Borrego Springs Watermaster
Technical Advisory Committee Ad-Hoc Meeting
October 16, 2024 @ 10:00 a.m.
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AGENDA

Items with supporting documents in the TAC Meeting Package are denoted with a page number.

I. Roll Call

II. Public Comments
This is an opportunity for members of the public to address the TAC on items included on the agenda. Comments will be limited to three minutes per commenter. Comments will be limited to 10 minutes total.

VI. Future Meetings

VII. Adjournment

Borrego Springs Watermaster
Technical Advisory Committee Meeting
October 16, 2024
AGENDA ITEM III

To: Technical Advisory Committee (TAC)

From: Andy Malone, PG (West Yost), Technical Consultant

Date: October 2, 2024

Subject: Draft Technical Memorandum for Task 4 – *Model Recalibration*

Background

Section II.E of the Judgment requires the Sustainable Yield to be redetermined by January 1, 2025 through a process that includes: collecting additional data, refining the Borrego Valley Hydrologic Model (BVHM), and using model runs to update the Sustainable Yield. The Watermaster Board approved a scope of work and budget for water year (WY) 2023 and 2024 to update the BVHM and Redetermine the Sustainable Yield by 2025.[1] The scope of work includes the following tasks:

- Task 1 – Compare FMP-estimated Pumping to Actual Pumping for WY 2022
- Task 2 – Update Water-Use Factors in the FMP
- Task 3 – Correct Errors Identified in the 2021 BVHM
- Task 4 – Model Recalibration
- Task 5 – Determine the Sustainable Yield

To-date, West Yost has completed Tasks 1 through 3 of the scope of work and is finalizing Task 4 – *Model Recalibration*. West Yost published the draft Task 4 Technical Memorandum (TM) entitled *Methods and Results of Task 4 – Model Calibration*[2] for TAC review and comment. The TAC was given a two-week period to review and comment on the draft Task 4 TM; TAC comments are due to the Technical Consultant by **Friday, October 4, 2024.**

Discussion and Next Steps

At the TAC meeting, West Yost will summarize and respond to TAC comments on the draft Task 4 TM.

Following the TAC meeting, West Yost will finalize the Task 4 TM and prepare a final Technical Report, which will be a compilation of the work completed in Tasks 1 through 4 (referred to as the *2025 Sustainable Yield Technical Report*). The *2025 Sustainable Yield Technical Report* will be published for Board and TAC review on **Thursday, October 31, 2024.**

[1] https://borregospringswatermaster.com/wp-content/uploads/2024/10/Scope-of-Work_Redetermine-2025-SY.pdf
[2] https://borregospringswatermaster.com/wp-content/uploads/2024/09/BVHM-Task-4-Methods-Results_DRAFT_20240920.pdf

Borrego Springs Watermaster
Technical Advisory Committee Meeting
October 16, 2024
AGENDA ITEM IV

To: Technical Advisory Committee (TAC)

From: Andy Malone, PG (West Yost), Technical Consultant

Date: October 2, 2024

Subject: TAC Recommendation Report on the 2025 Redetermination of the Sustainable Yield

Background and Objectives

Section II.E of the Judgment requires the Sustainable Yield to be redetermined by January 1, 2025 through a process that includes: collecting additional data, refining the Borrego Valley Hydrologic Model (BVHM), and using model runs to update the Sustainable Yield. The Watermaster Board approved a scope of work and budget for water year (WY) 2023 and 2024 to update the BVHM and Redetermine the Sustainable Yield by 2025.[1] The scope of work includes the following tasks:

- Task 1 – Compare FMP-estimated Pumping to Actual Pumping for WY 2022
- Task 2 – Update Water-Use Factors in the FMP
- Task 3 – Correct Errors Identified in the 2021 BVHM
- Task 4 – Model Recalibration
- Task 5 – Determine the Sustainable Yield

Tasks 1 through 4 of the scope of work have been executed, and most recently, a draft technical memorandum on Task 4 – *Model Recalibration* was published for the TAC's review.

