



Ambient Water Quality: Considerations for Ongoing Work – Methods and Process

June 27, 2023

Objectives and Discussion Overview

Objective: Engage in discussion of (1) the work that needs to be performed pursuant to the Basin Plan/Recycled Water Policy through the next AWQ update and (2) the considerations for defining the methodology to compute AWQ

Agenda

- Background/Recycled Water Policy
- Task Force work to perform pursuant to the Basin Plan/Recycled Water Policy through the next AWQ update
- Considerations for developing plan to complete each task through FY 2028/29
- Discussion (see capture of discussion on slides 19 to 23)

Background/Reminders

- 2004 Basin Plan defines current SNMP for Santa Ana Region
 - Developed prior to the 2009 State Board Recycled Water Policy
 - Santa Ana region adopted Declaration of Conformance with Recycled Water Policy in 2010
- 2019 Recycled Water Policy was amended; it requires:
 - Implementation of SNMP-specific monitoring program (e.g. designed to assess state of assimilative capacity for TDS and nitrate)
 - Identification of data gaps in the monitoring network
 - Reporting of monitoring data on an annual basis
 - Evaluation of data *every five years*

Recycled Water Policy: Five-Year Assessments

Section 6.2.1.3 of Policy

Salt and nutrient management plans adopted as a Basin Plan amendment or accepted by the regional water board prior to April 8, 2019 shall be evaluated pursuant to 6.2.6 and 6.2.7 by **April 8, 2024**

Section 6.2.6 of Policy

- 1 Observed trends in groundwater salinity with the predicted trends from the SNMP
- 2 The ability of the monitoring network to adequately characterize groundwater quality in each GMZ
- 3 Potential new data gaps
- 4 The ability of any relied-upon models to adequately simulate groundwater quality
- 5 Available assimilative capacity based on observed trends and the most recent water quality data
- 6 The impact of new projects that are reasonably foreseeable at the time of the assessment

Recycled Water Policy Implications for Task Force work to Comply with Basin Plan SNMP

- Support Regional Board in developing new Declaration of Conformance, or Basin Plan Amendment (if appropriate) by April 8, 2024
- Policy provides for opportunity to REDUCE the frequency of data analysis from once every **three** years to once every **FIVE** years (at discretion of Regional Board)

Recycled Water Policy Implications for Task Force work to Comply with Basin Plan SNMP

- **BUT...** Regional Board ask of Task Force if five-year frequency adopted
 - Update the monitoring program workplan
 - Identify potential data gaps
 - Perform 2021 Ambient Water Quality assessment, pilot study acceptable to support long term definition of approach/methods to comply with Recycled Water Policy and Basin Plan SNMP
 - Update aquifer storage models based on new hydrogeologic information developed since 2004 Basin Plan amendment
 - Collect and report AWQ data annually
 - Complete next five-year assessment by October 2028

Objectives of Task Force work to Satisfy Regional Board Ask

- Define SNMP Monitoring Network
 - Provides clear understanding of what data is currently collected and supports future process to identify wells that will no longer be monitored
- Complete 2021 Ambient Water Quality Pilot Study
 - Outcome includes recommending methods to perform AWQ and Assimilative Capacity Assessments as part of five-year assessments, including process to update GMZ storage properties and perform data collection
- Data Gaps Analysis
 - To identify potential data gaps in computing AWQ and Assimilative Capacity
 - To define a process for Responsible Parties to determine if potential data gaps are actual data gaps and to fill actual data gaps
- Update GMZ Aquifer Storage Properties
 - To ensure AWQ assessments are based on the best available science/data
- Collect AWQ data on an annual basis
 - To explicitly comply with Recycled Water Policy
 - But really... to improve data quality and efficiency of five-year analysis

What does this mean for the Task Force for the next five years?



