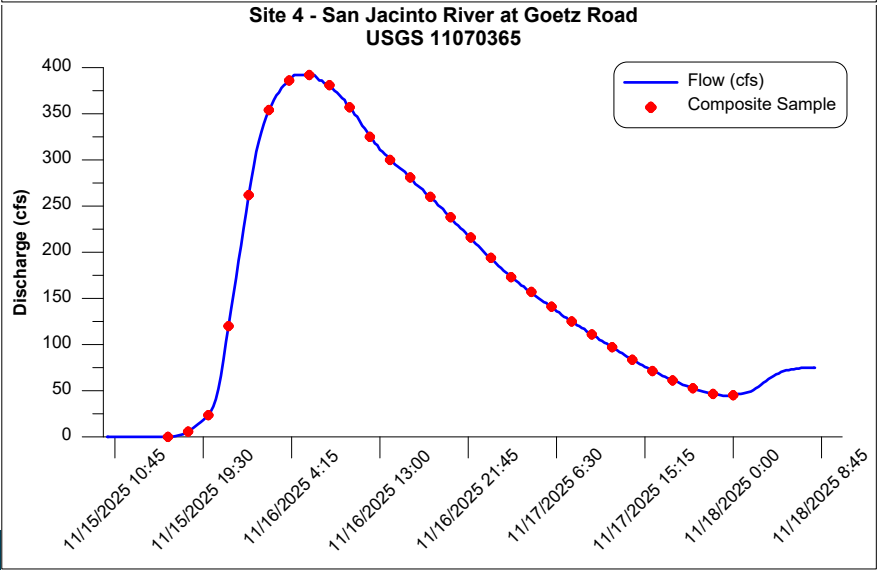
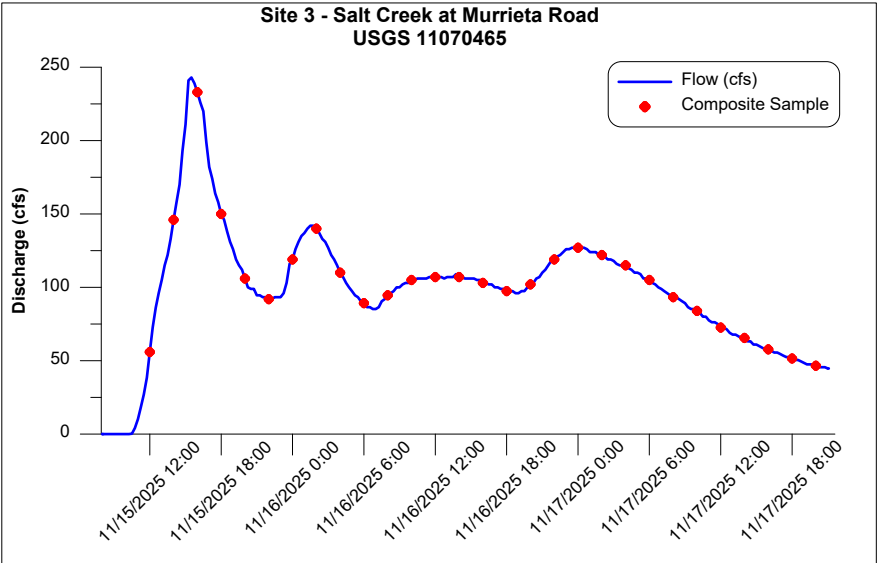


2025-2026 Annual Hydrograph



2025-2026 Annual Hydrograph

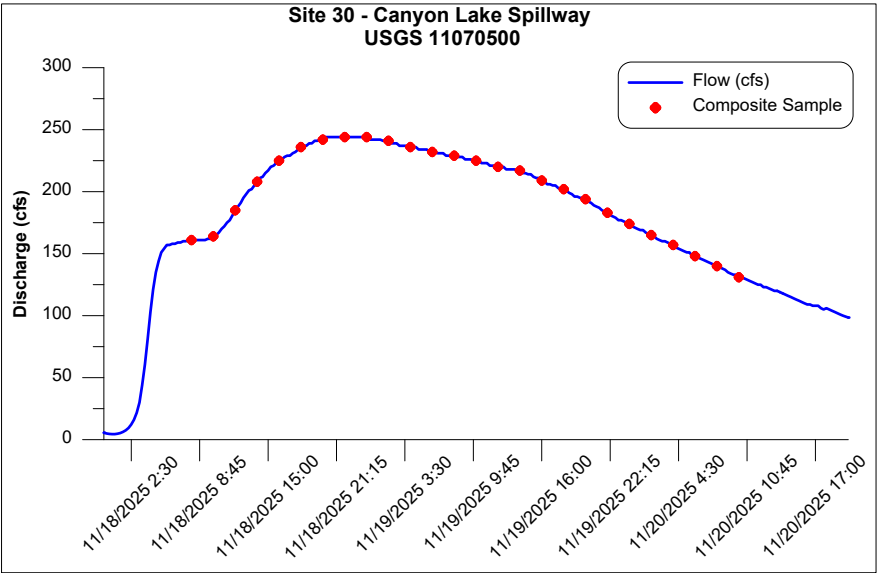


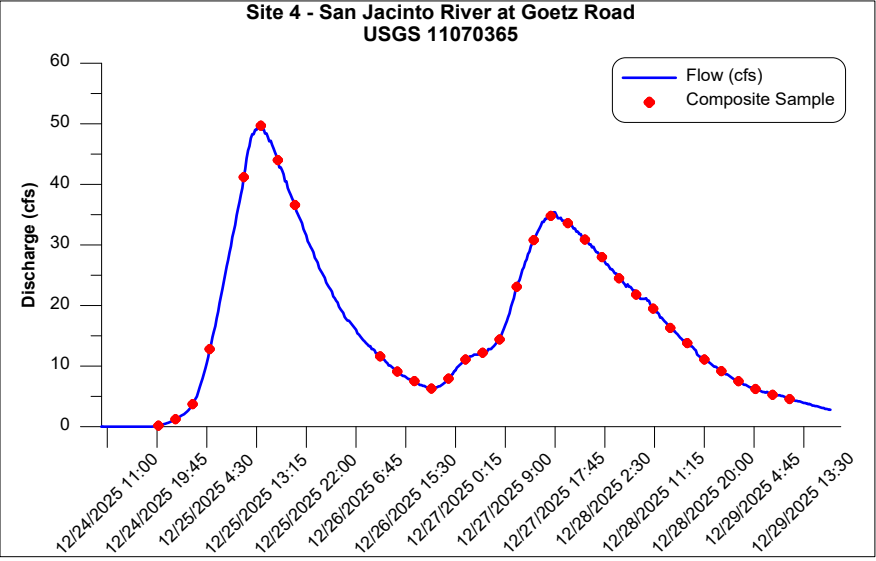
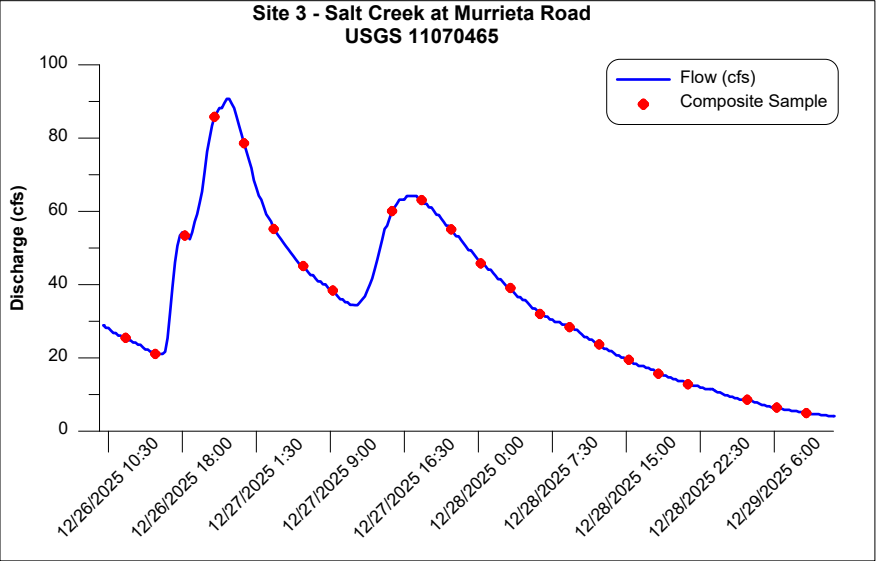


Wet Event #1

November 15-20, 2025

Watershed Rainfall: 1.97 to 2.54 inches
Sites: Salt Creek, San Jacinto, and
Canyon Lake Spillway

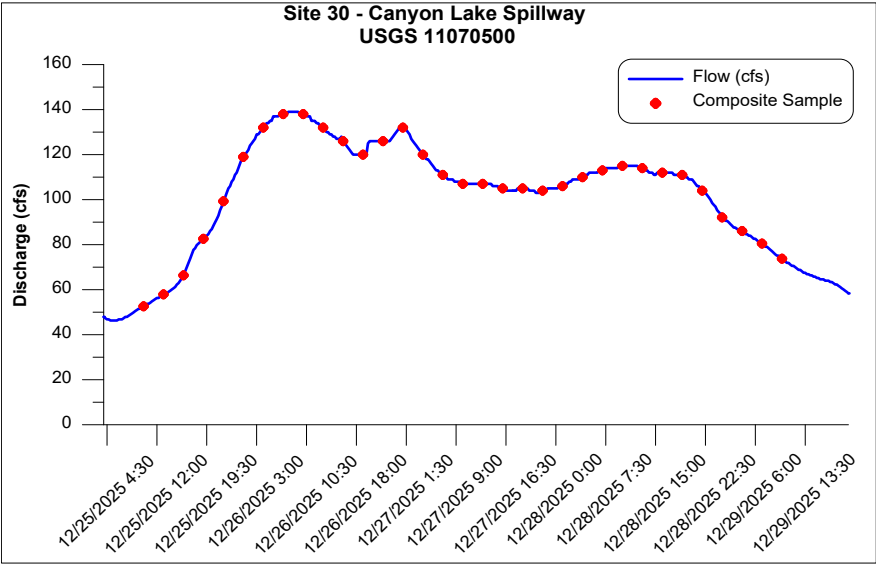


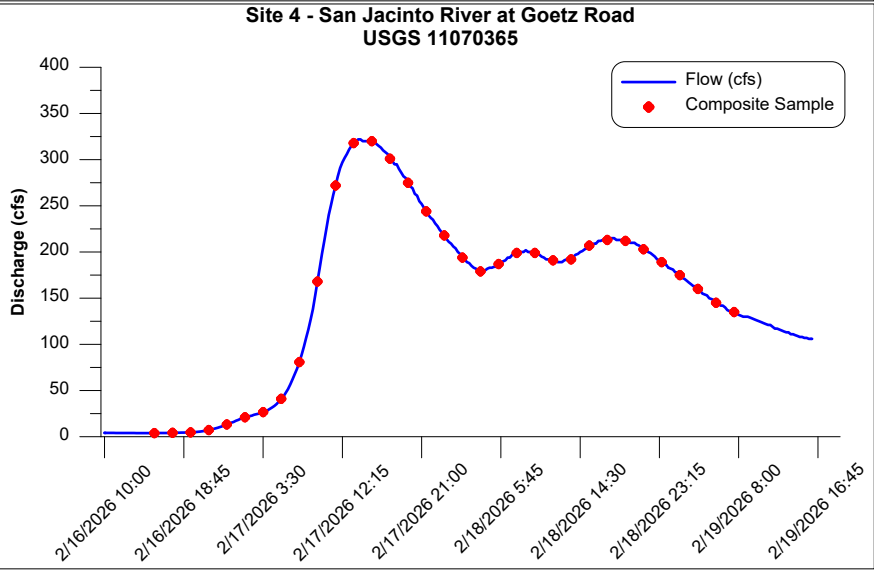
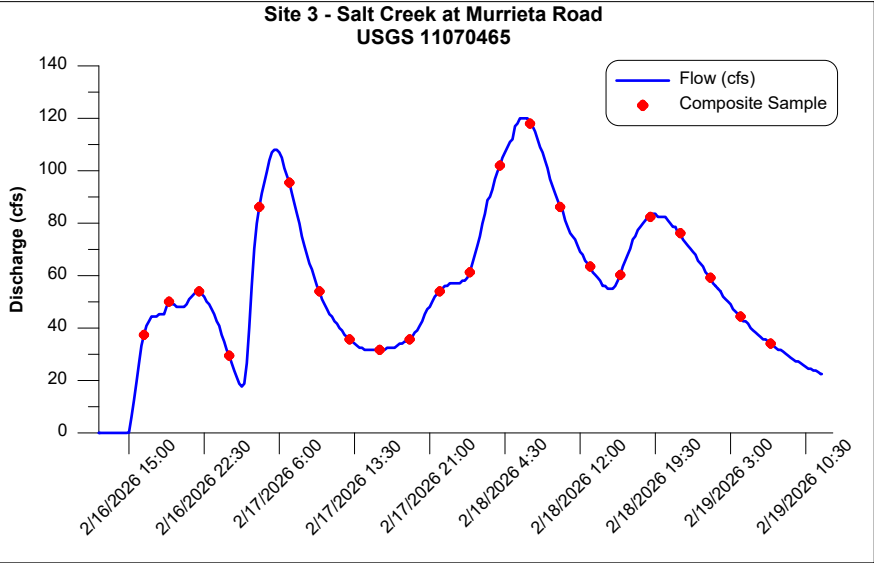


Wet Event #2

December 24-29, 2025

Watershed Rainfall: 0.87 to 1.27 inches
Sites: Salt Creek, San Jacinto, and
Canyon Lake Spillway

