Las Posas Valley Groundwater Basin
Technical Advisory Committee Regular Meeting

Tuesday September 16, 2025, 2:00 PM

Via Zoom:
https://us02web.zoom.us/j/84168071218?pwd=Kv42H0XegH4TthbvJUgzTrzACgXM8b.1
Webinar ID: 841 6807 1218
Passcode: 150451

NOTICE OF MEETING

NOTICE IS HEREBY GIVEN that the Las Posas Basin Technical Advisory Committee (TAC) will hold a regular meeting via Zoom at **2:00 PM on Tuesday September 16, 2025**.

AGENDA

A. Call to Order

B. Roll Call

C. Agenda Review

D. Public Comments

E. TAC Member Comments

F. Regular Agenda

1. Approve Minutes from previous meetings

The TAC will review and consider adoption of minutes meetings from the two previous meetings. This will include the minutes of the regular meeting held on August 5, 2025; draft minutes for which are attached beginning on agenda page 3. Minutes of the September 5, 2025 special meeting will also be reviewed. Draft minutes for the September 5th meeting are attached on agenda page 13.

2. Recommendation Report Review: Basin Optimization Yield Study Modeling Scenario Results

The TAC will discuss the draft Recommendation Report prepared compiling comments and recommendations from previous TAC meetings on the Basin Optimization Yield Study (BOY Study) initial model results. These model results were presented to the TAC by Dudek, the Watermaster's groundwater consultant, on July 18, 2025 and then discussed again on August 5, 2025 and September 5, 2025 after revised model information and data were received.

TAC discussion of the information presented and the associated model data resulted in comments and recommendations that are presented in a draft Recommendation Report, which is attached starting on agenda page 18. TAC members will review the draft Recommendation Report and provide comments to the TAC Administrator. TAC members will also consider approving the finalization of the report by the TAC Administrator and submittal to the Watermaster by September 18, 2025.

3. Update on Upcoming Committee Consultation Review Requests

The TAC will receive an update on the schedule for upcoming committee consultations from the Watermaster Representative. Known current and upcoming consultation are summarized in the table below:

Consultation Description	Expected Request Date	Expected Review Due Date
Presentation of Basin Optimization Yield Study Model Scenario Results by Dudek	7/18/25	9/18/25
Draft Basin Optimization Yield Study	12/9/2025	2/7/2026
Calleguas ASR Project Operations Plan	TBD	TBD

4. Schedule for Completing Current Committee Consultations and Related Recommendation Reports

The TAC will discuss the schedule for completing current consultation requests from the Watermaster.

5. 2026 Regular TAC Meeting Schedule

The regular meeting schedule for 2026 will be discussed by the TAC.

G. Items for Future Agenda

Potential items for future agenda will be considered by the TAC

H. Adjourn

Attachment 1

Minutes of the August 5, 2025 TAC Regular Meeting

Las Posas Valley Groundwater Basin
Technical Advisory Committee Regular Meeting

Meeting Minutes
for
August 5, 2025

A. Call to Order

Chair Taylor called the meeting to order at 2:01 pm.

B. Roll Call

Two of the three voting TAC members were present (via Zoom):

- Vice Chair Tony Morgan – Present
- Chair Chad Taylor – Present
- Dr. Bob Abrams – Absent

All non-voting TAC members were present (via Zoom):

- Bryan Bondy – Present
- Kim Loeb – Present

Chair Taylor reported the meeting had a quorum with two of the three voting members of the Las Posas Valley Technical Advisory Committee (TAC) present.

C. Agenda Review

Mr. Taylor reminded the TAC and public attendees that the agenda for the regular meeting was published and notified by the Watermaster. He asked for comments on the agenda from TAC members or the public. No comments were presented.

D. Public Comments

Chair Taylor asked members of the public for comments on items not on the agenda and none were provided.

E. TAC Member Comments

Mr. Taylor opened for TAC member comments on items not on the agenda; none were made.

F. Regular Agenda

1. Approve Minutes from previous meetings

Mr. Taylor advanced to the regular agenda, review of minutes of the previous TAC meeting, which was a special meeting held on July 18, 2025. These minutes were included in the agenda package. TAC members reviewed the draft minutes and requested edits which Mr. Taylor made during the meeting.

Mr. Taylor asked public attendees for comments or other feedback on the minutes and none were received.

The TAC members were willing to accept the revised minutes of the July 18, 2025 special TAC meeting through a motion.

MOTION: Mr. Morgan moved to accept the revised minutes of the July 18, 2025 meeting
SECOND: Mr. Taylor seconded the motion
VOTE: Unanimously approved

2. Discussion for Committee Consultation: Basin Optimization Yield Study Modeling Scenario Results

Chair Taylor next began the primary topic for the meeting, discussion of the Basin Optimization Yield (BOY) Study modeling scenario results. He reminded meeting attendees that Dr. Weinberger of Dudek (the Watermaster's groundwater consultant) gave a presentation summarizing the results of the model scenarios in the previous meeting. Following the presentation, the Watermaster provided the TAC members with model results datasets with Transient Pumping, Simulated Water Budgets, and Hydrographs all in Microsoft Excel formats. The presentation slides were attached to the minutes of the previous meeting and the memorandum from the Watermaster transmitting the additional model data were attached to the meeting agenda.

Mr. Taylor also reminded attendees that the presentation from Dudek described pumping distribution as one area of model sensitivity and potential uncertainty. However, even with that uncertainty, Dr. Weinberger indicated Dudek would not be recommending a rampdown in pumping.

Mr. Loeb provided that these preliminary conclusions assume the projects that were simulated will be implemented.

Mr. Taylor asked if it would be a correct assumption that all the projects were simulated to be operational throughout the model period and were not simulated as being phased in over time. Mr. Loeb indicated he thought that was a correct assumption but would need to confirm.

Mr. Morgan expressed surprise that the model results data showed very little change in groundwater storage difference between the Baseline and Projects scenarios. The average difference between the scenarios was around 85 acre-feet (AF) per month, which he considered within the error of the model.

