



# 2021 Ambient Water Quality – Informational Kick-Off

January 26, 2023

# Objectives and Agenda

**Objective:** Inform the Task Force about the scope of work, schedule, and initial data collection efforts for the 2021 Ambient Water Quality Pilot Study

## Agenda

- Reminder of the Scope of Work
- Schedule
- Initial Data Collection Efforts and Status

# Consultant Team

- West Yost – Samantha Adams, Veva Weamer, Sodavy Ou
- Water Systems Consulting (WSC) – Michael Cruikshank
- Daniel B. Stephens & Associates (DBS&A) – Hannah Erbele

# Scope of Work

- Task 1 – Data Collection and Review
- Task 2 – Pilot Assessment of Ambient Water Quality in Select GMZs
  - Pilot Simplified Method: 4 GMZs
  - Standard Method: 7 GMZs with Maximum Benefit SNMPs
  - Pilot impact of revised storage properties in the Yucaipa GMZ
- Task 3 – Develop Technical Approach and SNMP Implementation Plan
  - Recommend AWQ Methods for future recomputation
  - What work needs to be done to between now and 2028 to complete 2028 AWQ
- Task 4 – Prepare Final Report
- Task 5 – Task Force Workshops and Project Management

# Task 1 – Data Collection

**Objective:** To collect updated TDS and nitrate data for the wells in the groundwater monitoring networks of all 35 GMZs. To expedite the completion of the Pilot Study, the data collection from the 11 GMZs that are part of the pilot study will be prioritized and fast tracked.

- Collect TDS and nitrate data only, append to 2018 Database
- Perform QA/QC of data by reviewing TDS and nitrate time history charts
- Collect shapefiles of water level contours (no water level data)

**Task Led by West Yost, supported by WSC**

# Task 2 – Pilot Assessment of Ambient Water Quality in Select GMZs

**Objective:** To test alternative methods to assess ambient water quality and assimilative capacity.

- Pilot simplified method based on an analysis of historical trends, current statistics, and spatial distribution of TDS and nitrate in four GMZs
  - Bunker Hill B, Perris South, Riverside A, and Temescal.
- Perform modified version of the standard methodology in seven GMZs with Maximum Benefit SNMPs
  - Beaumont, Chino North, Cucamonga, Elsinore, San Jacinto Upper Pressure, San Timoteo, and Yucaipa
- Pilot update to the aquifer storage model in Yucaipa GMZ

# Task 2 – Pilot Assessment of Ambient Water Quality in Select GMZs

Data Analysis For All 11 GMZs

- Compute TDS and nitrate summary statistics for wells
- Perform Mann Kendall trend analysis (all wells in each GMZ)
- Compute 20-year AWQ statistic

**Task Led by West Yost, supported by DBS&A**

# Task 2 – Pilot Assessment of Ambient Water Quality in Select GMZs

For Simplified Approach in 4 GMZs:

- Develop integrated explanatory graphic(s) for each GMZ to characterize historical and current TDS and nitrate conditions and based on interpretation, make a determination of the current AWQ and assimilative capacity
  - Summary stats, trend analysis, AWQ stat, historical AWQ findings

Process:

- Present approach and findings to Task Force and Regional Board
- Adapt approach based on feedback
- Present results of adapted approach

**Task Led by West Yost, supported by WSC**



# Task 2 – Pilot Assessment of Ambient Water Quality in Select GMZs

For Standard Approach in 7 GMZs, perform modified standard approach for seven GMZs, including pilot of:

- use of readily available water level contours to compute storage
- GIS supported procedure to contour TDS and N concentrations in at least one GMZ
- Limit contouring and map displays to the extent of the saturated portion of aquifer within the GMZ boundary
- Update storage model for the Yucaipa GMZ

Process:

- Present approach and findings for 1-2 GMZs to Task Force and Regional Board
- Adapt approach based on feedback
- Present results of adapted approach

**Task Led by WSC, supported by West Yost**

# Task 3 – Develop Technical Approach and SNMP Implementation Plan

- The objectives of this task are to
  - determine if the piloted methods can be done successfully (e.g. provide AWQ analyses that are suitable for compliance with the Basin Plan and the State Board's SNMP requirements),
  - determine whether the piloted methods provide benefit to the Task Force and Regional Board,
  - define the recommended technical methodology for future AWQ and assimilative capacity assessments based on the analysis and results of work performed for Task 2
  - prepare a refined schedule and scope of work that needs to be performed by the Task Force from Fiscal Year 2023/24 through Fiscal Year 2028/29 to comply with the Basin Plan SNMP (e.g. to incorporate into Planning Priorities document).

