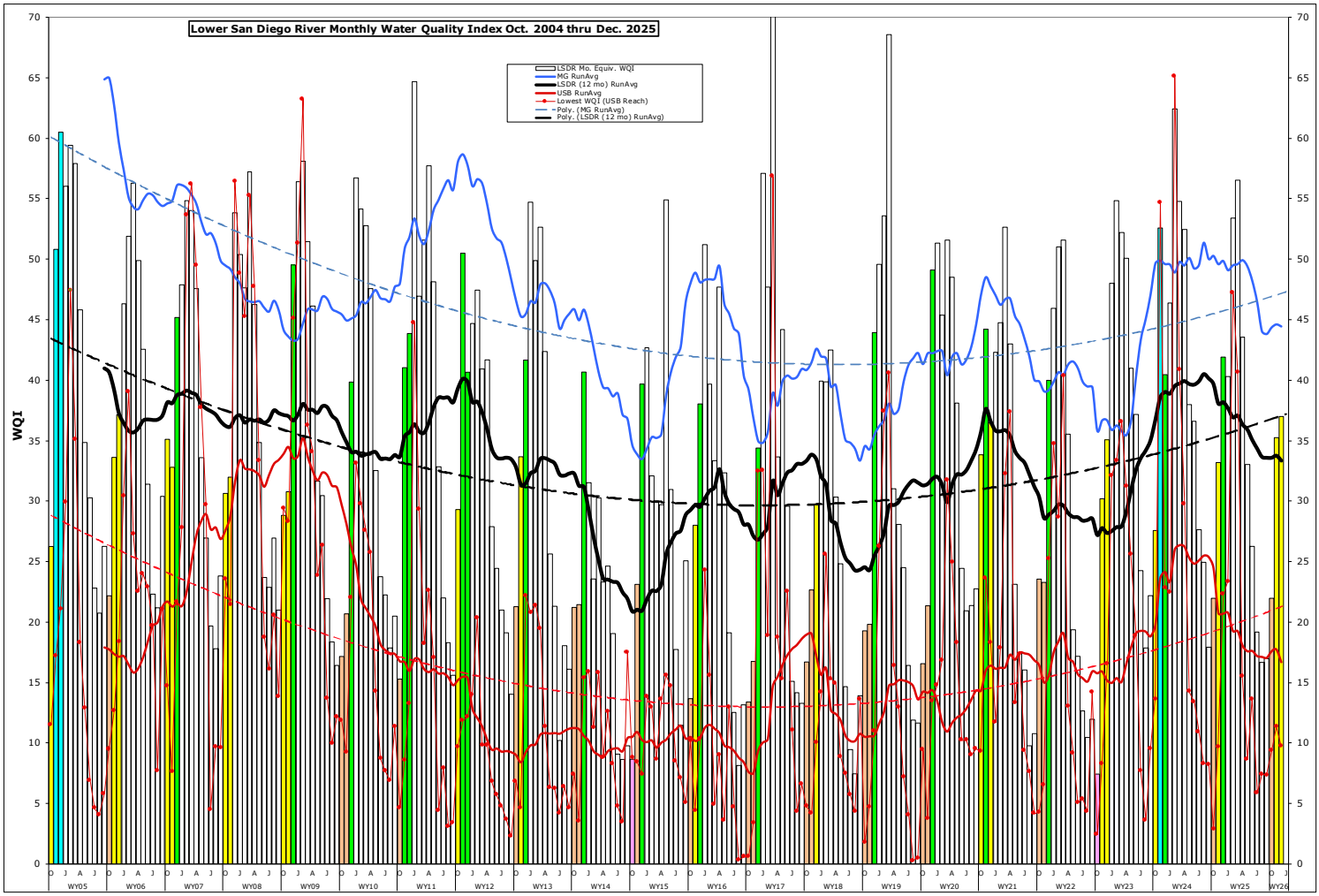
Monthly WQM Report

Lower San Diego River - December 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 past two months. The overall index for December of D+(Marginal) is two points (5%) greater than last month, but five points (12%) less than a year ago and the 21-yr Dec. norm of 42 (D Marginal).