At the September 2024 Board meeting, the Technical Consultant discussed the schedule to complete the Redetermination of the Sustainable Yield by January 1, 2025 with the Board. The Board provided the following direction and guidance:

- The 2025 Redetermination of the Sustainable Yield should be based on the results of Task 4 – *Model Recalibration*. Any important caveats, including identifying next steps to evaluate future impacts of pumping under the revised Sustainable Yield, should be part of the recommendations.
- Under Task 5 – *Determine the Sustainable Yield*, the model projections of the pumping Rampdown to the Redetermined Sustainable Yield should proceed in parallel to finalizing the Redetermination of Sustainable Yield. The results will be used to support any recommendation to modify the Carryover rules in the Judgment and to support the 5-year

[1] https://borregospringswatermaster.com/wp-content/uploads/2024/10/Scope-of-Work_Redetermine-2025-SY.pdf

assessment of the Groundwater Management Plan (GMP). To utilize DWR grant funding, the model projections should be completed by March 31, 2025.

Following the Board's direction, the redetermination of the 2025 Sustainable Yield should be based on the results of Task 4 – *Model Recalibration* and must be redetermined by January 1, 2025. To approve the 2025 Sustainable Yield, the Board will consider the recommendations of (i) the Technical Advisory Committee (TAC) and (ii) the Technical Consultant. These recommendations will come in the form of independent "Recommendation Reports" for Board review.

The objective of this memo is to kickoff and assist the TAC in the preparation of a TAC Recommendation Report for the 2025 Redetermination of the Sustainable Yield.

Technical Consultant Recommendation

The Technical Consultant plans to make the following recommendations in its Technical Consultant Report to the Board:

- Make a professional judgment that the *Calibrated BVHM* is a good simulator of the hydrology of the Basin and can confidently be used to establish the 2025 Sustainable Yield and predict future groundwater conditions in the Basin under future groundwater pumping plans and climatic conditions to support the GMP Assessment Report.
- The 2025 Sustainable Yield should be set at **7,900 afy.** This number is derived from rounding-down the exact *Preliminary* Sustainable Yield value of 7,952 afy estimated by the *Calibrated BVHM*, and is a more conservative estimate. Additionally, it is consistent with the average Sustainable Yield result of all 10 model realizations evaluated in the uncertainty analysis (7,800 afy) documented in the Task 4 TM.

Considerations for Preparing the TAC Recommendation Report

The following are things to consider when preparing the TAC recommendation for the 2025 Redetermination of the Sustainable Yield:

1. **Results of Task 4 – *Model Calibration.*** The draft Task 4 Technical Memorandum (TM) entitled *Methods and Results of Task 4 – Model Calibration*[2] (Task 4 TM) was published for TAC review and comment. The Task 4 TM describes the process of performing model calibration and an uncertainty analysis and using the results to estimate the Sustainable Yield (*i.e.* 2025 Sustainable Yield). The main conclusions from Task 4 – *Model Recalibration* are:
   A. The *Calibrated BVHM* is a good simulator of the hydrology of the Basin and can confidently be used to redetermine the 2025 Sustainable Yield.
   B. The 2025 Sustainable Yield should be based on the method described in the Task 4 TM and should range between 7,600 acre-feet per year (afy) to 8,100 afy based on the 10 model realizations used in the uncertainty analysis. The most defensible model realization is the *Calibrated BVHM*, which yielded a Preliminary Sustainable Yield estimate of 7,952 afy.

[2] https://borregospringswatermaster.com/wp-content/uploads/2024/09/BVHM-Task-4-Methods-Results_DRAFT_20240920.pdf

C. The *Calibrated BVHM* can and should be used to predict future groundwater conditions in the Basin under future groundwater pumping plans and climatic conditions to:

- Assess the sustainability of future groundwater conditions under a Rampdown to the final 2025 Sustainable Yield established by the Watermaster
- Evaluate Watermaster's current Carryover rules
- Support the 2025 Groundwater Management Plan Assessment Report.