**Task Led Jointly by West Yost and WSC**

# Task 4 – Prepare Final Report

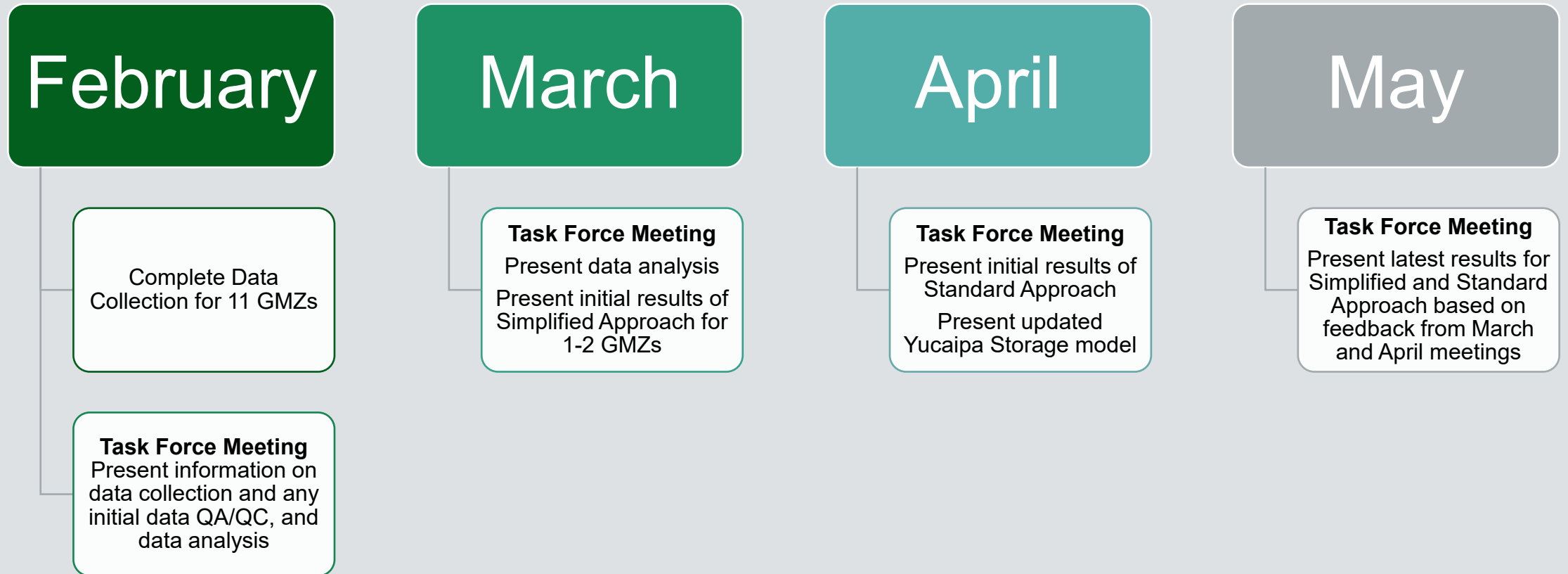
- Section 1 – Introduction.
- Section 2 – Data Collection and Review
- Section 3 – Ambient Water Quality: TDS/N Concentrations, Trends, and Statistics.
- Section 4 – Ambient Water Quality: Volume-weighted TDS/N Concentrations.
- Section 5 – Recommended Technical Methodology to Compute Ambient Water Quality and Assimilative Capacity
- Section 6 – Task Force SNMP Implementation Plan