Table 1 - Nov.'25/Dec.'25 WQM Data Summary							
	West - MV	Mid - MG	East - SB	LSDR	Variance From		
[Site #s]	[1-7] Nov/Dec	[8-10] Nov/Dec	[11-15] Nov/Dec	[1-15] Nov/Dec	Last Mo. (11/'25)	Last Yr. (12/'24)	21-yr Avg. (Dec)
Temperature, oC	15.6/15.1	17.7/17.5	14.7/13.5	15.6/14.9	-5%	28%	27%
Sp.Cond., mS/cm	2.47/3.46	1.83/1.91	1.98/2.08	1.89/2.42	28%	-4%	30%
DO, mg/L	5.03/5.46	8.97/9.22	4.46/4.59	5.52/5.82	5%	-22%	-12%
DO, % of Sat.	51/55	86/87	44/45	54/57			
pH	7.45/7.37	8.05/7.98	7.49/7.64	7.47/7.52	0.7%	-3.2%	-2.2%
3-day ADF, cfs	158/10	32/6	10/5	75/7	-90%	62%	-72%
WQ Index	33/41	54/51	28/27	35/37	5%	-12%	-12%
Letter Grade	D/C	B/B-	D/D	D/D+			
Nov./Dec.	Marginal/ Fair	Good/ Good	Marginal/ Marginal	Marginal/ Marginal	**Index up 2 pts from last month**		

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

LSDR **water temperatures** declined 0.7oC (5% down) from last month to 28% above last Dec. and 27% above than the 21-yr monthly norm of 11.7oC. The overall **specific conductance** of 2.42 mS/cm is up 28% from last month, at 4% less than a year ago but 30% higher than the 21-yr norm of 1.86mS/cm. The overall **dissolved oxygen** level of 5.82 mg/L (57%Sat.) rose 5% above last month, but remaines 22% below last Dec. and 12% less than the 21-yr norm of 6.78 mg/L (62%Sat). **Streamflow** over the antecedent 3-days of 7 cfs is 90% below last month, 62% greater than a year ago but 72% under the 21-yr norm of 26 cfs. This month's overall LSDR **water quality index** (WQI) of 37 (D+Marginal) is only 5% above last month, at 12% less than a year ago as well as the 21-yr December norm of 42 (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 (Nov. '23 - Dec. '25)							
	Mission Valley	Mission Gorge	Santee Basin	LSDR		ADF,cfs	TMRF,in
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.	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	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.'24	34 (D)	49 (C+)	23 (E+)	33 (D)	T	2.2	0.08
Dec.'24	**45 (C)**	**53(B-)**	**33 (D)**	**42 (C)**	**DW**	**3.7**	**0.05**
Jan.	44 (C)	49 (C+)	32 (D)	40 (C)	DW	3.8	0.00
Feb.	49 (C+)	68 (B)	50 (B-)	53 (B-)	WW	27	1.00
March	59 (B)	68 (B)	48 (C+)	57 (B)	WW	55	2.40
April	45 (C)	65 (B)	33 (D)	44 (C)	T	16	0.08
May	38 (C-)	48 (C+)	23 (E+)	33 (D)	DW	6.7	0.2
June	27 (D)	35 (D)	24 (E+)	26 (D-)	DW	2.7	0.00
July	22 (E)	22 (E)	17 (E)	19 (E)	DW	1.4	0.00
Aug.	19 (E)	15 (E)	18 (E)	17 (E)	DW	1.3	0.01
Sept	26 (D-)	16 (E)	10 (F)	17 (E)	DW	2.2	0.05
Oct.	18 (E)	43 (C)	19 (E)	22 (E)	T	4.2	0.10
Nov. '25	33(D)	54(B)	28(D)	35(D)	WW	8.7	2.90
Dec'25	**41(C)**	**51(B-)**	**27(D)**	**37(D+)**	**T**	**21**	**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 21 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 overall value of 37(D+) is the 6th time over the past two decades that the Dec. index has been in the Marginal water quality range.