2. **Future Improvements to the BVHM**. The Technical Consultant has executed the WY 2023-2024 scope of work (listed above) through an iterative process with the TAC over the past two years. The executed scope has resulted in improving ability of the BVHM to simulate the hydrology of the Basin, such as: (i) improving the ability of the FMP to estimate groundwater pumping; (ii) improving the ability of the BVHM to estimate groundwater-levels; and (iii) improving the ability of the BVHM to estimate the water budget of the Basin. The calculation of the water budget was modified to include only the portion of the BVHM domain that overlies the Basin (instead of full model domain that covers both the Borrego Springs Subbasin and Ocotillo Wells Subbasins).

   However, throughout this process, additional advancements and refinements to the BVHM have been identified and discussed by the TAC. Such improvements could be incorporated into a recommended scope of work to execute over the next four-year period to redetermine the 2030 Sustainable Yield (more information on this effort is described in Agenda Item V).

   Please consider the limitations inherent in your recommended 2025 Sustainable Yield so they can be reported to the Board.

3. **Model Projections of the Pumping Rampdown to the 2025 Redetermined Sustainable Yield.** Due to delays in receiving feedback from the Department of Water Resources (DWR) on the Judgment and Groundwater Management Plan (GMP), uncertainty remains surrounding the Sustainable Management Criteria of the Basin (*e.g.,* Minimum Thresholds and Undesirable Results). As such, the Board provided direction that model projections of the pumping Rampdown to the 2025 Redetermined Sustainable Yield (Task 5 of the scope of work) should proceed, but that these efforts should be performed separately to support the GMP Assessment Report that is due by June 30, 2026. In other words, these model projections will not support the 2025 Redetermination of Sustainable Yield.

TAC Recommendation Report

The TAC is required to prepare a TAC Recommendation Report to describe their recommendations for the 2025 Redetermination of the Sustainable Yield. The process to prepare the TAC Recommendation Report will follow the guidelines established in Resolution 23-01 *Guidelines for the Technical Advisory Committee Process.*[3]

The proposed outline for this TAC Recommendation Report is:

[3] https://borregospringswatermaster.com/wp-content/uploads/2023/03/Resolution-23-01-Guidelines-for-TAC-Process-Executed.pdf

1. Background and Objectives. This will be a short description of the scope of work and technical information presented to the TAC for consideration in recommending a 2025 Sustainable Yield.
2. TAC Recommendations. This section will present the TAC recommendations. If the TAC is not in consensus with each other, each TAC member will document their non-consensus recommendation to the Board to ensure it accurately reflects the views of the TAC member.
3. Appendix with supplemental TAC Submissions, if any. The TAC guidelines allow that TAC members may prepare the following supporting materials prior to the October ad-Hoc and November regular TAC meetings to support the basis of their recommendation: (i) a memo documenting their analysis and recommendations or, (ii) presentation slides documenting their analysis and recommendations for presentation at the TAC meeting. This is ***not*** a requirement.

Prior to the TAC meeting, the TAC should review this memo and fill out Table 1 (attached)[4] which lists the following recommendations for the TAC to consider:

1. The *Calibrated BVHM* is a good simulator of the hydrology of the Basin and can confidently be used to redetermine the 2025 Sustainable Yield.
2. The 2025 Sustainable Yield should be set at _____ afy.
   Note: the TAC is asked to fill in the blank with a recommended 2025 Sustainable Yield.
3. Describe the limitations of the analysis that the Board should consider in setting the 2025 Sustainable Yield.
4. Any other considerations/recommendations.

Next Steps

At the TAC meeting, West Yost will ask each TAC member to provide their recommendation and any additional information needed to finalize their input. While TAC members are presenting their recommendations, West Yost will compile the TAC responses in a draft TAC Recommendation summary table.

Following the TAC meeting, the attached schedule will be implemented to meet the January 1, 2025 deadline to Redetermine the Sustainable Yield (see Exhibit 1).

Enclosures

Table 1. TAC Recommendation Summary Table

Exhibit 1 - Schedule to Complete Judgment-Mandated Work to Redetermine the Sustainable Yield by January 1, 2025

[4] An Excel version of Table 1 will also be distributed to the TAC for each member to edit and fill out.