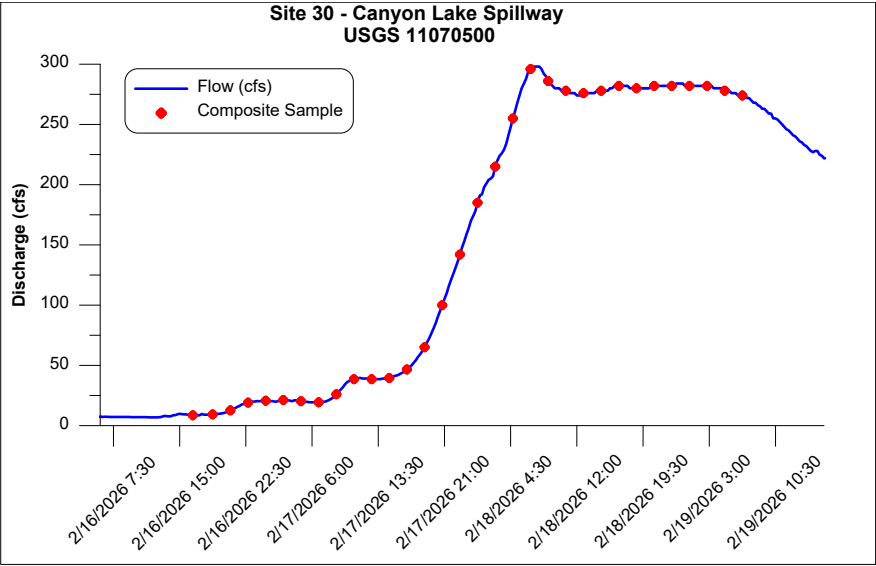




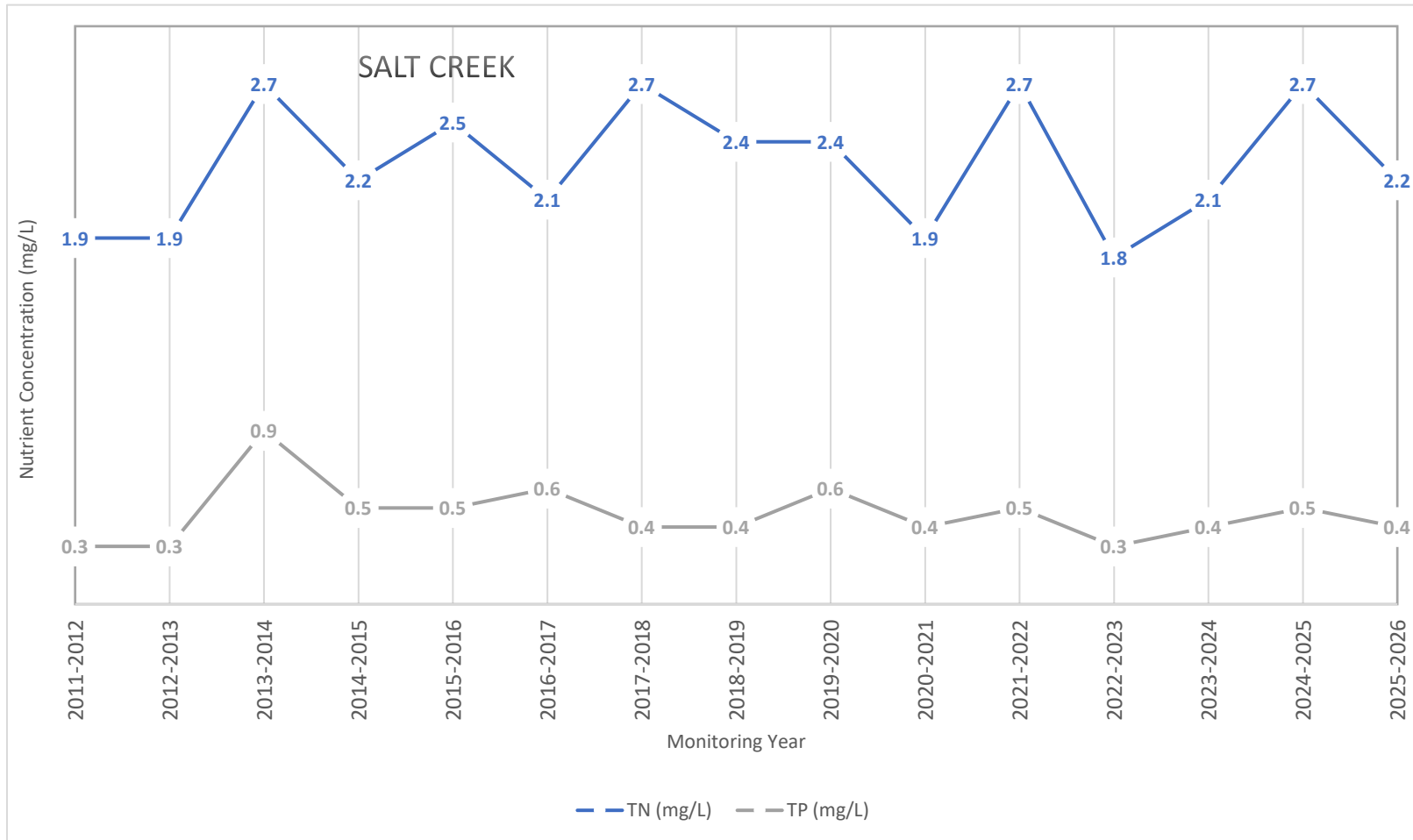
Wet Event #3

February 16-19, 2026

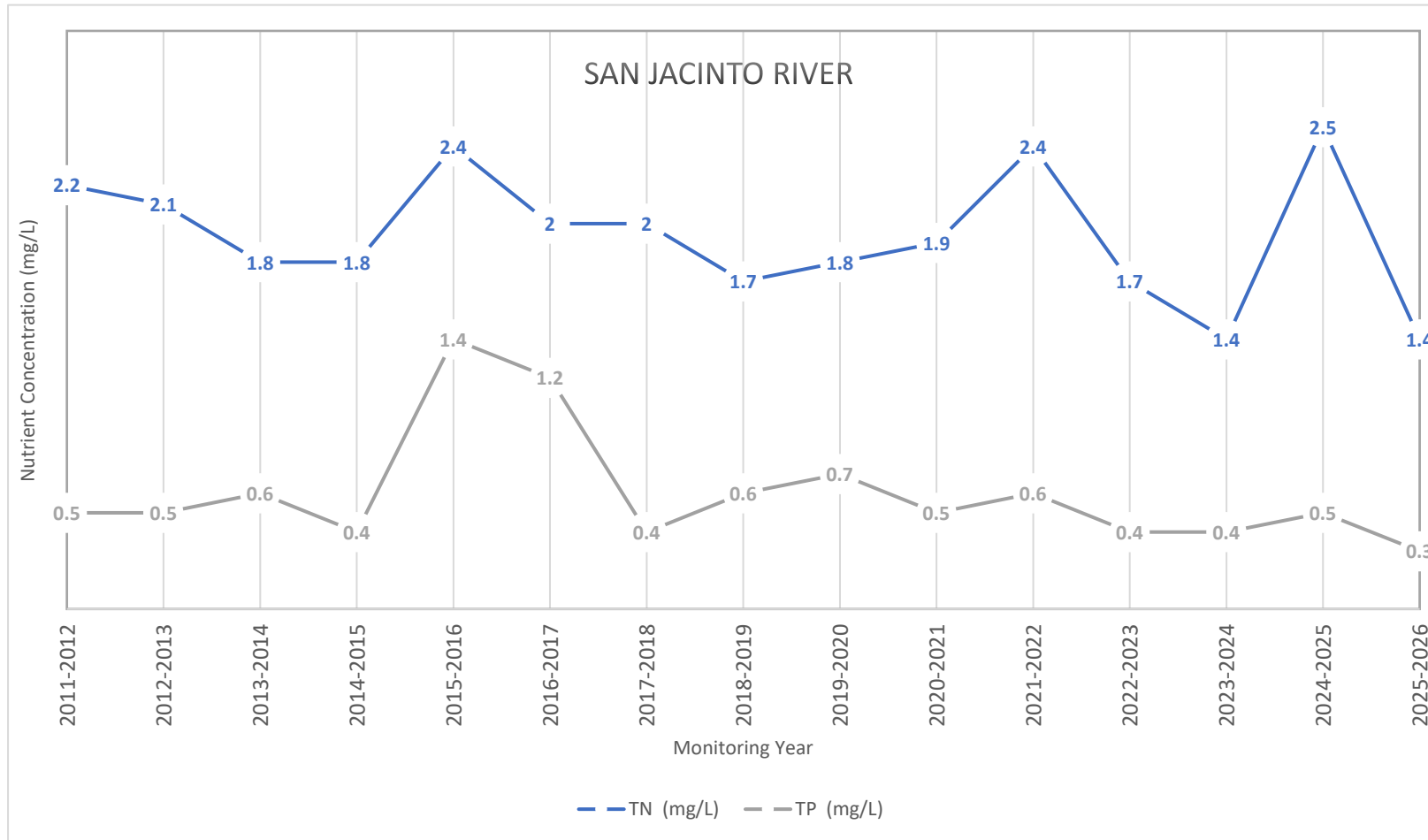
Watershed Rainfall: 1.11 to 1.94 inches
Sites: Salt Creek, San Jacinto, and
Canyon Lake Spillway



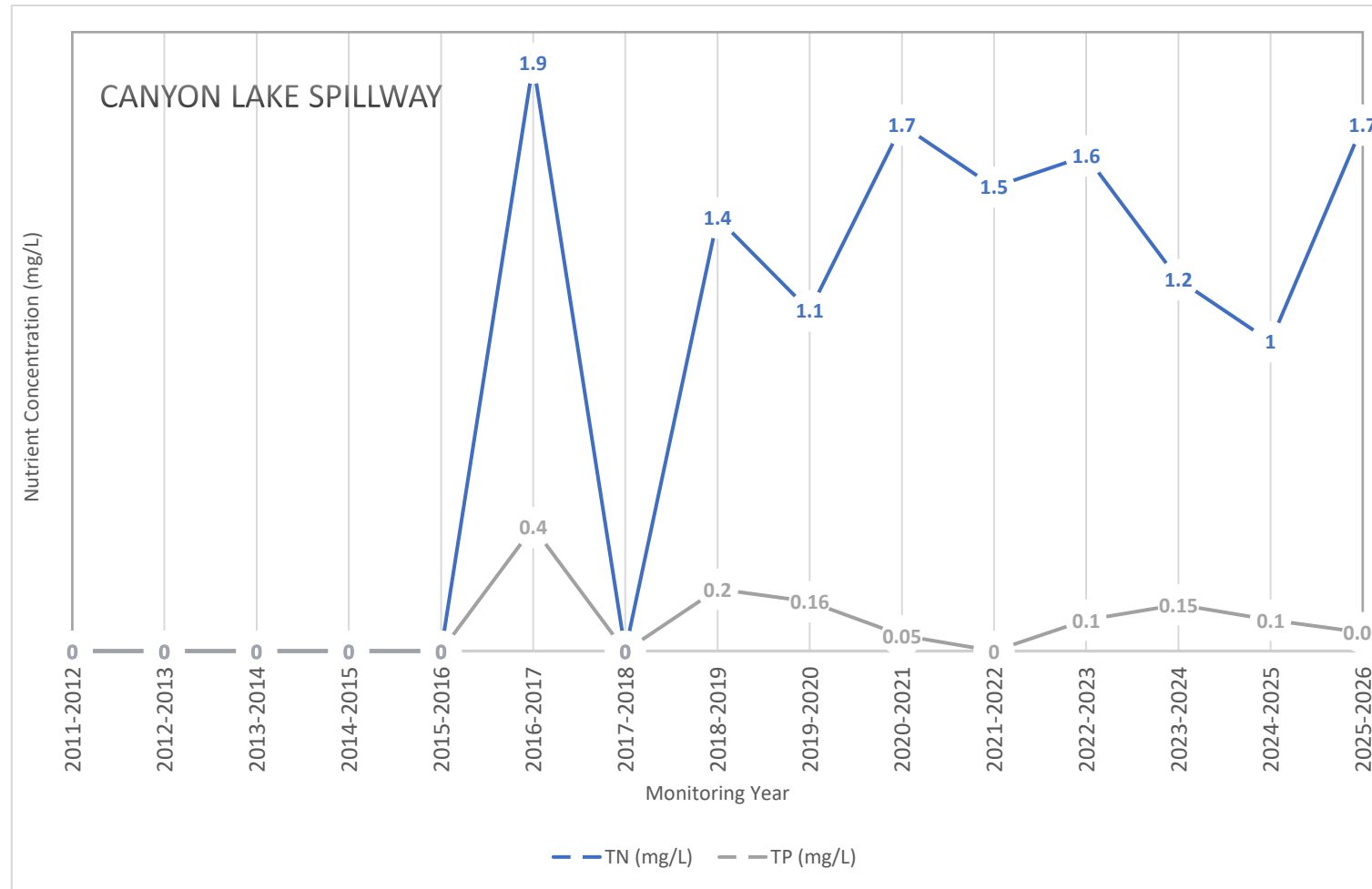
Salt Creek Historical Nutrient Concentrations