WQI values extending from Sept.'05 thru Dec. '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 33.3 is within a tenth of a point of the long-range norm of 33.2. The running average low for Dec. of 21 (37% below norm) occured in 2014. The previous highest running average WQI for the month of 39.8 (20% above norm) occured in 2011. Most sections of the river exhibited slight improvement in water quality this month compared to last; the greatest increase, from Marginal(D) to Good(B), was in the Mission Valley 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, were considered the primary cause of the declines. The largest downward trends (red-dashed line) over time have been associated with the lowest quality reach (Upper Santee Basin) encompasing sites 13E and 14. The Mission Gorge (blue line) section, extending from Old Mission Dam through Mission Trails, continues to demonstrate the least change in index values.

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 higher than last month (middle bar) at many sites. Last month three sites were Good(B), 3 Fair(C) while 8 sites were Marginal(D), 1 Poor(E) and one Very Poor(F). This month: four sites were Good(B), 5 Fair(C), only 3 Marginal(D), 3 Poor(E), and one Very Poor(F). The greatest improvement in index values this month are found in the Mission Valley reaches. During the three months of transitional weather patterns, the overall index the overall index has increased from to E (Poor) to D+(Marginal).

Index values are expected to further improve into January based on increased streamflow and DO levels while water temperatures and salinity levels (i.e., SpC/TDS) continue to decline. This year's water overall quality results were significantly lower than during the previous two water years (WYs 23&24). Overall WY25 water quality conditions were very similar to those experienced in WY22. So far the first quarter of WY26 suggest below normal water quality due to below average seasonal rainfall and resultant streamflows. jck (12/22/25)

