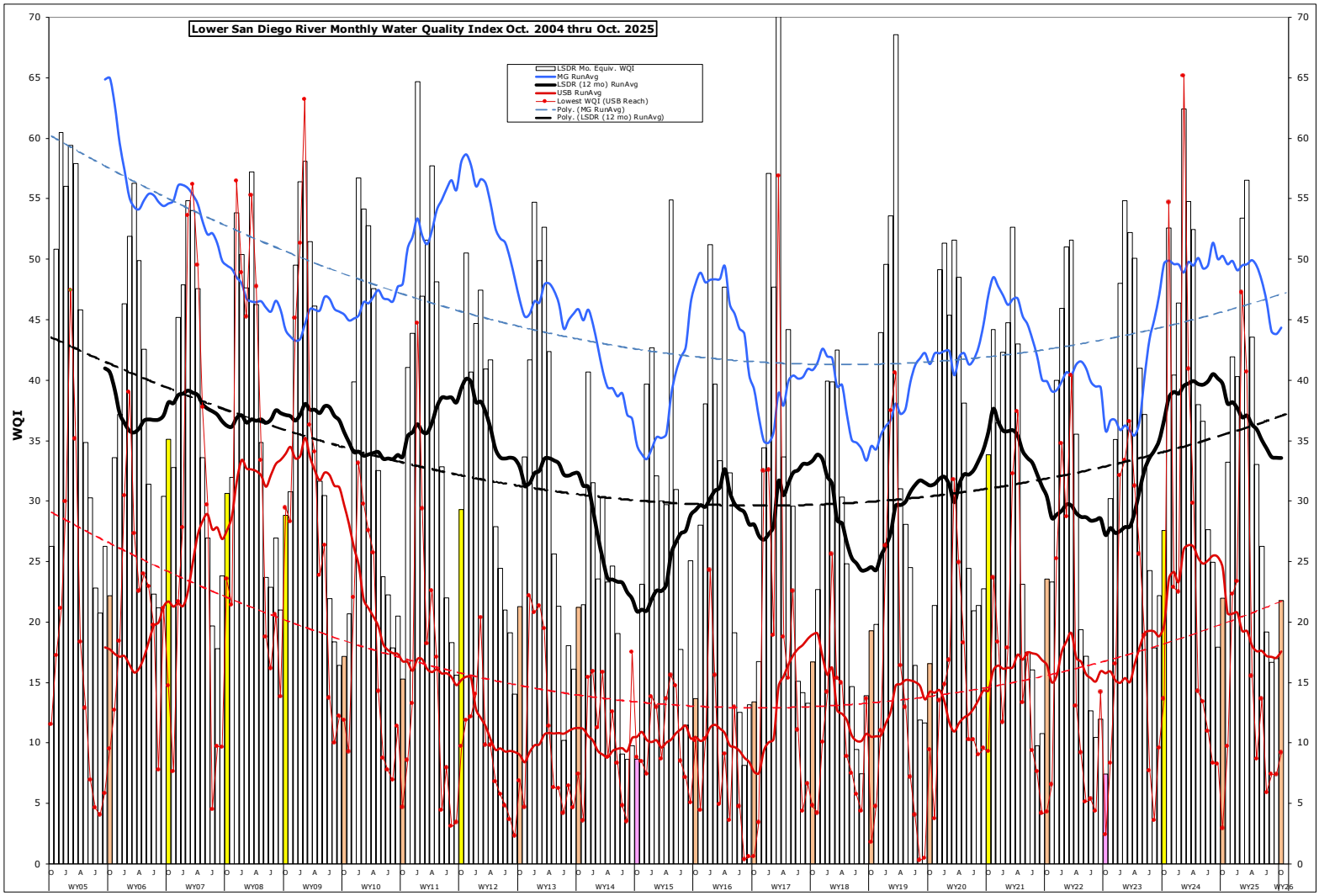
Monthly WQM Report

Lower San Diego River - October 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 October of 22 (E Poor) is 5 points greater than last month, at the same level as a year ago and one point above the 21-yr Oct. norm of 21 (E-Poor).

