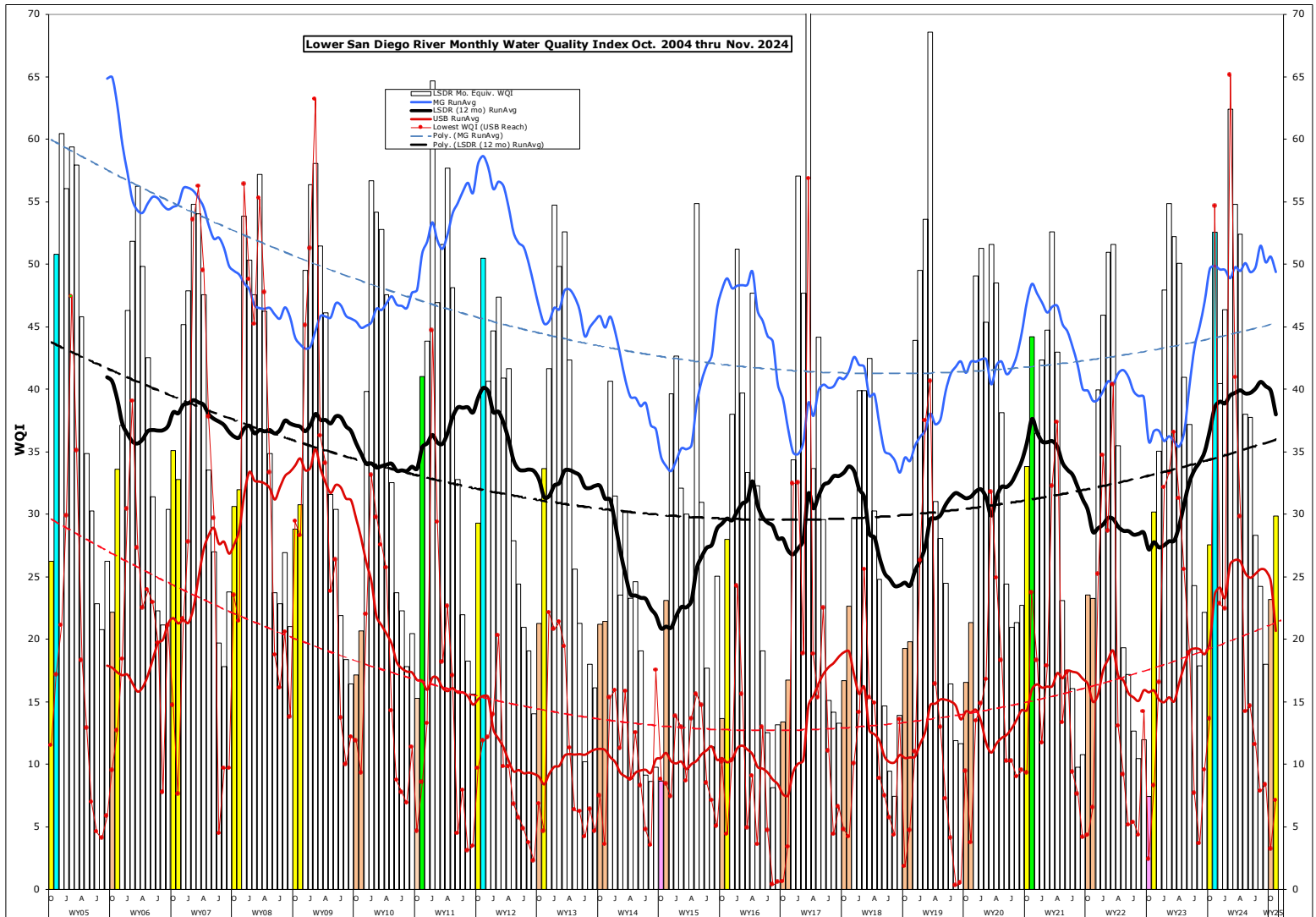


Monthly WQM Report

Lower San Diego River - November 2024



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 30 (D) is up seven points greater from last month, remaining 23 points less than a year ago and one point below the 20-yr November norm.

Table 1 - November/October '24 WQM Data Summary							
	West - MV	Mid - MG	East - SB	LSDR			
[Site #s]	[1-7] Nov/Oct	[8-10] Nov/Oct	[11-15] Nov/Oct	[1-15] Nov/Oct	Last Mo. (10/'24)	Last Yr. (11/'23)	20-yr Avg. (Nov.)
Temperature, oC	14.9/20.4	18.0/18.0	18.8	17.0/19.3	-12%	15%	15%
Sp.Cond., mS/cm	3.44/6.72	1.93/1.92	2.09/2.10	2.67/3.31	-19%	166%	4%
DO, mg/L	5.62/2.95	8.68/7.50	4.54/3.87	5.61/4.20	26%	-15%	4%
DO, % of Sat.	56/33	82/80	45/42	55/46			
pH	7.69/7.59	8.05/7.97	7.63/7.62	7.65/7.61	0.5%	0.9%	-1.0%
3-day ADF, cfs	3.2/1.8	1.8/1.4	1.5/1.3	2.2/1.5	46%	-95%	-69%
WQ Index	34/17	45/39	20/22	30/23	29%	-43%	-5%
Nov/Oct	D/E+	C/C	E/E	D/E+			
Nov/Oct	Marginal/ Poor	/ Fair	/ Poor	Marginal/ Poor	Index up 7 points from last month		

Negative variance (declines from norms) and DO deficits (DO < 5.0 mg/L or 50% of Sat) expressed in red.