Mr. Bondy shared tables he'd prepared with assessments of the model scenario results data shared with the TAC in comparison to the presentation the TAC received. These comparisons showed differences in the average annual volume of pumping in the Transient Pumping and Simulated Water Budget files. He indicated that these differences were significant and approached 5 and 10 percent of the total pumping in the Transient Pumping and Simulated Water Budget files, respectively. Mr. Bondy expressed concern regarding these differences as they showed less pumping than was described in the presentation from Dudek, which could be viewed as an indication that the operational yield claimed in the presentation was not supported by the model results.

Mr. Loeb provided that the information presented in the previous TAC meeting was preliminary and to his knowledge the data provided afterward was directly from the model. There was some work required to extract these data and summarize them into the Excel formats. He acknowledged that the questions raised are important and expected there would be a good answer to them.

Mr. Bondy also shared tables summarizing the intended volume of in-lieu use in Transient Pumping and the Simulated Water Budget datasets. He noted that the Transient Pumping in

lieu volumes compared favorably to the values in the presentation. However, the volumes in the Simulated Water Budget files were very different from those in the presentation. For the West Las Posas Management Area (WLPMA) the in-lieu use was approximately 8 percent higher while for the East Las Posas Management Area (ELMPA) they were 24 percent greater.

The tables Mr. Bondy shared with the TAC are included in these minutes as Attachment 1.

During TAC discussion, Mr. Bondy also compared the volume of water simulated to have flowed between the ELPMA and WLPMA in the Baseline and Projects scenario simulations for the WLPMA. He found that flow between the two management areas in the WLPMA simulations was approximately 63 percent of the intended in lieu volume. This implies that the model simulated a significant volume of increased outflow from the WLPMA projects. This reinforced the concern about the boundary between the WLPMA and ELPMA in the Coastal Plane model that the TAC raised previously.

The TAC discussed these differences and the bearing on the operational yield analysis. TAC members agreed that submitting clarifying questions to Dudek regarding these items prior to preparation of a Recommendation Report or providing other feedback to the TAC would be appropriate and timely.

Mr. Bondy then showed the TAC a hydrograph of long-term groundwater levels with a period of decline followed by a period of recovery that corresponded with a historical in lieu delivery program. That historical in lieu was similar in volume to what is planned currently. Mr. Bondy indicated that despite the model results questions raised by the TAC, the historical data and operations should provide a level of comfort that the proposed project should have expected benefits. This graph is also included in Attachment 1.

The TAC went on to briefly discuss individual model simulated hydrographs, details of the presentation from the previous meeting, alternative model scenarios, and assumptions about project phasing. They reviewed the consultation request from the Watermaster and decided to table further discussion until receiving responses to the clarifying questions raised earlier in the meeting.

Mr. Taylor offered the public attendees an opportunity to provide comments to the TAC and none were raised.

3. Update on Committee Consultation Review Schedule

Chair Taylor went on to the next agenda item, discussion of upcoming Committee Consultations. Mr. Loeb confirmed that there were no additional consultations on the Watermaster radar other than the BOY Study model results. No other TAC member or public comments were made on this matter.

4. Schedule for Completing Committee Consultations and Related Recommendation Reports

Mr. Taylor turned to review and discussion of the schedule for the current consultation on the BOY Study. He noted that the Watermaster requested feedback on the BOY Study model results by August 26, 2025 and that there was only one remaining regular TAC meeting prior to that date. That regular meeting was scheduled for August 19th. However, the TAC would not have topics for discussion without receiving responses to the clarifying questions discussed earlier in the meeting. Mr. Taylor noted that there would likely be a need for at least one special meeting.

Mr. Taylor went on to request TAC members send written versions of clarifying questions to him by midday August 7th so he could compose a single email to the Watermaster to be forwarded to Dudek. He indicated that if Dudek could respond by midday August 14, 2025 the August regular meeting could be kept. Otherwise, it would be cancelled.

Mr. Loeb informed the TAC that Dr. Weinberger was on vacation and would not return until August 11th, so Dudek would not be able to begin responding until her return.

Mr. Taylor suggested that if responses were not received by Dudek in time to keep the August 19th regular meeting, there would be the possibility of a special meeting later that week. TAC members reviewed calendars and confirmed availability for special meetings on Friday August 22, 2025 at 2 pm and Tuesday August 26, 2205 at 1 pm. The goal of the first special meeting would be to discuss responses to the clarifying questions and plan for submitting comments for a Recommendation Report. The second meeting would focus on reviewing the draft Recommendation Report and hopefully accepting it and authorizing Mr. Taylor to submit it to the Watermaster later that day.

The TAC agreed that the proposed schedule including the two special meetings identified allows the minimum time required to draft, review, accept, and submit a recommendation report to the Watermaster by August 26th.

Mr. Loeb indicated he was optimistic that Dudek could prepare responses to questions by August 15, 2025.

Mr. Taylor asked for public comments on the TAC Recommendation Report schedule; none were provided.

G. Items for Future Agenda

Chair Taylor asked if TAC members or the public wanted to bring items to the TAC's attention for consideration in future TAC meeting agendas. No comments were provided.

H. Adjourn

Mr. Taylor thanked the TAC members and public for attending and made a motion to adjourn the meeting.

