

# Santa Ana River - Mill Creek Cooperative Water Project

## Daily Flow Report Summary

Date: 12/4/2017

Time: 7:00:00 AM

| Santa Ana River |                             | Flow Rate (cfs) |
|-----------------|-----------------------------|-----------------|
| <b>A5</b>       | <b>Total SAR Inflows</b>    | 20.4            |
| <b>N2</b>       | <b>Total SAR Deliveries</b> | 20.4            |
| A1              | SAR PH#3 Penstock (calc)    | 12.5            |
| B1              | BVMWC Highline              | 5.8             |
| C1              | Greenspot Pipeline          | 0.0             |
| L2              | SBVWCD Parshall Flume       | 0.0             |
| G2              | North Fork Canal Weir       | 5.8             |
| H2              | Edwards Canal               | 0.8             |
| W1              | Redlands Aqueduct (calc)    | 8.0             |
|                 | Other                       | 0.0             |

| State Water Project |                             | Flow Rate (cfs) |
|---------------------|-----------------------------|-----------------|
| <b>G</b>            | <b>Total SWP Inflows</b>    | 25.9            |
| <b>V</b>            | <b>Total SWP Deliveries</b> | 25.9            |
| J                   | Northfork Canal             | 0.0             |
| L                   | Redlands Aqueduct           | 4.1             |
| M                   | Crafton Unger Lane          | 0.0             |
| T                   | Newport to BVMWC            | 0.6             |

| Mill Creek |                            | Flow Rate (cfs) |
|------------|----------------------------|-----------------|
| <b>D3</b>  | <b>Total MC Inflows</b>    | 13.4            |
| <b>U3</b>  | <b>Total MC Deliveries</b> | 13.4            |
| K3         | Yucaipa Pipeline           | 0.0             |
| O3         | SBVWCD Spreading           | 0.0             |
| T3         | MC #1 Flow (Cooley Hat)    | 13.4            |

| Reservoir Levels               | Feet |
|--------------------------------|------|
| Observation at SOD             | N/A  |
| Crafton Reservoir Level (21.3) | 19.9 |
| Mentone Reservoir Level        | 20.5 |

| River Recharge                      | AF |
|-------------------------------------|----|
| Estimate SAR Recharge (AF)          | 0  |
| Estimate Mill Creek Recharge (AF)   | 0  |
| Estimated Total River Recharge (AF) | 0  |

| Location                      | Type   | WY to Date (AF) | Target  |
|-------------------------------|--------|-----------------|---------|
| Santa Ana River               | SAR    | 0               | 166,000 |
| Santa Ana River to Mill Creek | SAR-MC | 0               | 0       |
| Santa Ana River               | SWP    | 5,105           | 0       |
| Mill Creek                    | MC     | 0               | 99,700  |
| Mill Creek                    | SWP    | 0               | 0       |
| Redlands                      | SWP    | 0               | 0       |
| Loma Linda                    | SWP    | 0               | 0       |
| East Valley                   | SWP    | 0               | 0       |

Notes: Numbers on the Daily Flow Report are a snapshot of water at a given location at the time of the read, normally very early in the morning, and not necessarily what is at that location thruout the day. San Bernardino Valley Municipal Water District is spreading at the Santa Ana Low.

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Date: 12/4/2017  
Time: 7:00:00 AM

| State Water Project |                                |      |            |                       |      |   |                      |     |   |                             |     |
|---------------------|--------------------------------|------|------------|-----------------------|------|---|----------------------|-----|---|-----------------------------|-----|
| Inflows             |                                |      | Deliveries |                       |      |   |                      |     |   |                             |     |
| A                   | BBMWD In-lieu                  | 4.1  | H          | EVWD Treatment Plant  | 0.0  | M | Crafton Unger Lane   | 0.0 | S | SBCFCD Grove                | 0.0 |
| B                   | Muni test at Greenspot Station | 0.0  | I          | Santa Ana Low Turnout | 20.7 | N | BVMWC Boullioun Box  | 0.0 | T | Newport for BVMWC           | 0.6 |
| C                   | Exchange Water                 | 0.0  | J          | Northfork Canal       | 0.0  | P | SARC West            | 0.0 | U | M/C spreading at Zanja Tate | 0.0 |
| D                   | Purchased Water                | 21.8 | K          | Edwards Canal         | 0.0  | Q | Zanja                | 0.0 | W | Tres Lagos                  | 0.5 |
| E                   | Redlands Aqueduct Leakage      | 0.0  | L          | Redlands Aqueduct     | 4.1  | R | Tate Treatment Plant | 0.0 | V | Total SWP Deliveries 25.9   |     |
| F                   | Recharge Project               | 0.0  |            |                       |      |   |                      |     |   |                             |     |
| G                   | Total SWP Inflows 25.9         |      |            |                       |      |   |                      |     |   |                             |     |

