

# Santa Ana River - Mill Creek Cooperative Water Project

## Daily Flow Report Summary

Date: 5/22/2017

Time: 6:40:00 AM

| Santa Ana River |                             | Flow Rate (cfs) |
|-----------------|-----------------------------|-----------------|
| <b>A5</b>       | <b>Total SAR Inflows</b>    | 43.1            |
| <b>N2</b>       | <b>Total SAR Deliveries</b> | 43.1            |
| A1              | SAR PH#3 Penstock (calc)    | 35.9            |
| B1              | BVMWC Highline              | 4.6             |
| C1              | Greenspot Pipeline          | 0.0             |
| L2              | SBVWCD Parshall Flume       | 4.1             |
| G2              | North Fork Canal Weir       | 8.7             |
| H2              | Edwards Canal               | 0.0             |
| W1              | Redlands Aqueduct (calc)    | 25.7            |
|                 | Other                       | 0.0             |

| State Water Project |                             | Flow Rate (cfs) |
|---------------------|-----------------------------|-----------------|
| <b>G</b>            | <b>Total SWP Inflows</b>    | 67.0            |
| <b>V</b>            | <b>Total SWP Deliveries</b> | 67.0            |
| J                   | Northfork Canal             | 0.0             |
| L                   | Redlands Aqueduct           | 0.0             |
| M                   | Crafton Unger Lane          | 0.0             |
| T                   | Newport to BVMWC            | 0.9             |

| Mill Creek |                            | Flow Rate (cfs) |
|------------|----------------------------|-----------------|
| <b>D3</b>  | <b>Total MC Inflows</b>    | 25.4            |
| <b>U3</b>  | <b>Total MC Deliveries</b> | 25.4            |
| K3         | Yucaipa Pipeline           | 0.0             |
| O3         | SBVWCD Spreading           | 6.0             |
| T3         | MC #1 Flow (Cooley Hat)    | 25.4            |

| Reservoir Levels               | Feet |
|--------------------------------|------|
| Observation at SOD             | N/A  |
| Crafton Reservoir Level (21.3) | 19.7 |
| Mentone Reservoir Level        | 17.0 |

| 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    | 19,209          | 166,000 |
| Santa Ana River to Mill Creek | SAR-MC | 1,350           | 0       |
| Santa Ana River               | SWP    | 2,751           | 0       |
| Mill Creek                    | MC     | 4,915           | 99,700  |
| Mill Creek                    | SWP    | 227             | 0       |
| Redlands                      | SWP    | 33              | 0       |
| Loma Linda                    | SWP    | 487             | 0       |
| East Valley                   | SWP    | 4,694           | 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. EVWD blocked the River-pick up due to treatment issues. Valley Municipal and East Valley are splitting the Spreading at Santa Ana low.

## Daily Flow Report

5/22/2017

6:40:00 AM

| Inflows |                                |      | Deliveries |                       |      |   |                      |     |   |                             |     |
|---------|--------------------------------|------|------------|-----------------------|------|---|----------------------|-----|---|-----------------------------|-----|
| A       | BBMWD In-lieu                  | 0.0  | 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 | 64.8 | N | BVMWC Bouillion Box  | 0.0 | T | Newport for BVMWC           | 0.9 |
| C       | Exchange Water                 | 0.0  | J          | Northfork Canal       | 0.0  | P | SARC West            | 0.0 | U | M/C spreading at Zanja Tate | 1.0 |
| D       | Purchased Water                | 67.0 | K          | Edwards Canal         | 0.0  | Q | Zanja                | 0.0 | W | Tres Lagos                  | 0.3 |
| E       | Redlands Aqueduct Leakage      | 0.0  | L          | Redlands Aqueduct     | 0.0  | R | Tate Treatment Plant | 0.0 | V | Total SWP Deliveries 67.0   |     |