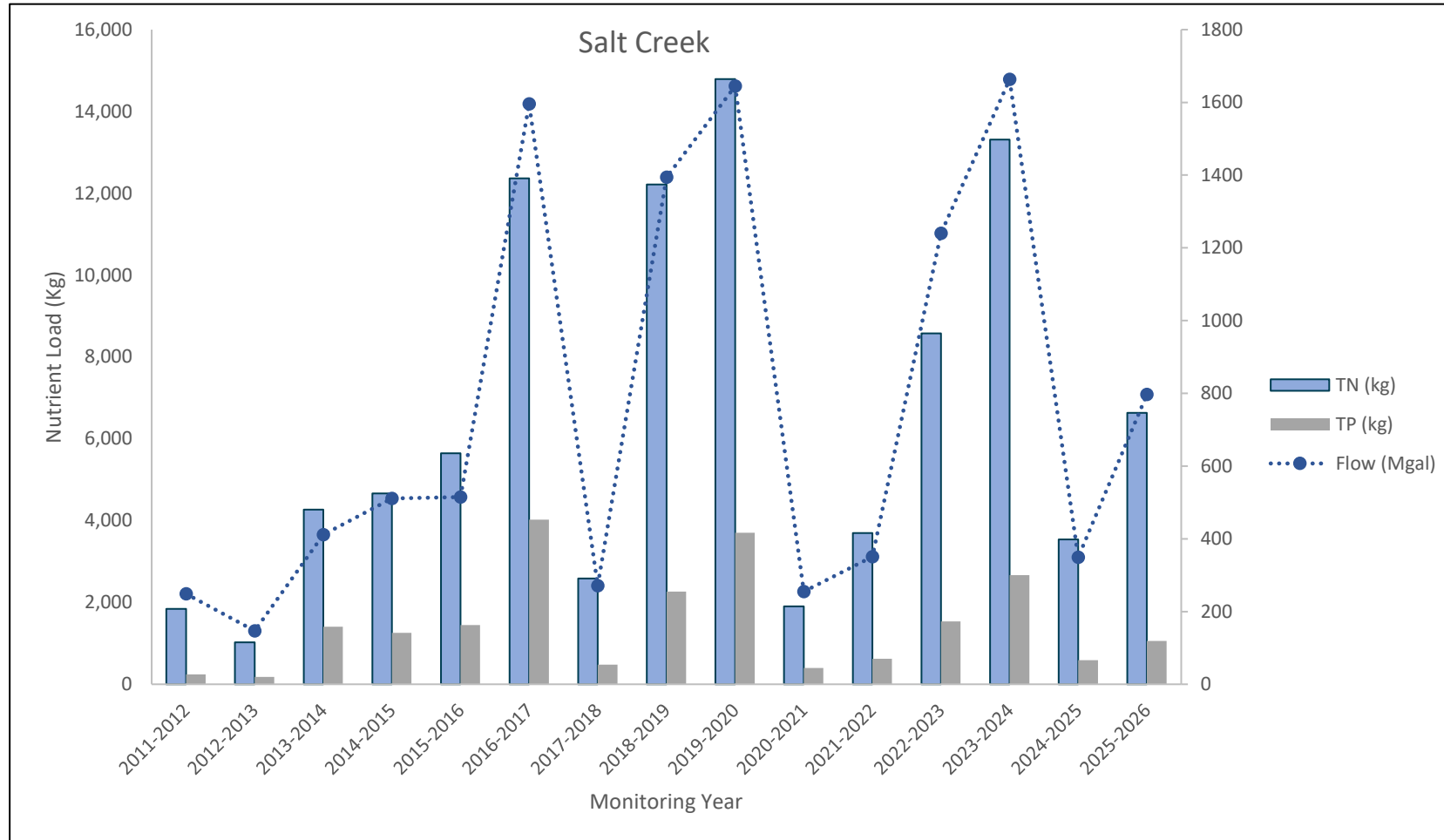
San Jacinto River Historical Nutrient Concentrations



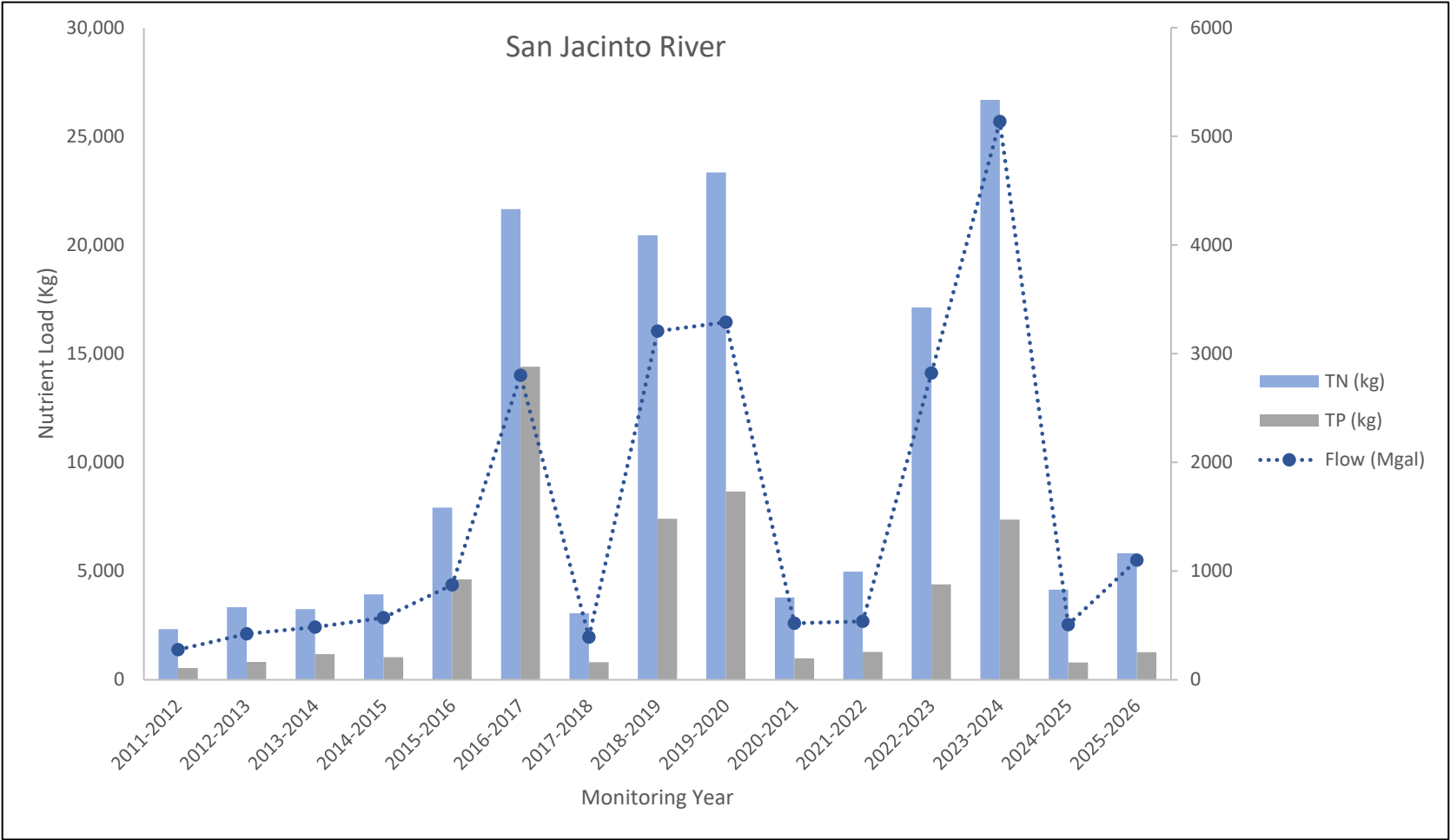
Canyon Lake Spillway Historical Nutrient Concentrations



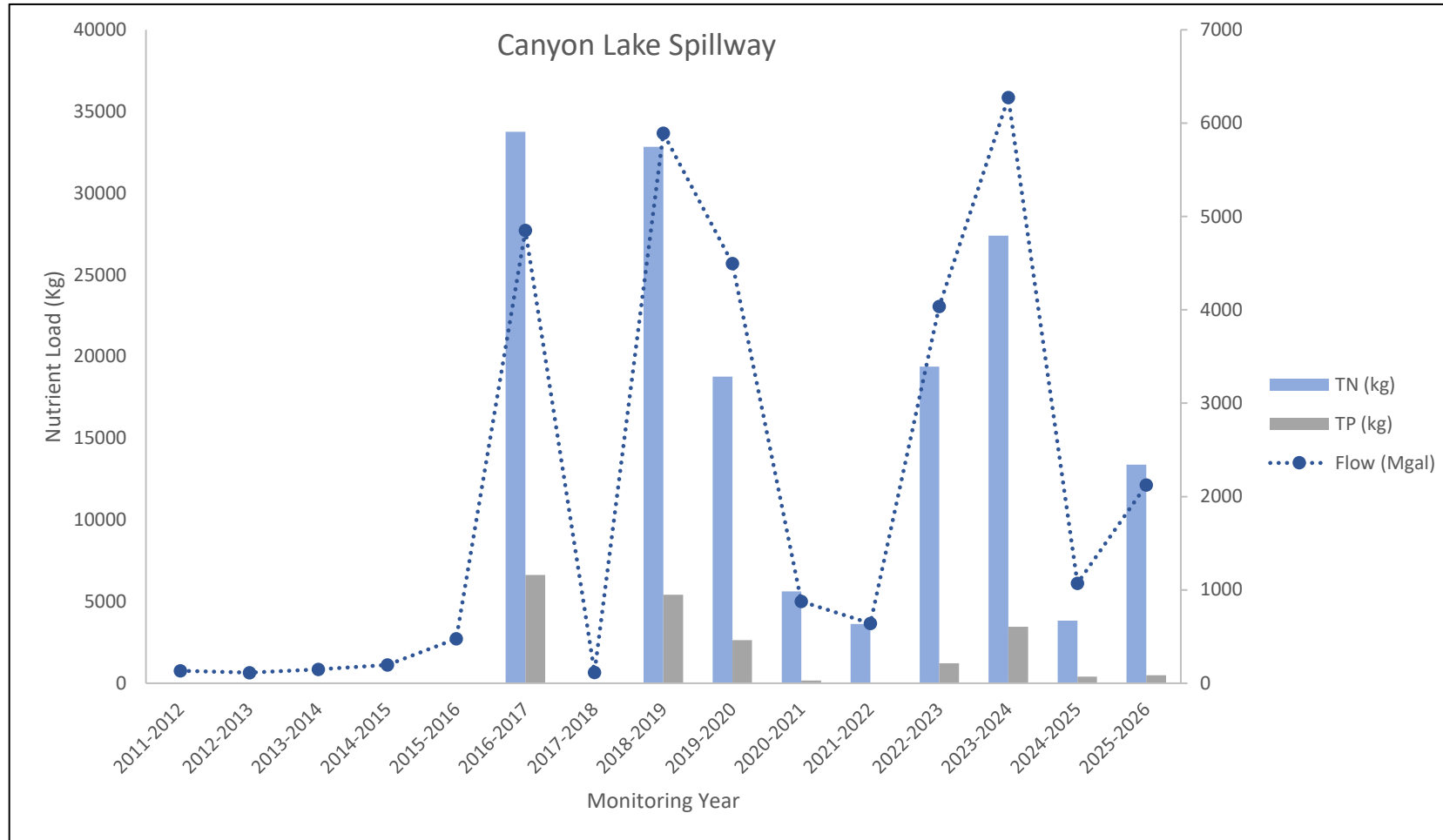
Salt Creek Historical Loads



San Jacinto River Historical Loads



Canyon Lake Spillway Historical Loads



Summary of Nutrient Concentrations

Monitoring Year	Site 3 - Salt Creek at Murrieta Road		Site 4 - San Jacinto River at Goetz Road		Site 30 - Canyon Lake Spillway	
	TN (mg/L)	TP (mg/L)	TN (mg/L)	TP (mg/L)	TN (mg/L)	TP (mg/L)
2016-2017	2.1	0.6	2	1.2	1.9	0.4
2017-2018	2.7	0.4	2	0.4	NS	NS
2018-2019	2.4	0.4	1.7	0.6	1.4	0.2
2019-2020	2.4	0.6	1.8	0.7	1.1	0.16
2020-2021	1.9	0.4	1.9	0.5	1.7	0.05
2021-2022	2.7	0.5	2.4	0.6	1.5	ND(<0.003)
2022-2023	1.8	0.3	1.7	0.4	1.6	0.10
2023-2024	2.1	0.4	1.4	0.4	1.2	0.15
2024-2025	2.7	0.5	2.5	0.5	1.0	0.10
2025-2026	2.2	0.4	1.4	0.3	1.7	0.06

Summary of Nutrient Loads

Monitoring Year	Site 3 - Salt Creek at Murrieta Road			Site 4 - San Jacinto River at Goetz Road			Site 30 - Canyon Lake Spillway		
	Flow (Mgal)	TN (kg)	TP (kg)	Flow (Mgal)	TN (kg)	TP (kg)	Flow (Mgal)	TN (kg)	TP (kg)
2016-2017 ^a	566	6007	1503	915	8184	4678	609	NS	NS
2017-2018	271	2,586	482	393	3,055	810	117	NS	NS
2018-2019	1,394	12,213	2,266	3,208	20,457	7,409	5,893	32,832	5,416
2019-2020	1,645	14,792	3,705	3,290	23,337	8,660	4,497	18,762	2,635
2020-2021	255	1,902	396	519	3,794	992	878	5,626	175
2021-2022	351	3,698	625	537	4,976	1,282	640	3,632	0
2022-2023	1,240	8,576	1,533	2,821	17,132	4,388	4,037	19,391	1,231
2023-2024	1,663	13,312	2,668	5,137	26,684	7,371	6,274	27,399	3,459
2024-2025	349	3,540	592	507	4,145	801	1,070	3,840	403
2025-2026	797	6,637	1,061	1,101	5,822	1,274	2,123	13,390	494

a - Sum of January 1, 2016 to June 30, 2017. All other monitoring year dates are July 1 to June 30.