Table 1.
TAC Recommendation to Redetermine the 2025 Sustainable Yield

Sustainable Yield Consideration	TAC Recommendation
The *Calibrated* BVHM is a good simulator of the hydrology of the Basin and can confidently be used to redetermine the 2025 Sustainable Yield. (Y/N)	
The 2025 Sustainable Yield should be set at _____ afy.	
Description of the limitations of the analysis that the Board should consider in setting the 2025 Sustainable Yield (*if any*).	
Additional Considerations/Recommendations:	

Schedule of Milestones to Complete Judgment Mandated Work Due by January 1, 2025
Redetermination of Sustainable Yield, TAC Scope of Work/Budget through WY 2029, and Analysis of Carryover Rules

Activities and Milestones	Responsible Party(s)	Date(s)	Description
Complete Draft Task 4 TM - *Model Recalibration*	Technical Consultant	Friday, Sept. 20	Draft TM circulated to TAC members for review and comment
Distribute Ad-Hoc TAC Meeting Agenda Package	Technical Consultant	Wednesday, Oct. 2	Agenda package will include: - TAC Recommendation Report template for Redetermination of Sustainable Yield - Prompt for developing TAC Scope of Work for WY 2026-2029
TAC Comments due on draft Task 4 TM - *Model Recalibration*	TAC Members	Friday, Oct. 4	Comments to be emailed to West Yost and copied to the entire TAC
October Board Agenda Package and Meeting	Technical Consultant Watermaster Board	Monday, Oct. 7 (pkg) Thursday, Oct. 10 (mtg)	Topics for discussion and Board feedback: - Schedule to complete/approve work by Jan. 1, 2025 - Process to develop Scope of Work
Ad-Hoc TAC Meeting	Technical Consultant TAC Members	Wednesday, Oct. 16	Meeting to discuss: - Comments on Task 4 TM - *Model Recalibration* - TAC Recommendation on 2025 Sustainable Yield - What to include in the Scope of Work
Submit draft materials to TAC for review and comment: - Draft TAC Recommendation Report on Sustainable Yield - Summary of input on Scope of Work	Technical Consultant	Friday, Oct. 18	These will be prepared based on input received at 10/16 meeting with TAC
TAC Comments due on Draft TAC Recommendation Report	TAC Members	Friday, Oct. 25	Comments to be emailed to West Yost and copied to the entire TAC
TAC Comments due on Draft Scope of Work	TAC Members	Thursday, Oct. 31	Comments to be emailed to West Yost and copied to the entire TAC
Publish Redetermination of Sustainable Yield Documents for Board and Public Review, including: - Final Technical Report - Draft Technical Consultant Recommendation - Draft TAC Recommendation Report	Technical Consultant	Thursday, Oct. 31	Sent via email to distribution list, sent via email to Parties, and published to website
Publish November Board Meeting Agenda Pkg, including: - Draft Scope of Work	Technical Consultant	Monday, Nov. 4	Sent via email to distribution list, sent via email to Parties, and published to website
IN PERSON Meetings to receive Stakeholder and Board feedback on Draft Sustainable Yield Documents: - Stakeholder Open House - Board Meeting	Technical Consultant	Thursday, Nov. 7	Stakeholder Open House - Opportunity for Public Comment on the Redetermined Sustainable Yield Board Meeting to discuss: - Redetermination of the Sustainable Yield - Scope of Work
Distribute TAC Meeting Agenda Package	Technical Consultant	Tuesday, Nov. 12	Package will include Draft analysis of Carryover rules
Written Comments from Board and Stakeholders due on Redetermined Sustainable Yield	Watermaster Board Interested Stakeholders	Thursday, Nov. 14	Comments to be emailed to West Yost. West Yost to share all comments with Board as they are received.