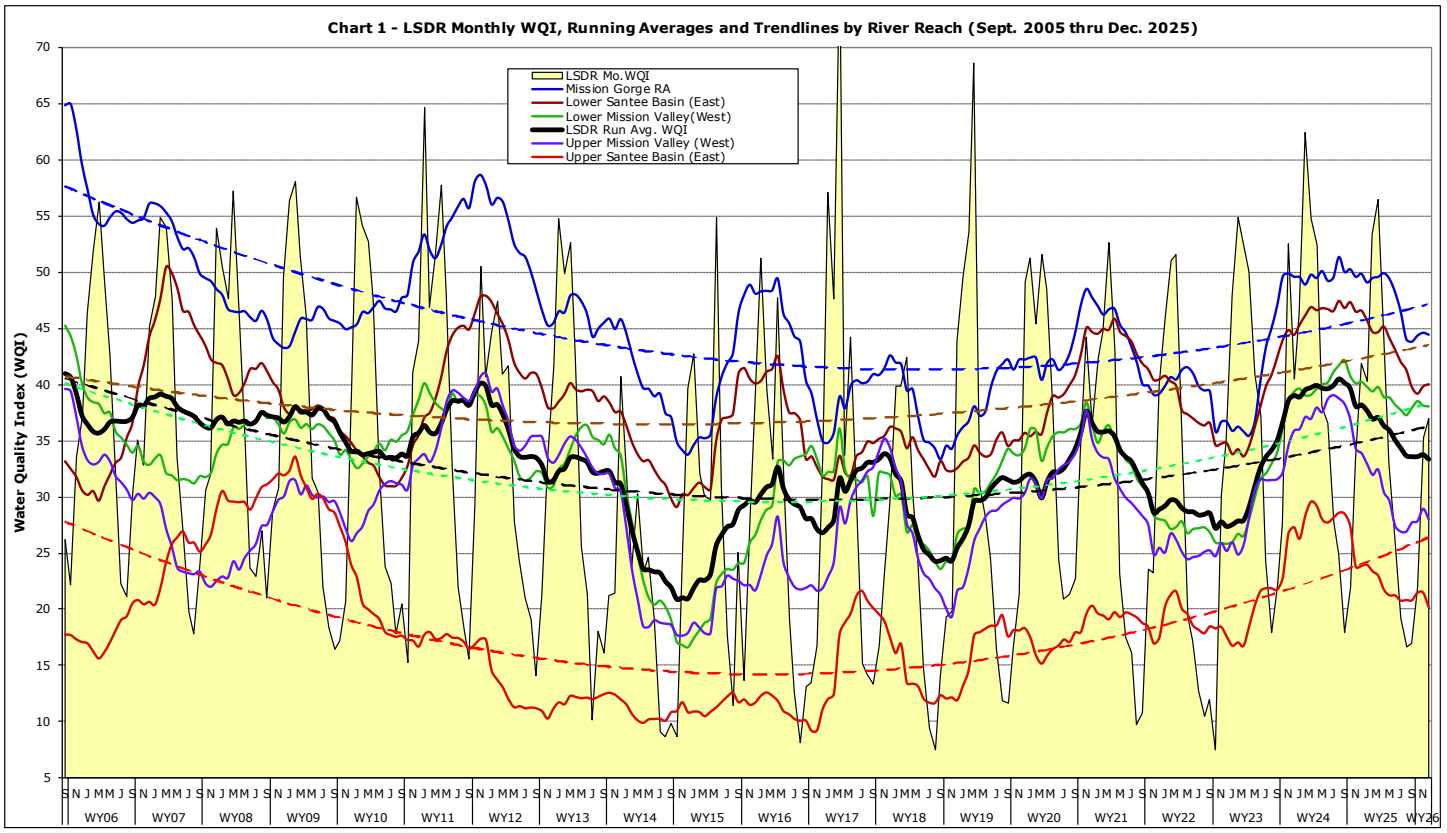


Chart 1 - LSDR Monthly WQI, Running Averages and Trendlines by River Reach (Sept. 2005 thru Dec. 2025)
LSDR Mo.WQI
Mission Gorge RA
Lower Santee Basin (East)
Lower Mission Valley(West)
LSDR Run Avg. WQI
Upper Mission Valley (West)
Upper Santee Basin (East)
Water Quality Index (WQI)
WY06
WY07
WY08
WY09
WY10
WY11
WY12
WY13
WY14
WY15
WY16
WY17
WY18
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WY21
WY22
WY23
WY24
WY25
WY26

