

Task Force Planning Priorities - Task 1: Prepare Updated Surface Water Monitoring Program for TDS/N for the Santa Ana River Reaches, 2, 3 ,4 and 5

Overview of the Draft 2022 Santa Ana River Water Quality Work Plan

October 31, 2022



2022 Santa Ana River Water Quality Work Plan

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Reach 5 – 2022 Work Plan

Site	Monitoring Performed	Monitoring Entity	Monitoring Frequency
New Site (TBD) – between SAR near Mentone and SAR @ Waterman	Water Quality in Table 4	Task Force	Quarterly
SAR @ Waterman	Water Quality in Table 4	Task Force	Quarterly
SAR @ E Street	Water Quality in Table 4	Task Force	Quarterly

Compliance Metric: Annual Average TDS and TIN of all samples collected during the year

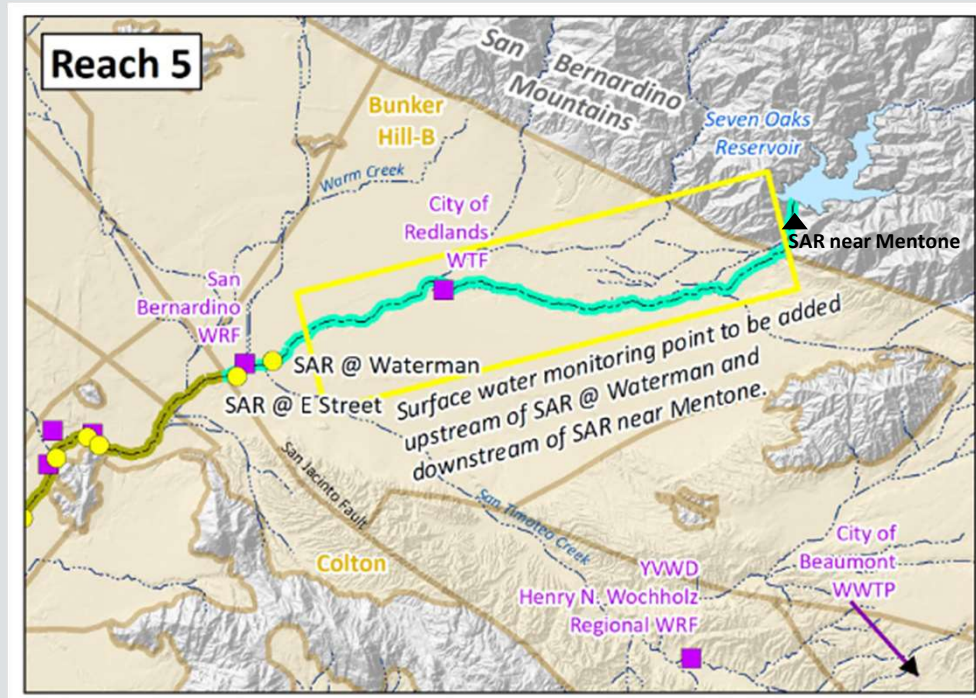


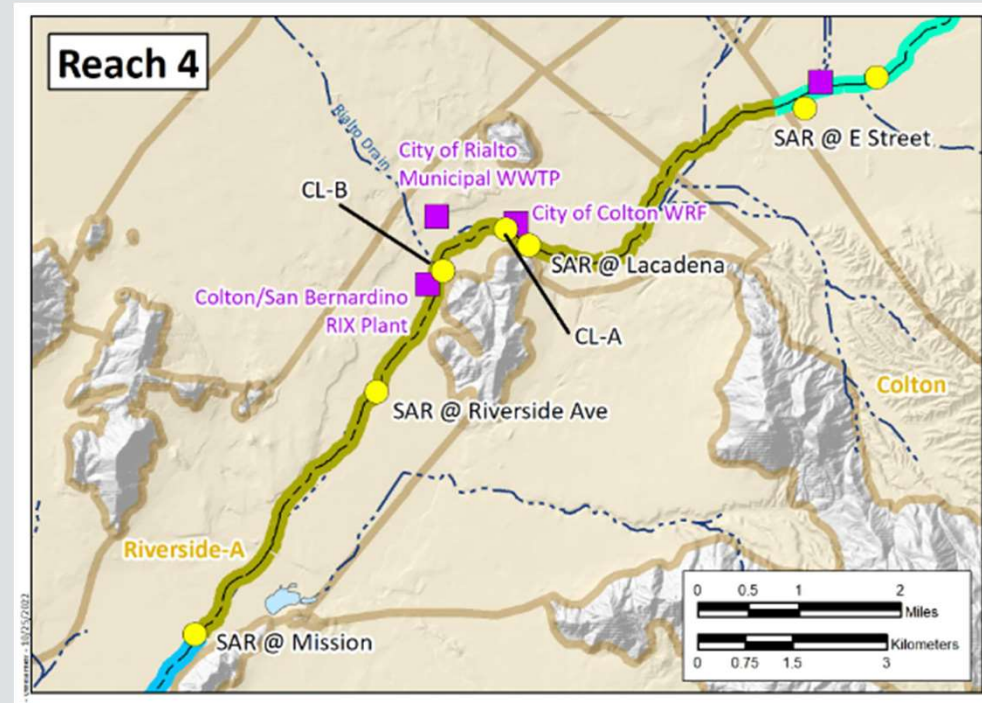
Table 4 – 2022 Work Plan

Table 4. Parameter List for the Santa Ana River Surface Water Monitoring Program	
Parameter	
Alkalinity	Nitrite-nitrogen
Ammonia-Nitrogen	Nitrite-nitrogen
Bicarbonate	Total Inorganic Nitrogen, Calculated
Calcium	pH
Carbonate	Potassium
Chloride	Sodium
Chemical Oxygen Demand	Sulfate
Electrical Conductivity (Specific Conductance)	Total Hardness
Hydroxide	Total Dissolved Solids
Magnesium	

Reach 4 – 2022 Work Plan

Site	Monitoring Performed	Monitoring Entity	Monitoring Frequency
SAR @ Lacadena	Water Quality in Table 4	Task Force	quarterly
SAR @ Riverside Ave	Water Quality in Table 4	Task Force	quarterly
SAR @ Mission	Water Quality in Table 4	Task Force	quarterly
CL-A	Water Quality inclusive of TDS/NO3	County of San Bernadino	quarterly
CL-B	Water Quality inclusive of TDS/NO3	County of San Bernadino	quarterly

Compliance Metric: Annual Average TDS and TIN of all samples collected during the year