Schedule of Milestones to Complete Judgment Mandated Work Due by January 1, 2025
Redetermination of Sustainable Yield, TAC Scope of Work/Budget through WY 2029, and Analysis of Carryover Rules

Activities and Milestones	Responsible Party(s)	Date(s)	Description
Distribute Board and Stakeholders comments to the TAC	Technical Consultant	Friday, Nov. 15	Summary of comments received on Sustainable Yield and Scope of Work will be discussed during November 19th TAC meeting
TAC Meeting	Technical Consultant TAC Members	Tuesday, Nov. 19	Meeting to discuss: - Board and Public Comments on the Redetermined Sustainable Yield and Scope of Work - Analysis of Carryover rules
Publish December Board Meeting #1 Agenda Pkg, including **REVISED** Scope of Work and Redetermination of Sustainable Yield Documents: - Final Technical Report - Technical Consultant Recommendation - TAC Recommendation Report - Scope of Work	Technical Consultant	Monday, Dec. 2	These documents will be updated based in feedback received and discussion with TAC members Sent via email to distribution list, sent via email to Parties, and published to website
December Board Meeting #1	Technical Consultant Watermaster Board	Thursday, Dec. 5	Discussion, public comment, and consider adoption of: - Redetermined Sustainable Yield - Scope of Work Discussion, public comment on: - Analysis of Carryover rules
TAC Meeting	Technical Consultant TAC Members	Monday, Dec. 9	Meeting to discuss: - Additional comments on the Redetermined Sustainable Yield and Scope of Work - Analysis of Carryover rules
Publish December Board Meeting #2 Agenda Pkg, including **REVISED** Scope of Work, Carryover rules, and Redetermination of Sustainable Yield Documents: - Final Technical Report - Technical Consultant Recommendation - TAC Recommendation Report - Analysis of Carryover Rules - Scope of Work	Technical Consultant	Monday, Dec. 16	These documents will be updated based in feedback received and discussion with TAC members Sent via email to distribution list, sent via email to Parties, and published to website
December Board Meeting #2	Technical Consultant Watermaster Board	Thursday, Dec. 19	Consider adoption of: - Redetermined Sustainable Yield (if not done on 12/5) - Scope of Work (if not done on 12/5) - Analysis of Carryover rules

Borrego Springs Watermaster
Technical Advisory Committee Meeting
October 16, 2024
AGENDA ITEM V

To: Technical Advisory Committee (TAC)

From: Andy Malone, PG (West Yost), Technical Consultant

Date: October 2, 2024

Subject: Scope of Work to Support the 2030 Redetermination of Sustainable Yield

Background and Objectives

Section II.F of the Judgment outlines the process and schedule for redetermining the Sustainable Yield every five years. In tandem with each redetermination, a future scope of work and budget must also be developed for the technical work to redetermine the Sustainable Yield over the next five-year period through a process that includes: collecting additional data, refining the Borrego Valley Hydrologic Model (BVHM), and using model runs to update the Sustainable Yield.

The Watermaster must develop, with TAC input, a scope of work and budget to implement over the next four years (WYs 2026-29) to establish the 2030 Sustainable Yield by January 1, 2025.

The objective of this memorandum is to kickoff the TAC process to develop a recommended Scope of Work and budget for WYs 2026-29 the Board to consider and adopt.

Recommended Improvements to the BVHM

During the process to redetermine the 2025 Sustainable Yield, the Watermaster developed and implemented a scope of work, which improved the ability of the BVHM to estimate inflows and outflows to the Borrego Springs Subbasin (Basin).[1] Through this process, the Technical Consultant and the TAC identified further advancements and refinements that could be made to the BVHM to improve its ability to estimate: (i) the hydrology of the Basin (*e.g.,* water budget, groundwater levels, and groundwater-flow directions) and (ii) the 2030 Sustainable Yield. Table 1 (attached) is a list of topics that have been discussed throughout the process to redetermine the 2025 Sustainable Yield and may be considered in the next phase of work to determine the 2030 Sustainable Yield. TAC members may have additional ideas and suggestions.