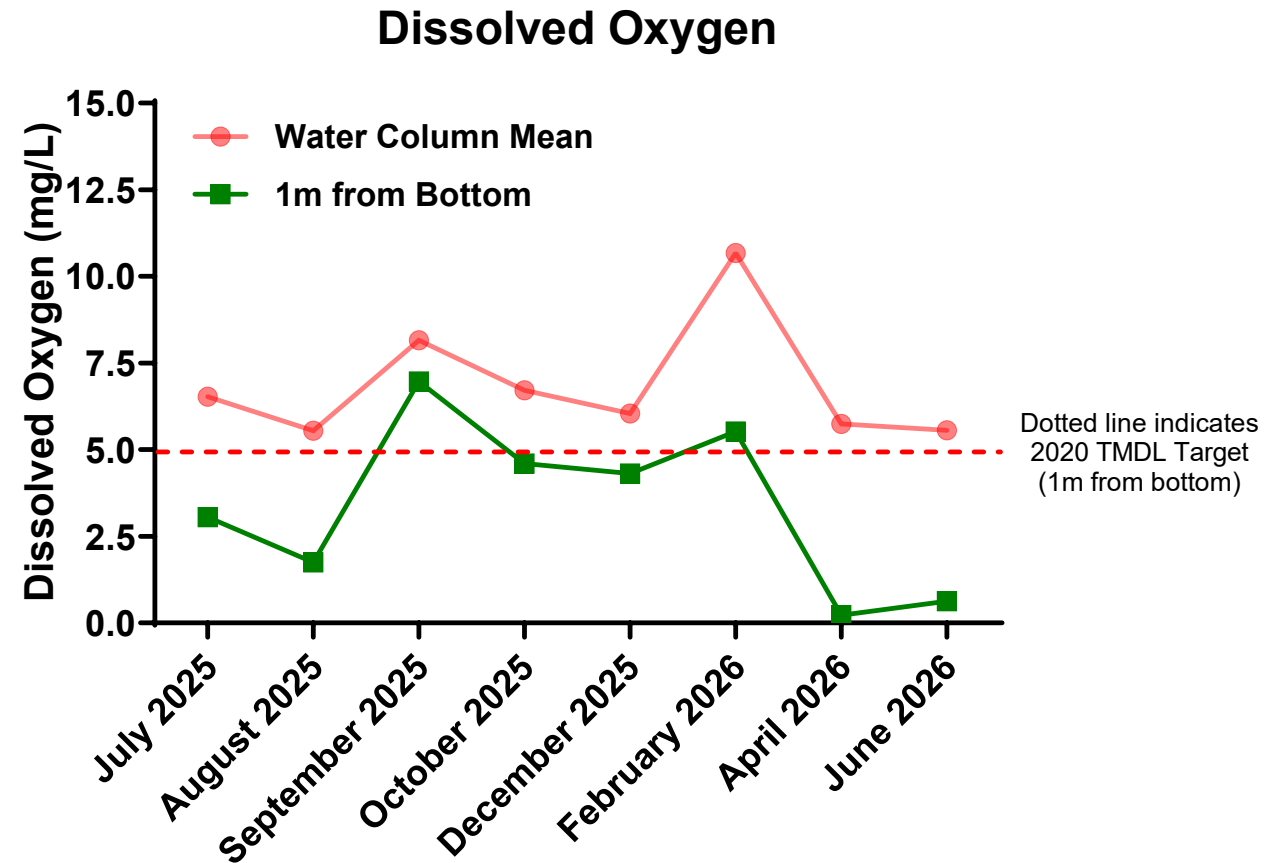
Historical Estimated Annual Loads as a 10-Year Running Average Relative to the 2004 TMDL Wasteload and Load Allocations

Lake	Analyte	10-yr Running Average (kg/yr) ^a	TMDL Load Allocation (kg/yr)	% of TMDL Load Allocation
Lake Elsinore	Total Nitrogen	15,198	29,953	50.7%
	Total Phosphorus	2,014	6,922	29.1%
Canyon Lake	Total Nitrogen	21,378	21,902	97.6%
	Total Phosphorus	6,734	3,797	177.4%
		-1,960 credit for alum application = 4,774		125.7%

In-Lake Monitoring

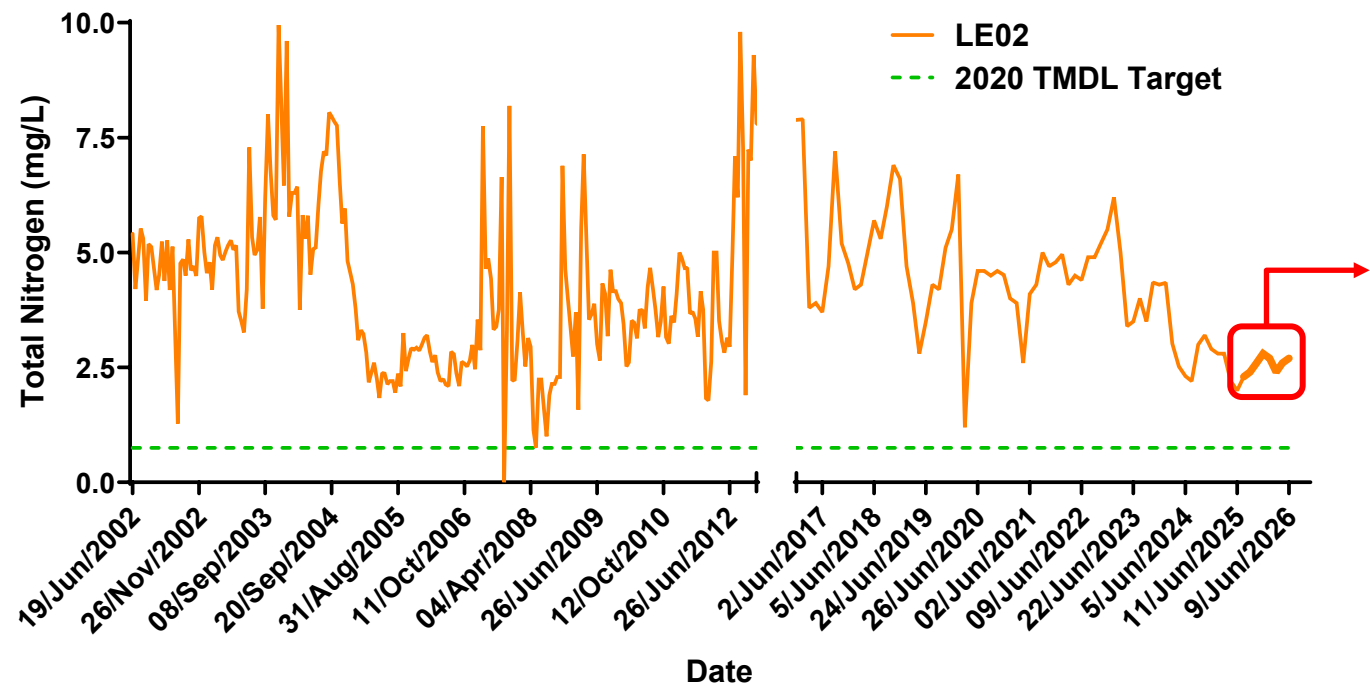


In-Lake Monitoring – Lake Elsinore



In-Lake Monitoring – Lake Elsinore

Historical Total Nitrogen

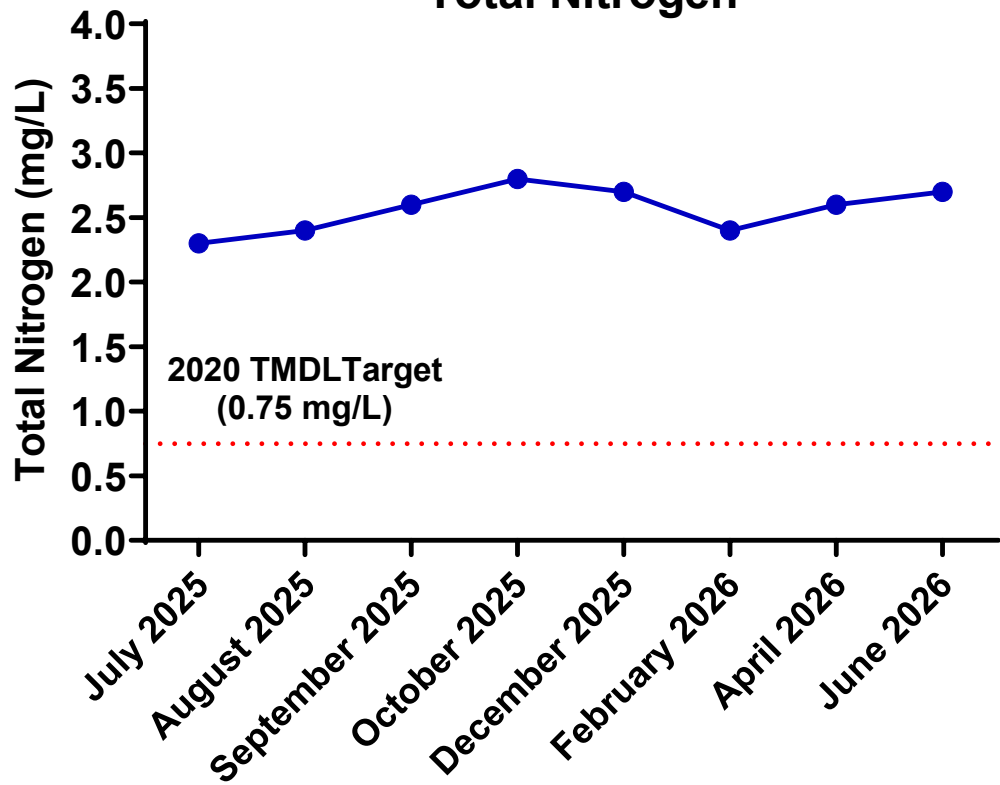


No data available from June 2012-July 2015

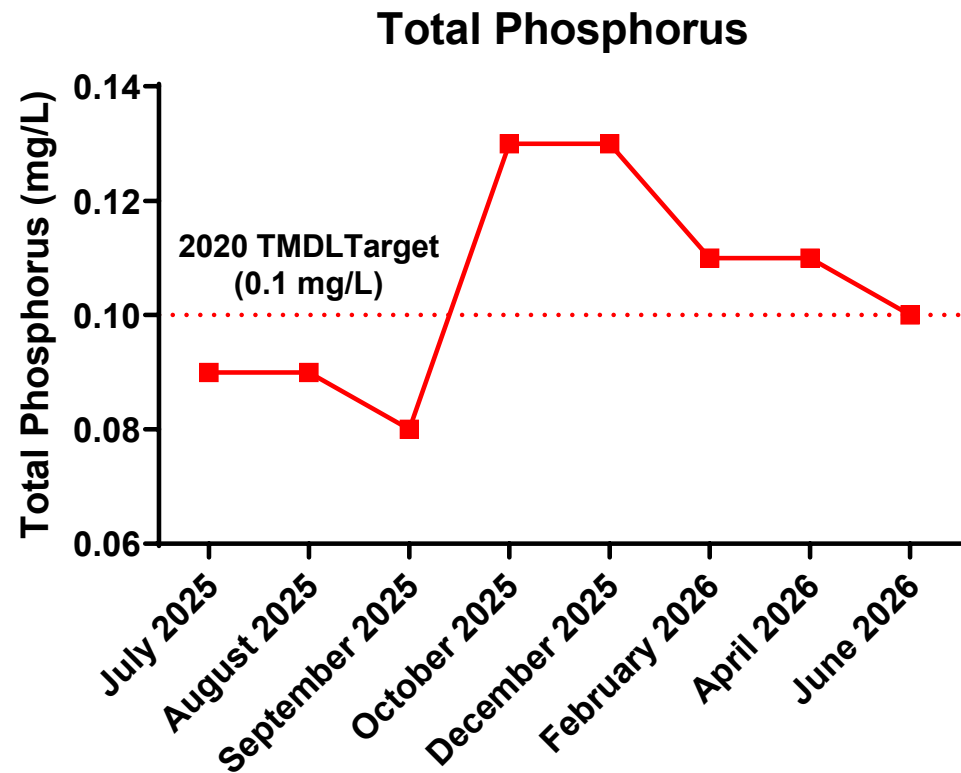
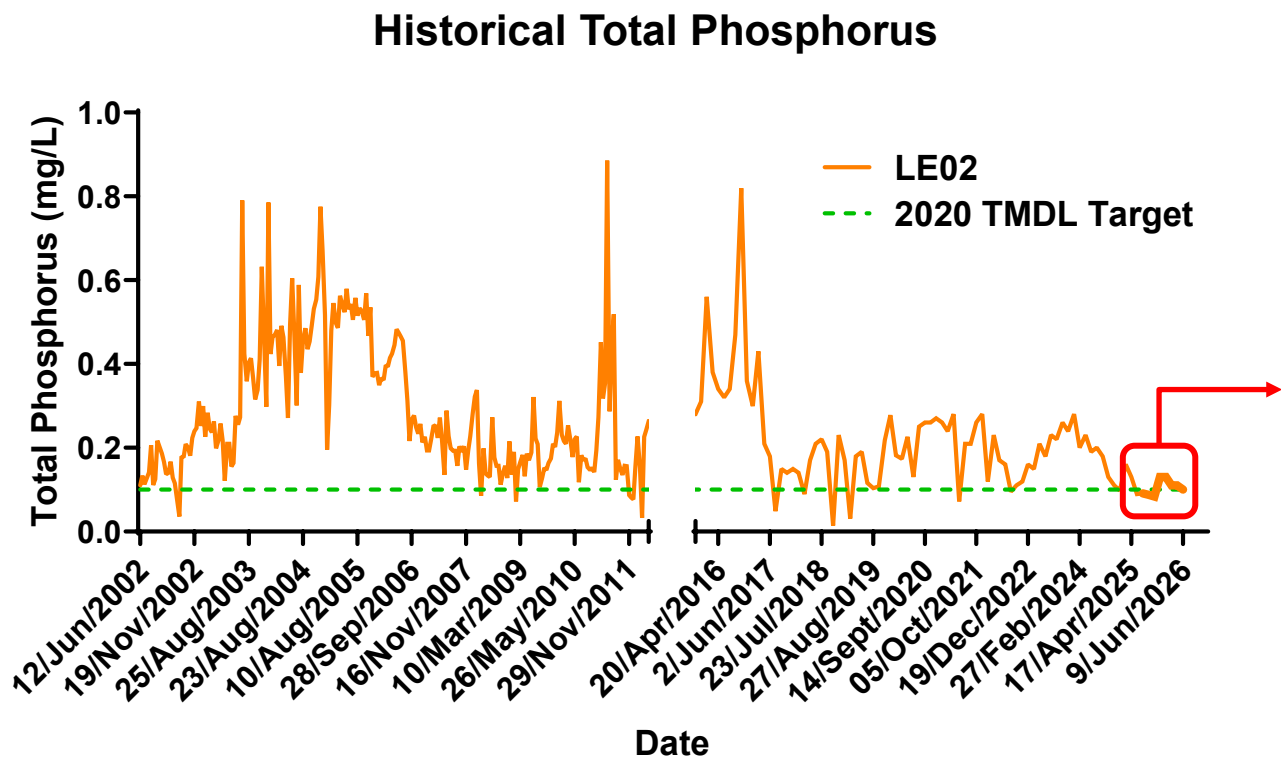
TMDL target of 0.75 mg/L is annual average to be attained by 2020