Table 1 - Sept.'25/Oct.'25 WQM Data Summary							
	West - MV	Mid - MG	East - SB	LSDR	Variance From		
[Site #s]	[1-7] Sept/Oct	[8-10] Sept/Oct	[11-15] Sept/Oct	[1-15] Sept/Oct	Last Mo. (9/'25)	Last Yr. (10/'24)	21-yr Avg. (Oct.)
Temperature, oC	24.0/18.7	22.1/18.9	23.4/17.6	23.3/18.2	-22%	-6%	-2%
Sp.Cond., mS/cm	3.52/2.88	2.09/2.06	1.81/2.03	2.39/2.25	-6%	-27%	-19%
DO, mg/L	3.38/1.96	3.72/7.17	2.04/3.06	2.79/3.46	16%	-20%	-12%
DO, % of Sat.	41/21	43/73	25/33	33/36			
pH	7.55/7.38	7.71/7.71	7.57/7.57	7.55/7.55	0%	-0.8%	-2%
3-day ADF, cfs	15/27	4.5/7.1	2.7/3.6	8.1/14	72%	1000%	600%
WQ Index	26/18	16/43	10/19	17/22	28%	-1%	2%
Letter Grade	D-/E	E/C	F/E	E/E			
Sept./October	Marginal/ Poor	Poor/ Fair	VeryPoor/ Poor	Poor/ Poor	**Index up 5 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** fell 5.1oC (22% down) from last month to 6% below last Oct. and 8% greater than the 21-yr monthly norm of 21.6 oC. The overall **specific conductance** of 2.25 mS/cm is down 6% from last month, at 27% less than a year ago and 19% below the 21-yr norm of 2.79 mS/cm. The overall **dissolved oxygen** level of 3.46 mg/L (36%Sat.) is 17% above last month but still 20% below last Oct. and 12% less than the 21-yr norm of 3.96 mg/L (41%Sat). **Streamflow** over the antecedent 3-days of 13.8 cfs is 72% more than last month, 10 times greater than a year ago and 6 times above the 21-yr norm of 2.0 cfs. This month's overall LSDR **water quality index** (WQI) of 22 (E Poor) is 28% above last month, but 1% below a year ago and 2% above 21-yr October norm of 21 (E Poor).

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 (Sept. '23 - Oct. '25)							
	Mission Valley	Mission Gorge	Santee Basin	LSDR		ADF,cfs	TMRF,in
Sept '23	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.	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 '24	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.	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 '25	26 (D-)	16 (E)	10 (F)	17 (E)	DW	2.2	0.05
Oct.	**18 (E)**	**43 (C)**	**19 (E)**	**22 (E)**	**DW**	**4.1**	**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 (21-yr) trends. This month's overall value of 22 is the 13th time over the past two decades (21 yrs) that the Oct. index has been in the grade level E (Poor) range.

WQI values extending from Sept.'05 thru Oct. '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 33.6 is less than one point (1.1%) above the long-range norm of 33.2. The running average low for Oct. of 20.9 (37% below norm) occured in 2014. The previous highest running average WQI for the month of 40.6 (22% above norm) occured in 2004. Only the Mission Valley section of the river exhibited a decline in water quality this month compared to last; while the greatest increase, from Poor(E) to Fair(C), was monitored in the 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 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) encompasing 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 change in overall 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 nearly all eastern sites while lower at all western sites. Last month 2 sites were Fair(C) 4 sites were Marginal(D), 4 Poor(E) and 6 Very Poor(F). Whereas this month: one site was Good(B) one Fair(C) 7 sites were sites were Marginal(D), 3 Poor(E), and 4 Very Poor(F). The greatest declines in index values this month are found in the Lower Mission Valley reach. Over the past four months of dry weather, the overall index has remained in E (Poor) range.