| Santa Ana River Inflows   |                                  |      |                |                               |      |                      |                                 |     |                                     |                           |                          |
|---------------------------|----------------------------------|------|----------------|-------------------------------|------|----------------------|---------------------------------|-----|-------------------------------------|---------------------------|--------------------------|
| SAR PH #3 Penstock (calc) |                                  |      | BVMWC Highline |                               |      | SOD Release Subtotal |                                 |     | Total SAR Inflows                   |                           |                          |
| G2                        | Northfork Canal Weir             | 5.8  | A2             | Newport                       | 0.0  | D1                   | BVMWC River PU (USGS)           | 2.1 | A1                                  | SAR PH #3 Penstock (calc) | 12.5                     |
| H2                        | Edwards Canal                    | 0.8  | D2             | Boullioun Box Weir            | 5.8  | E1                   | Main River Gage (USGS)          | 0.0 | B1                                  | BVMWC Highline            | 5.8                      |
| J2                        | Tailrace Valve to Parshall Flume | 0.0  | E2             | Boullioun Box to Zanja        | 0.0  | minus                |                                 |     | C1                                  | Greenspot Pipeline        | 0.0                      |
| K2                        | Northfork Parshall Flume         | 0.0  | F2             | SBVWCD Mill Creek Spreading   | 0.0  | F1                   | Greenspot Spill                 | 0.0 | D1                                  | BVMWC River PU (USGS)     | 2.1                      |
| V1                        | PH#3 Afterbay SpillLoss to SAR   | 0.0  | B1             | BVMWC Highline                | 5.8  | Z1                   | SOD Release Subtotal            | 2.1 | E1                                  | Main River Gage (USGS)    | 0.0                      |
| W1                        | Redlands Aqueduct / Sandbox      | 8.1  |                |                               |      |                      |                                 |     | D1a                                 | BV Pick-Up gated          | <input type="checkbox"/> |
| Y1                        | Redlands Sandbox Spill           | 0.2  | Other          |                               |      |                      |                                 |     | A5                                  | Total SAR Inflows         | 20.4                     |
| minus                     |                                  |      | J1             | Big Bear Lake Release         | 1.2  | W                    | Observation at SOD              | N/A | Edison Generation                   |                           |                          |
| D1                        | BVMWC River PU (USGS)            | 2.1  | L1             | SCE SAR AVM (SCADA)           | 18.0 | X                    | SOD Reservoir Elevation (scada) | N/A | SAR PH#1 Generating                 |                           |                          |
| I1                        | Redlands Tunnel                  | 0.3  | X1             | SAR-MC Spread (Red. Aqueduct) | 0.0  | Y                    | Debris Pool Elevation           | N/A | SAR PH#3 Generating                 |                           |                          |
| A1                        | SAR PH #3 Penstock (calc)        | 12.5 |                |                               |      |                      |                                 |     | <input type="checkbox"/>            |                           |                          |
| K1                        | PH3# Penstock (SCADA)            | 13.8 |                |                               |      |                      |                                 |     | <input checked="" type="checkbox"/> |                           |                          |