Prepare Monitoring Plan

Task Force Actions

- Prepare monitoring plan (**complete**)
 - Define current network of monitored wells, including identification of well owners and anticipated monitoring frequency
- Periodic update of tables/figures depicting active monitoring network

Responsible Party Actions

- Provide monitoring information to Task Force
- Report monitoring data to Task Force (eventually on annual basis)

Address Data Gaps

Task Force Actions

- Perform Data Gap Analysis (in process)
 - Define potential data gaps
 - Define responsible parties
 - Define framework to address potential data gaps and resolve actual data gaps
- Re-assess data gaps every five years

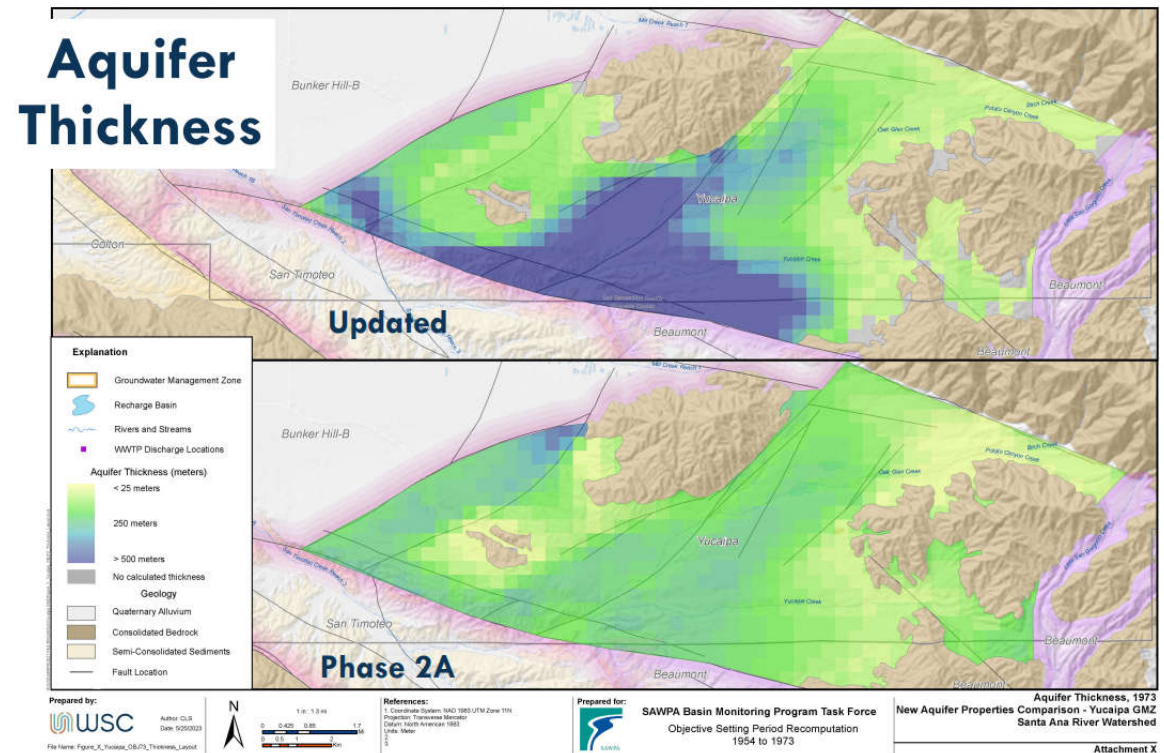
Responsible Party Actions

- Implement framework to resolve potential data gaps and identify actual data gaps
- Present plan to fill actual data gaps to Regional Board
- Fill actual data gaps

GMZ Storage Properties Updates

Considerations

- What would have the Basin Plan Objective been under new storage model?
- What current AWQ be under old and new model?
- Does the GMZ boundary need to be updated in the Basin Plan?
 - Does that affect other GMZ boundaries?
- How do the technical findings impact:
 - existing SNMPs?
 - existing permits?
 - future permits/SNMPs under consideration?
- Not one approach - Case-by-case!
- How long will this take?



