

Lower San Diego River - April 2025



Lower SDR Water Quality Monitoring Data Summary

Table 1 presents a summary of water quality data monitored by the SDRPF RiverWatch Team within the Lower San Diego River (LSDR) watershed over the last two months. This month's overall index of 44 (C-Fair) is down 13 points from last month at 8 points below a year ago April to one point above the 21-yr April norm of 43.

Table 1 - March'25/April'25 WQM Data Summary							
	West - MV	Mid - MG	East - SB	LSDR	Variance From		
[Site #s]	[1-7] Mar/Apr	[8-10] Mar/Apr	[11-15] Mar/Apr	[1-15] Mar/Apr	Last Mo. (3/'25)	Last Yr. (4/'24)	21-yr Avg. (April)
Temperature, oC	15.8/19.5	13.3/15.7	15.2/17.1	15.0/17.7	18%	-2%	-1%
Sp.Cond., mS/cm	1.26/2.42	1.15/1.43	1.43/1.57	1.38/1.90	37%	43%	3%
DO, mg/L	7.51/5.37	9.48/8.95	7.07/4.97	7.51/5.82	-20%	-9%	0.5%
DO, % of Sat.	76/59	91/90	71/52	75/61			
pH	7.62/7.54	8.03/7.99	7.58/7.51	7.60/7.52	-1.0%	-2.0%	-2.7%
3-day ADF, cfs	47/14	20/12	15/12	30/13	-56%	-54%	-24%
WQ Index	60/43	68/66	48/35	57/44	-23%	-16%	3%
March/April	B/C	B/	C/D	B/C			
March/April	Good/ Fair	Good/ Good	Fair/ Marginal	Good/ Fair	Index down 13 points from last month		

Negative variance (declines from norms) and DO deficits (DO < 5.0 mg/L or 52% of Sat) expressed in red.

LSDR **water temperatures** climbed 2.7oC (18%) from last month to 0.4 oC below last April and 0.2 oC less than the 21-yr monthly norm of 17.9 oC. The overall **specific conductance** of 1.90 mS/cm is 37% above last month, 43% greater than a year ago April and 3% more than the 21-yr norm of 1.85 mS/cm. The overall **dissolved oxygen** level of 5.82 mg/L (61%Sat.) is a 20% decline from last month to 9% less than last April and within 0.5% of the 21-yr norm of 5.82 mg/L (60%Sat). **Streamflow** over the antecedent 3-days of 13 cfs is 56% less than last month, 54% less than a year ago and 24% below the 21-yr norm of 17 cfs. This month's overall LSDR **water quality index** (WQI) of 44 (C-Fair) is down 13 points to 23% less than last month, 16% below last April, but remaining one point (3%) above the 21-yr norm of 43 (C- Fair).

Monthly WQI values occurring over the past two years of RiverWatch record for the three main sections of the lower river system, the overall LSDR average, plus 30-day antecedent average daily streamflow (ADF) and total monthly rainfall (MRF) values, are expressed in **Table 2** on the next page.

Table 2 - WQI Values, Average Daily Flow and Monthly Rainfall (March '23 - April '25)							
	Mission Valley	Mission Gorge	Santee Basin	LSDR		ADF,cfs	TMR,F,in
March	58 (B)	57 (B)	52 (B-)	55 (B)	WW	132	4.86
April 23	52 (B-)	65 (B)	43 (C)	50 (B-)	WW	77	0.54
May	40 (C)	47 (C+)	39 (C)	41 (C)	T	19	0.12
June	33 (D)	59 (B)	33 (D)	37 (D+)	T	18	0.03
July	19 (E)	39 (C-)	23 (E)	24 (E+)	DW	4.9	0.00
Aug	20 (E)	22 (E)	15 (E)	18 (E)	DW	3.1	0.10
Sept.	17 (E)	35 (D)	22 (E)	22 (E)	T	26	1.75
Oct.	31 (D)	34 (D)	21 (E)	28 (D)	DW	4.2	0.01
Nov.	49 (C+)	59 (B)	51 (B-)	53 (B-)	T	28	0.15
Dec.	45 (C)	50 (B-)	31 (D)	40 (C)	T	15	0.46
Jan.'24	50 (B-)	58 (B)	36 (D)	46 (C)	WW	13	2.07
Feb. 24	58 (B)	64 (B)	65 (B)	62 (B)	WW	202	6.12
March	55 (B)	67 (B)	48 (C+)	55 (B)	WW	46	1.62
April 24	60 (B)	61 (B)	40 (C)	52 (B)	WW	62	1.92
May	40 (C)	54 (B-)	31 (D)	38 (C-)	T	16	0.03
June	40 (C)	51 (B-)	30 (D)	38 (C-)	DW	7.6	0.01
July	27 (D)	43 (C)	25 (D)	28 (D)	DW	3.8	0.00
Aug.	22 (E)	44 (C)	22 (E)	25 (E+)	DW	2.9	0.00
Sept.	18 (E)	19 (E)	20 (E)	18 (E)	DW	1.6	0.01
Oct.	17 (E)	42 (C)	24 (E+)	25 (D-)	DW	1.2	0.01
Nov.	34 (D)	49 (C+)	23 (E+)	33 (D)	T	2.2	0.08
Dec.	45 (C)	53 (B-)	33 (D)	42 (C)	DW	3.7	0.05
Jan.25	44 (C)	49 (C+)	32 (D)	41 (C)	DW	3.8	0.00
Feb. 25	49 (C+)	68 (B)	50 (B-)	54 (B-)	WW	27	1.00
March	60 (B)	68 (B)	48 (C)	57 (B)	WW	55	2.40
April 25	43 (C)	66 (B)	35 (D)	44 (C)	T	16	0.08