**Task Led Jointly by West Yost and WSC**

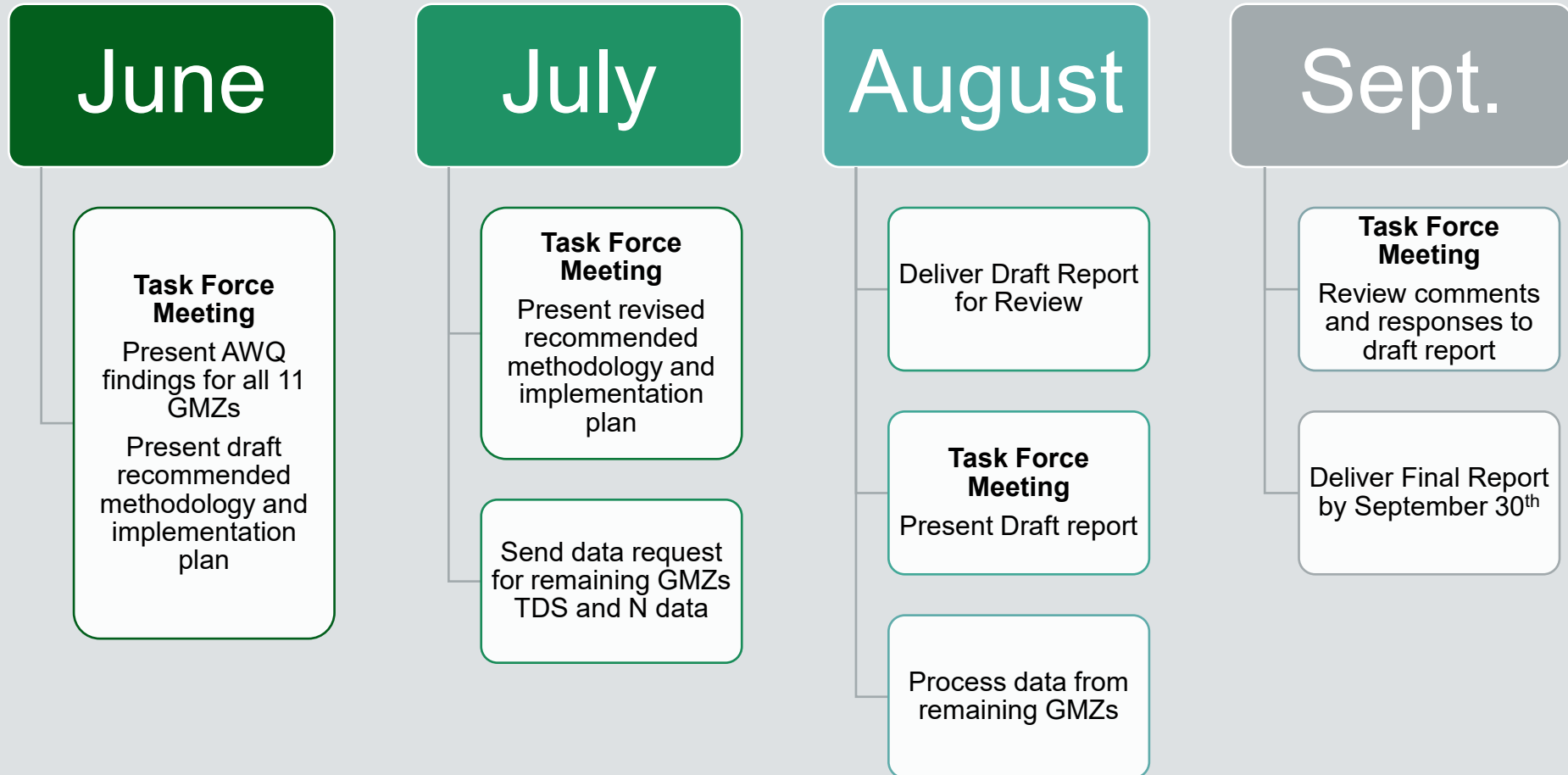
# Schedule

Table 2. Schedule to Perform the 2021 Ambient Water Quality Pilot Study											
Task and Subtask	2023 Task Duration										
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov
Task 1. Data Collection and Review (Prioritize 11 GMZs first, complete rest after)											
Task 2. Pilot Assessment of Ambient Water Quality in Select GMZs											
Task 3. Develop Technical Approach and SNMP Implementation Plan											
Task 4. Prepare Final Report								D	F		
Task 5. Task Force Workshops and Project Management	W	W	W	W	W	W	W	W	W	W	*
Notes: D = Draft Report, F = Final Report, W = Task Force Workshop, * = Project management only											

# Schedule



# Schedule



# Data Collection as of January 2023

Standard Method GMZ (Maximum Benefit GMZs)	New Well Information	TDS and Nitrate Data	GeoTracker Data	Water Level Contours
San Jacinto Upper Pressure	Requested; received	requested – received - processing	na	requested
Beaumont	None needed	requested	processing	requested
San Timoteo	None needed	requested	na	<i>may not exist</i>
Yucaipa	None needed	requested	na	Requested*
Cucamonga	Complete	Complete	na	requested
Chino-North	Complete	Complete	na	received
Elsinore	None needed	requested	na	received
Simplified Methodology GMZs	New Well information	TDS and Nitrate Data	GeoTracker Data	
Perris South	Requested; received	requested – received - processing	na	
Bunker Hill-B	Requested; received	requested	processing	
Riverside-A	Requested; received	requested	na	
Temescal	Requested; received	requested	processing	
<i>*For Yucaipa – this includes request of all data needed to update the storage model for the GMZ</i>				

# THANK YOU

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