### Santa Ana River Inflows

| SAR PH #3 Penstock (calc) |                                  |       |
|---------------------------|----------------------------------|-------|
| G2                        | Northfork Canal Weir             | 8.7   |
| H2                        | Edwards Canal                    | 0.0   |
| J2                        | Tailrace Valve to Parshall Flume | 4.1   |
| K2                        | Northfork Parshall Flume         | 0.0   |
| V1                        | PH#3 Afterbay SpillLoss to SAR   | 0.0   |
| W1                        | Redlands Aqueduct / Sandbox      | 26.1  |
| Y1                        | Redlands Sandbox Spill           | 0.0   |
|                           |                                  | minus |
| D1                        | BVMWC River PU (USGS)            | 2.6   |
| I1                        | Redlands Tunnel                  | 0.4   |
| A1                        | SAR PH #3 Penstock (calc)        | 35.9  |
| K1                        | PH3# Penstock (SCADA)            | 38.1  |

| BVMWC Highline |                               |      |
|----------------|-------------------------------|------|
| A2             | Newport                       | 0.0  |
| D2             | Boullioun Box Weir            | 4.6  |
| E2             | Boullioun Box to Zanja        | 0.0  |
| F2             | SBVWCD Mill Creek Spreading   | 0.0  |
| B1             | BVMWC Highline                | 4.6  |
| Other          |                               |      |
| J1             | Big Bear Lake Release         | 0.4  |
| L1             | SCE SAR AVM (SCADA)           | 43.8 |
| X1             | SAR-MC Spread (Red. Aqueduct) | 0.0  |

| SOD Release Subtotal |                                 |       |
|----------------------|---------------------------------|-------|
| D1                   | BVMWC River PU (USGS)           | 2.6   |
| E1                   | Main River Gage (USGS)          | 0.0   |
|                      |                                 | minus |
| F1                   | Greenspot Spill                 | 0.0   |
| Z1                   | SOD Release Subtotal            | 2.6   |
| Observation at SOD   |                                 |       |
| W                    | Observation at SOD              | N/A   |
| X                    | SOD Reservoir Elevation (scada) | N/A   |
| Y                    | Debris Pool Elevation           | N/A   |

| Total SAR Inflows   |                           |      |
|---------------------|---------------------------|------|
| A1                  | SAR PH #3 Penstock (calc) | 35.9 |
| B1                  | BVMWC Highline            | 4.6  |
| C1                  | Greenspot Pipeline        | 0.0  |
| D1                  | BVMWC River PU (USGS)     | 2.6  |
| E1                  | Main River Gage (USGS)    | 0.0  |
| D1a                 | BV Pick-Up gated          | □    |
| A5                  | Total SAR Inflows         | 43.1 |
| Edison Generation   |                           |      |
| SAR PH#1 Generating |                           | ☑    |
| SAR PH#3 Generating |                           | ☑    |

### **Santa Ana River Deliveries**

| Greenspot Pipeline |                             |     |
|--------------------|-----------------------------|-----|
| M1                 | SBCFCD Grove                | 0.0 |
| N1                 | BVMWC Highline              | 0.0 |
| O1                 | Newport for BVMWC           | 0.0 |
| P1                 | SBVWCD Mill Creek Spreading | 0.0 |
| Q1                 | Crafton WC Unger Lane       | 0.0 |
| R1                 | BVMWC Highline to Boullioun | 0.0 |
| S1                 | Crafton WC Boullioun        | 0.0 |
| T1                 | Tate Pump Station to Zanja  | 0.0 |
| C1                 | Greenspot Pipeline          | 0.0 |

| Tailrace Pipeline |                                  |      |
|-------------------|----------------------------------|------|
| G2                | Northfork Canal Weir             | 8.7  |
| H2                | Edwards Canal                    | 0.0  |
| J2                | Tailrace Valve to Parshall Flume | 4.1  |
| K2                | Northfork Parshall Flume         | 0.0  |
| I2                | Tailrace Pipeline                | 12.8 |

| SBVWCD Parshall FlumeTo Basins |                                  |     |
|--------------------------------|----------------------------------|-----|
| J2                             | Tailrace Valve to Parshall Flume | 4.1 |
| K2                             | Northfork Parshall Flume         | 0.0 |
| H1                             | SBVWCD Diversion                 | 0.0 |
| L2                             | SBVWCD Parshall Flume            | 4.1 |
|                                | Parshall Flume (SCADA)           | 4.1 |

| Irrigation |                    |     |
|------------|--------------------|-----|
| D2         | Boullioun Box Weir | 4.6 |
| minus      |                    |     |
| B2         | Gay Overflow       | 2.0 |
| C2         | Irrigation         | 2.6 |

| Deliveries |                                  |      |
|------------|----------------------------------|------|
| V1         | SAR PH #3 Afterbay Spill         | 0.0  |
| W1         | Redlands Aqueduct / Sandbox      | 26.1 |
| Y1         | Redlands Sandbox Spill           | 0.0  |
| Z2         | Cuttle Weir To River             | 0.0  |
| B1         | BVMWC Highline                   | 4.6  |
| C1         | Greenspot Pipeline               | 0.0  |
| I2         | Tailrace Pipeline                | 12.8 |
| L2         | SBVWCD Parshall Flume            | 4.1  |
| minus      |                                  |      |
| J2         | Tailrace Valve to Parshall Flume | 4.1  |
| K2         | Northfork Parshall Flume         | 0.0  |
| I1         | Redlands Tunnel                  | 0.4  |
| N2         | Total SAR Deliveries             | 43.1 |