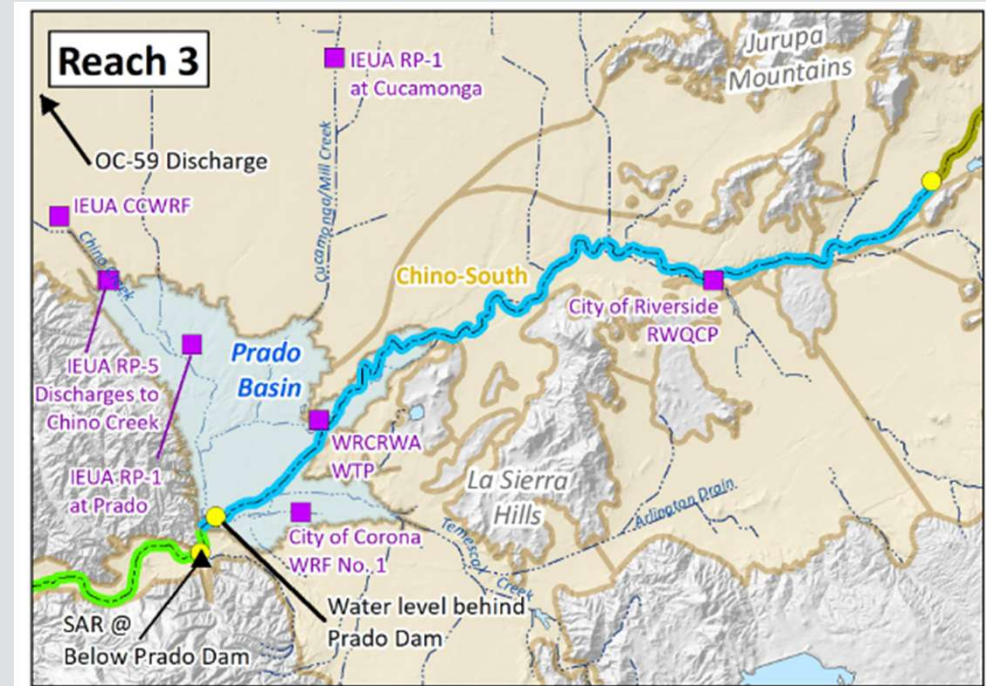


Reach 3 – 2022 Work Plan

Site	Monitoring Performed	Monitoring Entity	Monitoring Frequency
USGS Gage at SAR @ Below Prado	EC Measurements *	USGS	Daily
SAR @ Below Prado	Water Quality inclusive of TDS/TIN	USGS and Others (OCWD)	Bi-weekly Monthly
Prado Dam Reservoir	Surface Water Elevation	ACOE/OCWD	Daily
OC-59 Imported Water Turnout	Discharge	MWDSC/OCWD	Daily
Precipitation Data Tributary to Reach 3	Precipitation	Various	Daily

* EC will be converted to TDS

Compliance Metric: Annual Average of all TDS and TIN samples collected during base flow conditions.



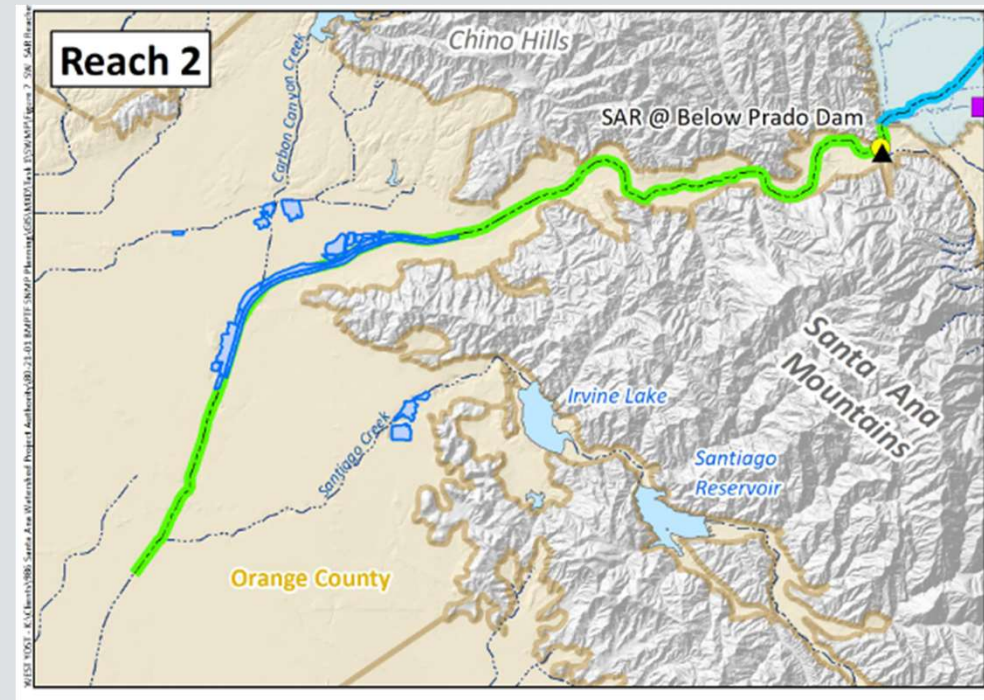
“Between March and November when there are no precipitation events and OC-59 discharge within the last four days, and the surface water level elevation of the conservation pool behind Prado Dam is at or below the level that is considered empty.”

Reach 2 – 2022 Work Plan

Site	Monitoring Performed	Monitoring Entity	Monitoring Frequency
USGS Gage at SAR @ Below Prado	EC* and Flow Measurements	USGS	Daily
SAR @ Below Prado	Water Quality inclusive of TDS/TIN	USGS and Others (OCWD)	Bi-weekly Monthly

* EC will be converted to TDS

Compliance Metric: 60-month volume-weighted average TDS concentration at SAR @ Below Prado Dam.