GMZ Storage Properties Updates

Task Force Actions

- Perform technical work
 - Update storage model
 - Recompute AWQ for objective setting period
 - Recompute AWQ for 2018 AWQ
 - Compute 2021 AWQ under old and new models
 - Report results

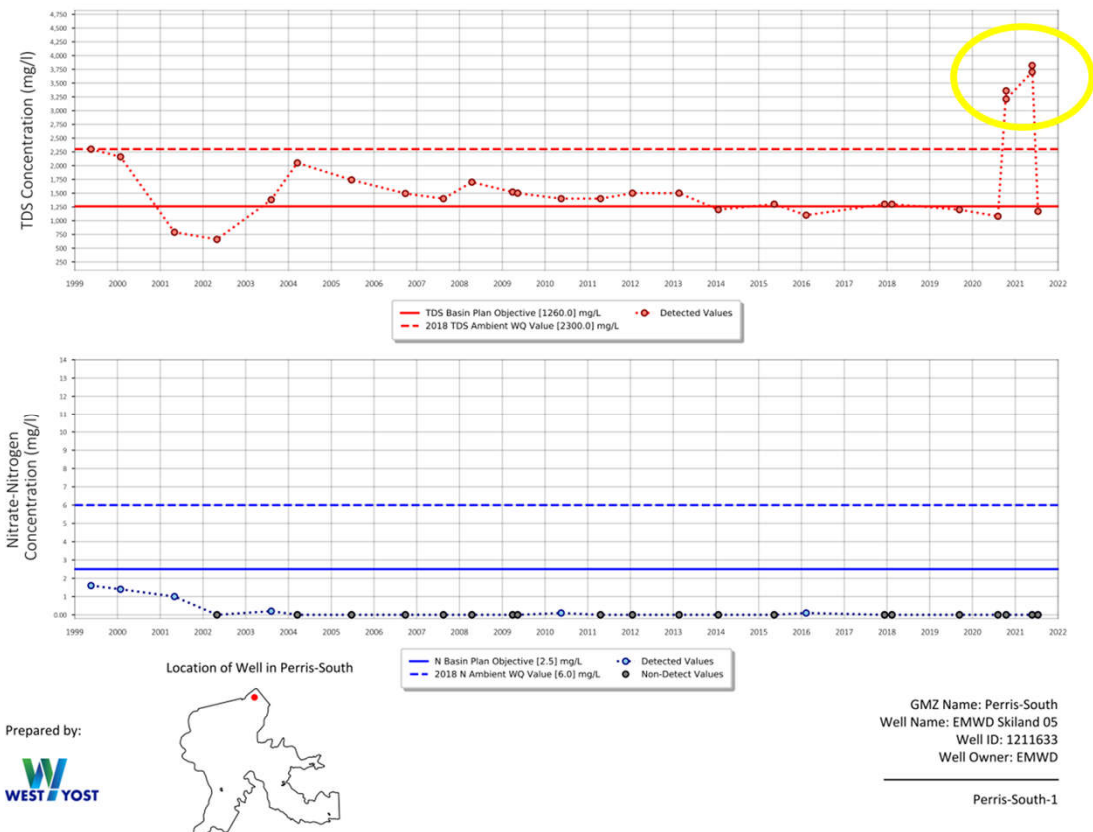
Responsible Party Actions

- Address policy implications of updated storage model
- Work with Regional Board to determine:
 - Does Basin Plan Objective need to be amended?
 - Define regulatory compliance plans or other permitting actions based on technical outcomes
- Report policy outcomes to Task Force

Annual Data Collection

Considerations

- Data collection and management continues to be the most time-consuming/costly part of the project
- Data quality is of utmost importance
- How to introduce efficiencies while working toward process to report data to Task Force annually?
- How should database be maintained?
 - Where/who?
- Process to report data
 - What tools would be beneficial?
- What work needs to be done to improve existing data to ensure tools can be used efficiently?