### Mill Creek Inflows

| Total MC Inflows |                             |             | Other |                                  |      |
|------------------|-----------------------------|-------------|-------|----------------------------------|------|
| A3               | RPU Flow                    | 10.5        | E3    | M/C #1 Penstock Flow             | 25.4 |
| B3               | M/C #3 Penstock             | 14.9        | F3    | Stream Parshall Flume to Yucaipa | 0.0  |
| C3               | SBVWCD Mill Creek Diversion | 0.0         | G3    | Observation at Garnet            | 0.0  |
| D3               | <b>Total MC Inflows</b>     | <b>25.4</b> |       |                                  |      |

## Mill Creek Deliveries

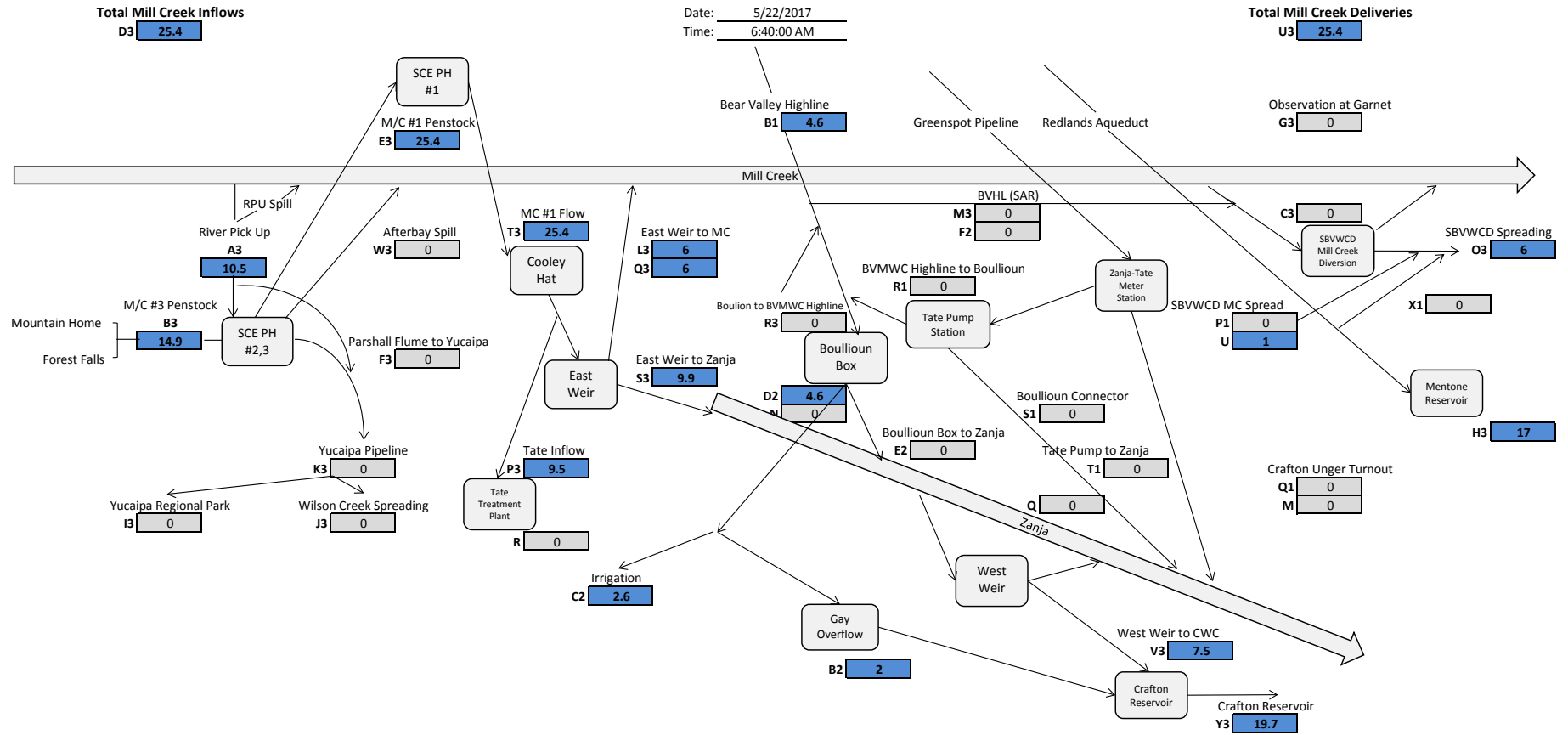
| Yucaipa Pipeline    |                                   |     | MC #1 Flow (Cooley Hat) |                         |      | Total MC Deliveries |                                   |      | Other |                                   |      |
|---------------------|-----------------------------------|-----|-------------------------|-------------------------|------|---------------------|-----------------------------------|------|-------|-----------------------------------|------|
| I3                  | Yucaipa Regional Park             | 0.0 | P3                      | Tate Inflow             | 9.5  | C3                  | SBVWCD Mill Creek Diversion       | 0.0  | H3    | Mentone Reservoir Level           | 17.0 |
| J3                  | Wilson Creek Spreading            | 0.0 | Q3                      | East Weir to Mill Creek | 6.0  | T3                  | Mill Creek #1 Flow (Cooley Hat)   | 25.4 | R3    | Boullion to BVMWC Highline        | 0.0  |
| K3                  | Yucaipa Pipeline                  | 0.0 | S3                      | East Weir to Zanja      | 9.9  | W3                  | Mill Creek PH #2,3 Afterbay Spill | 0.0  | V3    | Zanja West Weir to CWC Canal      | 7.5  |
|                     |                                   |     | T3                      | MC #1 Flow (Cooley Hat) | 25.4 | U3                  | Total MC Deliveries               | 25.4 | W3    | Mill Creek PH #2,3 Afterbay Spill | 0.0  |
| SBVWCD MC Spreading |                                   |     |                         |                         |      |                     |                                   |      | Y3    | Crafton Reservoir Level (21.3)    | 19.7 |
| C3                  | SBVWCD Mill Creek Diversion       | 0.0 |                         |                         |      |                     |                                   |      |       |                                   |      |
| L3                  | East Weir (MC)                    | 6.0 |                         |                         |      |                     |                                   |      |       |                                   |      |
| 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               | 6.0 |                         |                         |      |                     |                                   |      |       |                                   |      |