| Santa Ana River Deliveries |                             |     |                   |                                  |     |                                |                                  |     |            |                                  |      |
|----------------------------|-----------------------------|-----|-------------------|----------------------------------|-----|--------------------------------|----------------------------------|-----|------------|----------------------------------|------|
| Greenspot Pipeline         |                             |     | Tailrace Pipeline |                                  |     | SBVWCD Parshall FlumeTo Basins |                                  |     | Deliveries |                                  |      |
| M1                         | SBCFCD Grove                | 0.0 | G2                | Northfork Canal Weir             | 5.8 | J2                             | Tailrace Valve to Parshall Flume | 0.0 | V1         | SAR PH #3 Afterbay Spill         | 0.0  |
| N1                         | BVMWC Highline              | 0.0 | H2                | Edwards Canal                    | 0.8 | K2                             | Northfork Parshall Flume         | 0.0 | W1         | Redlands Aqueduct / Sandbox      | 8.1  |
| O1                         | Newport for BVMWC           | 0.0 | J2                | Tailrace Valve to Parshall Flume | 0.0 | H1                             | SBVWCD Diversion                 | 0.0 | Y1         | Redlands Sandbox Spill           | 0.2  |
| P1                         | SBVWCD Mill Creek Spreading | 0.0 | K2                | Northfork Parshall Flume         | 0.0 | L2                             | SBVWCD Parshall Flume            | 0.0 | Z2         | Cuttle Weir To River             | 0.0  |
| Q1                         | Crafton WC Unger Lane       | 0.0 | I2                | Tailrace Pipeline                | 6.6 |                                | Parshall Flume (SCADA)           | 0.0 | B1         | BVMWC Highline                   | 5.8  |
| R1                         | BVMWC Highline to Boullioun | 0.0 |                   |                                  |     | Irrigation                     |                                  |     | C1         | Greenspot Pipeline               | 0.0  |
| S1                         | Crafton WC Boullioun        | 0.0 |                   |                                  |     | D2                             | Boullioun Box Weir               | 5.8 | I2         | Tailrace Pipeline                | 6.6  |
| T1                         | Tate Pump Station to Zanja  | 0.0 |                   |                                  |     | minus                          |                                  |     | L2         | SBVWCD Parshall Flume            | 0.0  |
| C1                         | Greenspot Pipeline          | 0.0 |                   |                                  |     | B2                             | Gay Overflow                     | 3.0 | minus      |                                  |      |
|                            |                             |     |                   |                                  |     | C2                             | Irrigation                       | 2.8 | J2         | Tailrace Valve to Parshall Flume | 0.0  |
|                            |                             |     |                   |                                  |     |                                |                                  |     | K2         | Northfork Parshall Flume         | 0.0  |
|                            |                             |     |                   |                                  |     |                                |                                  |     | I1         | Redlands Tunnel                  | 0.3  |
|                            |                             |     |                   |                                  |     |                                |                                  |     | N2         | Total SAR Deliveries             | 20.4 |

| Mill Creek Inflows |                             |      |       |                                  |      |  |  |  |  |
|--------------------|-----------------------------|------|-------|----------------------------------|------|--|--|--|--|
| Total MC Inflows   |                             |      | Other |                                  |      |  |  |  |  |
| A3                 | RPU Flow                    | 5.1  | E3    | M/C #1 Penstock Flow             | 13.4 |  |  |  |  |
| B3                 | M/C #3 Penstock             | 8.3  | F3    | Stream Parshall Flume to Yucaipa | 0.0  |  |  |  |  |
| C3                 | SBVWCD Mill Creek Diversion | 0.0  | G3    | Observation at Garnet            | 0.0  |  |  |  |  |
| D3                 | Total MC Inflows            | 13.4 |       |                                  |      |  |  |  |  |