Annual Data Collection

Task Force Actions

- Develop scope of work to collect data annually
- Develop tools/processes?
- Collect data annually
- Report to Regional Board

Responsible Party Actions

- Report data to Task Force

AWQ Methodology Options

Option 1 – No Change

- Compute AWQ every five years per currently defined full standard methodology in all GMZs
- Define set of “interpretive tools” needed to support results, e.g.:
 - Storage change maps
 - Charts
 - Summary stats

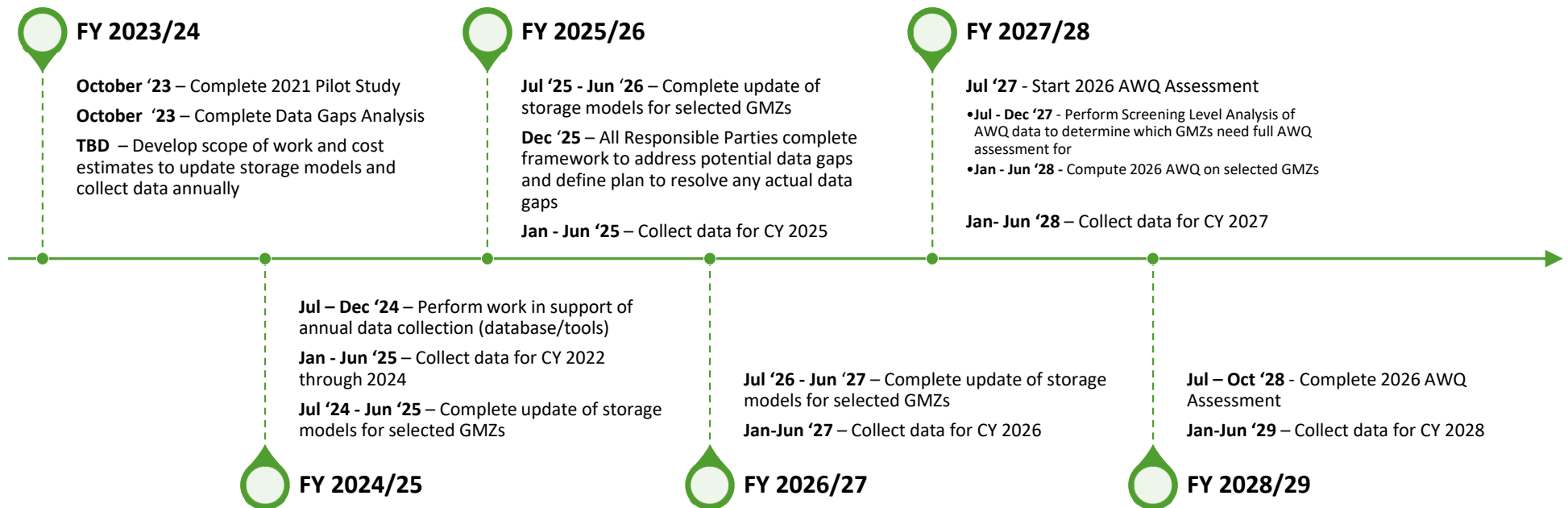
Option 2 – New 2-step process

- Step 1: Screening Analysis
 - Apply simplified approach to assess changes to the state of assimilative capacity
- Step 2: Perform full AWQ analysis on selected GMZs
 - Any GMZ with concentration that is within **10 percent (?)** (+/-) of Basin Plan Objective as of most recent AWQ assessment
 - Additional GMZs identified based on screening level analysis

2021 AWQ Pilot Study Will Provide the Roadmap

- Report will document:
 - Results of technical work to compute AWQ and assess assimilative capacity for selected GMZs
 - Recommended methodology to perform AWQ for future 5-year updates
 - List of GMZs to update storage properties
 - Recommendations for data collection/management
 - Plan/schedule to perform work through completion of next five-year AWQ assessment in FY 28/29

Timeline of Work FY 23/24 to 28/29



Next Steps

- July Meeting
 - Present recommended approach based on today's discussion
 - Present additional results
- August
 - Draft report
- September
 - Revised draft report
 - Final report

