

# Lower San Diego River - May 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 (D) is down 11 points from last month, at six below one year ago and two points less the 21-yr May norm of 34.

| Table 1 - May'25/April'25 WQM Data Summary |                   |                   |                    |                   |   |                     |                     |
|--|-------------------|-------------------|--------------------|-------------------|---|---------------------|---------------------|
|  | West - MV         | Mid - MG          | East - SB          | LSDR              | Variance From                           |                     |                     |
| [Site #s]                                  | [1-7]<br>May/Apr  | [8-10]<br>May/Apr | [11-15]<br>May/Apr | [1-15]<br>May/Apr | Last Mo.<br>(4/'25)                     | Last Yr.<br>(5/'24) | 21-yr Avg.<br>(May) |
| Temperature, oC                            | 21.4/19.5         | 18.1/15.7         | 19.2/17.1          | 19.8/17.7         | 12%                                     | 1%                  | -0.3%               |
| Sp.Cond., mS/cm                            | 2.70/2.42         | 1.64/1.43         | 1.91/1.57          | 2.20/1.90         | 16%                                     | 30%                 | 1%                  |
| DO, mg/L                                   | 4.61/5.37         | 7.56/8.95         | 3.65/4.97          | 4.73/5.82         | -17%                                    | -5%                 | -4%                 |
| DO, % of Sat.                              | 53/59             | 81/90             | 40/52              | 52/61             |   |                     |                     |
| pH   | 7.66/7.57         | 7.94/7.99         | 7.83/7.51          | 7.56/7.52         | 0.5%                                    | -1.9%               | -1.9%               |
| 3-day ADF, cfs                             | 5.4/14            | 4.0/12            | 3.7/12             | 4.4/13            | -51%                                    | -61%                | -50%                |
| WQ Index                                   | 34/42             | 48/65             | 23/33              | 32/43             | -25%                                    | -15%                | -5%                 |
| May/April                                  | D/C               | C+/B              | E+/D               | D/C               |   |                     |                     |
| May/April                                  | Marginal/<br>Fair | Fair/<br>Good     | Poor/<br>Marginal  | Marginal/<br>Fair | Index down 11 points<br>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 2.1oC (12%) from last month to 1% above last May and 0.1oC less than the 21-yr monthly norm of 19.9oC. The overall **specific conductance** of 2.20 mS/cm is 16% more than last month, 30% above a year ago and 1% higher than the 21-yr norm of 2.17 mS/cm. The overall **dissolved oxygen** level of 4.73 mg/L (52%Sat.) is 17% below last month, 5% less than last May and 4% under the 21-yr norm of 4.96 mg/L (54%Sat). **Streamflow** over the antecedent 3-days of 4.4 cfs is 51% below last month, 61% less than a year ago and 50% less than the 21-yr norm of 8.9 cfs. This month's overall LSDR **water quality index** (WQI) of 32 (D-Marginal) is down 11 points to 25% less than last month, 15% below last May and two points (5%) below the 21-yr norm of 34 (D- Marginal).

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.

| <b>Table 2 - WQI Values, Average Daily Flow and Monthly Rainfall (April '23 - May '25)</b> |                |                |                |                |           |            |             |
|--|----------------|----------------|----------------|----------------|-----------|------------|-------------|
|  | Mission Valley | Mission Gorge  | Santee Basin   | LSDR           |           | ADF,cfs    | TMR,F,in    |
| April 23   | 52 (B-)        | 65 (B)         | 43 (C)         | 50 (B-)        | WW        | 77         | 0.54        |
| <b>May</b>   | <b>40 (C)</b>  | <b>47 (C+)</b> | <b>39 (C)</b>  | <b>41 (C)</b>  | <b>T</b>  | <b>19</b>  | <b>0.12</b> |
| 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        |
| <b>May</b>   | <b>40 (C)</b>  | <b>54 (B-)</b> | <b>31 (D)</b>  | <b>38 (C-)</b> | <b>T</b>  | <b>16</b>  | <b>0.03</b> |
| 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  | 50 (B-)        | 68 (B)         | 50 (B-)        | 54 (B-)        | WW        | 27         | 1.00        |
| March  | 61 (B)         | 68 (B)         | 48 (C+)        | 57 (B)         | WW        | 55         | 2.40        |
| April 25   | 42 (C)         | 65 (B)         | 33 (D)         | 43 (C)         | T         | 16         | 0.08        |
| <b>May '25</b>   | <b>34 (D)</b>  | <b>48 (C+)</b> | <b>23 (E+)</b> | <b>32 (D)</b>  | <b>DW</b> | <b>5.9</b> | <b>0.2</b>  |

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 32 is the 11th time over the last two decades that the index fell to grade level D (Marginal).

WQI values extending from Sept.'04 thru May '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 is 8% above the long-range norm of 33. The running average low for May 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 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 (middle bar) at all sites. This month only one site remained Good(B), 3 were found Fair(C), 7 Marginal(D), 4 Poor (E) and 1 Very Poor(F). Last month (April): 6 sites were Good(B), 4 Fair(C), 4 Marginal(D), 1 Poor(E), and 1 Very Poor(F). The March results were 2-Very Good, 11-Good(B), 2-Marginal(D) and 1-Poor(E). The greatest declines in index values for May are found in the Upper Santee Basin and Upper Mission Valley reaches. Over the past three months, the index has declined from B(Good) in March, to C(Fair) in April, to D(Marginal) in May. June values are likely to reach E(Poor) at many sites.

Index values during the next of month are expected to fall further based on continued decline in streamflow, lower DO levels, rising water temperatures and increasing salinity levels (Specific Conductance) due to higher evaporation rates. Spring (April-May) WY25 results are appreciably lower than over the previous several Spring periods (WY24 & WY23) due to significantly less rainfall and runoff (streamflow).  
(JCK 5/17/25)