MOTION: Mr. Taylor moved to adjourn the meeting at 3:04 pm
SECOND: Mr. Morgan seconded the motion
VOTE: Unanimously approved

Attachment 1

Tabular Comparisons of Basin Optimization Yield Study Water Budgets Prepared by Brian Bondy and Presented to Las Posas Valley Technical Advisory Committee on August 5, 2025

DRAFT

Table 1
Pumping Differences Between Presentation and Pumping Excel Files (based on provide average values)

	Baseline Pumping			Projects Pumping		
	Presentation AFY	Excel Files AFY	Difference AFY	Presentation AFY	Excel Files AFY	Difference AFY
WLPMA	18,773	18,204	569	17,013	16,487	526
ELPMA	21,226	21,586	-360	19,846	20,206	-360
Total	39,999	39,790	209	36,859	36,693	166

Table 2
Pumping Differences Between Presentation and Pumping Excel Files (based on monthly calculations)

	Baseline Pumping			Projects Pumping		
	Presentation AFY	Excel Files AFY	Difference AFY	Presentation AFY	Excel Files AFY	Difference AFY
WLPMA	18,773	18,258	515	17,013	16,535	478
ELPMA	21,226	21,650	-424	19,846	20,267	-421
Total	39,999	39,908	91	36,859	36,802	57

Table 3
Pumping Differences Between Presentation and Water Budget Excel Files

	Baseline Pumping			Projects Pumping		
	Presentation AFY	Excel Files AFY	Difference AFY	Presentation AFY	Excel Files AFY	Difference AFY
WLPMA	18,773	17,127	1,646	17,013	15,228	1,785
ELPMA	21,226	20,170	1,056	19,846	18,465	1,381
Total	39,999	37,297	2,702	36,859	33,694	3,165

DRAFT

Table 4
Differences Between Intended and Simulated In-Lieu Based on Pumping Excel Files

	Average Baseline Pumping (AFY)	Average Projects Pumping (AFY)	Difference (AFY)	Intended In-Lieu (AFY)	Difference (AFY)	Difference (%)
WLPMA						
02N20W08M01S (Zone #18)	-1,054	-581	-473			
02N20W08F01S (Zone #13)	-1,056	-669	-388			
02N20W06R01S (VCWWD-19 #2)	-1,090	-799	-291			
02N20W08B01S (VCWWD-19 #3)	-649	-411	-238			
02N20W07R03S (Zone #22)	-510	-323	-187			
02N20W08E01S (Zone #17)	-412	-261	-152			
Total	-4,771	-3,043	-1,728	1760	-32	-2%
ELPMA						
03N19W31B01S_WWD (VCWWD-1 #15)	-1,966	-902	-1,065			
03N20W36A02S_WWD_Mod (VCWWD-1 #98)	-332	-152	-180			
03N20W36G01S_f_WWD_MOD (VCWWD-1 #95)	-257	-118	-139			
Total	-2,555	-1,171	-1,383	1,380	3	0.3%

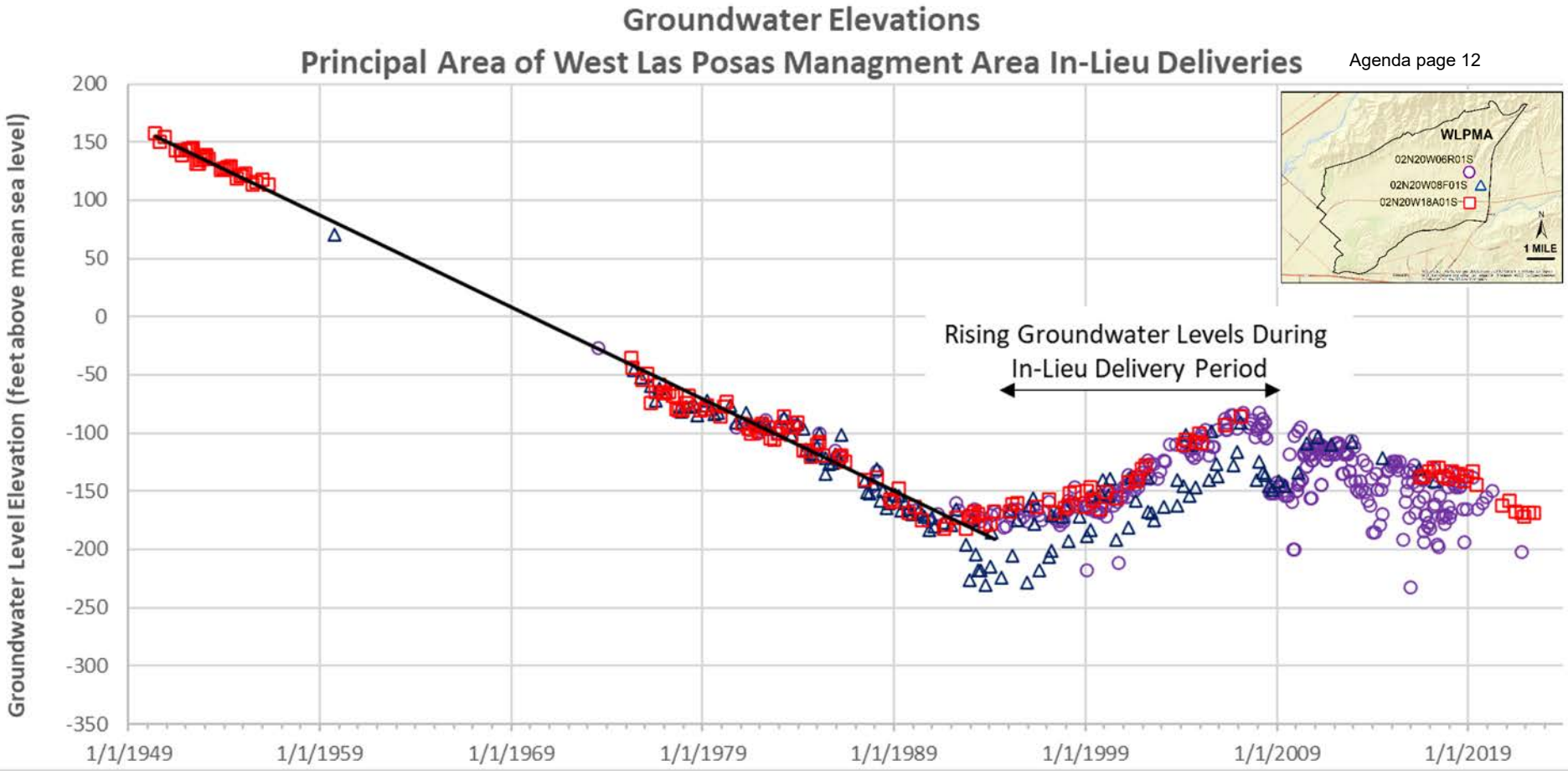
Table 5
In-Lieu Differences Between Presentation and Water Budget Excel Files