Surface Water Special Study

Objectives:

- Enhance the data available to characterize TDS/TIN concentrations in the Santa Ana River
- Improve the ability of the WLAM to predict future TDS/TIN concentrations in the Santa Ana River

Questions driving the Special Study:

- Where does rising groundwater occur along Reaches 3 and 4? Where does streambed infiltration occur?
- What is the quality of streambed infiltration and rising groundwater where it occurs?
- What proportions of different types of water (e.g., POTW discharge, rising groundwater) exist at the various compliance points along Reaches 3 and 4?

Surface Water Special Study

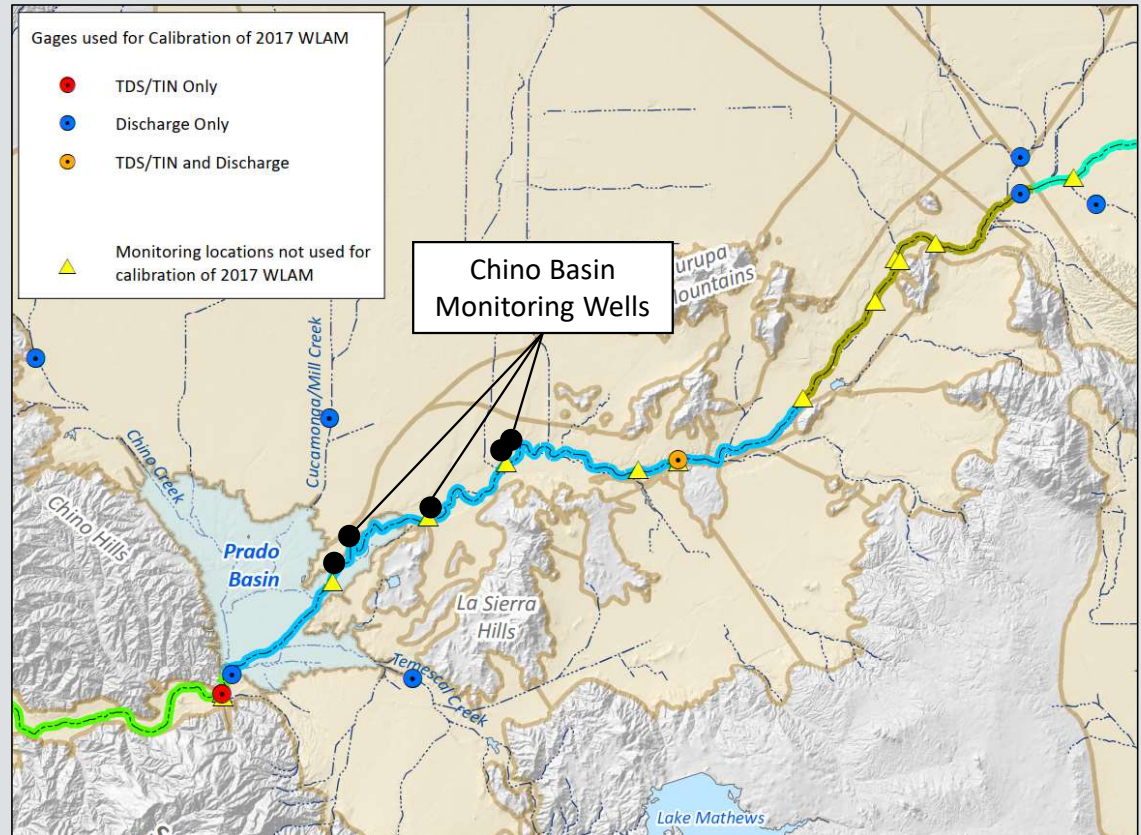
Considerations to develop a cost-effective monitoring program to support the Special Study objectives:

- What types of data should be collected?
- Where should data be collected?
- How often should data be collected?
- What existing monitoring program(s) could be leveraged to provide data to support the Special Study?
- What is an appropriate duration for the monitoring program?
- What is the process to define the monitoring and data collection program?
- How much will the program cost?