LSDR **water temperatures** declined 2.3 oC (-12%) from last month to 15% above last Nov. and the 20-yr norm of 14.8 oC. The overall **specific conductance** of 3.67 mS/cm constitutes a 19% decline from last month remaining 166% greater than last year and 4% more than the 20-yr norm of 2.57 mS/cm. The overall **dissolved oxygen** level of 5.61 mg/L (55%Sat.) is 26% greater than last month, but 15% below last Nov., and 4% above the 20-yr norm of 5.42 mg/L (53%Sat). **Streamflow** over the antecedent 3-days of 2.2 cfs is 46% greater than last month but 95% below a year ago, and 69% less than the 20-yr norm of 7.3 cfs. This month's overall LSDR **water quality index** (WQI) of 30 is 27% greater than last month, remaining 43% less than a year ago and five percent (1 point) point less than the 20-yr Nov. norm of 31(E).

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 (Oct. '22 - Nov. '24)							
	Mission Valley	Mission Gorge	Santee Basin	LSDR		ADF,cfs	TMR,F,in
Oct. '22	9 (F)	3 (F-)	7 (F)	7 (F)	T	0.9	0.03
Nov. '22	25 (D-)	59 (B)	24 (E+)	32 (D)	WW	17	1.16
Dec. '22	32 (D)	53 (B-)	30 (D)	35 (D)	WW	18	0.93
Jan. '23	49 (C+)	58 (B)	42 (C)	48 (C+)	WW	190	3.48
Feb.	56 (B)	71 (B)	47 (C)	55 (B)	WW	36	2.76
March	58 (B)	57 (B)	52 (B-)	55 (B)	WW	132	4.86
April	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 '23	17 (E)	35 (D)	22 (E)	22 (E)	T	26	1.75
Oct. '23	31 (D)	34 (D)	21 (E)	28 (D)	DW	4.2	0.01
Nov. '23	49 (C+)	59 (B)	51 (B-)	53 (B-)	T	28	0.15
Dec. '23	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.	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	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	8	0.01
July	27 (D)	44 (C)	25 (D)	28 (D)	DW	4.7	0.00
Aug.	22 (E)	42 (C)	21 (E)	24 (E+)	DW	2.8	0.00
Sept '24	18 (E)	19 (E)	20 (E)	18 (E)	DW	1.5	0.01
Oct. '24	17 (E)	39 (C)	22 (E)	23 (E+)	T	1.6	0.01
Nov. '24	34 (D)	45 (C)	20 (E)	30 (D)	T	1.7	0.10

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 (20-yr) trends. This month's value of 30 is the 8th time over the last 20 years that the index has been at grade level D (Marginal) for November.

WQI values extending from Sept.'04 thru Nov. '24 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 38 is 15% above the 20-yr norm of 33. The running average low for Nov. of 21 (37% below norm) occurred in 2014. The previous highest running average WQI for the month of 40 (21% above norm) occurred in 2011. The greatest improvement in water quality this month occurred in the Mission Valley portion (sites 2-7).

Monthly and 12-mo. running average WQI values for the 'poorest' (Upper Santee Basin) and "best" (Mission Gorge) reaches of the lower watershed are presented in **Chart 2**. Although water quality has measurably improved during much of this past year, resurgent growth of aquatic plants and subsequent decomposition associated with accrual of organics, especially in deeper ponded portions of the river, are considered the basic natural causes of localized poor water quality. The greatest downward trend (**red-dashed line**) over time is 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 from Old Mission Dam through Mission Trails continues to demonstrate the least decline in index values over the 20-yr monitoring period. The lowest quality Mission Valley site is at the outlet from Kaiser Ponds (Site 6) at the San Diego Mission Rd. crossing.

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 black shown on Chart 5) are significantly greater than last month. This month only 6% of the sites (1 of 16) are VeryPoor(F), five (31%) Poor(E), four (27%) Marginal(D) and three Fair (C). Last month only 40% were Very Poor, 27% Poor, six (38%) Marginal, three (19%) Fair and one (6%) Good. The greatest change in index values from last month to this were in the Lower MV (sites 2-4) while the lowest value of three (F) was monitored at Mast Park East (Site 13E).

Next month's index values are expected to improve further with increased streamflow, elevated DO levels and lower water temps. December water quality values are commonly found in the Marginal-to-Fair (D-C) range marking the onset of the wet-weather season.

11/16/24 (JCK)