### SBVWCD Recharge

| Location                        |                             | Type   | Previous Day (AF)             |       |  | WY To Date (AF) |                                | Target  | Calendar Year To Date (AF) |                                   | Target  |   |
|---------------------------------|-----------------------------|--------|-------------------------------|-------|--|-----------------|--------------------------------|---------|----------------------------|-----------------------------------|---------|---|
| A4                              | Santa Ana River             | SAR    | E4                            | 27.9  |  | I4              | 19,208.9                       | 166,000 | I4                         | 18,306.3                          | 166,000 |   |
| M4                              | Santa Ana Rvr to Mill Creek | SAR-MC | N4                            | 0.0   |  | O4              | 1,349.9                        |         | O4                         | 1,187.3                           |         |   |
| B4                              | Santa Ana River             | SWP    | F4                            | 193.6 |  | J4              | 2,751.4                        |         | J4                         | 2,751.4                           |         |   |
| C4                              | Mill Creek                  | MC     | G4                            | 69.7  |  | K4              | 4,914.9                        | 99,700  | K4                         | 4,686.4                           | 99,700  |   |
| D4                              | Mill Creek                  | SWP    | H4                            | 7.2   |  | L4              | 227.2                          |         | L4                         | 227.2                             |         |   |
|                                 | Redlands                    | SWP    |                               | 0.0   |  |                 | 32.9                           |         |                            | 0.0                               |         |   |
|                                 | Loma Linda                  | SWP    |                               | 0.0   |  |                 | 486.6                          |         |                            | 652.3                             |         |   |
|                                 | East Valley                 | SWP    |                               | 193.6 |  |                 | 4,694.1                        |         |                            | 1,025.7                           |         |   |
| 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 |

# Santa Ana River - Mill Creek Cooperative Water Project

## Mill Creek Stations



## Santa Ana River - Mill Creek Cooperative Water Project

### Santa Ana Stations