The **cover page** of this report presents monthly WQI values and range (high/low) for the Lower San Diego River watershed over the past 20+ years. Each year's values are expressed as color-shaded bars; **blue (50 or >) A-B/Good**, **green (38-49) C/Fair**, yellow (25-37) D/Marginal, **brown (13-24) E/Poor**, and **pink (12 or <) F/Very Poor**. Running average index values for the LSDR (distance weighted averages of all sites) are shown as a heavy black line. Running averages for the consistently highest (best) quality section of the river (Mission Gorge) are shown as a 'blue' line while the consistently lowest (poorest) reach (Upper Santee Basin) is shown in 'red'. The dashed lines represent overall (21-yr) trends. This month's value of 44 is the 12th time over the last two decades that the index reached grade level C (Fair).

WQI values extending from Sept.'04 thru April '25 are presented in **Chart 1** (next page) together with 12-mo. running averages for each of the five reaches and overall (i.e., LSDR) for the entire lower river watershed. The current running average WQI of 36 lies 10% above the long-range norm of 33. The running average low for April of 24 (29% below norm) occurred in 2014. The previous highest running average WQI for the month of 40 (20% above norm) occurred last year (2024). All three sections of the lower river exhibited declines in water quality this month compared to last. The least decline in index values were monitored in Mission Gorge section.

Monthly and 12-mo. running average WQI values for the typically 'poorest' (Upper Santee Basin) and typically "best" (Mission Gorge) reaches of the lower watershed are presented in **Chart 2**. Although water quality measurably improved over this past year; low flow and resurgent growth of aquatic plants with subsequent decomposition associated with accrual of organics, especially in deeper ponded portions of the river, are considered the overlying natural causes of declines in water quality. The greatest downward trends (**red-dashed line**) over time have been associated with the lowest quality reach (Upper Santee Basin) encompassing Mast Park East (#13E) and Magnolia Ave.(#14) sites. The Mission Gorge (**blue line**) section extending from Old Mission Dam through Mission Trails continues to demonstrate the least flux in index values throughout the monitoring period.

Spatial WQI values determined over the last three months, expressed in order of location upstream, are shown in **Charts 3, 4 and 5** on page 6. This month's results (color bars w/values in bold black shown on Chart 5) are lower than last month at all sites. This month only 6 sites remained Good(B), 4 were found Fair(C), another 4 Marginal(D), and 1 each Poor (E) and Very Poor(F). Last month (March): 2 sites were Very Good(A), 11 Good(B), none Marginal(C), 2 Marginal(D), and 1 Poor(E). The Feb. values resulted in 8 Good(B), 6 Fair(C), and 2 Marginal(D). The greatest declines in index values for April are found in the Upper Santee Basin and Upper Mission Gorge reaches.

Index values during the next of month are expected to further decline based on less streamflow, lower DO levels, rising water temperatures and increasing Specific Conductance due to higher evaporation rates. Spring (April-May) WY25 results can be expected to be appreciably lower than over the previous two springtime periods (WY24-WY23) due to significantly less seasonal rainfall and runoff resulting streamflow).

(JCK) 4/21/25