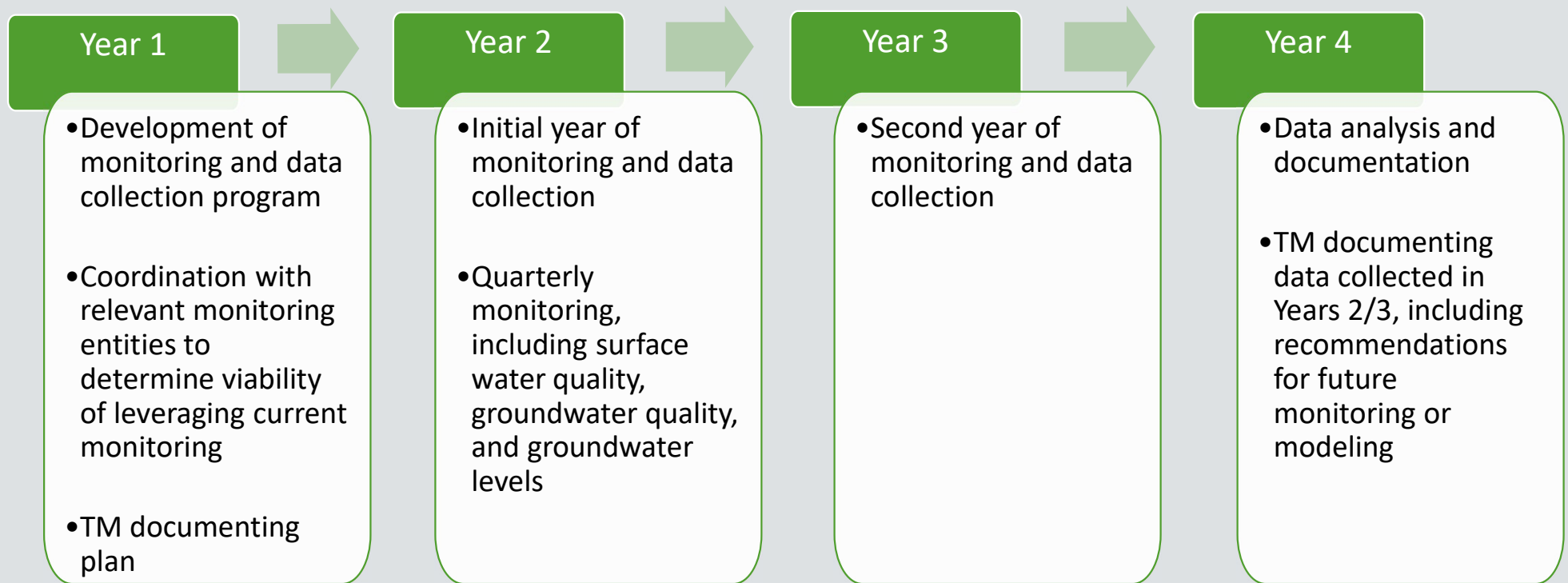
Surface Water Special Study

Monitoring sites:

- Surface water
 - 1 monitoring point on Reach 5
 - 3 monitoring points in SAR overlying Riverside-A GMZ
 - 4 monitoring points in SAR overlying Chino South GMZ
 - 1 monitoring point in each major tributary to Prado Basin
- Groundwater
 - Between SAR @ Riverside Ave and SAR @ Below Prado Dam (where SAR interaction with groundwater is probable)
 - Use existing monitoring/wells where possible



Surface Water Special Study



A Vision for the Future – Surface Water Monitoring Program



Santa Ana River Surface Water Monitoring Program Costs

Initial estimates for tasks in next 2-4 years:

- Preparation of Quality Assurance Project Plan (QAPP) in 1st year: \$25,000
- Set up of the monitoring program and field reconnaissance in 1st year: \$5,000
- Annual field surface water quality monitoring and processing and management: \$24,000
- Annual collection of other available surface water monitoring data: \$4,000
- Annual Preparation of SAR Annual Report: \$50,000
- Assistance for preparation of Basin Plan Amendment: \$25,000
- Conduct Special Study over 4 years - \$362,000 (total), spread out as:
 - 1st year (development of monitoring and data collection program): \$70,000
 - 2nd year (initial year of monitoring and data collection): \$126,000
 - 3rd year (second year of monitoring and data collection): \$101,000
 - 4th year (data analysis and documentation): \$65,000

Next Steps

- **Review of Draft 2022 Santa Ana River Water Quality Work Plan:**
 - 21-day review period through November 16th, 2022
 - Veva Weamer vweamer@westyost.com;
Garrett Rapp grapp@westyost.com
 - Submit to Regional Board by December 1, 2022



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