Bold represents current monitoring year July 2025-June 2026

Total Nitrogen



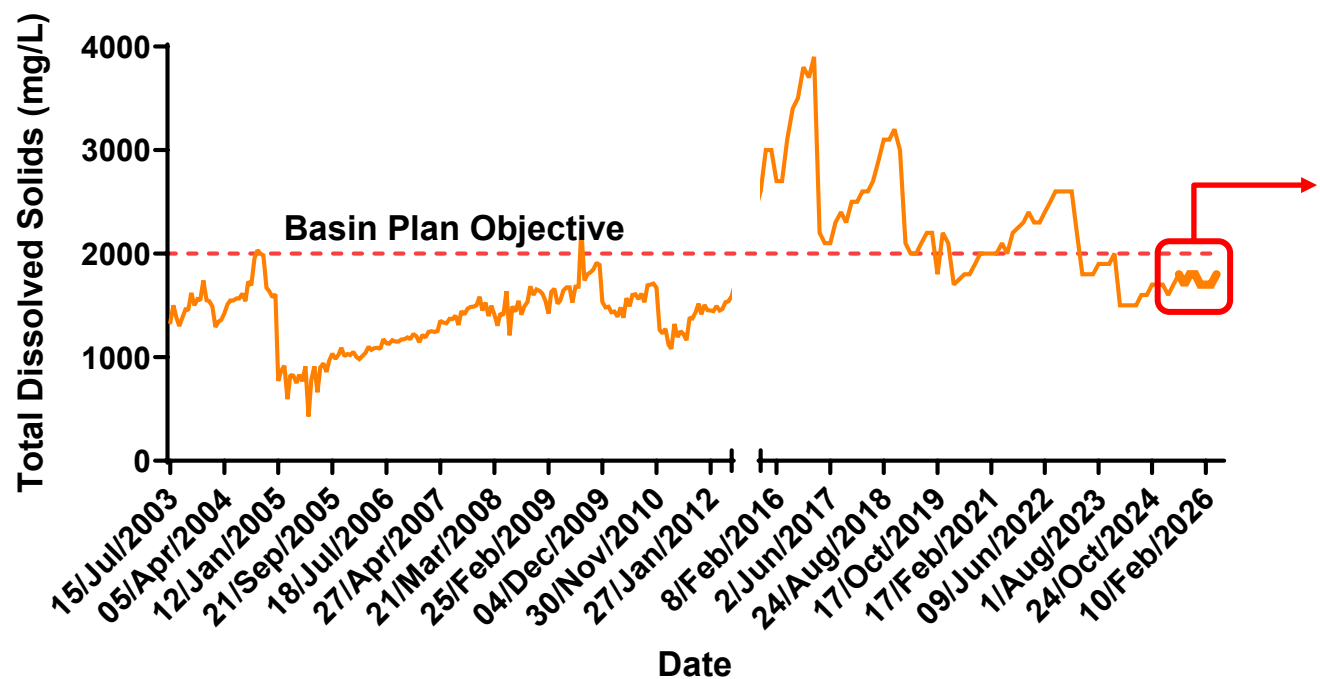
In-Lake Monitoring – Lake Elsinore



No data available from June 2012-July 2015
TMDL target of 0.1 mg/L is annual average to be attained by 2020
Bold represents current monitoring year July 2025-June 2026

In-Lake Monitoring – Lake Elsinore

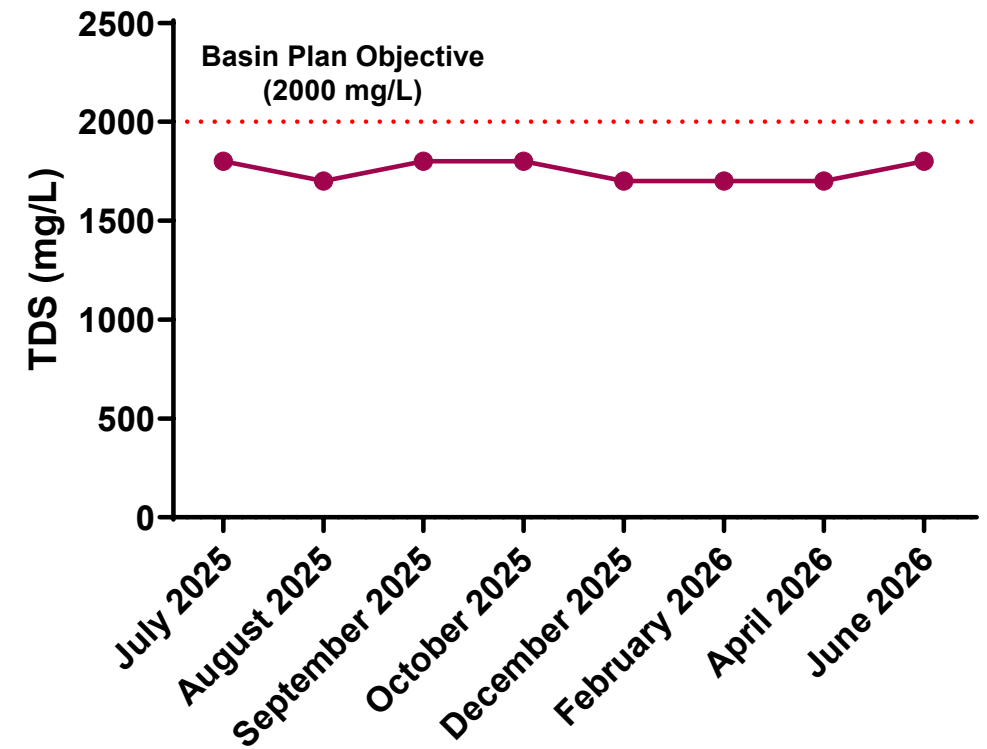
Historical Total Dissolved Solids



No data available from June 2012-July 2015

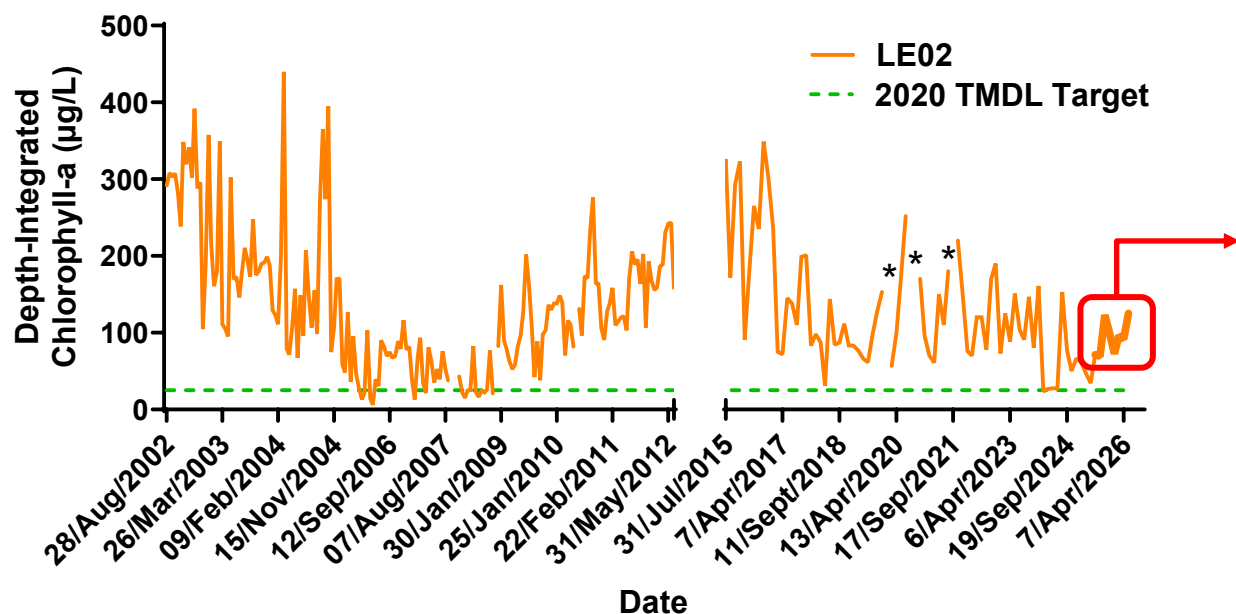
Bold represents current monitoring year July 2025-June 2026

Total Dissolved Solids



In-Lake Monitoring – Lake Elsinore

Historical Depth-Integrated Chlorophyll-a

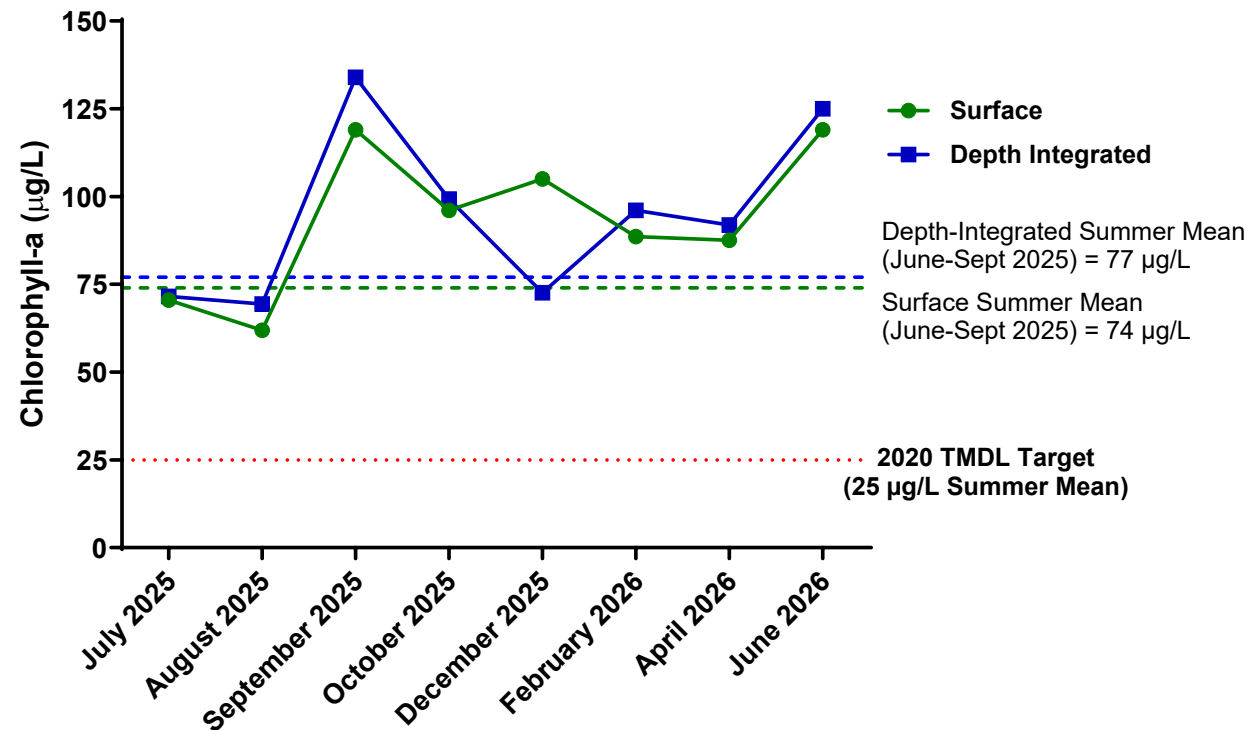


No data available from June 2012 - July 2015

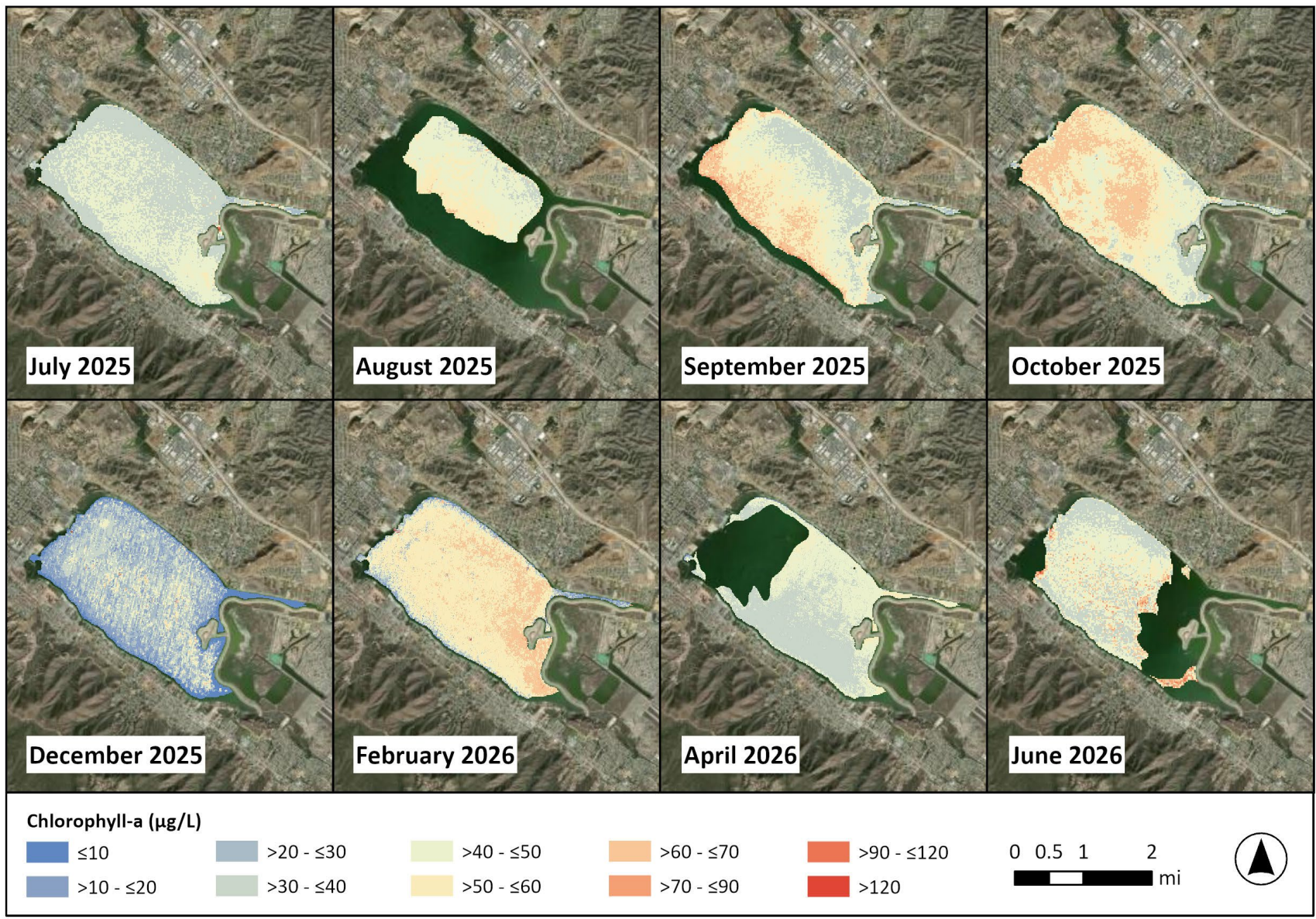
TMDL target of 25 µg/L is summer average to be attained by 2020

Bold represents current monitoring year July 2025- June 2026

*Not measured due to laboratory error. See report for details.