Index values are expected to improve over the next month based on increased streamflow and DO levels while water temperatures and salinity levels (i.e., SpC/TDS) further decline. This year's water quality results are significantly lower than in the previous two water years (WYs 23-24). The watershed as well as all of Southern California is continuing to experince droubt conditions.
(JCK 10/22/25)

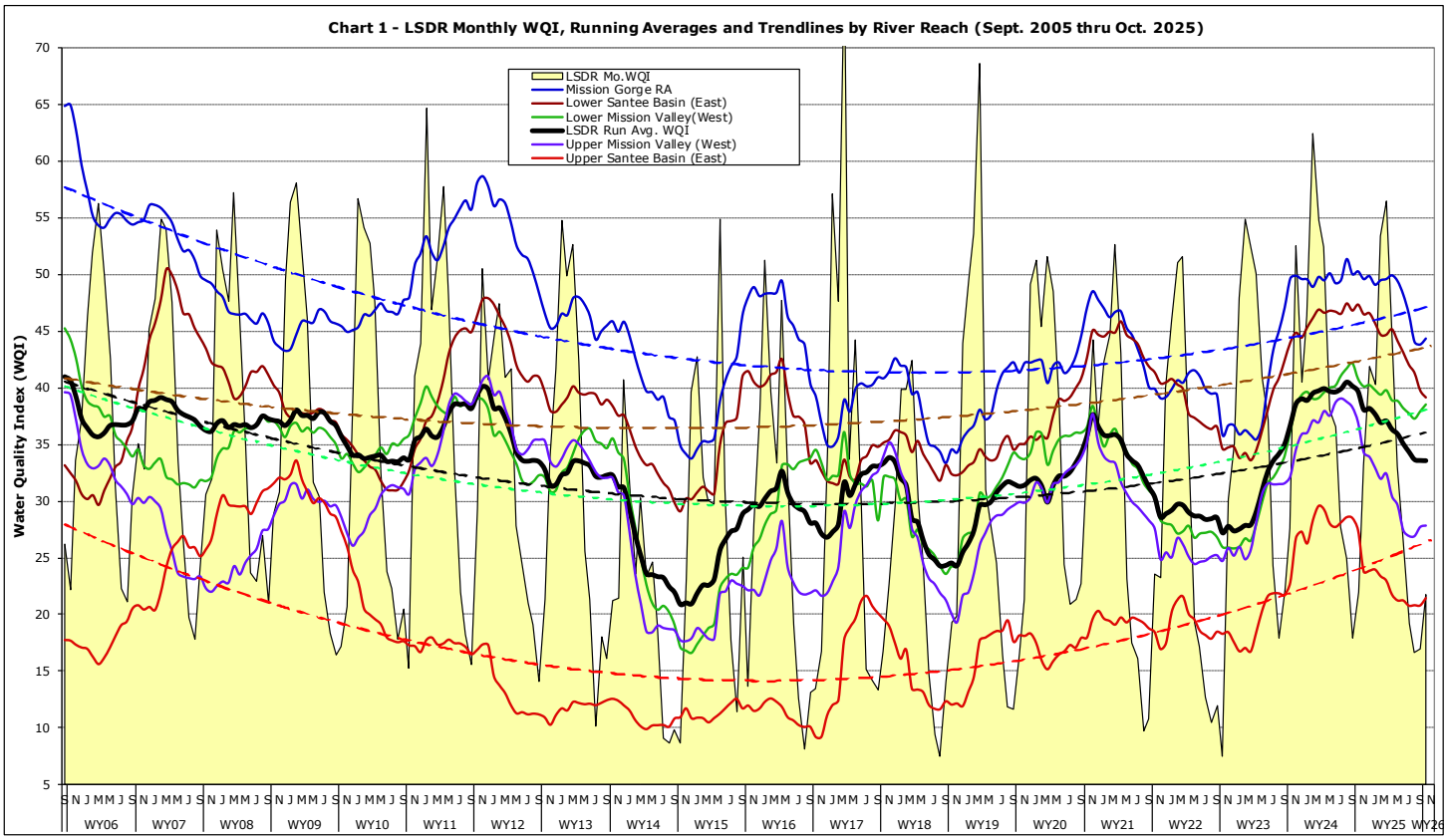


Chart 1 - LSDR Monthly WQI, Running Averages and Trendlines by River Reach (Sept. 2005 thru Oct. 2025)
LSDR Mo.WQI
Mission Gorge RA
Lower Santee Basin (East)
Lower Mission Valley(West)
LSDR Run Avg. WQI
Upper Mission Valley (West)
Upper Santee Basin (East)
Water Quality Index (WQI)
WY06
WY07
WY08