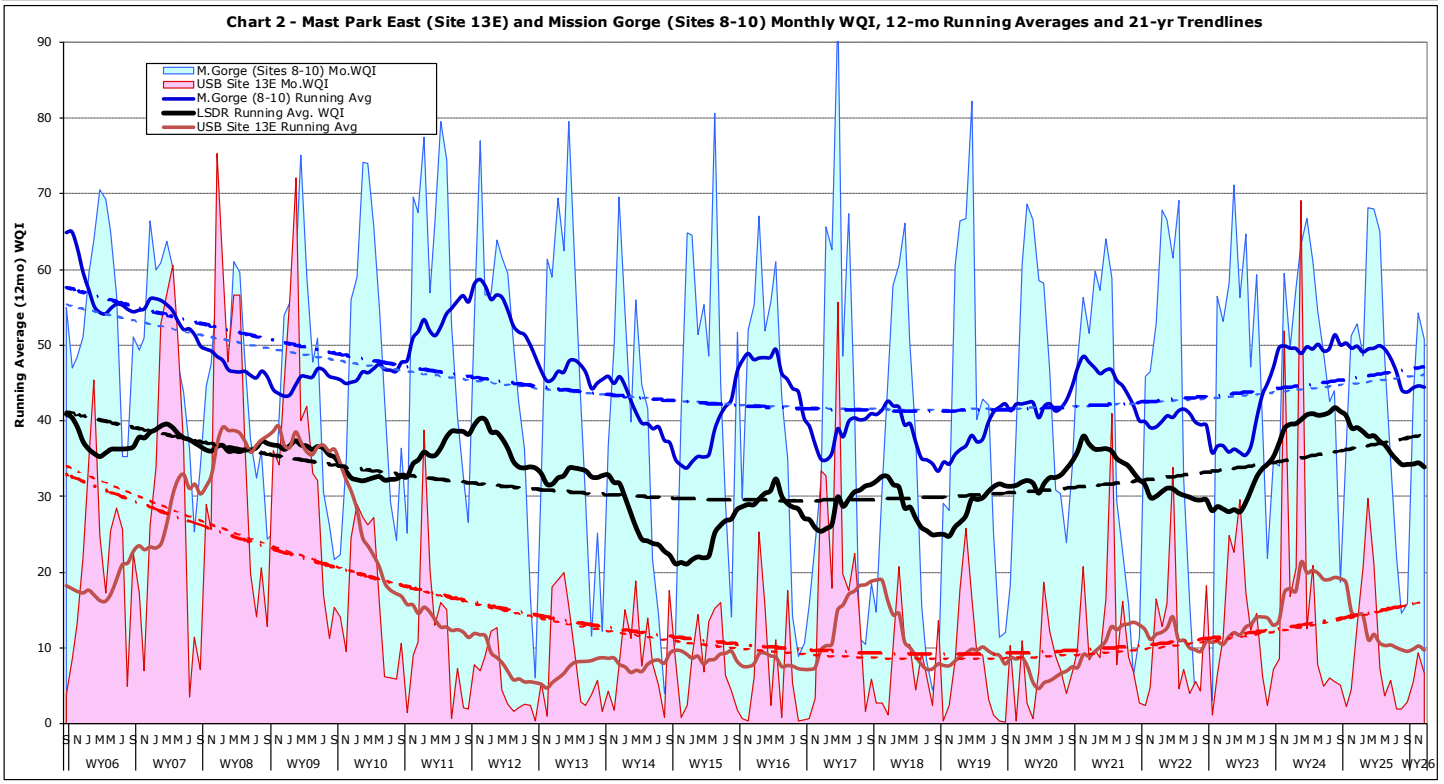
Chart 2 - Mast Park East (Site 13E) and Mission Gorge (Sites 8-10) Monthly WQI, 12-mo Running Averages and 21-yr Trendlines
M.Gorge (Sites 8-10) Mo.WQI
USB Site 13E Mo.WQI
M.Gorge (8-10) Running Avg
LSDR Running Avg. WQI
USB Site 13E Running Avg
Running Average (12mo) WQI
WY06
WY07
WY08
WY09
WY10
WY11
WY12
WY13
WY14
WY15
WY16
WY17
WY18
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WY21
WY22
WY23
WY24
WY25
WY26

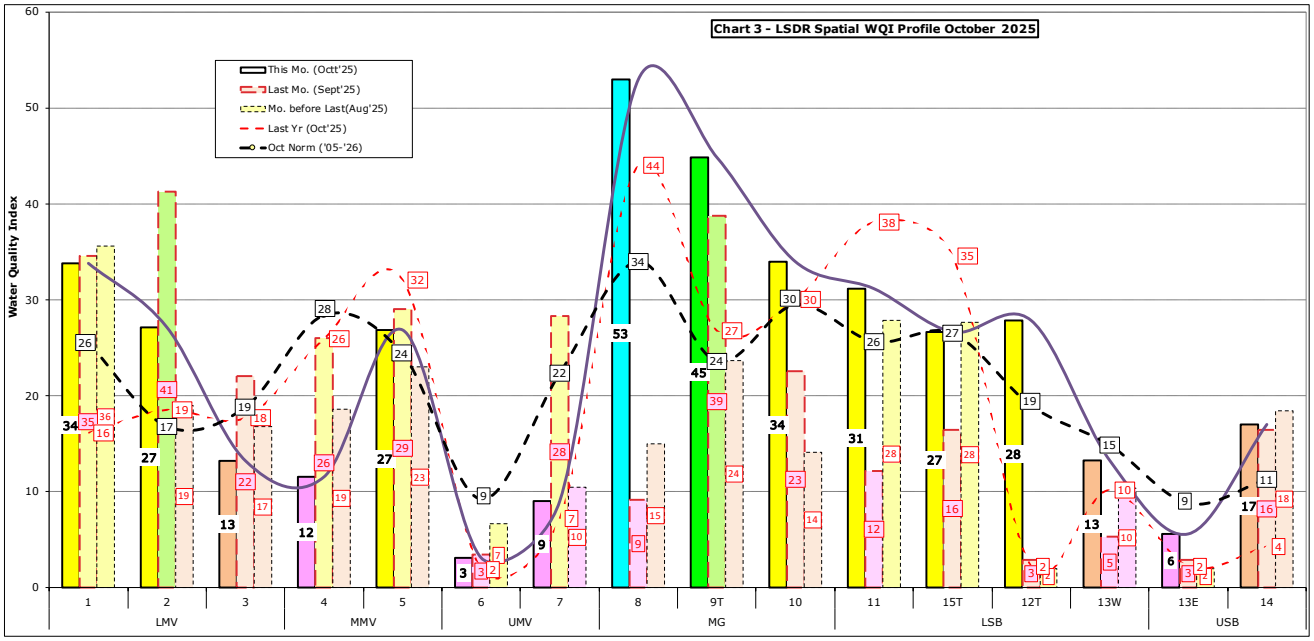
Chart 3 - LSDR Spatial WQI Profile October 2025
This Mo. (Octt'25)
Last Mo. (Sept'25)
Mo. before Last(Aug'25)
Last Yr (Oct'25)
Oct Norm ('05-'26)
Water Quality Index
1 2 3 4 5 6 7 8 9T 10 11 15T 12T 13W 13E 14
LMV MMV UMV MG LSB USB

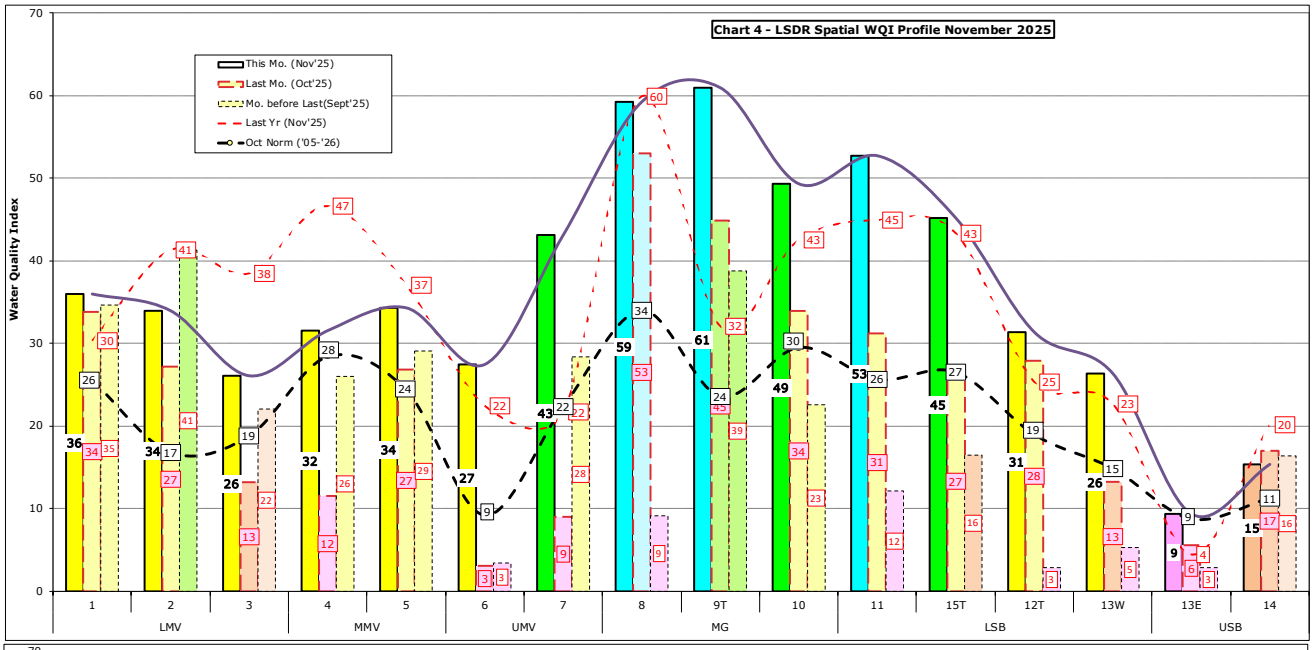
Chart 4 - LSDR Spatial WQI Profile November 2025
This Mo. (Nov'25)
Last Mo. (Oct'25)
Mo. before Last(Sept'25)
Last Yr (Nov'25)
Oct Norm ('05-'26)
Water Quality Index
1 2 3 4 5 6 7 8 9T 10 11 15T 12T 13W 13E 14
LMV MMV UMV MG LSB USB

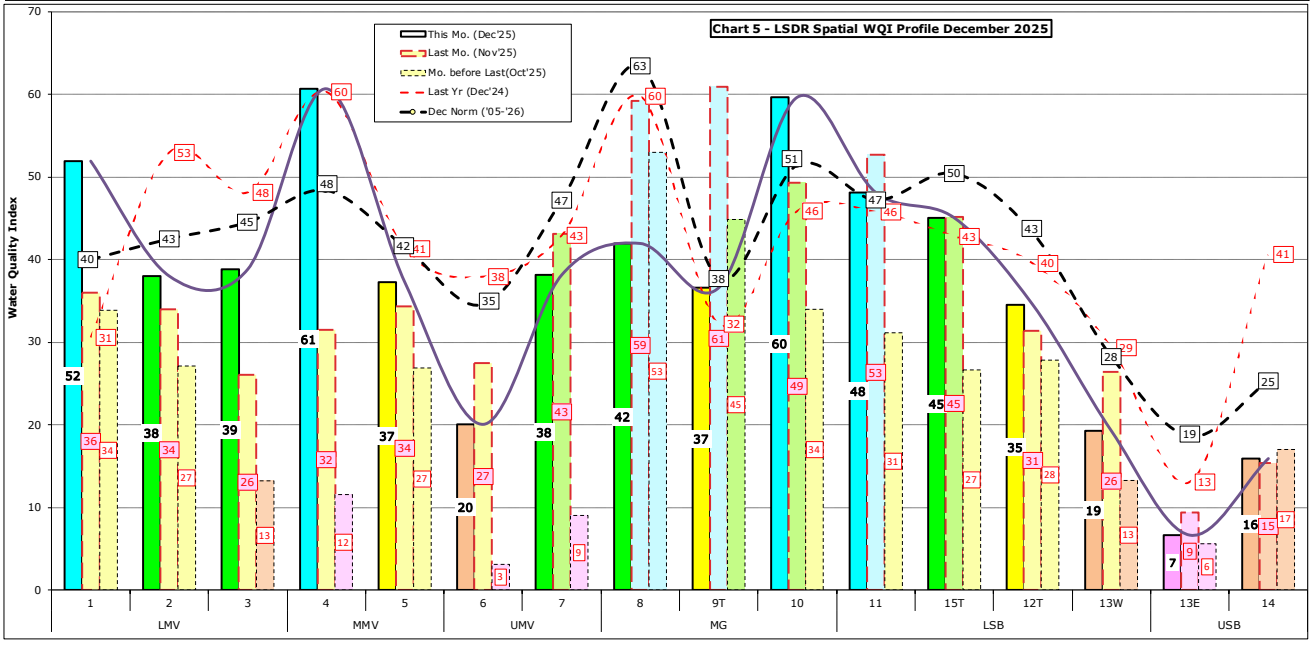
Chart 5 - LSDR Spatial WQI Profile December 2025
This Mo. (Dec'25)
Last Mo. (Nov'25)
Mo. before Last(Oct'25)
Last Yr (Dec'24)
Dec Norm ('05-'26)
Water Quality Index
1 2 3 4 5 6 7 8 9T 10 11 15T 12T 13W 13E 14
LMV MMV UMV MG LSB USB