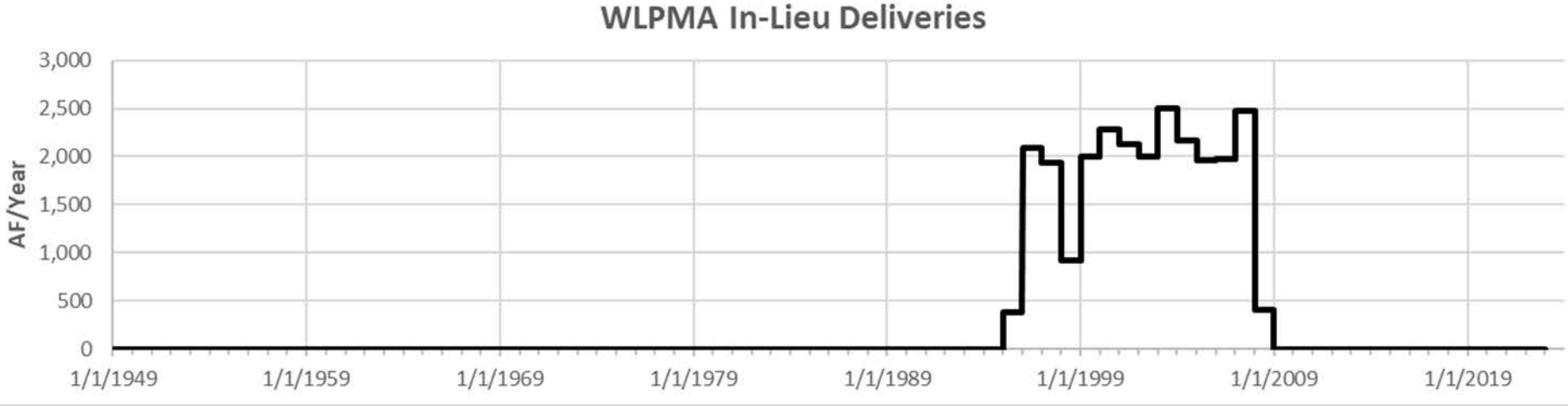
	Project In-Lieu (AFY)	Simulated In-Lieu (AFY)	Difference (AFY)	Difference (%)
WLPMA	1,760	1,898	138	8%
ELPMA	1,380	1,705	325	24%

DRAFT

Table 6
WLPMA - ELPMA Subsurface Inflow Changes Based on Water Budget Excel Files

	Net Subsurface Flow to/from ELPMA (AFY)	Notes
WLPMA Baseline	492	Presented as inflow from ELPMA
WLPMA Projects	-619	Presented as outflow to ELPMA
Difference	1,111	
Difference as % of In-Lieu	63%	


Groundwater Elevations
Principal Area of West Las Posas Managment Area In-Lieu Deliveries
Groundwater Level Elevation (feet above mean sea level)
200
150
100
50
0
-50
-100
-150
-200
-250
-300
-350
1/1/1949
1/1/1959
1/1/1969
1/1/1979
1/1/1989
1/1/1999
1/1/2009
1/1/2019
WLPMA
02N20W06R01S
02N20W08F01S
02N20W18A01S
N
1 MILE
Rising Groundwater Levels During
In-Lieu Delivery Period


WLPMA In-Lieu Deliveries
AF/Year
3,000
2,500
2,000
1,500
1,000
500
0
1/1/1949
1/1/1959
1/1/1969
1/1/1979
1/1/1989
1/1/1999
1/1/2009
1/1/2019

Attachment 2

Minutes of the September 5, 2025 TAC Special Meeting

Las Posas Valley Groundwater Basin
Technical Advisory Committee Special Meeting

Meeting Minutes
for
September, 5th 2025

A. Call to Order

Chair Taylor called the meeting to order at 2:01 pm.

B. Roll Call

All voting TAC members were present (via Zoom):

- Dr. Bob Abrams – Present
- Vice Chair Tony Morgan - Present
- Chair Chad Taylor – Present

One non-voting TAC member was absent (Kimball Loeb)):

- Bryan Bondy – Present
- Dr. Jill Weinberger – Sitting in for Kimball Loeb

Chair Taylor reported the meeting had a quorum with all three voting members of the Las Posas Valley Technical Advisory Committee (TAC) present.

C. Agenda Review

Mr. Taylor indicated the agenda for the special meeting was published and notified by the Watermaster. He asked for comments on the agenda from TAC members or the public. No comments were presented.

D. Public Comments

Mr. Taylor opened for public comments on items not on the agenda; none were made.

E. TAC Member Comments

Chair Taylor asked TAC members for comments on items not on the agenda. TAC members had no comments.

F. Regular Agenda

1. Approve Minutes from previous meetings

Mr. Taylor reminded the TAC and public attendees that minutes of the previous meeting held in August were ready for review. Mr. Bondy asked that complete review and acceptance of the minutes of the August 5, 2025 regular meeting be postponed until the next regular meeting given the limited review period between publication of the special meeting agenda and the meeting date.

Dr. Abrams noted two minor editorial items in the August 5, 2025 minutes, specifically:

- Roll call should indicate “two of three” voting members present.
- A missing word in paragraph five, page two, corrected.

Mr. Taylor made the corrections identified by Dr. Abrams and postponed further minute review and voting on approval until the next regular TAC meeting.

2. Basin Optimization Yield Study – Revised Model Results

Chair Taylor advanced to discussion of the Basin Optimization Yield (BOY) Study revised model results. Mr. Taylor shared tables comparing pumping volumes from model inputs and water budget outputs to values shared during the initial presentation of results by Dudek. These comparison tables are attached to these minutes and were similar to those shared by Mr. Bondy during the August 5, 2025 meeting.