WY09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

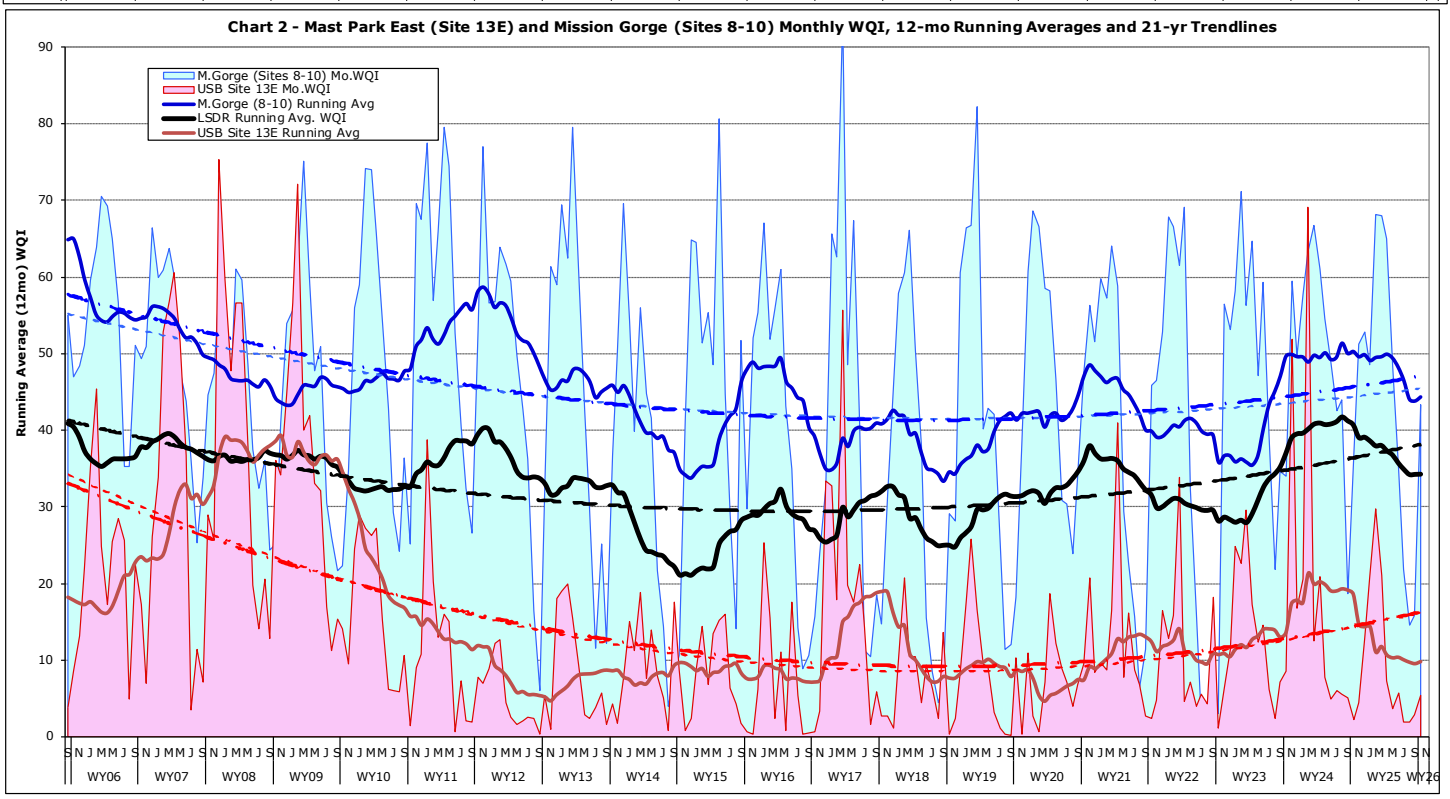
Chart 2 - Mast Park East (Site 13E) and Mission Gorge (Sites 8-10) Monthly WQI, 12-mo Running Averages and 21-yr Trendlines
M.Gorge (Sites 8-10) Mo.WQI
USB Site 13E Mo.WQI
M.Gorge (8-10) Running Avg
LSDR Running Avg. WQI
USB Site 13E Running Avg
Running Average (12mo) WQI
WY06
WY07
WY08
WY09
WY10
WY11
WY12