| Mill Creek Deliveries |                        |     |                         |                         |      |                     |                                   |      |       |                                   |      |
|-----------------------|------------------------|-----|-------------------------|-------------------------|------|---------------------|-----------------------------------|------|-------|-----------------------------------|------|
| Yucaipa Pipeline      |                        |     | MC #1 Flow (Cooley Hat) |                         |      | Total MC Deliveries |                                   |      | Other |                                   |      |
| I3                    | Yucaipa Regional Park  | 0.0 | P3                      | Tate Inflow             | 12.0 | C3                  | SBVWCD Mill Creek Diversion       | 0.0  | H3    | Mentone Reservoir Level           | 20.5 |
| J3                    | Wilson Creek Spreading | 0.0 | Q3                      | East Weir to Mill Creek | 0.0  | T3                  | Mill Creek #1 Flow (Cooley Hat)   | 13.4 | R3    | Boullioun to BVMWC Highline       | 0.0  |
| K3                    | Yucaipa Pipeline       | 0.0 | S3                      | East Weir to Zanja      | 1.4  | W3                  | Mill Creek PH #2,3 Afterbay Spill | 0.0  | V3    | Zanja West Weir to CWC Canal      | 0.7  |
|                       |                        |     | T3                      | MC #1 Flow (Cooley Hat) | 13.4 | U3                  | Total MC Deliveries               | 13.4 | W3    | Mill Creek PH #2,3 Afterbay Spill | 0.0  |
| SBVWCD MC Spreading   |                        |     |                         |                         |      |                     |                                   |      | Y3    | Crafton Reservoir Level (21.3)    | 19.9 |

| SBVWCD MC Spreading |                                   |     |
|---------------------|-----------------------------------|-----|
| C3                  | SBVWCD Mill Creek Diversion       | 0.0 |
| L3                  | East Weir (MC)                    | 0.0 |
| M3                  | BVHL (SAR)                        | 0.0 |
| W3                  | Mill Creek PH #2,3 Afterbay Spill | 0.0 |
| X1                  | SAR-MC Spread (Red. Aqueduct)     | 0.0 |
| O3                  | SBVWCD MC Spreading               | 0.0 |

| SBVWCD Recharge                 |                             |        |                               |       |  |                 |                                |  |         |                            |                                   |         |   |
|---------------------------------|-----------------------------|--------|-------------------------------|-------|--|-----------------|--------------------------------|--|---------|----------------------------|-----------------------------------|---------|---|
| Location                        |                             | Type   | Previous Day (AF)             |       |  | WY To Date (AF) |                                |  | Target  | Calendar Year To Date (AF) |                                   | Target  |   |
| A4                              | Santa Ana River             | SAR    | E4                            | 0.0   |  | I4              | 0.0                            |  | 166,000 | I4                         | 18,559.6                          | 166,000 |   |
| M4                              | Santa Ana Rvr to Mill Creek | SAR-MC | N4                            | 0.0   |  | O4              | 0.0                            |  |         | O4                         | 1,299.1                           |         |   |
| B4                              | Santa Ana River             | SWP    | F4                            | 123.2 |  | J4              | 5,104.6                        |  |         | J4                         | 17,821.7                          |         |   |
| C4                              | Mill Creek                  | MC     | G4                            | 0.0   |  | K4              | 0.0                            |  | 99,700  | K4                         | 5,165.9                           | 99,700  |   |
| D4                              | Mill Creek                  | SWP    | H4                            | 0.0   |  | L4              | 0.0                            |  |         | L4                         | 2,896.9                           |         |   |
|                                 | Redlands                    | SWP    |                               | 0.0   |  |                 | 0.0                            |  |         |                            | 0.0                               |         |   |
|                                 | Loma Linda                  | SWP    |                               | 0.0   |  |                 | 0.0                            |  |         |                            | 1,939.8                           |         |   |
|                                 | East Valley                 | SWP    |                               | 0.0   |  |                 | 0.0                            |  |         |                            | 2,816.0                           |         |   |
| SAR Passing Cuttle Weir (cfs)   |                             | 0      | Share of Lost SAR Flow        |       |  | 0               | Estimate SAR flow (cfs)        |  |         | 0                          | Estimate SAR Recharge (AF)        |         | 0 |
| Mill Creek Passing Garnet (cfs) |                             | 0      | Share of Lost Mill Creek Flow |       |  | 0               | Estimate Mill Creek flow (cfs) |  |         | 0                          | Estimate Mill Creek Recharge (AF) |         | 0 |
| Flow in the River Above Alabama |                             | 0      | Flowing Beyond Alabama        |       |  | 0               | Total River Flow (cfs)         |  |         | 0                          | Total River Recharge (AF)         |         | 0 |