Data Collection – 6/27 Discussion

- There is no real mechanism for the State Board to enforce the annual data delivery, so could consider deferring this task in consideration of cost of other activities that must be performed (Tess D.)
- Regional Board preference is to see the Task Force comply with the spirit of the guidelines in the Recycled Water Policy (Eric L.)
- What is the timeline?
 - The annual data collection process needs to be scope out first to consider any tools that need to be developed to support data collection and management – scoping should start in FY 2023/24
 - Collection of data on an annual basis is recommended to start in FY 2024/25

Data Gaps - 6/27 Discussion

- Are we considering the depth of wells in defining data gaps?
 - No this is not a consideration at this time – this factor may be something that needs to be addressed in the future, particularly if a GMZ is divided into layers when its storage model is updated

GMZ Storage Properties - 6/27

Discussion

- Updating the storage for all of the GMZs could be a lot of work – how will it get done?
 - It is recommended to spread the work out over 3 years
 - Will need to identify which GMZs need to be updated and develop a schedule to complete over multiple years
- Need to consider that in some basins, models are being updated periodically (e.g. every five years).
 - Does the storage model need to be updated every time? NOT THE INTENTION
 - How to define a process that considers that the information is evolving over time?
- Will a timeline be defined for agencies to resolve Basin Plan Objectives and permit impacts following technical work to update storage properties?
 - No, this will have to be case-by-case timeline. The only timeline that will be set is for completing the technical work described in this presentation

AWQ Methodology - 6/27 Discussion

- Water Level contours
 - where will they be available to minimize groundwater level data collection
 - Be aware agency contours are not always same as have been drawn for Task force – sometimes extent is very different
- Simplified method as the new interpretive tools
- Simplified Method as screening tool
 - What should trigger full AWQ method? Needs to be very clear. Perhaps more than just how close the AWQ is to the Basin Plan objective. Triggers might be:
 - Permit renewal (this is every 5 years for NPDES permits)
 - WLAM analysis – needs a result to compare SAR water quality to for receiving GMZs of SAR recharge
 - What should be the rule for maximum benefit GMZs? Can they also be subject to the screening process?
 - West Yost recommends that if the Max Ben GMZs fit the criteria, they should follow the same process

AWQ Methodology - 6/27 Discussion

- Can there be a side-by-side table comparison of the two methods?
 - This is challenging, but we'll come up with a way to help Task Force to compare
- Any opinions about the options presented?
 - Cindy Li - Regional Board: Screening approach is a good idea, but preference is for AWQ to be computed in all GMZs, regardless of screening outcomes
 - There are additional options to present as alternatives:
 - Continue with 3-year updates as is
 - Full recomputation for all GMZs in next update and further refinement to apply screening tool in the future
- What is the cost of the work that needs to be performed in each option? Can a cost estimate be provided?

THANK YOU

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Groundwater Monitoring Program: Data Gaps Assessment

June 27, 2023

Next Steps

- June - Document responsible parties based on meeting discussions
 - Ian to schedule individual meetings amongst each group of responsible parties to confirm and address any concerns
- June/July - Circulate meeting notes and updated documentation of potential data gaps and priority to address (e.g. GMZ maps)
- August - Present updated potential data gaps and priority, framework to resolve, and responsible parties
- Prepare draft Data Gaps and Framework technical memorandum
 - Deliver for review by September 18
 - Task Force comments due to West Yost/SAWPA by October 6
 - Deliver revised Draft TM to task force with comments addressed by October 18
 - Deliver final TM to SAWPA October 27

WE SUPPORT OUR COMMUNITIES

WE ARE WATER FOCUSED

WE TAKE PRIDE IN WHAT WE DO

WE DO WHAT'S RIGHT

WE STRIVE TO BECOME OUR BEST

WE BELIEVE IN QUALITY

WE LISTEN

WE SOLVE HARD PROBLEMS

WE SEE THE BIGGER PICTURE

WE TAKE OWNERSHIP

WE COLLABORATE

WE HAVE FUN

WE ARE WEST YOST

2021 AWQ Pilot | June 27, 2023