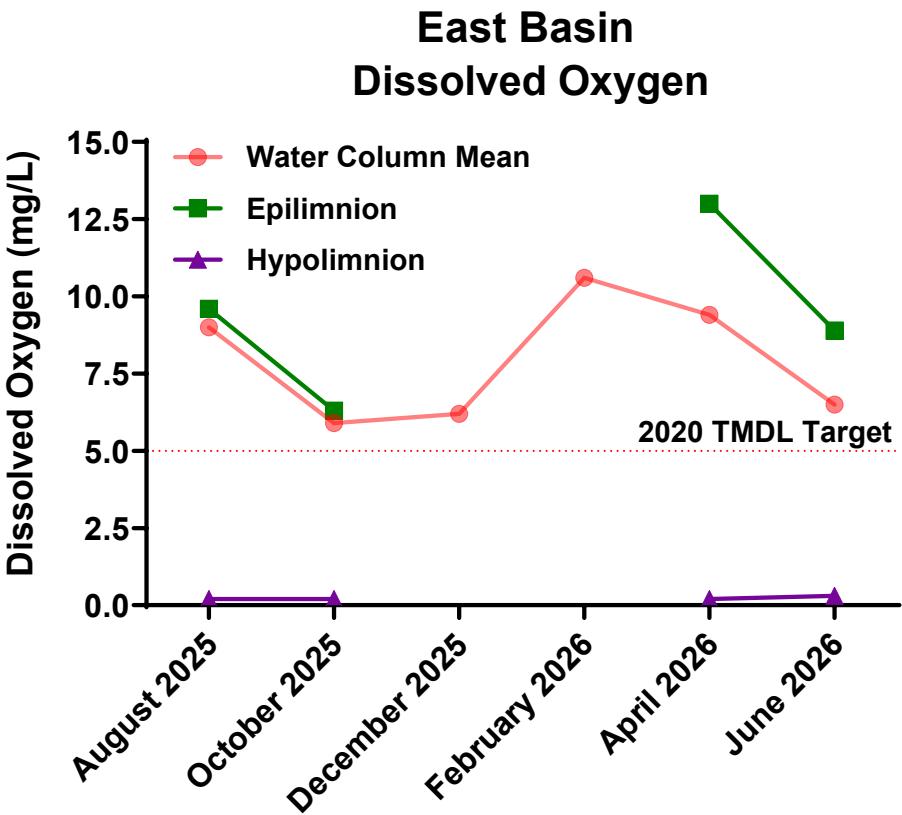
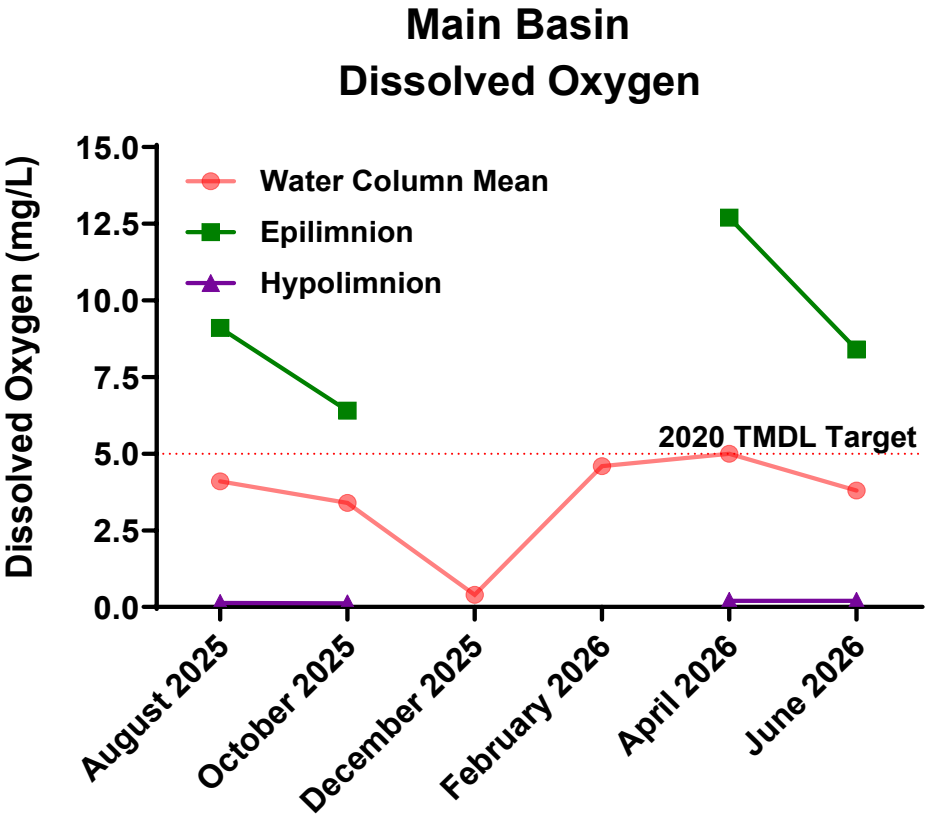
In-Lake Monitoring – Lake Elsinore Satellite



In-Lake Monitoring

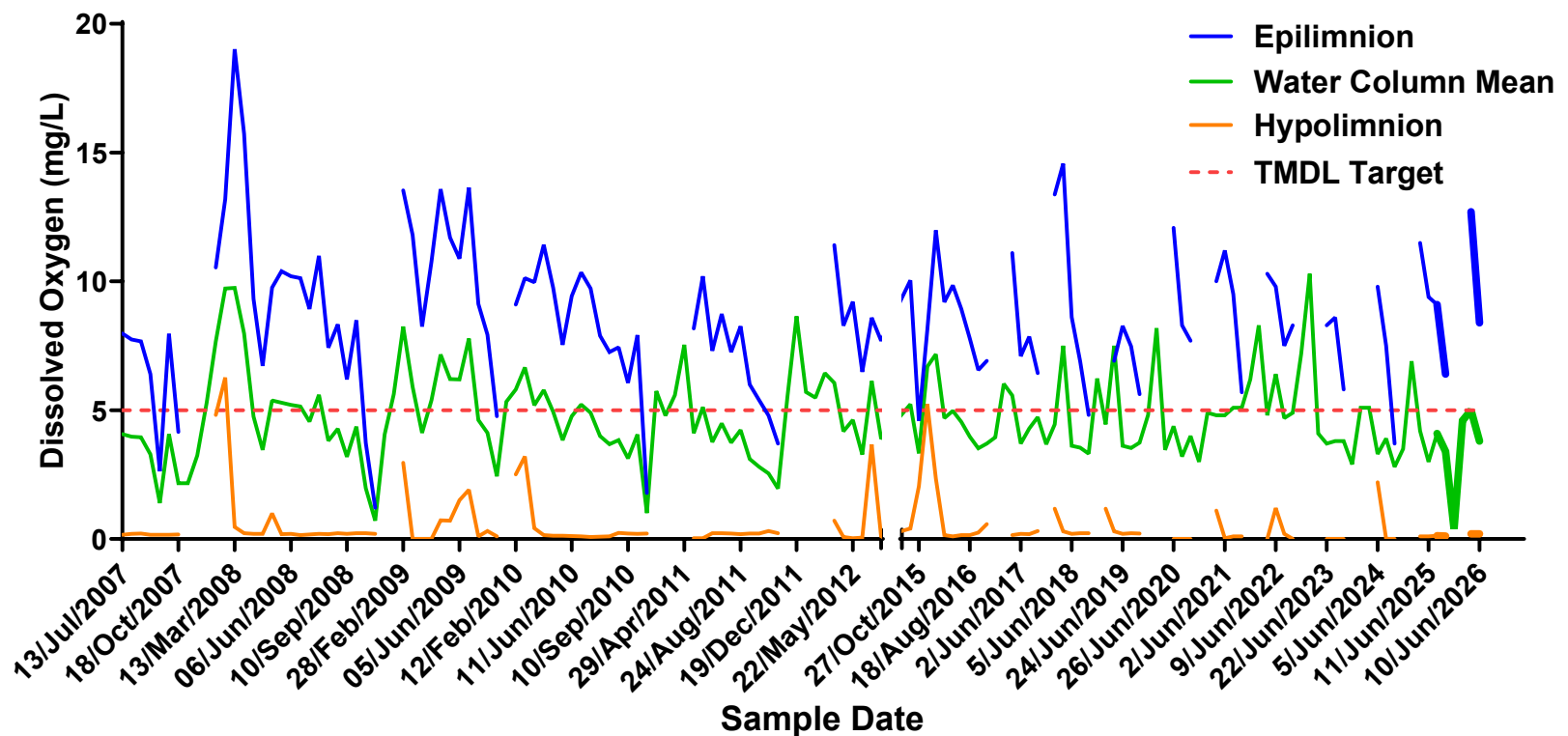


In-Lake Monitoring – Canyon Lake



In-Lake Monitoring – Canyon Lake

Canyon Lake Dissolved Oxygen - Main Basin



No data available from June 2012 - July 2015

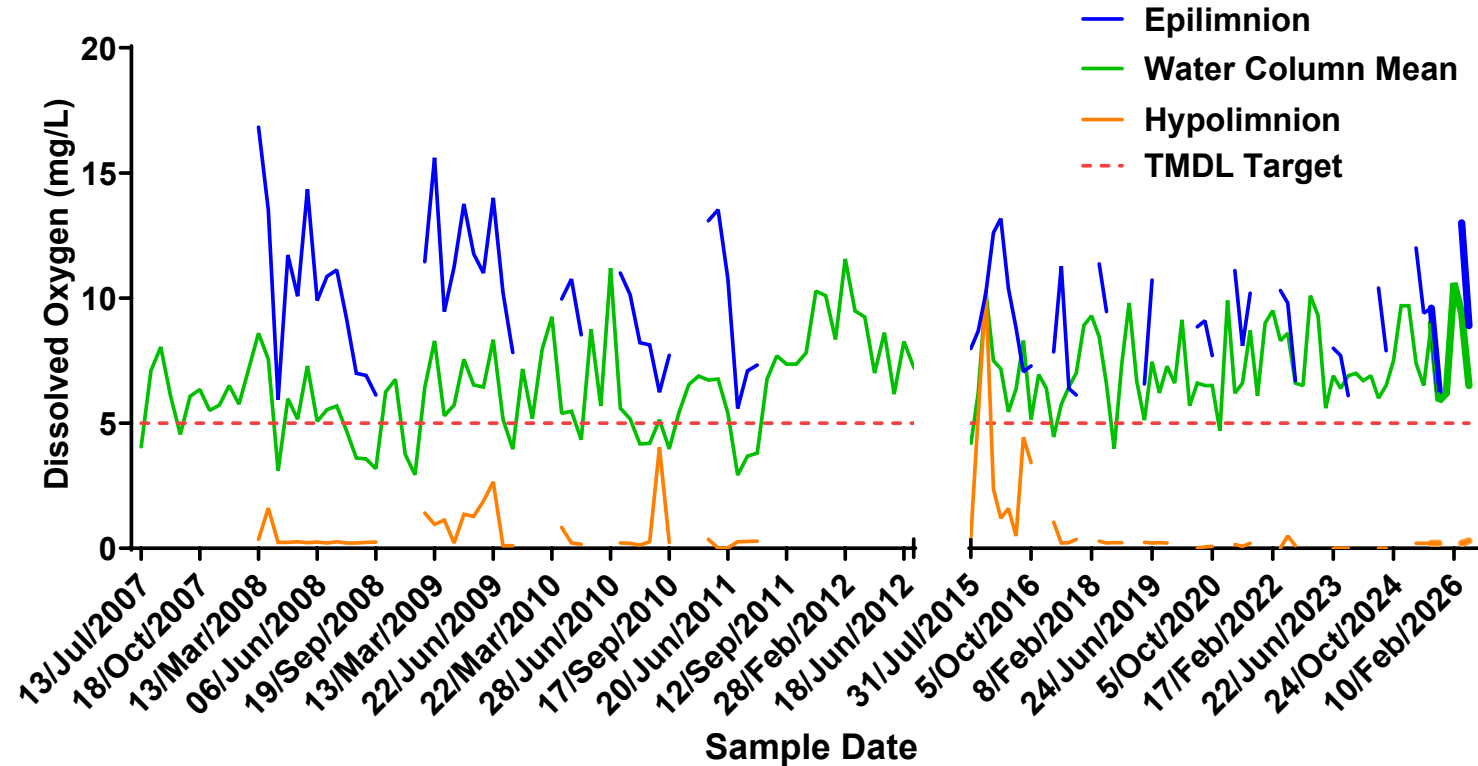
Data represents average values of sites CL07 and CL08