Discussion and Next Steps

Prior to the TAC meeting, the TAC is requested to review the topics listed in Table 1 and decide if they would recommend the task be included in the WY 2026-209 Scope of Work. Additionally, the TAC is requested to add any other tasks they would recommend including in a future scope of work. It would

[1] https://borregospringswatermaster.com/wp-content/uploads/2024/10/Scope-of-Work_Redetermine-2025-SY.pdf

be helpful for TAC members to prioritize the potential task items they recommend as it may not be possible to implement all recommendations based on costs.

At the TAC meeting, TAC members will each be given up to five (5) minutes to share their opinions on the tasks listed in Table 1 and/or their recommendations for other tasks to include in the scope. Based on initial input staff will then develop high-level budget estimates for each task that may be recommended to the Board.

The attached schedule will be implemented to make a final recommendation to the Board on the scope of work and budget for WYs 2026-29 to determine the 2030 Sustainable Yield by January 1, 2030 (see Exhibit 1 of Agenda Item IV).

Enclosures

Table 1. Recommended Actions to Support the Redetermination of the Sustainable Yield by 2030

Table 1
Recommended Actions to Support Redetermination of the Sustainable Yield by 2030 -- *WY 2026 - 2029*

Task	Description and Rationale for Performing Task	Recommend Task? (Y/N)		TAC Comments on Task
		Y	N	
Develop and Implement Methods to Estimate Recharge[1]	***Objective:*** Evaluate and develop reproducible methods for estimating surface-water inflow and subsurface inflow to the Subbasin (i.e., recharge) and use the methods to generate input data for the SFR and FHB packages in the BVHM.			
	Rationale: The natural recharge to the Subbasin occurs primarily via surface-water inflow from the surrounding watersheds (that translate into streambed infiltration overlying the Subbasin) and subsurface inflow from the surrounding mountain-front watersheds. Previous efforts have identified that 1) inconsistent and non-reproducible methods for estimating surface-waters have been used in the BVHM and 2) rates of subsurface flow are constant.			
	Potential Implementation: Research and develop new methods to estimate surface and subsurface inflows to the Subbasin and then use those methods to produce new estimates of historical surface and subsurface inflows to the Subbasin. Use the new estimates of surface and subsurface inflows as input data to the model, and determine the influence of the change in recharge on the water budget and groundwater levels. This comparison may reveal a need to recalibrate the BVHM.			
Upgrade BVHM to Use the New Version of MODFLOW-OWHM (or another platform)[1]	***Objective:*** Upgrade the BVHM from MODFLOW-OWHM v1.0.0 to a newer or different model platform.			
	Rationale: The BVHM uses the first version of the MODFLOW numerical modeling code One-Water Hydrologic Flow Model (MODFLOW-OWHM), version v1.0.0, which was released in 2014. Numerous "bugs" have been identified in v1.0.0. In 2020, the USGS released an updated version known as MODFLOW-OWHM v2.2.0, which includes an updated version of the FMP and modifications to many MODFLOW packages. Additionally, new platforms, such as MODFLOW 6 are available.			
	Potential Implementation: Prepare a "white paper" for review by the TAC comparing the pros/cons of continuing to use the MF-OWHM versus converting to MODFLOW 6. Once the model platform is decided, research and develop a method for converting MODFLOW-OWHM v1.0.0 to the new platform, such as how to revise model input files or define parameters. Once the method is developed, convert the model and run the model input files through WY 2028.			
Compare FMP-Estimated Pumping to Actual Pumping in WY 2023 - 2028	***Objective:*** Evaluate the ability of the FMP to estimate groundwater pumping under the Rampdown.			
	Rationale: Meter read information for wells in the Basin will be available for WYs 2023 - 2028 and can be used to compare against FMP-estimated pumping.			
	Potential Implementation: Extend the BVHM from WY 2023 through WY 2028 and compare FMP-estimated pumping in these years against Actual Pumping (as metered by the Watermaster). Efforts for this task will include extending the Multi-Node Well Package (MNW2) using metered pumping data from WY 2023-2028; extending the Streamflow Routing (SFR) and Flow and Head Boundary (FHB) packages through WY 2028; and extending the FMP through WY 2028.			
Confirm Estimates of On-Farm Efficiencies (OFE) used in the FMP	***Objective:*** Validate the OFE values used to represent modern irrigation practices in the FMP.			
