

Description of Proposed Wasteload Allocation Scenario 7

Described below is the proposed Wasteload Allocation Scenario 7. Scenario 7 is a variation of Scenario 5 in the 2008 Santa Ana River Wasteload Allocation Model Report. Scenario 5 assumes that all POTWs discharge at planned rates for 2010 and 2020 and at currently permitted TDS and TIN concentration limits. Scenario 5 also assumes that diversions of Santa Ana River water at Seven Oaks Dam occur as proposed by San Bernardino Valley Municipal Water District and Western Municipal Water District.

Scenario 7

Scenario 7 was discussed at the Basin Monitoring Program Task Force meetings on July 15 and August 24, 2009. Scenario 7 is described in Table 1 which shows the TIN and TDS concentrations of recycled water for each POTW facility (*i.e.* existing permit limits) and the planned rates for recycled water discharge and reuse for 2010 and 2020. Scenario 7 differs from Scenario 5 in the following ways (which are highlighted in Table 1 in *italic bold red*):

- The TIN concentration of the City of Riverside's recycled water is reduced to 10 mg/L-N for all discharge to see if this change will result in compliance with the nitrate-nitrogen objective in Chino-South. The City of Riverside's existing permit limit for TIN is 13 mg/L-N for discharge less than 38 mgd and 10 mg/L-N for discharge greater than 38 mgd, which were the assumed conditions in Scenario 5.
- An additional point of discharge to the Santa Ana River is from WMWD's March Wastewater Reclamation Facility. The point of discharge is assumed to be the Jefferson Street Storm Drain in the City of Riverside. This storm drain discharges to the Santa Ana River via Hole Lake and is assumed to occur from November through April of each year with a TDS concentration of 550 mg/L and a TIN concentration of 6 mg/L-N.
- Various POTW agencies have reviewed and revised their planned recycled water discharge and reuse rates for 2010 and 2020.

Requested Response from Agencies

Wildermuth Environmental requests that the agencies review their planned recycled water discharge and reuse rates for 2010 and 2020 in Scenario 7 and reply with any modifications. Planned discharge and reuse rates are defined below in million gallons per day (mgd):

$$\text{Planned Discharge} + \text{Planned Reuse} = \text{Total Wastewater Production}$$

Please reply with any modifications by September 2, 2009.

Model Runs

Wildermuth Environmental will perform two model runs with the input data provided in Table 1.

1. Run 7a will use the **Planned Discharge** and **Planned Reuse** rates.
2. Run 7b will assume no **Planned Reuse**. **Planned Discharge** in this model run will be **Total Wastewater Production**.

These two model runs are necessary to provide the Regional Board with enough information to set permit limits for TDS and TIN concentrations and mass emission rates.

Deliverables

Tables and charts will be prepared and distributed to the Task Force that describe the estimated volume-weighted TDS and TIN concentrations of:

- *The Santa Ana River at Below Prado.* The estimated TDS and TIN concentrations of the Santa Ana River will be compared to the existing Reach 2 and Reach 3 water quality objectives and the groundwater quality objective for the Orange County management zone.

Note: Storm flows that can not be recharged in the Orange County management zone will be “scalped” from the estimation. Wildermuth Environmental will work with Orange County Water District to develop protocols for the scalping. This will be accomplished by post-processing of the model results for at Below Prado.

- *Streambed recharge in Chino-South, Riverside-A, Colton, Bunker Hill-B, San Timoteo, and Beaumont management zones.* The estimated TDS and TIN concentrations of the streambed recharge will be compared to the groundwater quality objectives and the current ambient water quality for each management zone.

Explanation and discussion of the model results will take place at the next Basin Monitoring Task Force meeting on September 23, 2009.

**Table 1
Wasteload Allocation Conditions for Scenarios 5 and Proposed Scenario 7**

Agency	Year	Design Capacity (mgd)	Permit Discharge (mgd)	Permit TDS (mg/L)	Permit TIN (mg/L)	Scenario 5				Proposed Scenario 7			
						TDS (mg/L)	TIN (mg/L)	Planned Reuse (mgd)	Planned Discharge (mgd)	TDS (mg/L)	TIN (mg/L)	Planned Reuse (mgd)	Planned Discharge (mgd)
San Timoteo Creek													
City of Beaumont ^A	2010	4.0	4.0	490	6	490	6	0.0	3.0	490	6	0.0	3.0
Wastewater Treatment Plant #1	2020	4.0	NA	490	6	490	6	4.3	1.8	490	6	4.3	1.8
Yucaipa Valley Water District ^B	2010	6.7	4.5	540	6	540	6	0.0	6.6	540	6	0.0	6.6
H. N. Wochholz WTP	2020	11.0	NA	540	6	540	6	7.3	0.9	540	6	7.3	0.9
Santa Ana River Reach 4													
City of Rialto ^C	2010	11.7	11.7	490	10	490	10	0.4	8.6	490	10	0.4	8.6
Rialto Wastewater Treatment Plant	2020	11.7	NA	490	10	490	10	2.4	9.6	490	10	2.4	9.6
San Bernardino/Colton ^D	2010	40.0	64.0	550	10	550	10	16.0	14.0	550	10	16.0	14.0
RIX Facility	2020	40.0	NA	550	10	550	10	16.0	14.0	550	10	16.0	14.0
Santa Ana River Reach 3													
City of Riverside ^E	2010	40.0	40.0	650	13<38 MGD	650	13<38 MGD	1.5	38.5	650	10	1.5	38.5
Regional Water Quality Control Plant	2020	46.0	NA	650	13<38 MGD	650	13<38 MGD	8.9	41.1	650	10	10.0	36.0
Western Municipal Water District ^G	2010	3.0	NA	550	6	-	-	-	-	550	6	0.7	2.3
March Wastewater Reclamation Facility	2020	5.0	NA	550	6	-	-	-	-	550	6	0.7	4.3
Chino Creek/Cucamonga Creek/Prado Basin													
Inland Empire Utilities Agency ^F	2010	44.0	44.0	550	8	550	8	13.0	21.0	550	8	13.0	21.0
RP1 001 Prado	2020	44.0	NA	550	8	550	8	23.0	13.0	550	8	23.0	13.0
Inland Empire Utilities Agency ^F	2010	11.0	9.7	550	8	550	8	7.0	3.0	550	8	7.0	3.0
Carbon Canyon WRP	2020	12.0	NA	550	8	550	8	9.0	3.0	550	8	9.0	3.0
Inland Empire Utilities Agency ^F	2010	15.0	15.0	550	8	550	8	4.0	8.0	550	8	4.0	8.0
RP-5	2020	24.0	NA	550	8	550	8	10.0	14.0	550	8	10.0	14.0
Inland Empire Utilities Agency ^F	2010	14.0	14.0	550	8	550	8	12.0	2.0	550	8	12.0	2.0
RP1 002 Cucamonga and RP 4	2020	14.0	NA	550	8	550	8	12.0	2.0	550	8	12.0	2.0
Western Riverside County ^G	2010	8.0	8.0	625	10	625	10	1.0	6.2	625	10	1.0	6.2
Regional Wastewater Authority WTP	2020	14.0	NA	625	10	625	10	2.0	9.6	625	10	2.0	12.0
Temescal Creek													
City of Corona ^H	2010	11.5	9.0	700	10	700	10	7.7	1.5	700	10	7.7	3.6
Wastewater Treatment Plant #1	2020	14.5	NA	700	10	700	10	10.1	1.5	700	10	10.1	1.5
City of Corona ^H	2010	-	-	-	-	-	-	-	0.0	-	-	-	0.0
Wastewater Treatment Plant #2	2020	-	-	-	-	-	-	-	0.0	-	-	-	0.0
City of Corona ^H	2010	1.0	1.0	700	10	700	10	0.5	0.0	700	10	0.5	0.5
Wastewater Treatment Plant #3	2020	1.0	NA	700	10	700	10	0.8	0.0	700	10	0.8	0.2
Lee Lake Water District ^H	2010	2.3	1.6	650	13	650	13	0.6	0.2	650	13	0.6	0.2
Wastewater Treatment Plant	2020	2.3	NA	650	13	650	13	0.9	0.4	650	13	0.9	0.4
Elsinore Valley Municipal Water District ^I	2010	8.0	8.0	700	13	700	13	7.1	0.0	700	13	7.1	0.0
Regional WWRP	2020	12.0	NA	700	13	700	13	11.1	0.0	700	13	11.1	0.0
Eastern Municipal Water District ^J	2010	52.1	52.5	650	10	650	10	42.4	13.8	650	10	42.4	13.8
(all treatment plants combined)	2020	77.3	NA	650	10	650	10	49.4	21.8	650	10	49.4	21.8

RED values in Scenario 7a are changes from Scenario 5. All other values in Scenario 7a are the same as in Scenario 5.

References: A - Joe Reichenberger; B - Jack Nelson; C - William Hunt; D - John Claus; E - Chandra Johannesson; F - LeAnne Hamilton; G - Linda Garcia; H - Lyndy Lewis; I - Phil Miller; J - Jayne Joy