TMDL 2015 target >5 mg/L in Epilimnion, 2020 target >5 mg/L in Hypolimnion

Bold represents current monitoring year July 2024-June 2025

In-Lake Monitoring – Canyon Lake

Canyon Lake Dissolved Oxygen - East Basin



No data available from June 2012 - July 2015

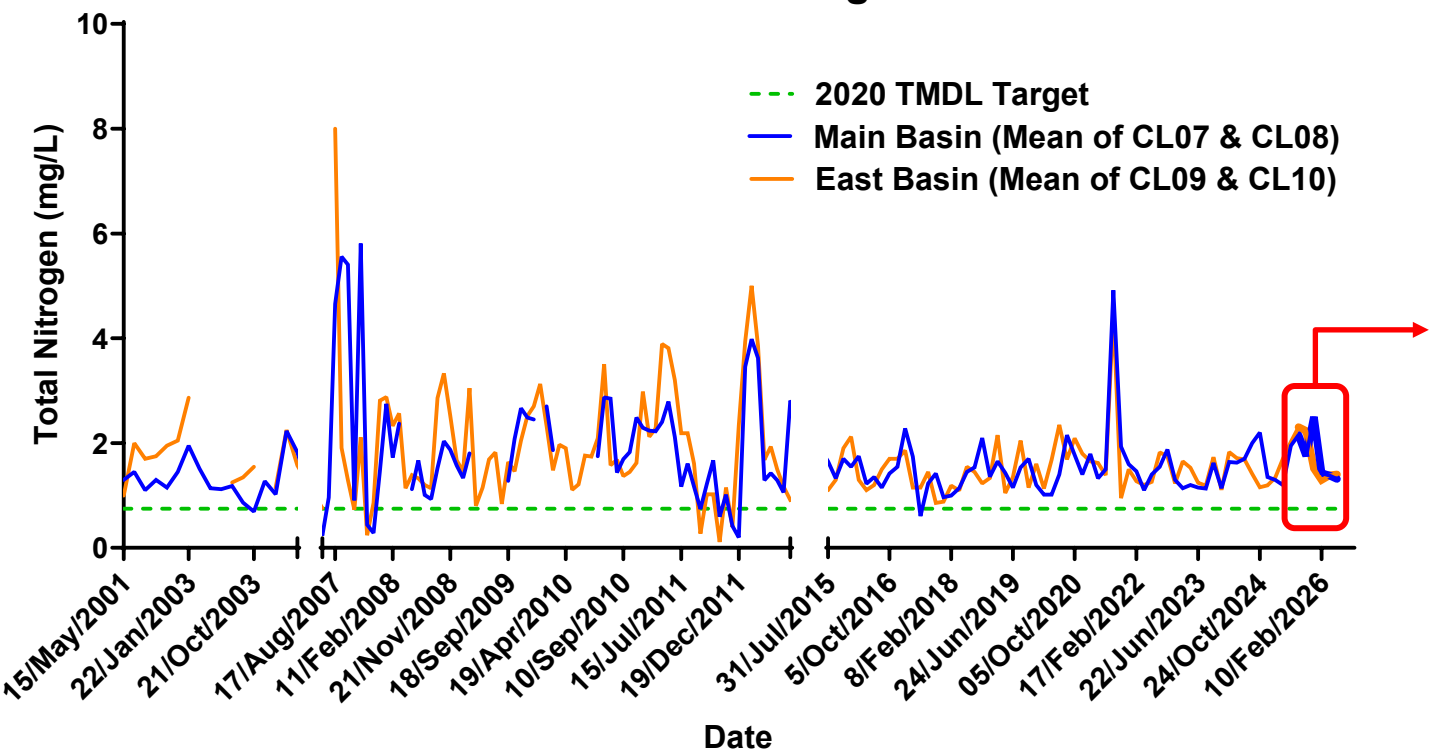
Data represents average values of sites CL09 and CL10

TMDL 2015 target >5 mg/L in Epilimnion, 2020 target >5 mg/L in Hypolimnion

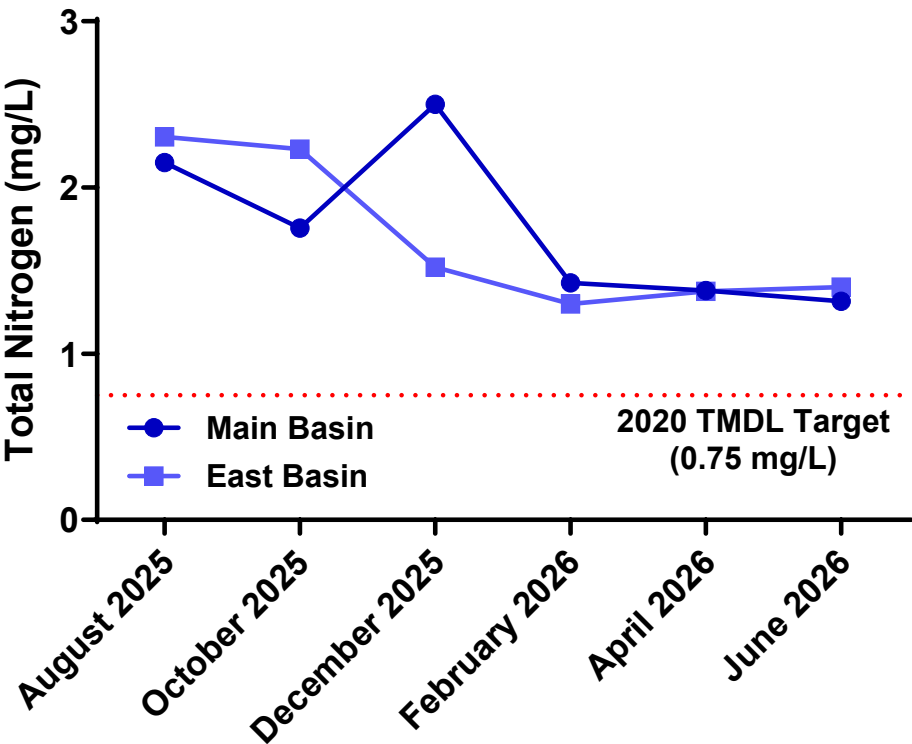
Bold represents current monitoring year July 2025-June 2026

In-Lake Monitoring – Canyon Lake

Historical Total Nitrogen

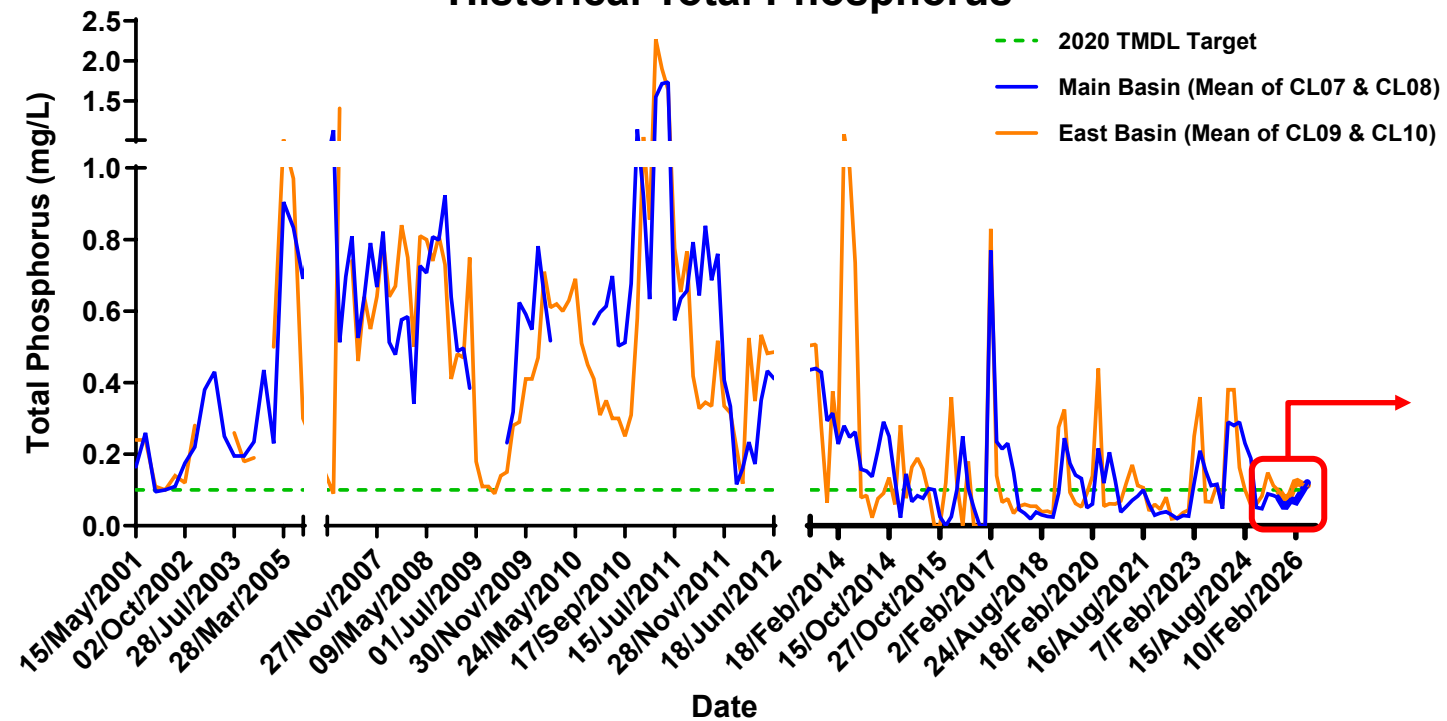


Total Nitrogen



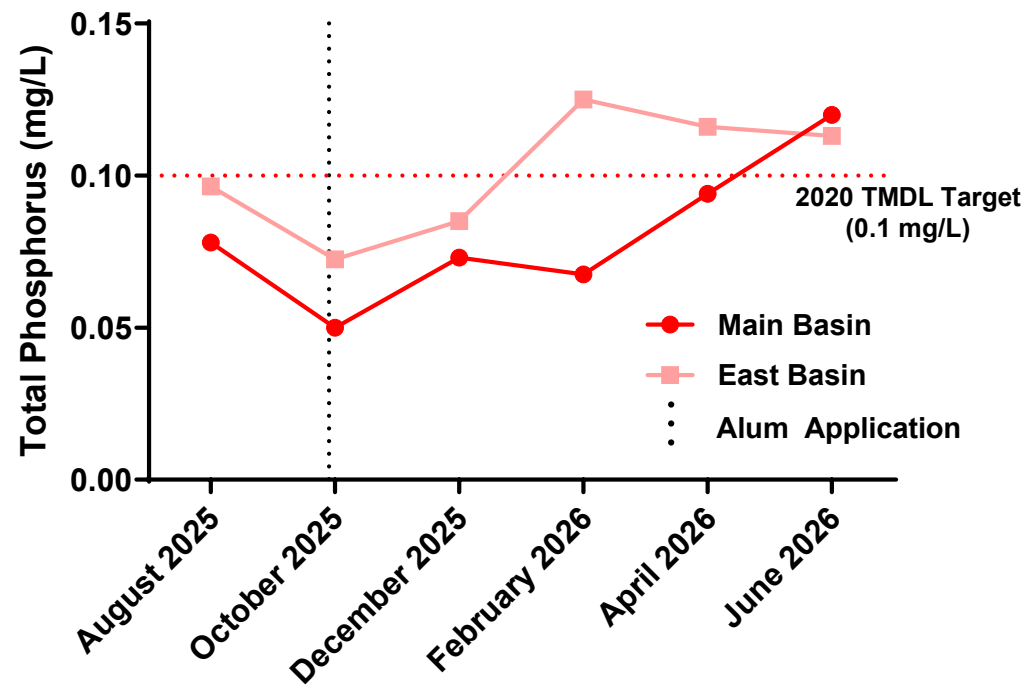
In-Lake Monitoring – Canyon Lake

Historical Total Phosphorus



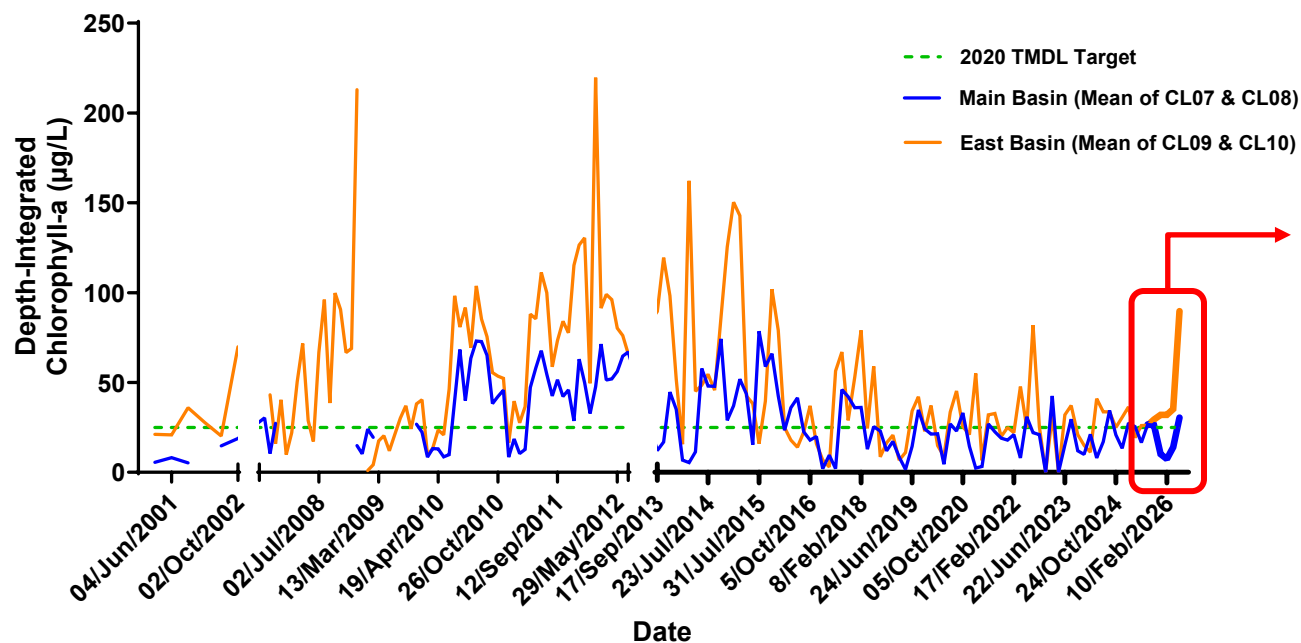
No data available from May 2005-July 2007; June 2012-Sept 2013
TMDL target of 0.1 mg/L is annual average to be attained by 2020
Bold represents current monitoring year July 2025-June 2026