WY13
WY14
WY15
WY16
WY17
WY18
WY19
WY20
WY21
WY22
WY23
WY24
WY25
WY26

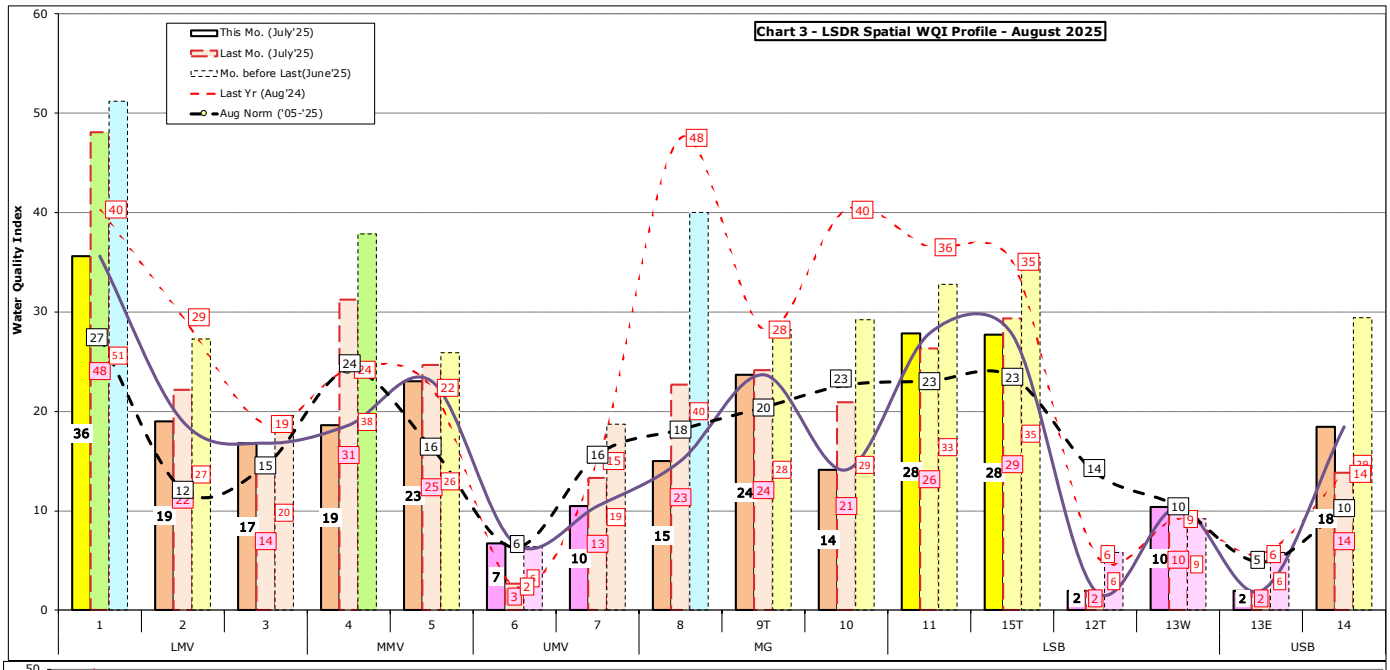
Chart 3 - LSDR Spatial WQI Profile - August 2025
This Mo. (July'25)
Last Mo. (July'25)
Mo. before Last(June'25)
Last Yr (Aug'24)
Aug Norm ('05-'25)
Water Quality Index
LMV
MMV
UMV
MG
LSB
USB

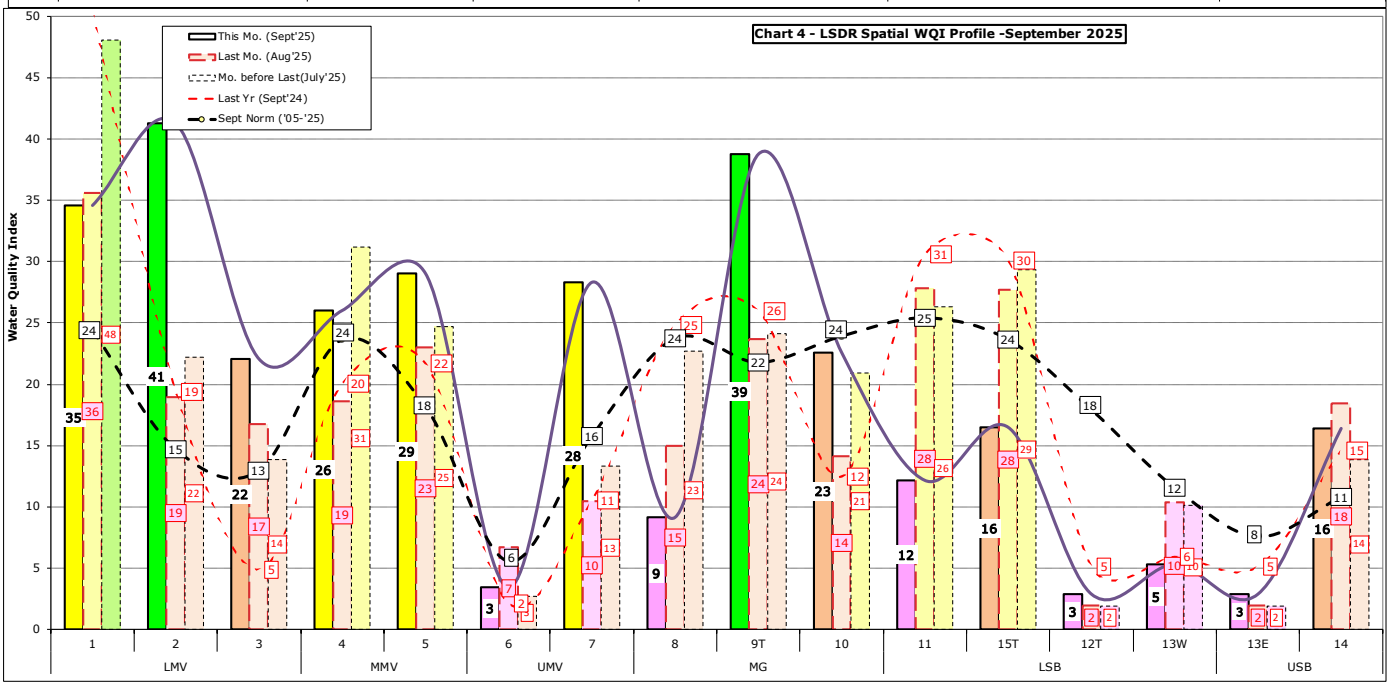
Chart 4 - LSDR Spatial WQI Profile -September 2025
This Mo. (Sept'25)
Last Mo. (Aug'25)
Mo. before Last(July'25)
Last Yr (Sept'24)
Sept Norm ('05-'25)
Water Quality Index
LMV
MMV
UMV
MG
LSB
USB

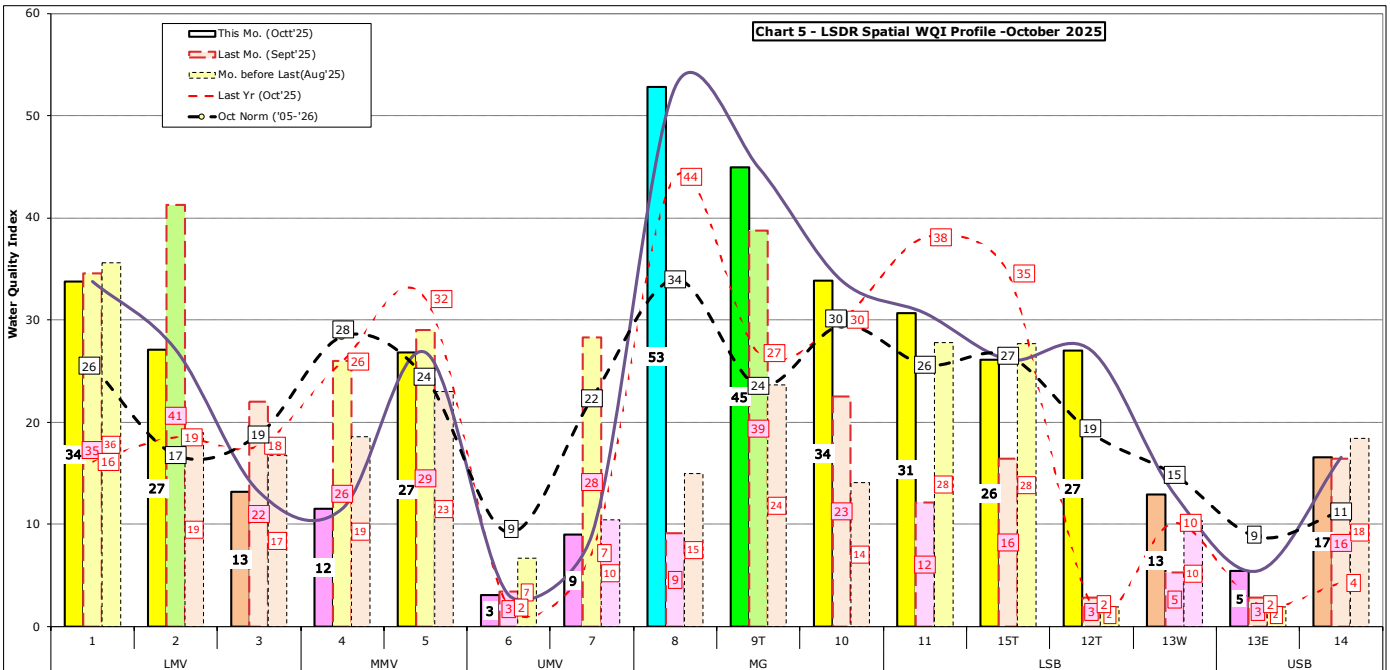
Chart 5 - LSDR Spatial WQI Profile -October 2025
This Mo. (Octt'25)
Last Mo. (Sept'25)
Mo. before Last(Aug'25)
Last Yr (Oct'25)
Oct Norm ('05-'26)
Water Quality Index
LMV
MMV
UMV
MG
LSB
USB