Dr. Abrams stated that prior discrepancies in tables appear largely resolved, with minor differences remaining (e.g., Table 3 showing a 100 acre-foot per year difference).

Dr. Weinberger explained the remaining differences:

- Two wells were previously misassigned to West Los Posas instead of East Los Posas, causing the 355 acre-foot discrepancy in Table 1.
- Certain model cells at the edge of West Los Posas were not included in the zone budget file but are included in the model, accounting for remaining differences.
- East Los Posas also contains wells not captured in the zone budget but represented in the model.

Mr. Taylor observed that these differences are small (0.8% of total pumping) and should not materially affect the assessment of projects. Mr. Morgan shared summary tables comparing and reviewing model outputs, noting differences in outflow to the lower aquifer and changes in storage under baseline versus project scenarios. Dr. Weinberger explained that altered water level gradients in the lower aquifer account for these variations. She also explained that a portion of the East Las Posas Management Area (ELPMA) that is in the related model was not included in the model output because it was not identified in the zone budget. That area included some pumping that was not included in the datasets shared with the TAC as a result of its absence from the zone budget.

Mr. Bondy and Dr. Abrams noted that in the future, zone budget files should include all wells to avoid similar discrepancies.

Mr. Morgan shared a spreadsheet comparing baseline and project scenarios. He raised questions about the relationship between reduced pumping and increased ET, as well as changes in storage and flows to the lower aquifer.

Dr. Weinberger offered preliminary explanations:

- Project scenarios can alter gradients, changing flow from upper to lower aquifers even if pumping hasn't changed.
- Flow direction between management areas may reverse under project conditions.

Mr. Bondy pointed out that the model results show a change in flow direction across the management area boundary with a difference of almost 1,000 acre-feet more water flowing out of the West Las Posas Management Area (WLPMA), which would be over half of the total in-lieu water provided to the WLPMA in the project simulation. The TAC members agreed that this boundary has traditionally been considered have no subsurface flow between the two management areas so the expectation would be that conditions in the WLPMA with in-lieu deliveries would be better than those in the model simulations. However, this discrepancy highlights the need for monitoring to support project implementation.

TAC members discussed alternative pumping scenarios, including:

- Redistributing pumping in WLPMA in-lieu areas to maximize key well benefits.
- Evaluating the minimum necessary in-lieu volumes to achieve and maintain sustainability in the ELPMA to assist the Watermaster and project proponents in refining project planning.

Mr. Taylor noted that these are optional refinements, helpful for planning but not required for basin optimization yield assessment.

Mr. Taylor and Dr. Weinberger discussed approaches to assessing basin optimization yield:

- Basin optimization yield could be approximated as project pumping if projects are implemented.
- In the absence of projects, ramp-down scenarios may be needed to maintain minimum thresholds across the basin.
- Iterative model runs could help determine necessary pumping reductions.

Dr. Abrams suggested that parameter estimation software could be used to assist with these calculations.

TAC members also discussed model uncertainty communication for the BOY Study report. They agreed that the limitations of the models should be described in the BOY Study in a way that stakeholders can understand. They also suggested the BOY Study emphasize the importance of robust monitoring of project effects to characterize benefits and provide information for future assessments of basin optimization yield.

Mr. Taylor asked for public comments and one question was asked.

Richard Cavaletto asked whether the model assumed projects implemented over the five-year period that is also being used for project funding budgeting.

Dr. Weinberger clarified that the model assumes projects implemented at the start of the model period as a single change, and the intention is to evaluate long-term sustainability rather than budgeting timing.

Dr. Weinberger confirmed that adaptive management would address any phased implementation considerations in future basin optimization yield studies.

3. Update on Committee Consultation Review Schedule

Mr. Taylor noted that Mr. Loeb typically provides an update on expected upcoming consultation requests for the TAC. As Mr. Loeb was absent, Mr. Taylor didn't expect to receive that update. Dr. Weinberger confirmed that she had no information on upcoming committee consultations. Mr. Taylor pointed out that the table in the agenda for this item includes the expected draft BOY Study consultation starting December 9, 2025 and continuing to February 7, 2026.

Mr. Taylor provided the opportunity for public comments and none were received.

4. Schedule for Completing Committee Consultations and Related Recommendation Reports

Mr. Taylor began discussion of the schedule for completing committee consultation and a Recommendation Report for the BOY Study model results. He reminded the TAC that the due date for feedback to the Watermaster is September 18, 2025 and the only regular TAC meeting

before that date is scheduled for September 16, 2025. Mr. Taylor asked for confirmation that the there were sufficient comments and recommendations to warrant preparation of a Recommendation Report on this topic. He went on to ask TAC members to provide any additional feedback to him by the end of the day on September 9th to allow time to prepare a draft Recommendation Report for the September 16th meeting.

Mr. Bondy observed that the time available for TAC review and discussion was limited and indicated that more time for committee consultations was needed as all discussion and review of work product must take place in notified publicly accessible meetings.

Mr. Taylor asked for public comments on the TAC Recommendation Report schedule; none were provided.

G. Items for Future Agenda

Mr. Taylor asked TAC members and the public for feedback on items for future TAC meeting agendas and none were received.

H. Adjourn

Chair Taylor thanked Dr. Weinberger again for presenting to the TAC, thanked the TAC members for the productive discussion, and thanked member of the public for attending and made a motion to adjourn the meeting.

MOTION: Mr. Taylor moved to adjourn the meeting at 3:06 pm
SECOND: Dr. Abrams seconded the motion
VOTE: Unanimously approved

Attachment 1

Tabular Comparisons of Basin Optimization Yield Study Water Budgets prepared by Chad Taylor
Presented to Las Posas Valley Technical Advisory Committee September 5, 2025

Table 1: Pumping Differences Between Presentation and Revised Pumping Excel Files

Management Area	Baseline Pumping			Projects Pumping		
	Presentation (AFY)	Revised Excel Files (AFY)	Difference (AFY)	Presentation (AFY)	Revised Excel Files (AFY)	Difference (AFY)
WLPMA	18,773	18,418	-355	17,013	16,658	-355
ELPMA	21,226	21,585	359	19,846	20,205	359
Total	39,999	40,003	4	36,859	36,863	4

Table 3: Pumping Differences Between Presentation and Water Budget Excel Files

Management Area	Baseline Pumping			Projects Pumping		
	Presentation (AFY)	Revised Excel Files (AFY)	Difference (AFY)	Presentation (AFY)	Revised Excel Files (AFY)	Difference (AFY)
WLPMA	18,773	19,088	315	17,013	17,324	311
ELPMA	21,226	21,229	3	19,846	19,849	3
Total	39,999	40,317	318	36,859	37,173	314

Table 5: In-Lieu Differences Between Presentation and Water Budget Excel Files

Management Area	Project In-Lieu (AFY)	Simulated In-Lieu (AFY)	Difference (AFY)	Difference (%)
WLPMA	1760	1,764	4	0.2%
ELPMA	1380	1,380	0	0.0%

Attachment 3

Watermaster Committee Consultation on the Las Posas Valley Basin, Basin Optimization Yield Study Numerical Modeling Results, August 29, 2025

LAS POSAS VALLEY TECHNICAL ADVISORY COMMITTEE

September 11, 2025

RECOMMENDATION REPORT

To: Las Posas Valley Watermaster

From: Las Posas Valley Watermaster Technical Advisory Committee, prepared by Chad Taylor, Administrator and Chair

Re: Recommendation Report – Las Posas Valley Basin, Basin Optimization Yield Study Numerical Modeling Results

The Las Posas Valley Watermaster Technical Advisory Committee (TAC) provides this Recommendation Report regarding the Basin Optimization Yield Study initial modeling results provided in July and August 2025. This Recommendation Report was prepared in response to committee consultation requests transmitted to the TAC on July 25, 2025 and August 29, 2025 by Las Posas Valley Basin Watermaster (Watermaster) staff.

BACKGROUND

The Las Posas Valley Adjudication judgment requires preparation of a Basin Optimization Yield (BOY) Study to evaluate Basin Optimization Yield, set the Operating Yield, and identify the need for and quantification of the rate of pumping rampdown to achieve sustainable groundwater management by 2040. The TAC received a presentation from Dudek, the Watermaster's groundwater consultant, providing model scenario results for the simulations included in the BOY Study on July 18, 2025 and model results information and data from the Watermaster on July 25, 2025. In the presentation to the TAC, Dudek indicated that with-project model simulation results demonstrated that both management areas of the Las Posas Valley Basin (LPVB) can meet sustainability goals without the need for pumping rampdown. Initial TAC review of the model results identified differences between the materials that were presented to the TAC and the model results information provided subsequently. Clarifying questions from the TAC resulted in revised model data from Dudek that was shared with the TAC in a Committee Consultation request memorandum dated August 29, 2025. The revised model output did not change the conclusion that no pumping rampdown is required if the BOY Study projects are implemented in both LPVB management areas.

Watermaster staff requested TAC feedback on the following:

1. The revised BOY Study model results
2. Proposed methods for developing alternative pumping scenarios
3. Proposed methods for estimating the Basin Optimization Yield

The TAC considered the topics above in meetings on July 18, 2205, August 5, 2025, and September 5, 2025. TAC recommendations relating to the BOY Study model results, alternative pumping scenarios, and methods for estimating Basin Optimization Yield were discussed in those meetings and are summarized in this Recommendation Report.

The TAC will review this Recommendation Report and discuss and consider voting to approve it in a regular meeting on September 16, 2025.

TAC RECOMMENDATIONS

1. RECOMMENDATION 1: CLEARLY ACKNOWLEDGE THE DISCREPENCY BETWEEN HISTORICAL OBSERVATIONS OF BOUNDARY FLOW BETWEEN MANAGEMENT AREAS AND MODEL SIMULATION RESULTS IN THE BASIN OPTIMIZATION YIELD STUDY REPORT

The West Las Posas Management Area (WLPMA) numerical model appears to significantly overestimate the amount of groundwater exchange between WLPMA and the East Las Posas Management Area (ELPMA). More than half of the volume of the simulated with-project in-lieu deliveries to the WLPMA were accommodated by a simulated change in flow between the management areas, which is inconsistent with the conceptual model of the boundary between the WLPMA and ELPMA. This suggests that the model may significantly underestimate the benefits of in-lieu deliveries to the area of the WLPMA to which the related project targeted. It also suggests that the benefits of implementing the project with the simulated volume of in-lieu water delivery may be greater than those simulated. As a result, the actual volume of in-lieu deliveries required to prevent water level minimum threshold exceedances in the WLPMA may be much lower than that simulated in the with-project model scenario.

1.1 Recommendations:

Include in the BOY Study report a detailed explanation of the differences between the baseline model results and the conceptual model at the boundary between the management areas. Also include descriptions of the simulated change in flow across the boundary in the simulation with an explanation of the potential differences between simulated and actual with-project conditions.

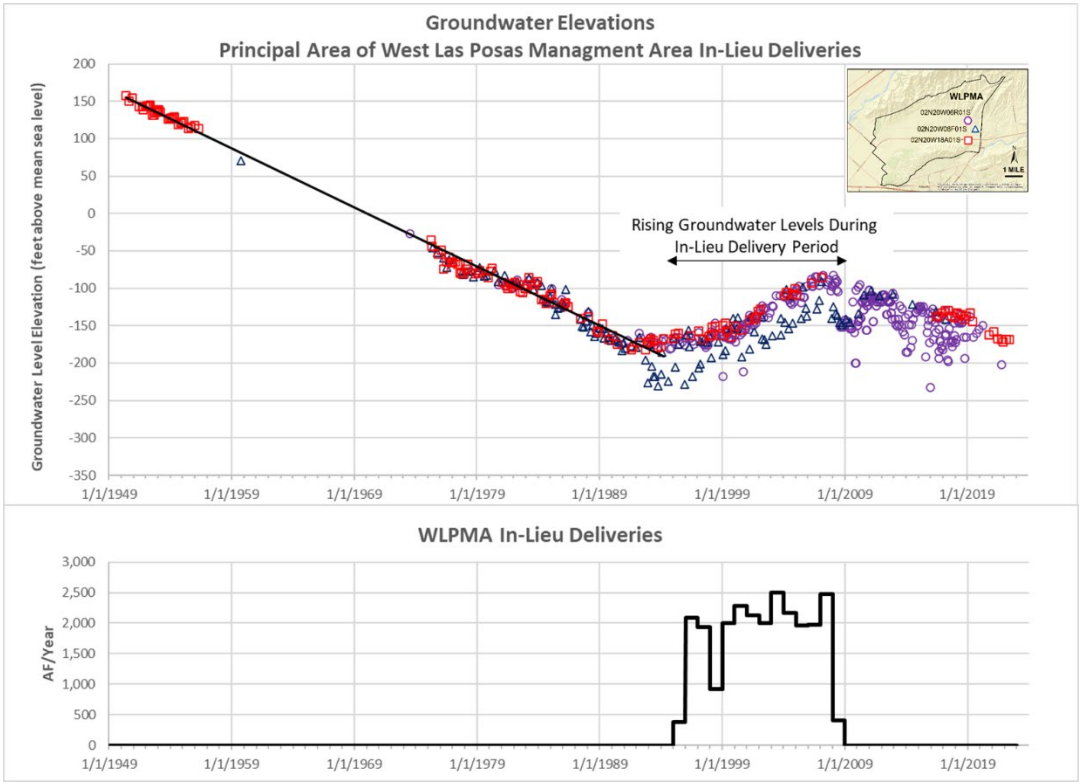
1.2 Technical Rationale for Recommendation:

The generally agreed hydrogeologic conceptual model of the LPVB includes a fault-related no-flow boundary between the WLPMA and ELPMA. This is supported by historically

observed water levels on either side of the boundary and has been the subject of previous TAC recommendations.

The representation of the management area boundary in the WLPMA model allows flow across this boundary and the baseline model scenario simulation indicates flow from the ELPMA to the WLPMA. In the with-project scenario simulation this flow direction reverses and water flows from WLPMA to the ELPMA. The difference in the volumes of flow between the baseline and with-project simulations is 1,033 acre-feet per year (AFY), which is 58 percent of the annual in-lieu delivery volume (1,764 AFY) simulated for the WLPMA with-project scenario.

Historical data demonstrates that a similar magnitude of in-lieu deliveries to WLMPA between 1996 and 2008 resulted in groundwater elevation increases of approximately 90 feet, as shown in the charts below.



The simulated change in groundwater elevations in wells near the WLPMA in-lieu project is much less than the historical observations. The four wells near the project showed simulated average groundwater elevation increases of around 7 to 17 feet. This comparison reinforces the observation that the model simulates WLPMA in-lieu deliveries leaving the management across what is agreed to be a no-flow boundary. As a result, the simulated in-

lieu deliveries likely exceed the volume necessary to achieve and maintain sustainable conditions in the WLPMA.

1.3 Summary of Facts in Support of Recommendation:

- The model simulates flow across the boundary between the WLPMA and ELPMA.
- This is a no-flow boundary in the agreed-upon hydrogeological conceptual model of the LPVB.
- Simulated flow across the boundary from the WLPMA to the ELPMA is approximately 58 percent of the annual simulated in-lieu water delivery to the WLPMA.
- Historical observations of past in-lieu deliveries to the same area of the WLPMA showed groundwater elevation increases of approximately 90 feet while model simulated change compared to baseline simulated conditions average only 7 to 17 feet.

2. RECOMMENDATION 2: INCLUDE DETAILED EXPLANATION OF THE UNCERTAINTLY IN MODEL-SIMUALTED WATER LEVELS AND IN THE OPTIMIZATION YIELD STUDY REPORT

Model simulated with-project water levels include uncertainty and may not accurately reflect the effects of management actions. As noted above in Recommendation 1, model-simulated changes in the WLPMA may underestimate the benefits of the in-lieu project in that management area. As a result, specific water level and/or other conditions in the model simulated with-project scenarios should be qualified in the BOY Study report.

2.1 Recommendations:

The BOY Study report should explain model assumptions and uncertainty in clear language with specific examples to aid the Watermaster Board and stakeholders in understanding the results of model simulations and the need for further data collection.

2.2 Technical Rationale for Recommendation:

Models are a tool for estimating the results of changed conditions on groundwater systems. Simulated water levels in individual wells within the area influenced by a project scenario are often the result of the specific distribution of pumping or other components of the scenario. The with-project scenario model results show that in-lieu water delivery to the WLPMA can improve conditions, and the discussion in Recommendation 1 above demonstrates that there is significant uncertainty in simulated with-project water levels. Therefore, documenting

2.3 Summary of Facts in Support of Recommendation:

- The results of model simulations are the result of the assumptions included in the model and in the components of the scenario.
- Inaccuracy in these assumptions and scenario inputs may not match future conditions with project implementation.

- Clear explanation of model assumption and uncertainty can assist decision makers and stakeholders in understanding the need to continue to collect data and manage adaptively while implementing projects.

3. RECOMMENDATION 3: HIGHLIGHT THE IMPORTANCE OF MONITORING PROJECT EFFECTS IN THE OPTIMIZATION YIELD STUDY REPORT

As indicated in the two preceding recommendations, model results may not match future conditions, especially with changes in management practices. Ongoing monitoring during implementation of projects and management actions (PMAs) designed to affect groundwater conditions combined with adaptive management is the only certain means of assessing the effectiveness of those projects and actions. Observation of groundwater conditions through monitoring also provides information to inform refinements to existing PMAs and/or development of new PMAs. Finally, tracking pumping, recharge, water levels, and other factors over time is the most effective way to improve groundwater models so they are better able to simulate historical and future conditions.

3.1 Recommendations:

The BOY Study report should highlight the importance of robust, careful, and consistent monitoring of in-lieu delivery volumes, monthly pumping by well, and groundwater elevations during implementation of all proposed projects. Appropriate monitoring will allow the Watermaster, stakeholders, and project operators to assess project benefits and modify in-lieu delivery volumes and timing so that project objectives, including meeting groundwater sustainability thresholds, are met while minimizing project costs.

3.2 Technical Rationale for Recommendation:

As stated above, models are a powerful tool for estimating the results of changed conditions on groundwater systems. However, the only way to test simulations and confirm that the expected effects and benefits occur is through robust, careful, and consistent monitoring.

3.3 Summary of Facts in Support of Recommendation:

- Model simulations of future periods with changes in water management do not always match observed conditions.
- Monitoring is the only means of confirming the effectiveness and benefits of PMAs.
- Future modifications to the existing groundwater models of the LPVB will require accurate monitoring.

4. RECOMMENDATION 4: MODIFY MODEL ZONE BUDGETS SO THAT COMPLETE WATER BUDGET OUTPUTS CAN BE PROVIED FOR FUTURE TAC MODEL RESULT REVIEW

Groundwater model zone budgets are a means of producing detailed categorization of water inflow and outflow for user-defined subregions, or zones, within a groundwater model. This can include representations of geographic areas corresponding to management areas, water districts, or geologically distinct units. Dudek indicated that the zone budget

definition for the ELPMA model does not include a small area where some pumping occurs. As a result, the water budget data provided to the TAC did not match the reported total pumping, which caused confusion. TAC review of future model results would be more effective and efficient if all components of the model input and output are included and are internally consistent.

4.1 Recommendations:

Review the models of both management areas to identify areas that are not included in zone budgets or other summary tools relied on to extract model output data. Allowance for sufficient time for Watermaster consultants and TAC to thoroughly review these and other detailed technical work would also benefit accuracy and reliability of the models and other tools the Watermaster relies on for assessing groundwater management in the LPVB.

4.2 Technical Rationale for Recommendation:

Effective and efficient review of detailed technical datasets requires those datasets be complete. Portions of a model not being included in any zone budget zone resulted in an apparent difference between model input and output data that TAC members could not independently distinguish from an error.

4.3 Summary of Facts in Support of Recommendation:

The information and data provided from the numerical groundwater models of the LPVB were internally inconsistent and model input, output, and summary datasets were different, complicating and slowing TAC review and reducing TAC confidence in model results.

5. RECOMMENDATION 5: CONSIDER USING THE ADDITIONAL MODEL SCENARIOS TO IDENTIFY IMACTS OF NOT IMPLEMENTING PROJECTS, TEST REDUCED IN-LIEU DELIVERY VOLUMES FOR IDENTIFICATION OF COST-EFFECTIVE PROJECT REFINEMENT, AND SHOW THE EFFECT OF PUMPING REDISTRIBUTION IN THE WEST LAS POSAS MANAGEMENT AREA

As indicated by Dudek in presentations to and discussion with the TAC, no additional model scenarios are necessary to quantify the basin optimization yield or assess the need for rampdown. However, the TAC recommends using the additional model scenarios in the BOY Study scope of work to roughly refine the volume of in-lieu water to identify the minimum average annual volume that would still result in sustainable conditions without the need for pumping rampdown.

5.1 Recommendations:

The TAC identified the three additional model scenarios below to provide additional information to the Watermaster and stakeholders when considering the benefits and effects of implementing the BOY Study projects. These recommended model scenarios are presented in order of priority.

1. Complete iterative simulations in both management areas to identify the amount of uniform pumping reduction that would be required to meet sustainability goals

without implementing any new projects. The results of these iterative simulations would help the Watermaster and stakeholders understand the effects of not implementing the in-lieu projects.

2. Complete iterative simulations in both management areas with progressively lower in-lieu delivery volumes to identify the would be helpful to investigate the possible lower limit of in-lieu delivery volumes in each management area that may be necessary to prevent minimum threshold exceedances.
3. Simulate redistributed pumping in the WLPMA to reduce pumping from Well 02N20W06R01S. The model simulated with-project scenario results shows water levels below the minimum threshold for this well. Annual average pumping in 02N20W06R01S was reduced in the with-project scenario from 1,090 to 799 AFY. Pumping in this well could be further decreased to address this minimum threshold exceedance in additional model scenarios with alternative pumping distribution.

5.2 Technical Rationale for Recommendation:

The with-project simulations show that the in-lieu delivery volumes should result in sustainable water level conditions in both LPVB management areas. However, sustainability without pumping rampdown is contingent on implementation of both projects. The additional model scenarios identified above would demonstrate the benefits of project implementation, help assess the potential for lower cost project alternatives, and document how adaptive management and operational flexibility could be used to maximize project benefits.

5.3 Summary of Facts in Support of Recommendation:

- The scenarios simulated to date show one means of achieving water level sustainability in the LPVB.
- Alternative means of achieving water level sustainability are possible and showing how they differ from the scenarios simulated to date could provide decision makers with valuable information to guide project development and acceptance.

TALLY OF COMMITTEE MEMBER VOTES

[this section will be modified as necessary following discussion and voting by the TAC]

	Vote			
TAC Member	**Yes**	**No**	**Abstain**	**Absent**
Chad Taylor, Chair				
Tony Morgan, East LPV Representative				
Bob Abrams, West LPV Representative				

REPORT OF BASES FOR MAJORITY AND MINORITY COMMITTEE MEMBER POSITIONS

The TAC vote to present the recommendations above to the Watermaster was unanimous, as indicated above. The bases for the unanimous positions are described for each

recommendation above. [this will be modified as necessary following discussion and voting by the TAC]