Total Phosphorus

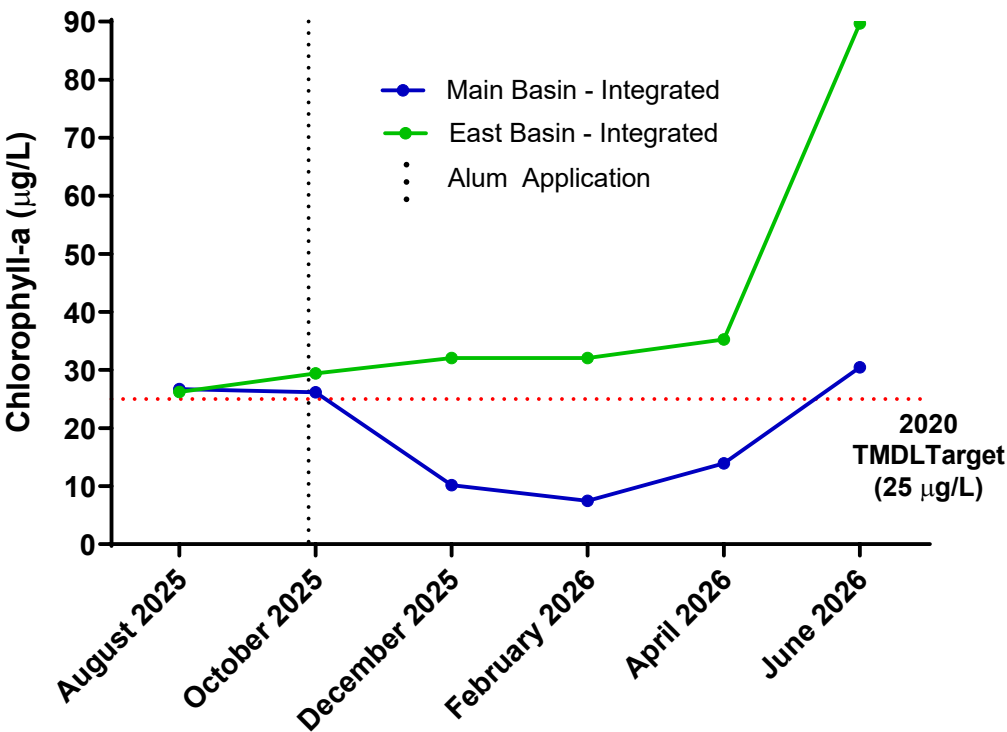


In-Lake Monitoring – Canyon Lake

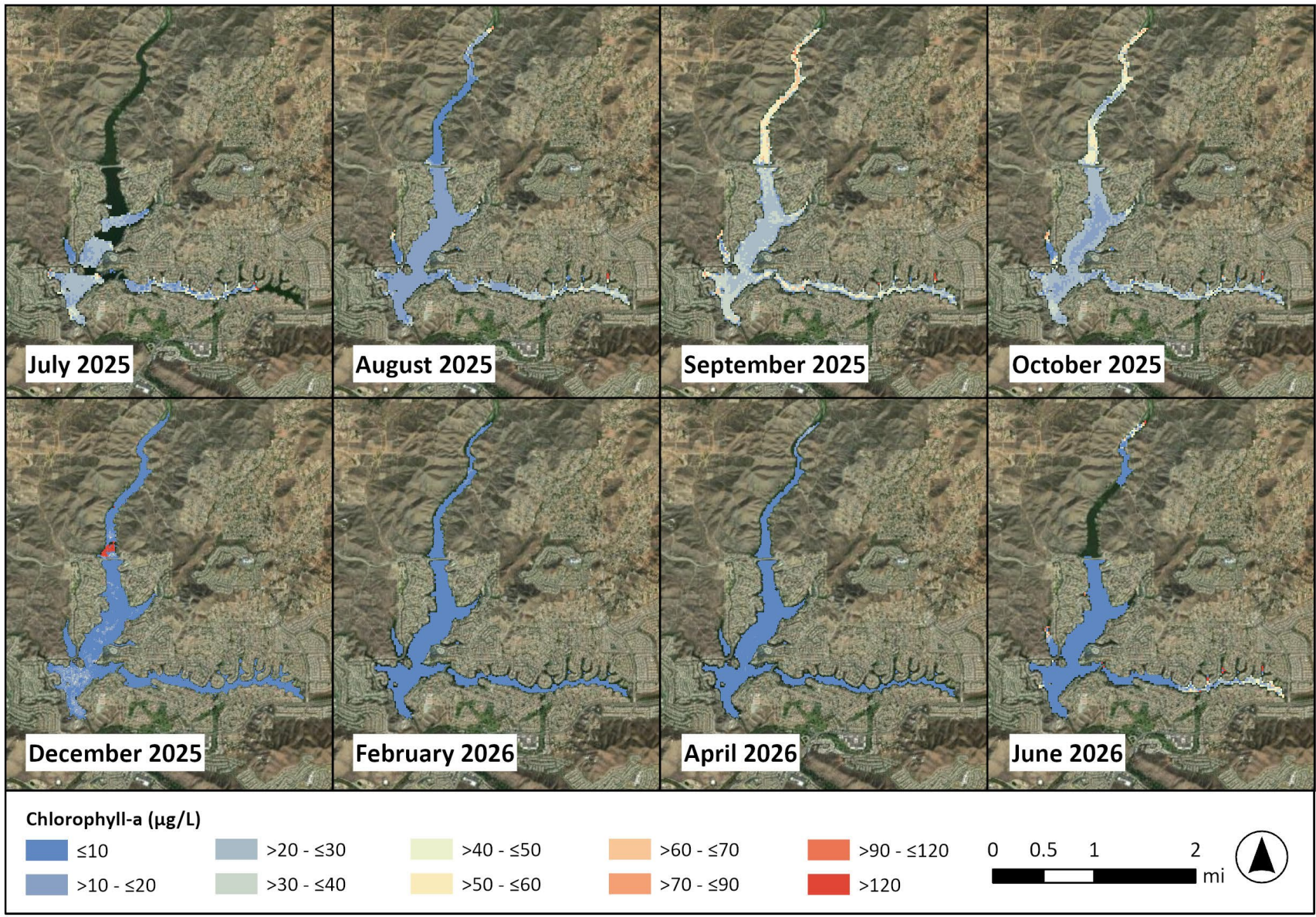
Historical Depth-Integrated Chlorophyll-a



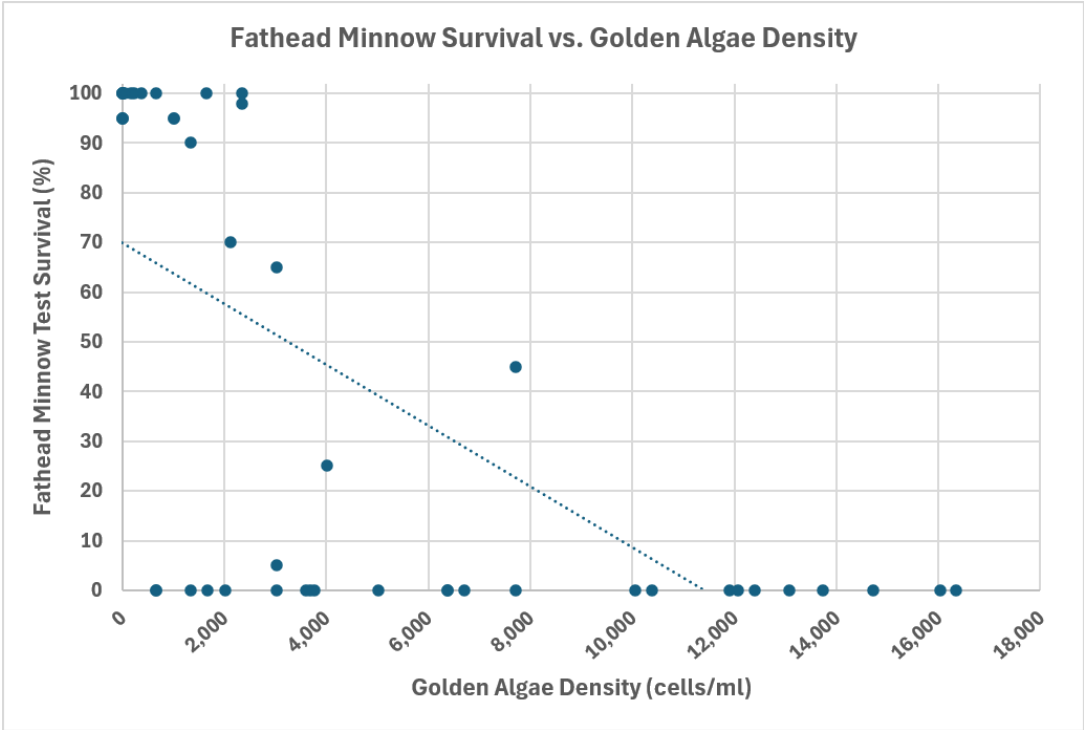
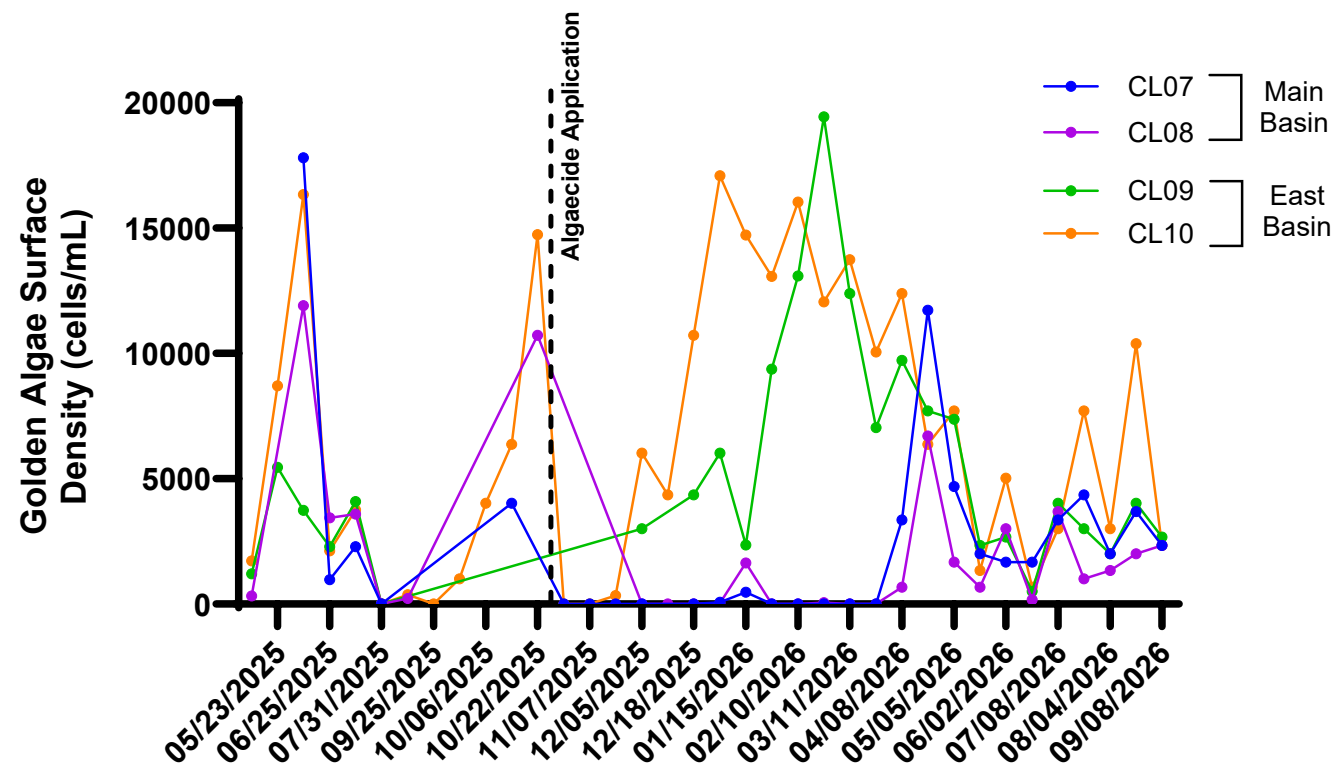
No data available from Oct 2002 - Aug 2007, June 2012 - Sept 2013
2020 TMDL target of 25 µg/L is annual average to be attained by 2020
Bold represents current monitoring year July 2025-June 2026



In-Lake Monitoring – Canyon Lake Satellite



Canyon Lake Golden Algae Update





Questions