	Rationale: During Tasks 2 and 4 of the WY 2023-2024 scope of work, the OFE values for modern irrigation practices in the Basin (such as drip irrigation and micro-sprinkler) were updated in the FMP and calibrated within acceptable ranges. The acceptable ranges were based on literature reviews and interviews with farmers. However, these values have not been validated based on actual irrigation practices in the Basin.			
	Potential Implementation: Perform irrigation efficiency tests in the Basin and use the results of the tests to update the OFE values in the FMP. Results of this task will confirm or refute the calibrated values of OFE currently used in the FMP.			
Update the Hydrogeologic Conceptual Model (HCM)	***Objective:*** Improve the HCM using new data information and improve the ability of the BVHM to estimate groundwater-levels, especially in areas of the Basin with complicated geology.			
	Rationale: During Task 4 - *Model Calibration,* wells in a concentrated area of the Basin exhibited a poor fit between measured and modeled groundwater elevations (observed groundwater elevations show an increasing trend, while the simulated elevations show a decreasing trend). The conclusion was that this is an area with complicated geology that is not well defined in the model.			
	Potential Implementation: Utilize newly available information and update the HCM of the BVHM, including layering, geometry, and aquifer properties. New information may include: pump test data at select wells, data from the DWR's Airborne Electromagnetic (AEM) survey, and other types of monitoring data decided upon by the TAC.			
Evaluate other sources of Reference ET, such as OpenET	***Objective:*** Ensure reference ET data input to the BVHM is accurate.			
	Rationale: During Task 2, ET data used in the BVHM (from the Basin Characterization Model [BCM]) was compared to estimates of ET from OpenET and ET measured at a CIMIS station in Borrego Springs. The comparison showed that BCM ET was overall lower than OpenET and CIMIS station ET.			
	Description: Evaluate alternative sources of ET data to use in the FMP.			
Validate Estimates of Return Flows	***Objective:*** Generate measured or other estimates of return flows as a comparison against FMP estimates of return flows.			
	Rationale: Return flows that are estimated by the FMP are not based on measured data and require various assumptions to calculate return flows.			
	Description: This effort was recommended during Task 2 of the WY 2023-24 scope of work. On-farm return flows for farms in the Basin could be estimated using metered data and by subtracting applied water (i.e. metered groundwater pumping) from consumed water (i.e., actual ET from OpenET, satellite data, or other sources). The estimated on-farm return flows would then be compared to estimates of return flows generated by the FMP to validate or dispute the results of the FMP.			
Improve the FMP	***Objective:*** Improve the ability of the FMP to estimate groundwater pumping and return flows.			
	Rationale: The FMP is the current modeling tool used to estimate groundwater pumping in the absence of measured pumping data. Improving the FMP may be a cost efficient method to improve the BVHM.			
	Description: This task would involve identifying and making improvements to the FMP, such as: upgrading to the newest version of the FMP (FMP2), refining the discretization and classification of farms to better match land use in the Basin, reviewing and updating historical land use classifications, and evaluating/validating parameters used in the FMP.			
Remove the FMP from the BVHM after the Redetermination of the Sustainable Yield in 2025	***Objective:*** Remove uncertainty related to FMP-estimated pumping by assigning metered pumping data directly in the model.			
	Rationale: This TAC recommendation was suggested during the review of Task 2 - *Update Water-Use Factors in the FMP.*			
	Description: Assign all pumping in the BVHM to the Multi-Node Well package using metered pumping data from the Watermaster's metering program and remove the FMP from the BVHM. If implemented, other considerations are estimating and assigning historical un-metered pumping and return flows.			
<TAC to Complete >	***Objective:***			
	Rationale:			
	Description:			
<TAC to Complete >	***Objective:***			
	Rationale:			
	Description:			
<TAC to Complete >	***Objective:***			
	Rationale:			
	Description:			

Notes:
1. These tasks were previously recommended as part of the Scope of Work for WY 2023-2024. More information is available here, under Tasks 4 and 5: