Borrego Springs Watermaster
Regular Board Meeting
May 9, 2024 @ 4:30 p.m.
*****IN PERSON at the Borrego Springs Library*****

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Instructions for Public Comment

The public may address the Board on items within the Watermaster's Jurisdiction that are included or not included on the meeting agenda.

To address the Board on items that are not included on the meeting agenda, the public may request to speak during ***Agenda Item II – Public Correspondence***. Comments may be limited to three minutes per speaker.

To address the Board on items that are included on the meeting agenda, the Board Chairperson will call for public comments immediately following the agenda item's staff report presentation and prior to Board discussion.

AGENDA

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

I. OPENING PROCEDURES (Chair)

A. Call to Order and Begin Meeting Recording
B. Pledge of Allegiance
C. Roll Call
D. Approval of Agenda

II. PUBLIC CORRESPONDENCE/COMMENT (Chair)

The Board may direct staff to include topics brought forward during Public Correspondence and Comment on a future meeting agenda. No action or discussion is otherwise taken by the Board. Written correspondence received between April 10, 2024 and May 1, 2024.

A. Correspondence Received (none)
B. Public Comment

III. **CONSENT CALENDAR (Chair)**
Action Item: All items may be approved with a single motion

A. Approval of Minutes: Regular Meeting – April 18, 2024 .....**Page 3**

B. Approval of April 2024 Financial Report .....**Page 8**

C. Receive and file February 2024 Land IQ Invoices .....**Page 19**

IV. PRESENTATION ON GROUNDWATER DEPENDENT ECOSYSTEMS PROJECT BY UCI

V. ITEMS FOR BOARD CONSIDERATION AND POSSIBLE ACTION

A. Consideration of Approval of Resolution 24-01 of the Board of Directors of the Borrego Springs Watermaster Providing Administrative Direction in the Accounting of Carryover (ADAMS/MARKMAN) .....**Page 37**

B. Consideration of Approval of Revised Policy on the use of "Best Available Science" (ADAMS/MARKMAN) .....**Page 40**

C. Draft Water Year 2025 Budget (ADAMS) .....**Page 49**

D. Consideration of Approval of a Well Subcontractor for Conversion of Abandoned Wells (MALONE) .....**Page 63**

E. Pending DWR Review of Judgment and GMP (ADAMS) .....**Page 68**

F. Status Update on the Redetermination of the Sustainable Yield (MALONE) .....**Page 69**

VI. REPORTS

A. Legal Counsel Report – *verbal*

B. Technical Consultant Report – *verbal*
   a. Status update on the Biological Restoration of Fallowed Lands project

C. Executive Director Reports – *verbal*
   a. Review of Pumping-to-Date in WY 2024 .....**Page 95**
   b. Update on Prop 68 grant reimbursements
   c. Update on DWR Groundwater Management Plan Review

D. Chairperson's Report – *verbal*

VII. APPROVAL OF AGENDA ITEMS FOR JUNE 13, 2024 BOARD MEETING.....**Page 103**
Recommendation: Develop and approve agenda for June 13, 2024 Regular Board meeting.

VIII. BOARD MEMBER COMMENTS

IX. NEXT MEETINGS OF THE BORREGO SPRINGS WATERMASTER

A. Regular Board Meeting – Thursday, June 13, 2024 at 4:30 pm

B. Regular Board Meeting – Thursday, July 11, 2024 at 4:30 pm

X. ADJOURNMENT

MINUTES
BORREGO SPRINGS WATERMASTER BOARD MEETING
Conducted Virtually via GoToMeeting
Thursday, April 18, 2024, 4:30 p.m.

The following individuals were present at the meeting:

Directors Present	Chair Dave Duncan – Borrego Water District (BWD)
	Vice Chair Tyler Bilyk – Agricultural Sector
	Secretary and Treasurer Shannon Smith – Recreational Sector
	Mark Jorgensen – Community Representative
	Jim Bennett – County of San Diego
Watermaster Staff Present	James M. Markman, Legal Counsel
	Samantha Adams, Executive Director, West Yost
	Andrew Malone, Lead Technical Consultant, West Yost
	Lauren Salberg, Staff Geologist, West Yost
Others Present	Bob Abrams, Aquilogic
	Cathy Milkey, representing Rams Hill
	Christopher Baker, DWR
	Dara Goldrath
	David Garmon
	David Leibert
	Diane Johnson, BWD Board Member
	Geoff Poole, BWD General Manager
	Jessica Clabaugh, BWD Finance Officer
	Jim Dax, Board Alternate – Community Representative
	Kathy Dice, Board Alternate - BWD
	Leanne Crow, Board Alternate – County of San Diego
	Rebecca Falk
	Rodney Bruce, Rams Hill
	Steve Anderson, BB&K, representing BWD
	Tammy Baker, BWD Board Member
	Tom Watson, Aquilogic, TAC member representing Rams Hill
	Travis Huxman, UCI

Please visit the Watermaster's Website[1] to access the Agenda Packet, recording, and presentation for the April 18, 2024 Meeting.

I. **Opening Procedures**
   A. Chair Duncan called the meeting to order at 4:30 PM at which time the meeting recording was started.
   B. Chair Duncan led the meeting participants in the Pledge of Allegiance.
   C. Samantha Adams, Executive Director (ED) called roll and confirmed that a quorum of all members of the Board were present.
   D. Approval of Agenda.

[1] https://borregospringswatermaster.com/past-watermaster-meetings/

Motion: Motioned by Director Jorgensen, seconded by Director Smith to approve the Agenda. *Motion carried unanimously by voice vote (5-0-0).*

II. **Public Correspondence**

A. Correspondence Received. Discussion included:

- Public correspondence listed on the agenda is reserved for correspondence received and included in the Board meeting agenda package. Correspondence was received from the Borrego Water District (BWD) regarding agenda item V.A on April 17, 2024. Because BWD's correspondence was received *after* the April agenda package was distributed, the correspondence was not listed or included in the April Board meeting agenda or agenda package.
- Counsel Markman recommended that when public correspondence is received late on a specific agenda item, it is best discussed during the discussion on the specific agenda item.

B. Public Comments. Chair Duncan called for public comments. There were no public comments.

III. **Consent Calendar.** Chair Duncan called for any discussion on the Consent Calendar items included in the April 18, 2024 agenda package. Discussion included:

- The description of the discussion on page 3 of the March meeting minutes should be updated to include the second motion received following Alternate Director Crow's motion to approve the policy presented.
- Director Smith praised the experience of the nominated candidate for the Community Representative on the Technical Advisory Committee (TAC) and thanked Director Jorgensen for nominating him.

Motion: Motioned by Director Bennett, seconded by Vice Chair Bilyk to approve the Consent Calendar with the discussed changes. *Motion carried unanimously by roll-call vote (5-0-0).*

IV. **Closed Session.** The Board of Directors entered a Closed Session at 4:37 PM. The public meeting was reconvened at 4:53 PM. There were no reportable actions from the Closed Session.

V. **Items for Board Consideration and Possible Action**

A. *Policy on the use of "Best Available Science".* ED Adams and Counsel Markman provided a summary of the policy included in the Agenda package and the motivation for creating the policy. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Geoff Poole, David Garmon, and Steve Anderson, and included:

- Consider adding budget in WY 2025 to review the results of DWR's Airborne Electromagnetic (AEM) Survey.

The key points of discussion amongst the Board included:

- Geoff Poole and Steve Anderson provided information about a comment letter and redline document on the proposed policy, including the reasoning for the changes made in the redline.

- The Board and Legal Counsel discussed the edits and provided explanations for revisions that they agreed or disagreed with each one.

Following the discussion, the Board directed Watermaster Staff to revise the policy based on the discussion held and bring a revised version of the policy and a redline copy to the May 9, 2024 meeting.

B. Status Update on the Redetermination of the Sustainable Yield. Andy Malone provided a summary of the memo included in the Agenda package and provided a report-out from the March 29, 2024 Ad-Hoc TAC meeting. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments.

No Board action was taken.

C. *Watermaster Budget Status Report as of March 31, 2024.* ED Adams provided a summary of the memo included in the agenda package. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. There were no public comments.

The key points of discussion included:

- Concern regarding the significant amount of work remaining to complete by the end of the year, which may be worthy of follow up discussion.
- The amount of interest on vendor terms is over budget.

Following the discussion, the Board directed staff to prepare a projection of interest accruals from payments to vendors through the rest of the year.

D. *Scoping Discussion for WY 2025 Budget.* ED Adams provided a detailed presentation of the assumptions for the first draft of the Water Year 2025 budget, including revenues, expenditures, and cash reserves. At the conclusion of the presentation, Chair Duncan opened the floor to public comment, followed by Board discussion. Public comment was made by Diane Johnson. Discussion included:

- Public input:
  - DWR's comments on the Groundwater Management Plan (GMP) have not yet been received and addressing them may need to be accounted for in the WY 2025 budget.
  - Consider adding budget in WY 2025 to review the results of DWR's Airborne Electromagnetic (AEM) Survey.
- The Board discussed each staff question listed on the presentation slide (see slide 33 of the Board presentation slides) and provided input as follows:
  - The Overproduction Penalty Assessment rate should remain at $500 per acre-foot (same as WY 2024).

- Any recommended follow-on work for the next Redetermination of the Sustainable Yield or Biological Restoration project will be assumed to begin in WY 2026, and should not be budgeted for in WY 2025.
- On the work recommended in the *Groundwater Monitoring Plan for the Borrego Springs Subbasin*:
  - Costs should be included in the WY 2025 budget for increased sampling to accommodate additional monitoring wells in the monitoring program and verifying/establishing reference point elevations at wells in the monitoring network.
  - Costs should not be included in the WY 2025 budget for performing a construction feasibility study for the State Park well.

Following the discussion, the Board directed staff to update the draft budget for WY 2025 based on the Board's input.

VI. **Reports.**

A. Legal Counsel Report. Counsel Markman reported on the following items:

- A Court Hearing was held in March 2024 to amend the Judgment to allow for a Community Representative on the TAC.
- The next Status Conference is scheduled for April 25, 2024.

B. Technical Consultant Report. Mr. Malone provided a status update on the Biological Restoration of Fallowed Lands project (see slide 36 of the Board presentation slides). Key topics following the presentation included:

- Land IQ/UCI believes that valuable information can still be collected from the modified study design, despite reducing the study area from 4 areas to 2 areas and UCI will continue to monitor the constructed sand fences beyond the initial study period to better understand the long-term results.
- The bid for the sand fence construction is above the budgeted amount and a solution is still pending to perform the work within the grant budget.

C. Executive Director Reports. ED Adams reported on the following items:

- Prop 68 Grant Updates:
  - The second and third DWR grant reimbursement checks were received in April 2024.
  - DWR is working to reassign a grant manager, after the current grant manager left DWR. Future grant reimbursement reports will not be reviewed until a grant manager is reassigned. This should not result in funding concerns since the third reimbursement request check was received three months earlier than projected and the 2nd installment of Pumping Assessments will be arriving in May and June.
- Status of DWR's review of the Groundwater Management Plan.
  - DWR has indicated they are close to completing their review and will release a comment letter soon. DWR will notify the Watermaster a few days prior to publishing the letter.

- DWR has offered to meet with the Watermaster to discuss their comments on the GMP. ED Adams recommended that at the next Board meeting, the Board discuss and decide who should be in attendance.

D. Chairperson's Report. NONE

VII. **Approval of Agenda Items for May 9, 2024 Board Meeting.** Chair Duncan reviewed the potential agenda items for the next Board meetings listed in the agenda package. The Board discussed items to be included on the May 9, 2024 Board meeting agenda, in addition to items listed in the Agenda package. Based on discussion, the May agenda should include:

- Presentation by UCI on the Groundwater Dependent Ecosystems Project
- Consideration of Approval of Board Resolution on Carryover Transfers and Accounting
- Consideration of Approval of a Well Subcontractor for Conversion of Abandoned Wells
- Consideration of Approval of June TAC meeting agenda
- Draft WY 2025 Budget
- WY 2024 Mid-Year Pumping Report
- Status Update on the Redetermination of the Sustainable Yield
- Consideration of Approval of policy on "Best Available Science"
- Process for following up with DWR on GMP comments

Motion: Motioned by Director Jorgensen seconded by Vice Chair Bilyk, to approve the May 9, 2024 agenda presented. *Motion carried unanimously by roll-call vote (5-0-0).*

VIII. **Board Member Comments.** Chair Duncan called for comments.

- Chair Duncan stated that because groundwater quality is a Sustainability Indicator in the Basin, it is the responsibility of the Watermaster (not BWD) to avoid Undesirable Results.

IX. **Next Meetings of the Borrego Springs Watermaster.** Chair Duncan reviewed the meetings listed in the agenda package, noting that the next Board meeting on May 9th will be held In-Person at the Borrego Springs Library.

X. **Adjournment**

A. Chair Duncan adjourned the meeting at 6:47 PM.

Recorded by:
Lauren Salberg, Staff Geologist, West Yost

Attest:
Shannon Smith, Secretary and Treasurer of the Board

1:46 PM

05/02/24

Accrual Basis

Borrego Springs Watermaster
Profit & Loss for Fiscal Year 2023-2024
October 2023 through April 2024

	Oct 23	Nov 23	Dec 23	Jan 24	Feb 24	Mar 24	Apr 24	TOTAL
Ordinary Income/Expense								
Income								
DWR Grant Reimbursement t	0.00	0.00	624,880.37	0.00	0.00	0.00	260,795.98	885,676.35
Meter Read Reimbursement	6,468.96	0.00	0.00	0.00	0.00	0.00	0.00	6,468.96
Pumping Assessment	0.00	229,005.63	0.00	0.00	0.00	0.00	0.00	229,005.63
WY 2022 - Expected Grant Reimb v	0.00	0.00	(235,348.89)	0.00	0.00	0.00	0.00	(235,348.89)
WY 2023 - Expected Grant Reimb v	0.00	0.00	(389,487.97)	0.00	0.00	0.00	(261,195.99)	(650,683.96)
WY 2024 - Expected Grant Reimb	69,263.28	83,812.42	74,465.68	71,316.06	65,187.58	42,383.97	62,907.73	469,336.72
Total Income	75,732.24	312,818.05	74,509.19	71,316.06	65,187.58	42,383.97	62,507.72	704,454.81
Expense								
Audit	0.00	0.00	0.00	0.00	6,272.00	784.00	784.00	7,840.00
Bank Service Charges	0.00	0.00	0.00	25.00	0.00	25.00	0.00	50.00
Consult Serv Land IQ-Grant Reim**	16,663.20	14,023.42	19,137.73	17,592.06	6,028.83	8,760.72	13,821.76	96,027.72
Consult Serv WY-Grant Reim**	52,600.08	69,789.00	55,327.95	53,724.00	46,958.75	33,623.25	49,085.97	361,109.00
Consulting Services*	15,973.00	16,179.45	14,698.54	17,746.25	12,799.75	12,614.25	15,404.26	105,415.50
Consulting Services- Meter Read	1,304.75	(131.50)	36.25	88.00	344.50	279.50	(178.00)	1,743.50
Insurance	3,339.42	3,339.42	3,339.42	3,339.42	3,339.42	3,339.42	3,339.42	23,375.94
Interest Expense	6,909.54	7,121.26	12,009.27	5,498.76	3,036.49	3,711.23	3,747.85	42,034.40
Legal	4,500.00	15,442.50	9,047.50	15,409.39	7,524.90	12,981.75	8,855.50	73,761.54
Meter Accuracy Test–Grant Reim**	0.00	0.00	0.00	0.00	12,200.00	0.00	0.00	12,200.00
Meter Read Expenses	1,688.68	0.00	0.00	0.00	0.00	894.53	0.00	2,583.21
Total Expense	102,978.67	125,763.55	113,596.66	113,422.88	98,504.64	77,013.65	94,860.76	726,140.81
Net Ordinary Income	(27,246.43)	187,054.50	(39,087.47)	(42,106.82)	(33,317.06)	(34,629.68)	(32,353.04)	(21,686.00)
Net Income	**(27,246.43)**	**187,054.50**	**(39,087.47)**	**(42,106.82)**	**(33,317.06)**	**(34,629.68)**	**(32,353.04)**	**(21,686.00)**

* Represents Consulting services by West Yost that are not grant reimbursable.

** Represents expenses that can be reimbursed with grant funding from DWR.

t Reflects actual reimbursement received from DWR.

v Reflects reversal of estimated reimbursement amounts in prior WYs.

1:38 PM

05/02/24

Accrual Basis

Borrego Springs Watermaster
Balance Sheet for Fiscal Year 2023-2024
As of April 30, 2024

	Apr 30, 24
ASSETS	
Current Assets	
Checking/Savings	
US Bank	878,761.79
Total Checking/Savings	878,761.79
Accounts Receivable	
Accounts Receivable	47,172.04
Total Accounts Receivable	47,172.04
Other Current Assets	
Accrued Grant Reimburse 2024	469,336.72
Prepaid Expenses	3,339.40
Total Other Current Assets	472,676.12
Total Current Assets	1,398,609.95
TOTAL ASSETS	**1,398,609.95**
LIABILITIES & EQUITY	
Liabilities	
Current Liabilities	
Accounts Payable	
Accounts Payable	279,469.07
Total Accounts Payable	279,469.07
Other Current Liabilities	
Accrued Payables	85,117.49
Total Other Current Liabilities	85,117.49
Total Current Liabilities	364,586.56
Total Liabilities	364,586.56
Equity	
Retained Earnings	1,055,709.39
Net Income	-21,686.00
Total Equity	1,034,023.39
TOTAL LIABILITIES & EQUITY	**1,398,609.95**

1:44 PM

05/02/24

Accrual Basis

Borrego Springs Watermaster
Expense Distribution Detail
April 2024

Type	Date	Num	Memo	Account	Amount
C.J. Brown & Company CPAs					
Bill	04/01/2024	20240331	Audit services thru March 2024	Audit	784.00
Total C.J. Brown & Company CPAs					784.00
Land IQ, LLC					
General Journal	04/01/2024	58R	Land IQ Estimate for March 1, 2024 to March 31, 2024	Consult Serv Land IQ-Grant Reim	(8,595.22)
Bill	04/25/2024	5954	Services from March 1, 2024 to March 31, 2024	Consult Serv Land IQ-Grant Reim	10,311.72
Bill	04/30/2024	LandIQ Int Apr24 Est	April 2024 Estimated Interest	Interest Expense	641.91
Bill	04/30/2024	LandIQ Int Apr24	April 2024 Final Interest, Including Payments	Interest Expense	85.90
General Journal	04/30/2024	62	Land IQ Estimate for April 1, 2024 to April 30, 2024	Consult Serv Land IQ-Grant Reim	12,105.26
Total Land IQ, LLC					14,549.57
RWG Law					
General Journal	04/01/2024	58R	RWG Estimate for March 1, 2024 to March 31, 2024	Legal	(13,000.00)
Bill	04/15/2024	247279	Services rendered through March 31, 2024	Legal	13,155.50
General Journal	04/30/2024	62	RWG Estimate for April 1, 2024 to April 30, 2024	Legal	8,700.00
Total RWG Law					8,855.50
West Yost & Associates					
General Journal	04/01/2024	58R	WY Estimate for March 1, 2024 to March 31, 2024	Consulting Services	(13,488.75)
General Journal	04/01/2024	58R	WY Estimate for March 1, 2024 to March 31, 2024	Consulting Services- Meter Read	(311.50)
General Journal	04/01/2024	58R	WY Estimate for March 1, 2024 to March 31, 2024	Consult Serv WY-Grant Reim	(34,192.00)
Bill	04/30/2024	Interest Apr24 Est	April 2024 Estimated Interest	Interest Expense	2,905.09
Bill	04/30/2024	2057887	West Yost Consulting Services March 1, 2024 to March 31, 2024	Consulting Services	13,488.75
Bill	04/30/2024	2057887	West Yost Consulting Services March 1, 2024 to March 31, 2024	Consulting Services- Meter Read	133.50
Bill	04/30/2024	2057889	West Yost Consulting Services March 1, 2024 to March 31, 2024	Consult Serv WY-Grant Reim	33,872.75
Bill	04/30/2024	2057890	West Yost Consulting Services March 1, 2024 to March 31, 2024	Consult Serv WY-Grant Reim	497.25
Bill	04/30/2024	Interest Apr24 Final	April 2024 Final Interest, Including Payments	Interest Expense	114.95
General Journal	04/30/2024	62	WY Estimate for April 1, 2024 to April 30, 2024	Consulting Services	15,404.26
General Journal	04/30/2024	62	WY Estimate for April 1, 2024 to April 30, 2024	Consult Serv WY-Grant Reim	48,907.97
Total West Yost & Associates					67,332.27
TOTAL					**91,521.34**

Borrego Springs Watermaster

5/2/2024 1:41 PM

Register: US Bank

From 04/01/2024 through 04/30/2024

Sorted by: Date, Type, Number/Ref

Date	Number	Payee	Account	Memo	Payment	C	Deposit	Balance
04/05/2024			DWR Grant Reimbursement	Deposit		X	260,795.98	1,098,632.85
04/09/2024	2143	Land IQ, LLC	Accounts Payable		62,021.46			1,036,611.39
04/09/2024	2144	RWG Law	Accounts Payable	Services rendered thro...	7,024.90	X		1,029,586.49
04/09/2024	2145	West Yost & Associates	Accounts Payable		150,824.70	X		878,761.79

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2056066	10/31/2023	$ 16,390.75				$ 16,390.75
	12/1/2023		10.50%	$ 146.17	$ 16,390.75	$ 16,536.92
	1/29/2024	$ (436.36)	10.50%	$ 280.67	$ 16,100.56	$ 16,381.23
	1/29/2024	$ (26.85)	10.50%	$ -	$ 16,354.38	$ 16,354.38
	1/31/2024		10.50%	$ 9.41	$ 16,354.38	$ 16,363.79
	2/27/2024	$ (224.82)	10.50%	$ 127.10	$ 16,138.97	$ 16,266.07
	2/29/2024		10.50%	$ 9.36	$ 16,266.07	$ 16,275.43
	3/26/2024	$ (141.16)	10.50%	$ 121.73	$ 16,134.27	$ 16,256.00
	3/31/2024		10.50%	$ 23.38	$ 16,256.00	$ 16,279.38
	4/23/2024	$ (16,387.10)	10.50%	$ 107.71	$ (107.72)	$ (0.00)
2056069	10/31/2023	$ 55,813.83				$ 55,813.83
	12/1/2023		10.50%	$ 497.74	$ 55,813.83	$ 56,311.57
	1/10/2024	$ (10,020.58)	10.50%	$ 647.97	$ 46,290.99	$ 46,938.96
	1/29/2024	$ (1,429.27)	10.50%	$ 256.56	$ 45,509.69	$ 45,766.24
	1/31/2024		10.50%	$ 26.33	$ 45,766.24	$ 45,792.57
	2/27/2024	$ (382.02)	10.50%	$ 355.68	$ 45,410.55	$ 45,766.23
	2/29/2024		10.50%	$ 26.33	$ 45,766.23	$ 45,792.56
	3/26/2024	$ (408.37)	10.50%	$ 342.50	$ 45,384.19	$ 45,726.69
	3/31/2024		10.50%	$ 65.77	$ 45,726.69	$ 45,792.47
	4/23/2024	$ (46,095.45)	10.50%	$ 302.98	$ (302.98)	$ (0.00)
2056298	11/30/2023	$ 18,794.74				$ 18,794.74
	12/31/2023		10.50%	$ 167.61	$ 18,794.74	$ 18,962.35
	1/29/2024	$ (336.71)	10.50%	$ 158.19	$ 18,625.64	$ 18,783.83
	1/31/2024		10.50%	$ 10.81	$ 18,783.83	$ 18,794.64
	2/27/2024	$ (156.69)	10.50%	$ 145.98	$ 18,637.95	$ 18,783.93
	2/29/2024		10.50%	$ 10.81	$ 18,783.93	$ 18,794.74
	3/26/2024	$ (167.61)	10.50%	$ 140.57	$ 18,627.13	$ 18,767.70
	3/31/2024		10.50%	$ 26.99	$ 18,767.70	$ 18,794.69
	4/23/2024	$ (18,919.05)	10.50%	$ 124.35	$ (124.36)	$ (0.00)

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2056299	11/30/2023	$ 71,503.45				$ 71,503.45
	12/31/2023		10.50%	$ 637.65	$ 71,503.45	$ 72,141.10
	1/29/2024	$ (1,280.99)	10.50%	$ 601.83	$ 70,860.11	$ 71,461.95
	1/31/2024		10.50%	$ 41.12	$ 71,461.95	$ 71,503.06
	2/27/2024	$ (6,742.01)	10.50%	$ 555.37	$ 64,761.05	$ 65,316.43
	2/29/2024		10.50%	$ 37.58	$ 65,316.43	$ 65,354.01
	3/26/2024	$ (582.81)	10.50%	$ 488.81	$ 64,771.20	$ 65,260.01
	3/31/2024		10.50%	$ 93.87	$ 65,260.01	$ 65,353.88
	4/23/2024	$ (65,786.29)	10.50%	$ 432.41	$ (432.41)	$ (0.00)
2056300	11/30/2023	$ 1,260.00				$ 1,260.00
	12/31/2023		10.50%	$ 11.24	$ 1,260.00	$ 1,271.24
	1/29/2024	$ (22.57)	10.50%	$ 10.61	$ 1,248.67	$ 1,259.27
	1/31/2024		10.50%	$ 0.72	$ 1,259.27	$ 1,260.00
	2/27/2024	$ (10.51)	10.50%	$ 9.79	$ 1,249.49	$ 1,259.27
	2/29/2024		10.50%	$ 0.72	$ 1,259.27	$ 1,260.00
	3/26/2024	$ (11.24)	10.50%	$ 9.42	$ 1,248.76	$ 1,258.18
	3/31/2024		10.50%	$ 1.81	$ 1,258.18	$ 1,259.99
	4/23/2024	$ (1,268.33)	10.50%	$ 8.34	$ (8.34)	$ (0.00)
2056797	12/31/2023	$ 12,374.50				$ 12,374.50
	1/31/2024		10.50%	$ 110.35	$ 12,374.50	$ 12,484.85
	2/27/2024	$ (214.44)	10.50%	$ 96.97	$ 12,270.41	$ 12,367.38
	2/29/2024		10.50%	$ 7.12	$ 12,367.38	$ 12,374.50
	3/26/2024	$ (110.35)	10.50%	$ 92.55	$ 12,264.15	$ 12,356.70
	3/31/2024		10.50%	$ 17.77	$ 12,356.70	$ 12,374.48
	4/23/2024	$ (842.95)	10.50%	$ 81.87	$ 11,531.53	$ 11,613.40
	4/30/2024		10.50%	$ 23.39	$ 11,613.40	$ 11,636.79
2056798	12/31/2023	$ 47,204.00				$ 47,204.00
	1/31/2024		10.50%	$ 420.96	$ 47,204.00	$ 47,624.96
	2/27/2024	$ (818.01)	10.50%	$ 369.91	$ 46,806.95	$ 47,176.86
	2/29/2024		10.50%	$ 27.14	$ 47,176.86	$ 47,204.00
	3/26/2024	$ (420.96)	10.50%	$ 353.06	$ 46,783.04	$ 47,136.10
	3/31/2024		10.50%	$ 67.80	$ 47,136.10	$ 47,203.90
	4/23/2024	$ (407.38)	10.50%	$ 312.32	$ 46,796.52	$ 47,108.84
	4/30/2024		10.50%	$ 94.86	$ 47,108.84	$ 47,203.70

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2056799	12/31/2023	$ 1,016.00				$ 1,016.00
	1/31/2024		10.50%	$ 9.06	$ 1,016.00	$ 1,025.06
	2/27/2024	$ (17.61)	10.50%	$ 7.96	$ 1,007.45	$ 1,015.41
	2/29/2024		10.50%	$ 0.58	$ 1,015.41	$ 1,016.00
	3/26/2024	$ (9.06)	10.50%	$ 7.60	$ 1,006.94	$ 1,014.54
	3/31/2024		10.50%	$ 1.46	$ 1,014.54	$ 1,015.99
	4/23/2024	$ (8.77)	10.50%	$ 6.72	$ 1,007.22	$ 1,013.95
	4/30/2024		10.50%	$ 2.04	$ 1,013.95	$ 1,015.99
2057638	1/31/2024	$ 17,749.00				$ 17,749.00
	2/29/2024		10.50%	$ 148.07	$ 17,749.00	$ 17,897.07
	3/26/2024	$ (306.52)	10.50%	$ 133.86	$ 17,590.55	$ 17,724.41
	3/31/2024		10.50%	$ 25.49	$ 17,724.41	$ 17,749.90
	4/23/2024	$ (153.18)	10.50%	$ 117.44	$ 17,596.72	$ 17,714.17
	4/30/2024		10.50%	$ 35.67	$ 17,714.17	$ 17,749.84
2057639	1/31/2024	$ 63,004.75				$ 63,004.75
	2/29/2024		10.50%	$ 525.61	$ 63,004.75	$ 63,530.36
	3/26/2024	$ (3,813.14)	10.50%	$ 475.17	$ 59,717.22	$ 60,192.40
	3/31/2024		10.50%	$ 86.58	$ 60,192.40	$ 60,278.98
	4/23/2024	$ (520.22)	10.50%	$ 398.83	$ 59,758.76	$ 60,157.59
	4/30/2024		10.50%	$ 121.14	$ 60,157.59	$ 60,278.73
2057003	1/31/2024	$ 1,390.00				$ 1,390.00
	2/29/2024		10.50%	$ 11.60	$ 1,390.00	$ 1,401.60
	3/26/2024	$ (24.10)	10.50%	$ 10.48	$ 1,377.50	$ 1,387.98
	3/31/2024		10.50%	$ 2.00	$ 1,387.98	$ 1,389.98
	4/23/2024	$ (12.00)	10.50%	$ 9.20	$ 1,377.98	$ 1,387.17
	4/30/2024		10.50%	$ 2.79	$ 1,387.17	$ 1,389.97
2057696	2/29/2024	$ 12,823.50				$ 12,823.50
	3/31/2024		10.50%	$ 114.36	$ 12,823.50	$ 12,937.86
	4/23/2024	$ (111.66)	10.50%	$ 85.60	$ 12,826.20	$ 12,911.80
	4/30/2024		10.50%	$ 26.00	$ 12,911.80	$ 12,937.80

West Yost Associates
2020 Research Park Drive, Suite 100
Davis, CA 95618

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
2057697	2/29/2024	$ 34,663.75				$ 34,663.75
	3/31/2024		10.50%	$ 309.12	$ 34,663.75	$ 34,972.87
	4/23/2024	$ (301.82)	10.50%	$ 231.40	$ 34,671.05	$ 34,902.45
	4/30/2024		10.50%	$ 70.28	$ 34,902.45	$ 34,972.73
2057698	2/29/2024	$ 1,206.25				$ 1,206.25
	3/31/2024		10.50%	$ 10.76	$ 1,206.25	$ 1,217.01
	4/23/2024	$ (10.50)	10.50%	$ 8.05	$ 1,206.51	$ 1,214.56
	4/30/2024		10.50%	$ 2.45	$ 1,214.56	$ 1,217.01
2057887	3/31/2024	$ 13,622.25				$ 13,622.25
	4/30/2024		10.50%	$ 117.56	$ 13,622.25	$ 13,739.81
2057889	3/31/2024	$ 33,872.75				$ 33,872.75
	4/30/2024		10.50%	$ 292.33	$ 33,872.75	$ 34,165.08
2057890	3/31/2024	$ 497.25				$ 497.25
	4/30/2024		10.50%	$ 4.29	$ 497.25	$ 501.54

Total Invoices (Less Pymts)	**$ 224,247.31**	
Current Month Interest (*Estimated*)		**$ 2,905.09**
Current Month Interest (*Final, including payments*)		**$ 3,020.04**
Prior Month Interest Adjustment		**$ -**
Adjusted Monthly Interest		**$ 114.95**
Total Interest Charges		**$ 12,561.65**
Grand Total		**$ 236,808.95**

Land IQ
2020 L St, Suite 210
Sacramento, CA 95811

To:	Borrego Springs Watermaster	**Interest Schedule:**	4/30/2024
	c/o West Yost Associates		
	23692 Birtcher Drive		
	Lake Forest, CA 92630		

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
4708	5/31/2023	$ 161,700.54				$ 161,700.54
	7/1/2023		10.25%	$ 1,407.68	$ 161,700.54	$ 163,108.22
	8/1/2023		10.25%	$ 1,419.94	$ 163,108.22	$ 164,528.16
	9/1/2023		10.50%	$ 1,467.23	$ 164,528.16	$ 165,995.39
	10/2/2023		10.50%	$ 1,480.32	$ 165,995.39	$ 167,475.70
	10/27/2023	$ (25,230.83)	10.50%	$ 1,204.45	$ 142,244.87	$ 143,449.32
	11/13/2023	$ (25,000.00)	10.50%	$ 701.53	$ 118,449.32	$ 119,150.85
	12/14/2023		10.50%	$ 1,062.56	$ 119,150.85	$ 120,213.41
	1/4/2024	$ (86,469.71)	10.50%	$ 726.22	$ 33,743.70	$ 34,469.92
	1/4/2024	$ (3,708.10)	10.50%	$ -	$ 30,761.82	$ 30,761.82
	1/11/2024	$ (25,000.00)	10.50%	$ 61.95	$ 5,761.82	$ 5,823.77
	1/31/2024		10.50%	$ 33.51	$ 5,823.77	$ 5,857.27
	2/29/2024		10.50%	$ 48.86	$ 5,857.27	$ 5,906.14
	3/12/2024	$ (5,906.14)	10.50%	$ 20.39	$ (0.00)	$ 20.39
	3/31/2024		10.50%	$ 0.11	$ 20.39	$ 20.50
	4/8/2024	$ (20.54)	10.50%	$ 0.05	$ (0.04)	$ 0.00
5689	10/31/2023	$ 19,593.79				$ 19,593.79
	12/1/2023		10.50%	$ 174.73	$ 19,593.79	$ 19,768.52
	1/31/2024		10.50%	$ 346.90	$ 19,768.52	$ 20,115.42
	2/29/2024		10.50%	$ 167.81	$ 20,115.42	$ 20,283.23
	3/12/2024	$ (689.44)	10.50%	$ 70.02	$ 19,593.79	$ 19,663.81
	3/31/2024		10.50%	$ 107.48	$ 19,663.81	$ 19,771.29
	4/8/2024	$ (153.57)	10.50%	$ 45.50	$ 19,617.72	$ 19,663.22
	4/30/2024		10.50%	$ 124.44	$ 19,663.22	$ 19,787.67

Land IQ
2020 L St, Suite 210
Sacramento, CA 95811

To: Borrego Springs Watermaster
c/o West Yost Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Interest Schedule: 4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
5737	11/30/2023	$ 13,692.29				$ 13,692.29
	12/31/2023		10.50%	$ 122.11	$ 13,692.29	$ 13,814.40
	1/31/2024		10.50%	$ 123.19	$ 13,814.40	$ 13,937.59
	2/29/2024		10.50%	$ 116.27	$ 13,937.59	$ 14,053.86
	3/12/2024	$ (361.57)	10.50%	$ 48.51	$ 13,692.29	$ 13,740.80
	3/31/2024		10.50%	$ 75.10	$ 13,740.80	$ 13,815.91
	4/8/2024	$ (123.61)	10.50%	$ 31.80	$ 13,692.30	$ 13,724.09
	4/30/2024		10.50%	$ 86.86	$ 13,724.09	$ 13,810.95
5788	12/31/2023	$ 17,655.58				$ 17,655.58
	1/31/2024		10.50%	$ 157.45	$ 17,655.58	$ 17,813.03
	2/29/2024		10.50%	$ 148.60	$ 17,813.03	$ 17,961.63
	3/12/2024	$ (306.05)	10.50%	$ 62.00	$ 17,655.58	$ 17,717.59
	3/31/2024		10.50%	$ 96.84	$ 17,717.59	$ 17,814.43
	4/8/2024	$ (158.84)	10.50%	$ 41.00	$ 17,655.59	$ 17,696.59
	4/30/2024		10.50%	$ 112.00	$ 17,696.59	$ 17,808.58
5856	1/31/2024	$ 10,327.83				$ 10,327.83
	2/29/2024		10.50%	$ 86.16	$ 10,327.83	$ 10,413.99
	3/31/2024		10.50%	$ 92.87	$ 10,413.99	$ 10,506.86
	4/8/2024	$ (92.87)	10.50%	$ 24.18	$ 10,413.99	$ 10,438.17
	4/30/2024		10.50%	$ 66.06	$ 10,438.17	$ 10,504.23
5906	2/29/2024	$ 12,341.25				$ 12,341.25
	3/31/2024		10.50%	$ 110.06	$ 12,341.25	$ 12,451.31
	4/8/2024	$ (110.06)	10.50%	$ 28.66	$ 12,341.25	$ 12,369.90
	4/30/2024		10.50%	$ 78.29	$ 12,369.90	$ 12,448.19

Land IQ
2020 L St, Suite 210
Sacramento, CA 95811

To:	Borrego Springs Watermaster c/o West Yost Associates 23692 Birtcher Drive Lake Forest, CA 92630	**Interest Schedule:**	4/30/2024

Invoice No.	Invoice Date / Payment Date	Invoice Amount	Prime Rate (Plus 2%)	Interest Charge	Starting Balance	Ending Balance
5954	3/31/2024	$ 10,311.72				$ 10,311.72
	4/30/2024		10.50%	$ 88.99	$ 10,311.72	$ 10,400.71

Total Invoices (Less Pymts)	**$ 72,291.67**		
Current Month Interest		**$ 727.81**	
Total Interest Charges		**$ 12,468.67**	
Grand Subtotal			**$ 84,760.33**

Approved April 30, 2024

Description of Land IQ and UCI Invoices

February 2024

Total Amount Invoiced: **$12,341.25**

Amount Invoiced by Land IQ: **$4,152.50**

Description of Land IQ Expenses:

- Time billed by Land IQ staff on Component Administration, and Tasks 2, 3, and 4 (see pages 1-3 of invoice).

Amount Invoiced by UCI: **$8,188.75**

Description of UCI Expenses: Total expenses of $8,188.75 (pg. 5 of invoice) were calculated as follows:

- *Removed time billed by Moises Raymundo Perea Vega*. UCI received approval from Land IQ to hold his time in February 2024 and bill it in March 2024 instead due to a delay in an agreement for Moises to work on the project. His time is redlined on the Salaries by Fund Report (pg. 11-12), however the time is not removed from the automatic totals reported on pg. 12; instead, his time was manually removed and the totals were re-calculated. Moises's held time (totaling $1,716.50) is subtracted from the total of $8,823.22, for a total salary of $7,106.72, as noted on pg. 12 of the invoice.
- *Billed $1,082.03 in "liens".* Time from April, May, and July 2023 that was not previously billed, was billed in February 2024.
- To summarize, UCI's February 2024 total invoiced amount is equal to:
  $8,188.75 = $8,823.22 (total salary & fringe) - $1,716.50 (Moises's held time) + $1,082.03 (liens)

LAND IQ

INVOICE

Land IQ, LLC
2020 L Street
Suite 210
Sacramento, CA 95811
www.landIQ.com

Borrego Springs Watermaster
c/o West Yost & Associates
23692 Birtcher Drive
Lake Forest, CA 92630

Invoice Date:	2/29/24
Total Amount:	$12,341.25
Invoice Number:	5906
Invoice Period:	02/01/24 - 02/29/24
Engagement:	Borrego Springs Watermaster

Summary of Charges

Description	Amount
Task A. LIQ (WY23/24) Project Management	$400.00
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	$3,072.50
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	$80.00
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study **Expenses**	$600.00
Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study **Expenses**	$6,767.41
Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study **Expenses**	$1,421.34

TOTAL AMOUNT DUE **$12,341.25**

SUMMARY OF TIME CHARGES

Source	Hrs	Rate	Amount
Task A. LIQ (WY23/24) Project Management			
Robert Travis Brooks	2.50	$160.00	$400.00
Task A. LIQ (WY23/24) Project Management	**2.50**		**$400.00**
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study			
Robert Travis Brooks	12.50	$160.00	$2,000.00
Diya Chowdhury	1.00	$195.00	$195.00
Stephanie Tillman	4.50	$195.00	$877.50
Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	**18.00**		**$3,072.50**
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies			
Robert Travis Brooks	0.50	$160.00	$80.00
Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	**0.50**		**$80.00**
TOTAL FEES & EXPENSES	**21.00**		**$12,341.25**

TIME & EXPENSE DETAIL

Date	Task	Description	Hrs	Rate	Amount
Robert Travis Brooks					
2/12/24	Task A. LIQ (WY23/24) Project Management	Project coordination	1.00	$160.00	$160.00
2/16/24	Task A. LIQ (WY23/24) Project Management	Project coordination	0.50	$160.00	$80.00
2/28/24	Task A. LIQ (WY23/24) Project Management	Project Management	1.00	$160.00	$160.00
2/28/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Review of Draft Report	4.00	$160.00	$640.00
2/16/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Document review	2.00	$160.00	$320.00
2/8/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Review draft report and project coordination	3.00	$160.00	$480.00
2/1/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Review of Draft Study Report for Task 2	2.00	$160.00	$320.00
2/2/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Review of Draft Study Report for Task 2	1.50	$160.00	$240.00
2/16/24	Task 4: LIQ (WY23/24) Farmland Fallowing Rehabilitation Strategies	Fuel Mod Standards to include into BMPs	0.50	$160.00	$80.00
		Robert Travis Brooks	**15.50**		**$2,480.00**
Diya Chowdhury					
2/13/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Reviewing draft report	1.00	$195.00	$195.00
		Diya Chowdhury	**1.00**		**$195.00**
Stephanie Tillman					
2/5/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	reviewed Task 2 study	2.00	$195.00	$390.00
2/6/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	finished reviewing Task 2 report and sent comments to Laurel	2.00	$195.00	$390.00
2/13/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	email and file clean-up	0.25	$195.00	$48.75
2/2/24	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	communication with Travis re fallow time study and recommendations	0.25	$195.00	$48.75
		Stephanie Tillman	**4.50**		**$877.50**

INVOICE

Date	Task	Description		Hrs	Rate	Amount
			TOTAL FEES	**21.00**		**$3,552.50**

Date	Code	Task	Description	Amount
Land IQ Expenses				
2/23/24	Professional Services	Task 2: LIQ (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	Greg Okin - 2/19/24 Review of documents	$600.00
3/18/24	Professional Services	Task 2: UCI (WY 23/24) Existing Fallowed Farmland and Reference Natural Habitat Field Study	UCIrvine: (Invoice No: 23131557-58786)	$6,767.41
3/18/24	Professional Services	Task 3: UCI (WY23/24) Brush Pile Wildlife Sand Fence Case Study	UCIrvine: (Invoice No: 23131557-58786)	$1,421.34
			Land IQ Expenses	**$8,788.75**
			TOTAL EXPENSES	**$8,788.75**

TOTAL AMOUNT DUE **$12,341.25**

From: Travis Brooks
To: Accounting
Subject: Fw: Refarm Task 2 Results
Date: Friday, February 23, 2024 2:37:12 PM

Please accept this email from Greg Okin below as an invoice for his services on the Borrego Watermaster Project, and apply to Task 2.

Sincerely,
Travis

From: Greg Okin <gregokin@mac.com>
Sent: Friday, February 23, 2024 12:41 PM
To: Travis Brooks <tbrooks@landiq.com>
Subject: Re: Refarm Task 2 Results

Here you go:

Work with LandIQ on Borrego Springs field restoration

2/19/24 – Review of Documents
10 am - 1 PM
Duration: 3 hr

Total Hours: 3
Hourly Rate: $200
Total Compensation: $ 600

Total Due: $ 600

Payable to:
Greg Okin
442 N Sweetzer Ave
Los Angeles, CA 90048

Contact me for SSN for 1099 purposes if required.

Greg Okin
gregokin@me.com

"At its worst, cable TV could invade our privacy, tranquilize our children, and remove us electronically from the flesh and blood world, and we would have to pay for the privilege."
Mike Wallace, 1975

UCIRVINE

Invoice No: 23131557-58786

Contracts and Grants Accounting
228 Aldrich Hall
Irvine, CA 92697-1050
Fax: (949) 824-3895

Date: 03/18/2024
Federal Tax ID: 95-2226406
Proposal Number: 105753
UC Fund Number: 58786
Reference:

LAND IQ, LLC
2020 L STREET, SUITE 210
SACRAMENTO, CA 95811

Please Include Invoice Number with Check or Wire Payment

Award Number: 225754
Project Title: Concept Feasibility Plan for Rehabilitation of Fallowed Irrigated Agricultural Land in the Borrego Valley Groundwater Basin
Principal Investigator: Lulow, Megan
Project Title: 01/02/2023 to 03/31/2025

Billing Period: 02/01/2024-02/29/2024

Expense Category	Cumulative To Date	Previously Billed	Current Expenses
Labor - Task A	$5,837.45	$5,837.45	$0.00
Labor - Task 1	$16,250.00	$16,250.00	$0.00
Labor - Task 2	$68,518.79	$61,751.38	$6,767.41
Labor - Task 3	$20,061.28	$18,639.94	$1,421.34
Labor - Task 6	$3,700.00	$3,700.00	$0.00
Direct Expense	$9,441.67	$9,441.67	$0.00
	$123,809.19	$115,620.44	$8,188.75
Indirect Costs (0%)	$0.00	$0.00	$0.00
	$123,809.19	$115,620.44	$8,188.75
Current Invoice Total			**$8,188.75**

Please make your check payable to The Regents of the University of California Irvine, CONTRACTS AND GRANTS ACCOUNTING 228 ALDRICH HALL, IRVINE, CALIFORNIA 92697-1050. Include a reference to the invoice number and mail your payment to the above address. If you have any questions regarding this invoice, please contact Ashley Vuong for assistance at (949) 824-3406 or email avuong6@uci.edu

By signing this report, I certify to the best of my knowledge and belief that the report is true, complete, and accurate, and the expenditures, disbursements and cash receipts are for the purposes and objectives set forth in the terms and conditions of the Federal award. I am aware that any false, fictitious, or fraudulent information, or the omission of any material fact, may subject me to criminal, civil or administrative penalties for fraud, false statements, false claims or otherwise. (U.S. Code Title 18, Section 1001 and Title 31, Sections 3729-3730 and 3801-3812).

Certified By

DocuSigned by:
A5C03A9D5EAD46F...

Griselda Duran
Manager, Contracts & Grants Accounting

February 2024 UCI activities

Task 2 Activities:

- Monthly refarm meeting
- Task coordination and communication among staff and Land IQ
- Admin and budget management & coordination
- Meeting to discuss landscape heterogeneity metrics
- Retake photos of A2 plot
- Communication, paperwork, and purchasing of anemometers
- Renewal of permits and landowner communication for spring fieldwork
- Review and comments on results task 2
- Scheduling and coordinating accommodations for field work
- Drone analysis wrap up and next steps on landscape statistic
- Edits to report of soil texture, type, and salinity from 9 retired farmland sites and 7 natural reference sites
- Edits to report of landscape structure and function from 9 retired farmland sites and 7 natural reference sites
- Edits to report of vegetation composition from 9 retired farmland sites and 7 natural reference sites

Task 3 Activities:

- Monthly refarm meeting
- Task coordination and communication among staff and Land IQ
- Admin and budget management & coordination
- meeting/discussion of field plan for March fieldwork and scheduling
- Communication, paperwork, and purchasing of erosion pins and particle collector apparatuses
- More photos of Bauer sandfence test plot focusing on the bottom 1-3 feet
- Creation of protocols and layouts for dust particle collectors and erosion pins

SUMMARY OF LABOR PER HOUR

February 2024 Individual	Time (h)	Salary Total	Rate (h)	GAEL
Post-Doctoral Researcher 1 (Fiore)*	36.69	$ 1,216.83	$ 33.17	$ 12.29
Post-Doctoral Researcher 2 (Brigham)*	36.69	$ 1,216.83	$ 33.17	$ 12.29
Research Associate 1 (Rood)**	28.72	$ 1,143.28	$ 39.82	$ 11.55
Research Associate 2 (Coffey)*	44.11	$ 1,461.83	$ 33.14	$ 14.76
Senior Scientist 2 (Lulow)*	7.80	$ 530.51	$ 58.63	$ 4.62
*monthly rate divided by working hours per month		**$ 5,569.28**		**$ 55.51**

Control Account:

UCI Decision Support

KFS Fund Summary Report

FS0150D

Fiscal Year:2024 **As of:** 08 - FEB. 2024

This period is Closed. The closing date for this period is 03/07/2024

Run Date/Time: 04/08/2024 4:14:50 PM
Page #: 1 of 1
Run by: Daniel S Nguyen

Control Account: IR-UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Control Account	Org	Account	Account / Object Name	Sub-Acct	Consolidation	Object	MTD Actuals	ITD Budget	ITD Actual	ITD MD Amt	YTD Budget	YTD Actuals	YTD MD Amt	Encumbrances	Variance W/ Encumbrance
ASSETS															
UC58786	8525	UC58786	CA-A/R PRIVATE CONTRACTS	- - -	ASTS	J294	($7,709.11)	$0.00	$24,725.12	$0.00	$0.00	$24,725.12	$0.00	$0.00	($24,725.12)
		UC58786 LAND IQ 225754 LULOW G0 CR 3/25					**($7,709.11)**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**($24,725.12)**
	8525 CONTROL - CONTRACTS & GRANTS						**($7,709.11)**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**($24,725.12)**
UC58786 ASSETS							**($7,709.11)**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**$24,725.12**	**$0.00**	**$0.00**	**($24,725.12)**
INCOME															
UC58786	8525	UC58786	PRIVATE RESTRICTED CONTRACTS INCOME	- - -	INCO	R012	$0.00	$239,400.00	$108,336.36	$0.00	$0.00	$45,765.20	$0.00	$0.00	($131,063.64)
		UC58786 LAND IQ 225754 LULOW G0 CR 3/25					**$0.00**	**$239,400.00**	**$108,336.36**	**$0.00**	**$0.00**	**$45,765.20**	**$0.00**	**$0.00**	**($131,063.64)**
	8525 CONTROL - CONTRACTS & GRANTS						**$0.00**	**$239,400.00**	**$108,336.36**	**$0.00**	**$0.00**	**$45,765.20**	**$0.00**	**$0.00**	**($131,063.64)**
UC58786 INCOME							**$0.00**	**$239,400.00**	**$108,336.36**	**$0.00**	**$0.00**	**$45,765.20**	**$0.00**	**$0.00**	**($131,063.64)**
EXPENSES															
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	- - -	SWG2		$6,676.63	$212,900.00	$84,220.02	$0.00	$0.00	$45,832.24	$0.00	$0.00	$128,679.98
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	- - -	BENF		$2,079.91	$0.00	$30,038.59	$0.00	$0.00	$15,423.64	$0.00	$0.00	($30,038.59)
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	- - -	SUPL		$0.00	$10,500.00	$10,042.18	$0.00	$0.00	$988.44	$0.00	$0.00	$457.82
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	- - -	TRVL		$0.00	$5,000.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$5,000.00
UC58786	6191	PC15547	486369-58786 UCI-Nature/LAND IQ	- - -	GENX		$66.68	$11,000.00	$1,224.95	$0.00	$0.00	$710.26	$0.00	$0.00	$9,775.05
		PC15547 486369-58786 UCI-Nature/LAND IQ					**$8,823.22**	**$239,400.00**	**$125,525.74**	**$0.00**	**$0.00**	**$62,954.58**	**$0.00**	**$0.00**	**$113,874.26**
	6191 OFFICE OF UCI-NATURE						**$8,823.22**	**$239,400.00**	**$125,525.74**	**$0.00**	**$0.00**	**$62,954.58**	**$0.00**	**$0.00**	**$113,874.26**
UC58786 EXPENSES							**$8,823.22**	**$239,400.00**	**$125,525.74**	**$0.00**	**$0.00**	**$62,954.58**	**$0.00**	**$0.00**	**$113,874.26**

UC58786 SUMMARY	MTD Actuals	ITD Budget	ITD Actual	ITD MD Amt	YTD Budget	YTD Actuals	YTD MD Amt	Encumbrances	Variance W/ Encumbrance
ASSETS	($7,709.11)	$0.00	$24,725.12	$0.00	$0.00	$24,725.12	$0.00	$0.00	($24,725.12)
INCOME	$0.00	$239,400.00	$108,336.36	$0.00	$0.00	$45,765.20	$0.00	$0.00	($131,063.64)
EXPENSES	$8,823.22	$239,400.00	$125,525.74	$0.00	$0.00	$62,954.58	$0.00	$0.00	$113,874.26
Fund Total:	**($16,532.33)**	**$0.00**	**$7,535.74**	**$0.00**	**$0.00**	**$7,535.74**	**$0.00**	**$0.00**	**($41,914.50)**

UCI Decision Support

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 **Period(s) Selected:** 08 - FEB. 2024

Run Date/Time: 04/05/2024 6:51:46 AM
Page #: 1 of 2
Run by: Daniel S Nguyen

Chart: IR
Org: 6191
Org Title: OFFICE OF UCI-NATURE
Account: PC15547
Account Name: 486369-58786 UCI-Nature/LAND IQ

Control Account - UC Account: UC58786 - 486369
Agency Name: LAND IQ, LLC
Fiscal Officer: Daniel S Nguyen
Account Manager: Sinqui Musto
Project Director: Megan E Lulow

Sub Fund Grp Type Private Contracts-Restricted
Award #: -
Award Begin Date: 01/03/2023
Award End Date: 03/31/2025
ICR Rate: 0.00%

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
Account - PC15547																	
Consolidation - SWG2																	
	08	EX	SWGN	1200	IBI	UP	20240203	BI-WEEKLY Check Date 02/14/2024	02/13/24	143181767	-	-	-	-	$0.00	$571.64	$0.00
	08	EX	SWGN	1200	IBI	UP	20240217	BI-WEEKLY Check Date 02/28/2024	02/27/24	143614881	-	-	-	-	$0.00	$571.64	$0.00
	08	EX	SWGN	1200	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769062	-	-	-	-	$0.00	$1,461.83	$0.00
	08	EX	SWGN	1211	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769063	-	-	-	-	$0.00	$3,998.35	$0.00
	08	EX	SWGN	1285	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769064	-	-	-	-	$0.00	$73.17	$0.00
Consolidation Summary - SWG2 for period 08															**$0.00**	**$6,676.63**	**$0.00**
Consolidation - BENF																	
	08	EX	BENE	1627	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769065	-	-	-	-	$0.00	($73.17)	$0.00
	08	EX	BENE	1627	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769066	-	-	-	-	$0.00	$226.99	$0.00
	08	EX	BENE	1678	IBI	UP	20240203	BI-WEEKLY Check Date 02/14/2024	02/13/24	143181768	-	-	-	-	$0.00	$3.89	$0.00
	08	EX	BENE	1678	IBI	UP	20240217	BI-WEEKLY Check Date 02/28/2024	02/27/24	143614882	-	-	-	-	$0.00	$3.89	$0.00
	08	EX	BENE	1678	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769067	-	-	-	-	$0.00	$13.55	$0.00
	08	EX	BENE	1685	IBI	UP	20240203	BI-WEEKLY Check Date 02/14/2024	02/13/24	143181769	-	-	-	-	$0.00	$11.43	$0.00
	08	EX	BENE	1685	IBI	UP	20240217	BI-WEEKLY Check Date 02/28/2024	02/27/24	143614883	-	-	-	-	$0.00	$11.43	$0.00
	08	EX	BENE	1685	IBI	UP	20240229	MONTHLY Check Date 03/01/2024	02/29/24	143769068	-	-	-	-	$0.00	$1,881.90	$0.00
Consolidation Summary - BENF for period 08															**$0.00**	**$2,079.91**	**$0.00**
Consolidation - GENX																	
	08	EX	SRVC	7065	IBI	UP	20240203	BI-WEEKLY Check Date 02/14/2024	02/13/24	143181770	-	-	-	-	$0.00	$5.77	$0.00
	08	EX	SRVC	7065	IBI	UP	20240217	BI-WEEKLY Check Date 02/28/2024	02/27/24	143614884	-	-	-	-	$0.00	$5.77	$0.00
	08	EX	SRVC	7065	IBI	UP		MONTHLY Check Date	02/29/24	143769069	-	-	-	-	$0.00	$55.14	$0.00

UCI Decision Support

KFS Account Transactions - Income and Expense Report

FS0100-Detail General Ledger

Fiscal Year: 2024 **Period(s) Selected:** 08 - FEB. 2024

Run Date/Time: 04/05/2024 6:51:46 AM
Page #: 2 of 2
Run by: Daniel S Nguyen

GEC Doc#	Period	Object Type	Object Level	Object Code	Doc Type	Origin	Doc No	Description	Post Date	Ledger Entry ID	Org Doc No	Project	OrgRefID	Doc Ref No	Budget	Actuals	Encumbrances
							20240229	03/01/2024									
Consolidation Summary - GENX for period 08															**$0.00**	**$66.68**	**$0.00**
Total Expense for period 08															**$0.00**	**$8,823.22**	**$0.00**

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2024 **Period(s) Selected:** 8 - February

Run Date/Time: 03/12/2024 2:43:07 PM
Page #: 1 of 2

Control Account: IR - UC58786 LAND IQ 225754 LULOW G0 CR 3/25

Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
02/29/2024	6191	486369	58786	SWG2	1200			PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	02/29/2024	02/29/2024	REG	1	M	5,567.17	5,567.17	0.2626	44.11	1,461.83	0.00
02/29/2024	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/03/2024	02/03/2024	REG	0.475	H	39.82	39.82	0.3988	14.36	571.64	0.00
02/29/2024	6191	486369	58786	SWG2	1200			PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/17/2024	02/17/2024	REG	0.475	H	39.82	39.82	0.3988	14.36	571.64	0.00
02/29/2024	6191	486369	58786	SWG2	1211			PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024	REG	1	UC_FY	5,572.33	5,572.33	0.2184	36.69	1,216.83	0.00
02/29/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	01/31/2024	REG	1	UC_FY	9,791.67	9,791.67	(0.0071)	(1.30)	(73.17)	0.00
02/29/2024	6191	486369	58786	SWG2	1211			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024	REG	1	UC_FY	9,791.67	9,791.67	0.0542	9.10	530.51	0.00
~~02/29/2024~~	~~6191~~	~~486369~~	~~58786~~	~~SWG2~~	~~1211~~			~~PC15547~~	~~10327413~~	~~Perea-Vega,Moises Raymundo~~	~~003320~~	~~ASST SPECIALIST~~	~~02/29/2024~~	~~02/29/2024~~	~~REG~~	~~0.5~~	~~UC_FY~~	~~2,604.17~~	~~5,208.33~~	~~0.2126~~	~~35.72~~	~~1,107.35~~	~~0.00~~
02/29/2024	6191	486369	58786	SWG2	1211			PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024	REG	1	UC_FY	5,572.33	5,572.33	0.2184	36.69	1,216.83	0.00
02/29/2024	6191	486369	58786	SWG2	1285			PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	01/31/2024	VAC	1	UC_FY	9,791.67	9,791.67	0.0071	1.30	73.17	0.00
SWG2 - SALARIES & WAGES GENERAL ASSISTANCE																					**191.02**	**6,676.63**	**0.00**
02/29/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024		1	UC_FY	9,791.67	9,791.67		0.00	0.00	34.30
02/29/2024	6191	486369	58786	BENF	1627		Leave Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	02/29/2024	02/29/2024		1	M	5,567.17	5,567.17		0.00	0.00	109.64
~~02/29/2024~~	~~6191~~	~~486369~~	~~58786~~	~~BENF~~	~~1627~~		~~Leave Assessment - Expense~~	~~PC15547~~	~~10327413~~	~~Perea-Vega,Moises Raymundo~~	~~003320~~	~~ASST SPECIALIST~~	~~02/29/2024~~	~~02/29/2024~~		~~0.5~~	~~UC_FY~~	~~2,604.17~~	~~5,208.33~~		~~0.00~~	~~0.00~~	~~83.05~~
02/29/2024	6191	486369	58786	BENF	1627		Vacation Usage Fringe Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024		1	UC_FY	9,791.67	9,791.67		0.00	0.00	(73.17)
02/29/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024		1	UC_FY	9,791.67	9,791.67		0.00	0.00	3.61
02/29/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	02/29/2024	02/29/2024		1	M	5,567.17	5,567.17		0.00	0.00	9.94
02/29/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/03/2024	02/03/2024		0.475	H	39.82	39.82		0.00	0.00	3.89
02/29/2024	6191	486369	58786	BENF	1678		Expense - RPNI Assessments	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/17/2024	02/17/2024		0.475	H	39.82	39.82		0.00	0.00	3.89

UCI Decision Support

UCPath Salaries by Fund Report

Fiscal Year: 2024 **Period(s) Selected:** 8 - February

Run Date/Time: 03/12/2024 2:43:07 PM
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Accounting Date	KFS Org	UC Account	UC Fund	KFS Consolidation Code	KFS Object Code	KFS Project	Line Description	KFS Account	Employee ID	Employee Name	Job Code	Job Code Description	Pay End Date	UC Earn End Date	Earn Code	FTE	Comp Frequency	Comp Rate	FTE Comp Rate	Percent Total Pay	Hours	Salary Amount	Fringe Amount
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024		1	UC_FY	9,791.67	9,791.67		0.00	0.00	212.67
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	02/29/2024	02/29/2024		1	M	5,567.17	5,567.17		0.00	0.00	679.75
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/03/2024	02/03/2024		0.475	H	39.82	39.82		0.00	0.00	11.43
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/17/2024	02/17/2024		0.475	H	39.82	39.82		0.00	0.00	11.43
~~02/29/2024~~	~~6191~~	~~486369~~	~~58786~~	~~BENF~~	~~1685~~		~~CBR Assessment - Expense~~	~~PC15547~~	~~10327413~~	~~Perea-Vega,Moises Raymundo~~	~~003320~~	~~ASST SPECIALIST~~	~~02/29/2024~~	~~02/29/2024~~		~~0.5~~	~~UC_FY~~	~~2,604.17~~	~~5,208.33~~		~~0.00~~	~~0.00~~	~~514.92~~
02/29/2024	6191	486369	58786	BENF	1685		CBR Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024		1	UC_FY	5,572.33	5,572.33		0.00	0.00	237.28
BENF - BENEFITS																					**0.00**	**0.00**	**2,079.91**
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283026	Fiore,Nicole M	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10283754	Lulow,Megan E	003403	PROJ SCIENTIST-FY NON REP	02/29/2024	02/29/2024		1	UC_FY	9,791.67	9,791.67		0.00	0.00	4.62
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10286318	Coffey,Julie Ellen	009611	SRA 3	02/29/2024	02/29/2024		1	M	5,567.17	5,567.17		0.00	0.00	14.76
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/03/2024	02/03/2024		0.475	H	39.82	39.82		0.00	0.00	5.77
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10308213	Rood,Sicco Herman	009617	SRA 2 NEX	02/17/2024	02/17/2024		0.475	H	39.82	39.82		0.00	0.00	5.77
~~02/29/2024~~	~~6191~~	~~486369~~	~~58786~~	~~GENX~~	~~7065~~		~~GAEL GA Assessment - Expense~~	~~PC15547~~	~~10327413~~	~~Perea-Vega,Moises Raymundo~~	~~003320~~	~~ASST SPECIALIST~~	~~02/29/2024~~	~~02/29/2024~~		~~0.5~~	~~UC_FY~~	~~2,604.17~~	~~5,208.33~~		~~0.00~~	~~0.00~~	~~11.18~~
02/29/2024	6191	486369	58786	GENX	7065		GAEL GA Assessment - Expense	PC15547	10569787	Brigham,Laurel Marie	003252	POSTDOC-EMPLOYEE	02/29/2024	02/29/2024		1	UC_FY	5,572.33	5,572.33		0.00	0.00	12.29
GENX - GENERAL EXPENSES																					**0.00**	**0.00**	**66.68**
PC15547 - 486369-58786 UCI-Nature/LAND IQ																					**191.02**	**6,676.63**	**2,146.59**
58786 - LAND IQ 225754 LULOW G0 CR 3/25																					**191.02**	**6,676.63**	**2,146.59**

Note: TIME for Moises Raymundo Perea Vega NOT billed in February 2024 (crossed out in red in Fund Report)
Total Salary EXCLUDING time for Moises: $7,106.72
Total Salary Amount: $5,569.28
+
Total Fringe Amount: $1,537.44

Contracts and Grants Accounting
STATUS OF LIEN FORM

The Status of Lien Form should be used to close a budget period or to close an award when additional expenses or expense credits are to be posted to the ledger.

Agency Name : LandIQ LLC
Award Number : 225754
Account/Fund Number : PC15547/486369-58786
Award End Date : 3/31/2025

I have reviewed the expenditures against the above grant/contract based on the general ledger dated 09/30/21 and have determined that all charges against it are proper, with the following adjustments and exceptions:

LIENS AND OTHER EXPENSES
(Please, attach copies of documentation: UPAYs, Purchase Orders, Purchase Requisitions, Receiving Slips, Invoices, etc.)

Expense Category	**Adjustments** (Please include details, such as: employee name, vendor, KFS document number)	Date	Amount	Remarks
SWG2	Lulow, Megan	4/30/2023	$ 205.89	Task 2
BENF	Lulow, Megan	4/30/2023	$ 100.06	Task 2
GENX	Lulow, Megan	4/30/2023	$ 1.86	Task 2
SWG2	Lulow, Megan	5/31/2023	$ 212.13	Task 2
BENF	Lulow, Megan	5/31/2023	$ 103.10	Task 2
GENX	Lulow, Megan	5/31/2023	$ 1.91	Task 2
GENX	Sicco Rood - Salary Accrual	7/5/2023	$ 307.45	Task 2
GENX	Sicco Rood - Biweekly Benefits Accru	7/5/2023	$ 149.73	Task 2
GENX	Rounding Error		$ (0.10)	Task 2
		TOTAL DIRECT COSTS:	$ 1,082.03	
		TOTAL INDIRECT COSTS:	$ -	
		TOTAL:	$ 1,082.03	

Prepared by: Daniel Nguyen, Office of Research　　Date: 03/20/24

Principal Investigator Signature: ____________　　Date: ____________

Return the completed and signed form to the appropriate accountant in the Contracts and Grants Accounting Office. The list of contacts can be found on the following website:
http://www.accounting.uci.edu/cg/fund-assignments.html

DocuSign

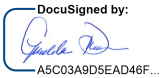
Certificate Of Completion

Envelope Id: 86E8B94EAEC349BEAF528EBB76783A39
Status: Completed
Subject: Complete with DocuSign: 23131557_58786_LAND IQ_FEBRUARY 2024 INVOICE - Revised.pdf
Source Envelope:
Document Pages: 1
Signatures: 1
Certificate Pages: 1
Initials: 0
AutoNav: Enabled
EnvelopeId Stamping: Enabled
Time Zone: (UTC-08:00) Pacific Time (US & Canada)

Envelope Originator:
Ashley Vuong
415 Aldrich Hall
Irvine, CA 92697-1025
avuong6@uci.edu
IP Address: 99.48.30.232

Record Tracking

Status: Original
3/21/2024 8:31:49 AM
Holder: Ashley Vuong
avuong6@uci.edu
Location: DocuSign

Signer Events	Signature	Timestamp
Griselda Duran griseld@uci.edu C&G Accounting & Operations Manager UCI Account Security Level: Email, Account Authentication (None)	DocuSigned by:  A5C03A9D5EAD46F... Signature Adoption: Uploaded Signature Image Using IP Address: 172.90.87.71	Sent: 3/21/2024 8:34:30 AM Viewed: 3/22/2024 4:08:52 PM Signed: 4/1/2024 10:55:34 AM

Electronic Record and Signature Disclosure:
Not Offered via DocuSign

In Person Signer Events	Signature	Timestamp

Editor Delivery Events	Status	Timestamp

Agent Delivery Events	Status	Timestamp

Intermediary Delivery Events	Status	Timestamp

Certified Delivery Events	Status	Timestamp

Carbon Copy Events	Status	Timestamp

Witness Events	Signature	Timestamp

Notary Events	Signature	Timestamp

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	3/21/2024 8:34:30 AM
Certified Delivered	Security Checked	3/22/2024 4:08:52 PM
Signing Complete	Security Checked	4/1/2024 10:55:34 AM
Completed	Security Checked	4/1/2024 10:55:34 AM

Payment Events	Status	Timestamps

Description of Services Rendered
Project 940-80-23-08
Grant Component No. 6: Biological Restoration of Fallowed Lands
Water Year 2024 - Invoice Period: February 1, 2024 to February 29, 2043

The services billed in this invoice are for work performed on the tasks included in Grant Component No. 6: Biological Restoration of Fallowed Lands. The work is the Land IQ portion of the total scope of work. The remainder of the scope of work is being performed by West Yost.

CATEGORY (A) COMPONENT ADMINISTRATION. The work performed for this task includes monthly project management of the tasks included in Component 6 and preparation of quarterly grant progress reports for submittal to the Borrego Water District (BWD). The work performed during the invoice period includes:

- Performed monthly project management to review scope, schedule, and budget progress.

CATEGORY (D) MONITORING, ASSESSMENT. The work performed for this task includes the monitoring and reporting portion of the Component 6 tasks. The work performed in this reporting period included:

TASK 1 - DATA REVIEW.

- No work performed in this reporting period. This task is complete.

TASK 2 - HABITAT FIELD STUDY.

- Internal meetings
- Purchase of anemometers (monitoring equipment for study)
- Renewal of State Parks access permits
- Landowner communication for spring fieldwork
- Review and edit of draft report
- Additional analysis on study data

TASK 3 - SAND FENCE CASE STUDY.

- Follow up with potential bidders for the Sand Fence Study RFP; no bids received in February.
- Discussion of monitoring methodology and draft adjusted monitoring schedule to account for the delay in construction of the sand fence study.
- Purchase of monitoring equipment, including erosion pins and particle collector apparatuses.
- Development of monitoring protocols and layout design

TASK 4 - FALLOWING REHAB STRATEGIES.

- Documentation of San Diego County Fire fuel abatement requests to Borrego Water District (BWD) with respect to voluntary sand fence construction on BWD land for incorporation into BMP recommendations.

TASK 5 - FALLOWING PRIORITIZATION.

- No work performed in this reporting period.

CATEGORY (E) STAKEHOLDER OUTREACH. The work performed for this task includes stakeholder outreach activities to support the implementation and communication of the Component 6 tasks. The work performed in this reporting period included:

TASK 6 - ENVIRONMENTAL WORKING GROUP MEETINGS.

- No work performed in this reporting period.

Grant Component No. 6: Biological Restoration of Fallowed Lands

Land IQ February 2024 Invoiced by Category and Task [(a)]

Task	Feb-24
Totals	**$12,341.25**
Category (a) Component Administration - Category 7	**$400.00**
Component Administration	$400.00
Category (d) Monitoring, Assessment	**$11,941.25**
Task 1 - Data Review	$0.00
Task 2 - Habitat Field Study	$10,439.91
Task 3 - Sand Fence Case Study	$1,421.34
Task 4 - Fallowing Rehab Strategies	$80.00
Task 5 - Fallowing Prioritization	$0.00
Category (e) Stakeholder Outreach	**$0.00**
Task 6 - EWG Meetings	$0.00

Notes:

(a) Does not include work performed by West Yost

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.A

To: Board of Directors

From: Samantha Adams, Executive Director, and Jim Markman, Legal Counsel

Date: May 6, 2024

Subject: Consideration of Approval of Resolution 24-01 of the Board of Directors of the Borrego Springs Watermaster Providing Administrative Direction in the Accounting of Carryover

✓ **Recommended Action**	☐ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Approve Resolution 24-01.

Fiscal Impact: None.

Discussion

Staff recommends adoption of the Resolution presented as a final statement of Board policy and direction for accounting of Carryover by BPA Parties. This resolution was generated by staff and legal counsel and then presented to attorneys Anderson, Staples and McGlothlen for suggested modifications. The resolution guides staff's accounting for available Carryover so that no party may hold Carryover at any time which exceeds an amount more than 2 times the acre feet held by that Party in BPA. It deals with requirements which result from transactions in which Carryover is transferred between BPA parties and provides for an accounting at the end of a water year which extinguishes Carryover so that no party holds Carryover at year's end which exceeds more than 2 times the amount of BPA held by a party. Accordingly, this policy implements the provisions of the Judgment providing for Carryover and limiting the amount of Carryover held in the Basin at any time.

Enclosures

Resolution No. 24-01. of the Board of Directors of the Borrego Springs Watermaster Providing Administrative Direction in the Accounting of Carryover

RESOLUTION NO. 24-01
OF THE BOARD OF DIRECTORS OF THE BORREGO SPRINGS WATERMASTER
PROVIDING ADMINISTRATIVE DIRECTION IN THE ACCOUNTING OF CARRYOVER

A. Recitals.

(i) Based on a recent transaction between BPA Parties concerning the sale and transfer of land and its associated BPA, there was some confusion as to the ability of the Transferor to retain Carryover without retention of a specified quantity of BPA.

(ii) The Watermaster Board understands that any BPA Party's generation and retention of Carryover depends on that BPA Party retaining BPA and the amount of the retained Carryover cannot exceed two times the amount of the retained BPA.

(iii) This Watermaster Board also understands that the above stated numerical relationship between a Party's BPA and Carryover is a permanent requirement, and must be reflected in all Watermaster year-end accounting entries dealing with BPA, Pumping, Transfers, and Carryover.

(iv) Accordingly, Watermaster staff is instructed to account for the amount of Carryover held by a Pumper in the manner stated below.

B. Resolution.

NOW, THEREFORE, it hereby is found, stated, and resolved as follows:

1. A BPA Party who elects to retain unpumped Annual Allocation as Carryover is limited to retaining Carryover in an amount equal to or less than two times the amount of BPA held by that Pumper at the time of that acquisition.

2. A BPA Party who acquires Carryover from another BPA Party via Carryover Transfer or Annual Allocation Lease may only acquire Carryover in an amount that does not cause the transferee Party to have a total Carryover amount that exceeds two times the amount of the BPA held by the Transferee.

3. A BPA Party who transfers its BPA, to another BPA Party through Permanent Transfer is limited to retaining Carryover in an amount that is equal to or less than two times the amount of the retained BPA. If the retained BPA is zero acre-feet, no Carryover may be retained by the Transferor.

4. The two Parties with non-BPA water rights—the Borrego Unified School District and Anza Borrego Desert State Park—are limited to acquiring Carryover from a BPA Party only in an amount equal to or less than that amount needed to offset or cure Overproduction or avoid or lessen an Overproduction Penalty. These Parties shall not hold a Carryover balance.

5. If, at the time Watermaster prepares its annual accounting of water rights, any BPA Party that purports to hold Carryover in excess of two times that Party's BPA as of the end of the accounting year, Watermaster shall only acknowledge and make an accounting entry for Carryover

equal to two times that Party's BPA, and the Party's claim of Carryover in excess of that amount shall be deemed to be abandoned by that Party.

PASSED AND ADOPTED at a regular meeting of the Board of Directors of the Borrego Springs Watermaster held on the _____day of _____, 2024 by the following vote:

AYES:

NOES:

ABSENT:

_____	_____
David Duncan, Chairperson	Shannon Smith, Secretary of the Board
Board of Directors	ATTEST

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.B

To: Board of Directors

From: Jim Markman, Legal Counsel
Samantha Adams, Executive Director

Date: May 6, 2024

Subject: Consideration of Approval of Revised Policy on the use of Best Available Science

✓ **Recommended Action**	☐ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $0**	

Recommended Action

Approve the enclosed *Policy Regarding the Use of Best Available Science*

Fiscal Impact: None.

Background and Previously Related Actions by the Board

Recently there has been a misunderstanding amongst the Board and stakeholders concerning the Watermaster's use of "Best Available Science" to manage the Basin. At the March 14, 2024 meeting, legal counsel and staff recommended the Watermaster adopt a policy statement as to how it will employ the concept of Best Available Science, including draft policy principals for consideration of approval. At the April 18, 2024 meeting, a draft policy was presented and discussed, including review and discussion of a redline policy provided to the Board by the Borrego Water District on April 17, 2024 (available here).[1]

Discussion

Enclosed is a revised *Policy Regarding the Use of Best Available Science* that was updated based on feedback received during the April 18, 2024 Board meeting. The enclosure includes both a clean version and a redline of the April 15th draft policy. Staff recommends approval of the enclosed Policy. Alternatively, the Board could direct further changes to the Policy prior to approval. I

Enclosure

Revised *Policy Regarding the Use of Best Available Science* (Clean version, recommended for approval)

Revised *Policy Regarding the Use of Best Available Science* (Redline of April 15, 2024 draft)

[1]Available at: https://borregospringswatermaster.com/wp-content/uploads/2024/05/20240417_BWD_BAS-Policy-Redline.pdf

BORREGO SPRINGS WATERMASTER

POLICY REGARDING THE USE OF BEST AVAILABLE SCIENCE

I. PURPOSE

This Policy delineates how the Borrego Springs Watermaster employs the concept of "best available science" when administering and enforcing the Judgment. Consistent with state law, "best available science" is a standard used in service of policy decisions made by the Watermaster to ensure the quality and relevance of the technical information and data that inform those choices. Compliance with this policy will ensure the efficient use of the Watermaster's limited resources and that technical information and data will be evaluated in a manner that is impartial, and without favor or prejudice to any Pumper or Party.

II. BACKGROUND

Best Available Science Under SGMA. The concept of "best available science" as it applies to the Watermaster is derived from the Sustainable Groundwater Management Act (SGMA), in which the Legislature declared:

> "It is the policy of the state that groundwater resources be managed sustainably for long-term reliability and multiple economic, social, and environmental benefits for current and future beneficial uses. Sustainable groundwater management is best achieved locally through the development, implementation, and updating of plans and programs based on ***the best available science***." (Water Code § 113, emphasis added.)

"Best available science" in the SGMA context means:

> "…the use of sufficient and credible information and data, ***specific to the decision being made and the time frame available for making that decision***, that is consistent with scientific and engineering professional standards of practice." (23 C.C.R. § 351, emphasis added.)

Use of Best of Available Science by the Watermaster. The Judgment provides for the perpetual management of the Basin consistent with the substantive objectives of SGMA, and requires the Watermaster to use and rely on the best available science when exercising its duties:

> "The ***Watermaster shall use***, among other available data, BVHM runs and ***best available records and data to support the implementation of this Judgment***. Where actual records of data are not available, Watermaster shall rely on and use sound scientific and engineering estimates for the BVHM runs. Watermaster may use preliminary records of measurements, and, if revisions are subsequently made, Watermaster may reflect such revisions in subsequent accounting." (Judgment § IV.E.9, emphasis added.)

The Rules and Regulations of the Borrego Springs Watermaster (Rules & Regs.) similarly provide:

> "The Watermaster shall carry out its duties, powers, and responsibilities in an impartial manner without favor or prejudice to any Management Area, Party, or purpose of use. In carrying out its charge, the Watermaster shall as required segregate and separately exercise in all respects the Watermaster powers delegated by the Court under the Judgment. In exercising its powers and fulfilling its duties, ***the Watermaster shall rely on and use the best available science, records, and data to implement the Judgment*** and these Rules and Regulations, consistent with the provisions of Section IV.E(9) of the Judgment." (Rules & Regs. § 2.6.1, emphasis added.)

Use of Best Available Science by the TAC. The Judgment established the Technical Advisory Committee (TAC) to advise the Watermaster on technical matters and charges the TAC with:

> "…making recommendations ***based on best science*** and data collected regarding the Water Budget and the avoidance of Undesirable Result, determined by the TAC based on best available data, including without limitation information generated from BVHM model runs." (Judgment § IV.G.2, emphasis added.)

The Rules and Regulations provide that the TAC is charged with making its recommendations "based on best science" regarding "the matters described in the Judgment and other matters as directed by the Watermaster." (Rules & Regs. § 3.5.3.)

Regarding the TAC's decision-making process, the Judgment states:

> "The Technical Advisory Committee will endeavor to decide all matters by consensus. If consensus cannot be achieved, the Technical Advisory Committee will present a report to the Watermaster describing the differences of opinion and arguments in support thereof, with a draft of the report circulated for comment and input by all Technical Advisory Committee members prior to submission of the report to Watermaster." (Judgment § IV.G.1.)

Use of Best Available Science by the Watermaster Staff. The Judgment also authorizes the Watermaster to employ consultants as technical advisors to advise the Watermaster and the TAC (Judgment § IV.C). This includes the Watermaster Technical Consultant, who may also serve as Executive Director and is required to rely on and use the best available science.

> "In exercising its powers and fulfilling its duties, the Watermaster Technical Consultant shall rely on and ***use the best available science***, records, and data to support the implementation of the Judgment and these Rules and Regulations." (Rules & Regs. § 4.2.1, emphasis added.)
>
> …

> "The Watermaster Technical Consultant shall rely on and ***use the best available science***, records, and data to support the implementation of the Judgment, including BVHM model runs. Where actual records of data are not available, the Watermaster Technical Consultant shall rely on and use sound scientific and engineering estimates. The Watermaster Technical Consultant may use preliminary records of measurements and, if revisions are subsequently made, may reflect such revisions in subsequent accounting." (Rules & Regs. § 4.2.7, emphasis added.)

The Watermaster Technical Consultant and all other technical advisors directly employed by Watermaster to advise the Board must be independent of any Party to the Judgment.

> "In order to avoid a potential conflict of interest, the Watermaster Technical Consultant (interim or otherwise) must be independent (not under contract with any Party) and selected by the Watermaster with input from the Technical Advisory Committee through an arms-length RFP process, unless otherwise agreed to by a Supermajority Vote of the Watermaster. ***Any technical advisor***, attorney, executive director, or similar employee or contractor ***performing services that concern technical or policy matters must be independent (not under contract with any Party) and selected by the Watermaster*** (and if a technical advisor, following input from the Technical Advisory Committee) through an arms-length RFP process unless otherwise agreed by a Supermajority Vote. Any other Watermaster employee or contractor may be employed by, or under contract with a Party, provided that he or she abides by any relevant Court orders, Watermaster determines that the employee or contractor will not be issuing technical or policy recommendations to Watermaster, and the retention of the employee or contractor is appropriate to perform services to Watermaster in the most effective and cost-efficient manner." (Judgment § IV.C.)

III. POLICY

1. All technical issues relevant to the Watermaster's administration and enforcement of the Judgment must be resolved through the application of the best available science.

2. Consistent with SGMA, technical information and data shall constitute the "best available science" only if it is:

    a. Relevant to the decision being made by the Watermaster;

    b. Available to the Watermaster within a reasonable time in advance of the Watermaster's decision; and

    c. Consistent with scientific and engineering professional standards of practice.

3. In the event any Party or member of the public requests the Watermaster to adopt a new policy or take action based on technical information or data newly brought to the attention of the Watermaster, the Watermaster may direct the TAC, the EWG, and/or the Watermaster Technical Consultant to conduct an independent review of the information or data before considering the request.

4. Technical information and data need not be generated by the TAC, the EWG or the Watermaster's Technical Consultant to constitute the best available science, but the Watermaster shall not rely on or use any technical information or data generated by or for a Party or member of the public without an independent review and recommendation from the TAC, the EWG, and/or the Watermaster's Technical Consultants.

5. To ensure efficient use of the Watermaster's limited resources, neither the TAC, the EWG, nor the Watermaster Technical Consultant shall take up any technical matter unrelated to a decision previously made or under consideration by the Watermaster absent direction from the Watermaster.

6. If the TAC fails in a given case to reach a consensus regarding whether any technical information or data constitutes the best available science, the Watermaster shall be informed in writing of the nature and basis of the disagreement.

7. The Watermaster may consider the recommendations of the TAC, the EWG, and/or the Watermaster's Technical Consultant regarding the use of any technical information and data, but the Watermaster shall exercise its own independent judgement as to whether such information and data constitutes the best available science when taking action or adopting a new policyj.

APPROVED BY THE BORREGO SPRINGS WATERMASTER

Date: _____

Attest: _____

BORREGO SPRINGS WATERMASTER

POLICY REGARDING THE USE OF BEST AVAILABLE SCIENCE

I. PURPOSE

This Policy delineates how the Borrego Springs Watermaster employs the concept of "best available science" when administering and enforcing the Judgment. Consistent with state law, "best available science" is a standard used in service of policy decisions made by the Watermaster to ensure the quality and relevance of the technical information and data that inform those choices. Compliance with this policy will ensure the efficient use of the Watermaster's limited resources and that technical information and data will be evaluated in a manner that is impartial, and without favor or prejudice to any Pumper or Party.

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> "In exercising its powers and fulfilling its duties, the Watermaster Technical Consultant shall rely on and ***use the best available science***, records, and data to support the implementation of the Judgment and these Rules and Regulations." (Rules & Regs. § 4.2.1, emphasis added.)
>
> …

> "The Watermaster Technical Consultant shall rely on and ***use the best available science***, records, and data to support the implementation of the Judgment, including BVHM model runs. Where actual records of data are not available, the Watermaster Technical Consultant shall rely on and use sound scientific and engineering estimates. The Watermaster Technical Consultant may use preliminary records of measurements and, if revisions are subsequently made, may reflect such revisions in subsequent accounting." (Rules & Regs. § 4.2.7, emphasis added.)

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> "In order to avoid a potential conflict of interest, the Watermaster Technical Consultant (interim or otherwise) must be independent (not under contract with any Party) and selected by the Watermaster with input from the Technical Advisory Committee through an arms-length RFP process, unless otherwise agreed to by a Supermajority Vote of the Watermaster. ***Any technical advisor***, attorney, executive director, or similar employee or contractor ***performing services that concern technical or policy matters must be independent (not under contract with any Party) and selected by the Watermaster*** (and if a technical advisor, following input from the Technical Advisory Committee) through an arms-length RFP process unless otherwise agreed by a Supermajority Vote. Any other Watermaster employee or contractor may be employed by, or under contract with a Party, provided that he or she abides by any relevant Court orders, Watermaster determines that the employee or contractor will not be issuing technical or policy recommendations to Watermaster, and the retention of the employee or contractor is appropriate to perform services to Watermaster in the most effective and cost-efficient manner." (Judgment § IV.C.)

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    c. Consistent with scientific and engineering professional standards of practice.

3. In the event any Party or member of the public requests the Watermaster to adopt a new policy or take action based on technical information or data newly brought to the attention of the Watermaster, the Watermaster may direct the TAC, the EWG, and/or the Watermaster Technical Consultant~~, or both~~ to conduct ~~their own~~an independent review of the information or data before considering the request.

4. Technical information and data need not be generated by the TAC, the EWG or the Watermaster's Technical Consultant to constitute the best available science, but the Watermaster shall not rely on or use any technical information or data generated by or for a Party or member of the public without an independent review and recommendation from the TAC, the EWG, and/or the Watermaster's Technical ~~Consultant, or both~~Consultants.

5. To ensure efficient use of the Watermaster's limited resources, neither the TAC, the EWG, nor the Watermaster Technical Consultant shall take up any technical matter unrelated to a decision previously made or under consideration by the Watermaster absent direction from the Watermaster.

6. If the TAC fails in a given case to reach a consensus regarding whether any technical information or data constitutes the best available science, the Watermaster shall be informed in writing of the nature and basis of the disagreement.

7. The Watermaster ~~shall~~may consider the recommendations of the TAC, the EWG, and/or the Watermaster's Technical Consultant regarding the use of any technical information and data, but the Watermaster shall exercise its own independent judgement as to whether such information and data constitutes the best available science when taking action or adopting a new policyj.

APPROVED BY THE BORREGO SPRINGS WATERMASTER

Date: _____

Attest: _____

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.C

To: Board of Directors

From: Samantha Adams, Executive Director

Date: May 6, 2024

Subject: Draft Water Year 2025 Budget

☐ **Recommended Action**	✓ **Provide Direction to Staff**	☐ **Information and Discussion**
✓ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommendation

Provide direction to staff on the draft Water Year (WY) 2025 Budget.

Fiscal Impact: The draft operating budget includes expenditures of $1,213,687. The expenditures will be funded by pumping assessments, payment on pass-through expenses, and grant reimbursements from DWR. During WY 2025, cash reserves will be maintained at or near target levels set for the grant-funded period (7 months of operating expenses) by continuing to utilize the Extended Payment Term agreements executed with West Yost and Land IQ totaling $750,000 in credit terms.

Background and Judgment Requirements

The purpose of this memo is to present the draft WY 2025 budget and receive feedback on modifications that should be made for the final budget scheduled for consideration of approval at the June 13, 2024 Board meeting. At the April 18, 2024 meeting, the Board provided initial feedback to staff for the development of the draft WY 2025 Budget, which has been incorporated into the enclosed draft package.

Section IV.E.3 of the Judgment provides for a process and schedule for developing the Watermaster's annual budget and establishing assessments to fund it by July 1st of each year. The Judgment also defines a process by which the Technical Advisory Committee (TAC) advises the Watermaster on the scope of work and budget for technical work to determine Sustainable Yield. Section III.F provides that the TAC shall seek agreement with the Watermaster on the technical scope of work and budget for WYs 2026 through 2029 to complete the next Sustainable Yield update by January 1, 2030.

This memo will first present highlights from the draft WY 2025 budget, followed with detailed information about the financial model used to support drafting the budget, and detailed information on the revenues, scope of work for each expenditure, and project cash reserves.

Budget Highlights

Table 1, enclosed, summarizes the proposed line-item operating budget, including revenues, expenditures, deferred payment liabilities, and reserves for WY 2025 and the projected budgets in these categories for WYs 2026 through 2029. The table also shows the approved WY 2024 Budget (as amended in December 2023) and the expected WY 2024 year-end balances for each category. Table 2, enclosed, is the line-item cost estimate for the West Yost administrative and technical services assumed in the WY 2025 budget.[1] For each line item in the West Yost budget, the percent change in cost relative to WY 2025 is shown, as is the amount of each task that will be eligible for grant reimbursements.

Based on assumptions made in the development of the draft budget and projection, the following key highlights are noted. The full detailed description of the budget is included later in this memo.

- The Pumping Assessment for WYs 2025 and 2026 is $350,000, which is $158,000 less than the assessment in WY 2024. The lower assessment rate is possible due to DWR reimbursements from grant expenditures incurred in WY 2023 and WY 2024. At this level, the Operating Cash Reserve meets or exceeds the target of maintaining a balance equal to 7-months Operating Expenditures.
- To fund projected expenditures and maintain an Operating Cash Reserve equal to 7-months Operating Expenditures, the Pumping Assessment rate increases to $660,000 in WYs 2027 and 2028. The Pumping Assessment rate increases to $800,000 in WY 2029. The main drivers of increased costs in WY 2027 through WY 2029 are inflation and the assumed cost to redetermine the Sustainable Yield by January 2030.
- Total expenditures are $1,213,687 in WY 2025, which is 29% less than WY 2024. Total expenditures will decrease further to about $645,714 by WY 2027, but will increase thereafter up to about $800,000 in WY 2029. As noted above the drivers of the increase over these three years are inflation and the assumed cost to redetermine the Sustainable Yield by January 2030.
- Key assumptions in the expenditure projection from WY 2026 and beyond include:
    - Administrative Services:
        - In WY 2026 and beyond, the Administrative Services costs decreases with the elimination of the grant administration and reporting task and the interest expenses on vendor Payment Terms. The costs for some tasks are also projected to decrease in WY 2026 with efficiencies and optimization.
        - Insurance costs are assumed to decrease in WY 2027 after a history of no claims for four years.
    - Groundwater Monitoring Program:
        - Additional work for the groundwater monitoring program is assumed compared to WY 2024, including: continuing to perform public outreach

[1] The WY 2025 Statement of Work for West Yost services and Contract Amendment to approve it will be considered by the Board after the Budget is approved and no later than the September 2024 Board meeting.

efforts and canvassing wells, sampling the additional monitoring locations added through outreach efforts to date, and purchasing additional transducers that continuously read and record water level data for selected new wells in the network.

- The planned cost to perform elevation surveys of the new wells in the monitoring network is deferred to occur in WY 2026. This was deferred in the draft budget to manage vendor payment terms and cash reserves to the agreement terms.
- Future monitoring efforts are projected to decrease starting in WY 2026 as canvassing efforts for new sites are reduced and efficiencies are achieved in the long-term monitoring program.

- Redetermination of Sustainable Yield:
  - The budget projection shows costs in the amount of $240,000 to perform work in support of the 2030 redetermination that must be completed by January 1, 2030. The assumed cost is spread over four years, with the majority of the work being performed in WY 2029. This cost is a budget-level placeholder to project potential revenue needs until the TAC can make a formal recommendation on the scope and cost for the work by December 2024.
  - The budget includes a line item to develop the Scope and Budget for WY 2026-2029 for Sustainable Yield Updates, as required by the Judgment by January 1, 2025.
- Five-Year Review and Update of the Groundwater Management Plan (GMP):
  - The budget for WY 2025 is assumed to be completed by March 2025 and to be fully grant reimbursable. However, it should be noted that the entire scope of work to review and update (if needed) the GMP may not be able to be completed prior to the end of the grant-funding period given the delay in DWR input on the Judgment and GMP as an Alternative Plan.
  - An additional $30,000 is assumed in WY 2026 to complete the five-year review and update of the GMP in the event that additional work is needed to address DWR input on the Judgment and GMP.
- Address Improperly Abandoned Wells: the budget assumes about $20,000 less work is performed than included in the grant budget amount in order to manage vendor payment terms and cash reserves through the end of WY 2025. The ability to spend the additional $20,000 could be revisited in late 2025 based on needs of the monitoring program and actual cash reserves at the time.
- Environmental Work Group (EWG): For WY 2026 and beyond, it is assumed that the level of work to support EWG will return to the agreed upon funding level of $20,000 per year. Future meetings of the EWG will be utilized to develop recommendations to the Board on what work to perform.

- The total liability on Payment Terms with West Yost and Land IQ is projected to be $520,038 at the beginning of WY 2025 and $60,549 at the end of WY 2025.

- Interest expenses on Payment Terms with West Yost and Land IQ. The WY 2025 projected expense is $57,676, assuming interest will accrue on past-due invoices (over 31 days) at the Wall Street Journal Prime Rate plus 2%. Prime rates were assumed to be 8.5% for the remainder of the payment term period, which is expected to end in October 2025.
- From WYs 2025 through 2029, the average month-end cash reserve variance from the reserve target ranges from about $22,600 less than the average monthly reserve target to about $80,000 greater than the target. Overall, although the minimum monthly reserve occasionally dips below the target during this period, the year-end reserve balances are sufficient to support future work in the subsequent fiscal year, under the assumed pumping assessments for the five-year projection.

Watermaster Financial Planning Model

In 2022, to support the development of the WY 2023 Budget, Watermaster staff developed a financial model to project the monthly revenues, expenditures, vendor invoices, deferred payment balances under extended payment terms, interest charges on deferred payments, and payments to vendors. The model was used to prepare a projection for WY 2025 through WY 2029 to support the development of the draft WY 2025 Budget. The financial model assumed the following:

- Staff's best judgement as to the approximate monthly schedule of:
    - accrued expenditures on all Watermaster operations
    - assessment invoicing and reimbursement requests
    - payments on vendor invoices
- DWR will reimburse the BWD six months after receiving each quarterly SGM grant report and BWD will issue the reimbursement to Watermaster within 60 days of receiving funds from DWR. This is total of 8-months turn-around time for reimbursements, as assumed in the last two years.
- For each WY, a monthly and average reserve balance target was established that generally represents a balance that would be needed to support the leading seven months of operating expenses. This amount was used each month to determine how much is paid out to West Yost and Land IQ each month. The model is set to always pay on invoices from any non-West Yost/Land IQ vendors in the month following receipt of the invoice (such as RWG Law, auditors, insurance, equipment purchases, etc.).
- Payments will generally only be made to West Yost and/or Land IQ when the cash reserve balance exceeds the monthly target amount. If the cash reserve is below the target amount, payments will only be made to West Yost and/or Land IQ if the total deferred payment amount with the vendor is projected to exceed the vendor financing limit established for each vendor ($550,000 for West Yost; $200,000 for Land IQ).
- Interest will accrue on past-due invoices (over 31 days) at the Wall Street Journal Prime Rate plus 2%. Prime rates were assumed to be 8.5% for the remainder of the payment term period.

Detail of the WY 2025 Budget and Scope of Work

The revenues, expenditures, liabilities on payment terms, and cash reserves presented in Table 1 are described below:

Revenues[2]. Total WY 2025 revenue is **$1,005,168**. Revenues will be derived from four sources:

- *Pumping Assessments:* ***$350,000*** *for WY 2025 and increasing after WY 2026*.
    - The Pumping Assessment for WYs 2025 and 2026 is $158,000 lower (each year) relative to WY 2024 due to DWR reimbursements from grant expenditures incurred in WY 2023 and WY 2024.
    - To fund projected expenditures and maintain an Operating Cash Reserve equal to nine months operating expenditures, the Pumping Assessment rate increases to $660,000 in WYs 2027 and 2028.
    - The Pumping Assessment rate further increases to $800,000 in WY 2029.
    - The main drivers of increased costs in WY 2027 through WY 2029 are inflation (assumed at 3% per year) and the assumed cost to redetermine the Sustainable Yield by January 2030. The assumed cost is $240,000 spread over four years (see description in expenditures section of this memo). This cost is only a budget-level placeholder until the TAC can make a formal recommendation on the scope and cost for the work by December 2024. This cost could increase or decrease based on the TAC recommendations to the Board.
- *Bad Debt:* ***-$2,500 for WY 2025.*** Up to $2,500 in pumping assessments is assumed written off as bad debt in WY 2025. The bad debt is assumed to decrease to -$1,000 in subsequent years.
- *Overproduction Penalty Assessments*: ***$0 for WY 2025***. This is revenue received from Pumpers who exceed their pumping limits defined in the Judgment. The amount of Overproduction that will incur penalty assessments in WY 2025, if any, will not be known until the start of WY 2025 when the Water Rights Accounting for WY 2024 is completed. Per Board direction, the Overproduction Penalty Assessment Rate will be set at $500 per acre-foot. The draft budget assumes that all Overproduction that could trigger penalty assessments will be cured by Pumpers to avoid the penalty and thus no revenues will be collected in WY 2025.
- *Revenues for Pass-thru Expenses*: ***$7,316 for WY 2025***. In WY 2025 pass thru revenues will include collection of fees from Parties with manual-read meters for Watermaster services related to reading the meters. The revenue will increase over time as the cost of this service increases with inflation.
- *DWR Prop 68 Grant Funds*: ***$650,352 for WY 2025***. The grant-related revenue is based on Watermaster staff's best estimate of the amount of reimbursable work that will be performed

[2] Revenues shown are the amounts invoiced by Watermaster to pumpers, or in the case of the DWR grant, they are the expenditure amounts that are eligible for reimbursement, during the Water Year.

in the final period of the grant in WY 2025.[3] WY 2025 is the last year the grant funds are available.

Expenditures. Total expenditures are **$1,213,687 in WY 2025**. The expenditures include the following categories. Tasks that are grant-reimbursable in WY 2025 (partial or full) are annotated as **bold, blue text**.

- *Administrative Services*: ***$418,432 for WY 2025.***
  - The services/costs in this category include:
    - Watermaster Staff administrative services provided by West Yost: Board meetings, **TAC meetings**, Court hearings, **stakeholder outreach meetings**, administration and management (budget development, financial services, management of records, **website**, support to BPA parties, as-needed support for implementation of the Judgment, project management), and **grant management and reporting**.
    - Other administrative expenses: financial audit, liability insurance, miscellaneous expenses, and **meter accuracy testing**.
    - Interest expenses on Payment Terms with West Yost and Land IQ. The WY 2025 projected interest expense is $57,676.
  - In WY 2026 and beyond, the Administrative Services costs decreases with the elimination of the grant administration and reporting task and the interest expenses on vendor Payment Terms. The costs for some tasks are also projected to decrease in WY 2026 with efficiencies and optimization/reduction of work that needs to be performed, including:
    - Board Meetings (assumes reduced need for meetings)
    - Technical Advisory Committee Meetings (assumes reduced need for meetings)
    - Stakeholder Outreach (assumes reduced level of effort)
  - Insurance costs are assumed to decrease in WY 2027 after a history of no claims for four years.
- *Legal Services*: ***$105,000***. This task is for all as-needed legal services from RWG Law, which includes, at a minimum, attending and support of all Watermaster Board meetings and Court hearings. There are no anticipated changes to the level of service for WY 2025 and beyond. The cost of service is shown to increase with inflation.
- *Technical and Engineering Services*: ***$523,883***. The technical and engineering services include:
  - General Technical Consultant services ($375,643)**:**

[3] Note that due to the assumed 8-month lag between submittal of quarterly reimbursement requests and receipt of the funds from BWD, the actual payments received from DWR in WY 2025 is projected to be $1,349,129. This is taken into consideration in the financial model to determine when to defer or pay on vendor invoices to maintain the target cash reserves.

- **Coordinate and implement meter reading/verification program**
- **Implement the Groundwater Monitoring Plan.** Additional work compared to WY 2024 is included to continue to implement the *Final Groundwater Monitoring Plan for the Borrego Springs Subbasin,* including:
    - Continuing to perform public outreach efforts and canvassing wells.
    - Sampling additional monitoring locations added through public outreach efforts in WY 2024.
    - Purchase of additional transducers that continuously read and record water level data (about $10,000 for six units).
    - The planned cost to perform elevation surveys of the new wells in the monitoring network is deferred in WY 2025 and show to occur in WY 2026. This was deferred to manage vendor payment terms and cash reserves.
    - Future monitoring efforts are projected to decrease starting in WY 2026 as canvassing efforts for new sites are reduced and efficiencies are achieved in the long-term monitoring program.
- **Data management and reporting to the DWR Monitoring Network Module (MNM)**
- **WY 2024 Water Rights Accounting Report and Annual Report to the Court/DWR**
- **Address inactive wells via proper abandonment or conversion to monitoring wells.** This work will be concluded in WY 2025 as it is on performed due to availability of grant funding.
    - The budget assumes about $20,000 less work is performed than included in the grant budget amount in order to manage vendor payment terms and cash reserves through the end of WY 2025. The ability to spend the additional $20,000 could be revisited in late 2025 based on needs of the monitoring program and actual cash reserves at the time.
- As-needed technical services

- TAC-supported technical work ($148,240):
    - **Redetermination of the Sustainable Yield**
        - The 2025 redetermination will be completed in December 2024.
        - The budget projection shows costs to perform work in support of the 2030 redetermination that must be completed by January 1, 2030. The assumed cost is $240,000 spread over four years, with the majority of the work being performed in WY 2029. This cost is a budget-level placeholder to project potential revenue needs until the TAC can make a formal recommendation on the scope and cost for the work by

December 2024. This cost could increase or decrease based on the TAC recommendations to the Board.

- **Develop Scope and Budget for WY 2026-2029 for Sustainable Yield Updates**
  - This is the required work for the TAC and Board come to agreement with the Watermaster on the technical scope of work and budget to complete the 2030 Sustainable Yield redetermination.
- **Five-year review and update of the Groundwater Management Plan**
  - For this draft budget, the entirety of the budget in WY 2025 is assumed to be completed by March 2025 and to be fully grant reimbursable. However, it should be noted that the entire scope of work to review and update (if needed) the GMP may not be able to be completed prior to the end of the grant-funding period given the delay in DWR input on the Judgment and GMP as an Alternative Plan. Staff will work with BWD and DWR to explore the ability to get an extension of the grant period for this work to minimize cost to the pumpers.
  - An additional $30,000 is assumed in WY 2026 to complete the five-year review and update of the GMP in the event that additional work is needed to address DWR input on the Judgment and GMP.
- Address ad-hoc requests from the Board. This is an annual line-item in the budget for as-needed work on topics identified by the Board for the TAC to address.

- *Environmental Working Group*: ***$159,056 in WY 2025***. This primarily includes completion of the **Biological Restoration of Fallowed Lands project** by March 2025 and also includes as-requested EWG meetings. Consulting services for the Biological Restoration of Fallowed Lands work are provided by Land IQ and West Yost. For WY 2026 and beyond, it is assumed that the level of work will return to the agreed upon funding level of $20,000 per year. Future meetings of the EWG will be utilized to develop recommendations to the Board on what work to perform.
- *Services to Parties with Manual-Read Meters*: ***$7,316***. This work includes Watermaster staff services (provided by West Yost) and contract services by the BWD to perform the manual meter reading in the field. This work is funded solely by Parties with manual-read meters (see matching revenue line-item). This line item increases in cost over time with inflation.

Liabilities on Payment Terms. This section of Table 1 summarizes the estimated balance of payments owed to West Yost and Land IQ under the proposed payment terms. It shows the beginning outstanding balance, minimum and maximum monthly balance, and year-end outstanding balance. **The total liability on Payment Terms with West Yost and Land IQ is projected to be $520,038 at the beginning of WY 2025 and $60,549 at the end of WY 2025**. The actual balances will vary based on actual monthly spending and timing of revenue collection (*e.g.* timing of payment by Parties on assessment invoices and receipt of DWR reimbursements).

Cash Reserves. This section of Table 1 summarizes the projected reserve balances and targets based on the monthly financial model. The reserve targets represent the average reserve needed during the year to maintain a balance that would be needed to support the next seven months of spending. Seven months is the target during the grant period and through payoff of the vendor balances; thereafter, the reserve target will be based on maintaining nine months of operating expenditures. The table shows the beginning cash reserves, the average reserve target, the minimum month-end reserve balance during the year, the average month-end reserve balance, and the variance of the average month-end reserve balance from the desired average reserve balance. From WYs 2025 through 2029, the average month-end reserve variance from the goal ranges from about $22,600 less than the average monthly reserve target to about $80,000 greater than the target. **Overall, although the minimum monthly reserve occasionally dips below the target during this period, the year-end reserve balances are sufficient to support future work in the subsequent fiscal year, under the assumed pumping assessments for the five-year projection**.

Next Steps

Staff is seeking Board discussion and input on the draft budget and assumptions in order to prepare a final draft, especially those noted in the key budget highlights section of this memo. Based on review and discussion of the draft WY 2025 Budget, staff will update the budget and present it for consideration of approval at the June 13, 2024 Board meeting.

Following Board approval of the entire budget package, Staff will:

- Publish the WY 2025 budget to the Watermaster website no later than July 1, 2024.
- Report to the Board if any challenges to the Budget are noticed to Watermaster by July 31, 2024.
- Prepare a "Statement of Work" based on the proposed scope of services to be provided by West Yost during WY 2025. The Statement of Work will be presented to the Board for consideration of approval as an amendment to the existing West Yost Professional Services Agreement (expected August or September 2024).

Enclosures

Table 1 – Draft WY 2025 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2025 through 2029) - Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target through 2026

Table 2 - West Yost Labor Hours and Fee Estimate to Provide Professional Services to the Borrego Springs Watermaster: Executive Director and Technical Consultant Services for Water Year 2025

Table 1

Draft WY 2025 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2025 through 2029)

Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target through 2026

Revenues, Expenditures, and Reserves	WY 2024 Budget (Amended)	Projected Actual WY 2024	WY 2025	Projected Budget[1]			
				WY 2026	WY 2027	WY 2028	WY 2029
Revenues[2]	**$ 1,713,460**	**$ 464,469**	**$ 1,005,168**	**$ 356,535**	**$ 666,762**	**$ 666,994**	**$ 807,234**
Pumping Assessments	$ 458,000	$ 458,000	$ 350,000	$ 350,000	$ 660,000	$ 660,000	$ 800,000
Bad Debt (non-payment on Assessments)	$ (4,000)	$ -	$ (2,500)	$ (1,000)	$ (1,000)	$ (1,000)	$ (1,000)
Overproduction Penalty Assessments	$ -	$ -	$ -	$ -	$ -	$ -	$ -
Revenues Collected for Pass thru Expenses	$ 6,469	$ 6,469	$ 7,316	$ 7,535	$ 7,762	$ 7,994	$ 8,234
DWR Prop 68 Grant Reimbursements[3]	$ 1,252,991		$ 650,352	$ -	$ -	$ -	$ -
Total Expenditures[4]	**$ 1,677,205**	**$ 1,616,164**	**$ 1,213,687**	**$ 699,205**	**$ 645,714**	**$ 663,515**	**$ 801,845**
Administrative Services	**$ 402,861**	**$ 397,980**	**$ 418,432**	**$ 272,695**	**$ 257,259**	**$ 264,906**	**$ 272,778**
Watermaster Staff Admin Services	***$ 280,284***	***$ 271,438***	***$ 290,796***	***$ 214,267***	***$ 220,695***	***$ 227,316***	***$ 234,135***
Board Meetings	*$ 101,120*	*$ 100,694*	*$ 106,600*	*$ 85,280*	*$ 87,838*	*$ 90,473*	*$ 93,187*
Technical Advisory Committee Meetings	*$ 45,326*	*$ 45,200*	*$ 52,444*	*$ 37,812*	*$ 38,946*	*$ 40,115*	*$ 41,318*
Court Hearings	*$ 4,016*	*$ 1,297*	*$ 3,510*	*$ 3,615*	*$ 3,724*	*$ 3,835*	*$ 3,951*
Stakeholder Outreach/Workshops	***$ 12,590***	***$ 13,101***	***$ 12,543***	*$ 6,500*	*$ 6,695*	*$ 6,896*	*$ 7,103*
Administration and Management	*$ 72,628*	*$ 69,986*	*$ 78,699*	*$ 81,060*	*$ 83,492*	*$ 85,997*	*$ 88,576*
Prop 68 Project Admin and Grant Reporting	***$ 44,604***	***$ 41,160***	***$ 37,000***	*$ -*	*$ -*	*$ -*	*$ -*
Other Administrative or Vendor Services	***$ 122,577***	***$ 122,411***	***$ 127,637***	***$ 58,428***	***$ 36,564***	***$ 37,590***	***$ 38,643***
Financial Audit	*$ 10,000*	*$ 7,840*	*$ 8,560*	*$ 8,812*	*$ 9,064*	*$ 9,340*	*$ 9,620*
Insurance	*$ 40,474*	*$ 41,849*	*$ 45,401*	*$ 46,763*	*$ 25,000*	*$ 25,750*	*$ 26,523*
Misc. Expenses	*$ 2,500*	*$ 100*	*$ 2,500*	*$ 2,500*	*$ 2,500*	*$ 2,500*	*$ 2,500*
Meter Accuracy Testing Vendors	***$ 13,500***	***$ 12,200***	***$ 13,500***	*$ -*	*$ -*	*$ -*	*$ -*
Interest on Vendor Terms During Prop 68 Grant Period[5]	*$ 56,103*	*$ 60,422*	*$ 57,676*	*$ 353*	*$ -*	*$ -*	*$ -*
Pass Through Expenses	***$ -***	***$ 4,131***	***$ -***	***$ -***	***$ -***	***$ -***	***$ -***
Reimbursement to Settling Parties	*$ -*		*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Reimbursement to BWD for GSP	*$ -*	*$ 4,131*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Legal Services	**$ 100,000**	**$ 105,000**	**$ 105,000**	**$ 108,150**	**$ 111,395**	**$ 114,736**	**$ 118,178**

Table 1

Draft WY 2025 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2025 through 2029)

Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target through 2026

Revenues, Expenditures, and Reserves	WY 2024 Budget (Amended)	Projected Actual WY 2024	WY 2025	Projected Budget[1]			
				WY 2026	WY 2027	WY 2028	WY 2029
Technical/Engineering Services	**$ 815,386**	**$ 761,766**	**$ 523,883**	**$ 290,824**	**$ 249,299**	**$ 255,878**	**$ 382,655**
General Technical Consultant Services	***$ 403,556***	***$ 386,448***	***$ 375,643***	***$ 220,475***	***$ 208,639***	***$ 214,898***	***$ 221,345***
Coordinate/Implement meter reading program	*$ 30,388*	*$ 27,707*	*$ 30,440*	*$ 25,874*	*$ 26,650*	*$ 27,450*	*$ 28,273*
Groundwater Monitoring Program	*$ 111,151*	*$ 110,769*	*$ 124,060*	*$ 115,000*	*$ 100,000*	*$ 103,000*	*$ 106,090*
Data Management and Data Reporting	*$ 19,890*	*$ 16,661*	*$ 20,265*	*$ 14,186*	*$ 14,611*	*$ 15,049*	*$ 15,501*
Annual Report to the Court and DWR	*$ 50,936*	*$ 51,369*	*$ 51,188*	*$ 48,629*	*$ 50,087*	*$ 51,590*	*$ 53,138*
Address Inactive Wells via Abandonment/Conversion	*$ 175,551*	*$ 170,732*	*$ 133,392*	*$ -*	*$ -*	*$ -*	*$ -*
As-needed technical support	*$ 15,640*	*$ 9,210*	*$ 16,298*	*$ 16,787*	*$ 17,291*	*$ 17,809*	*$ 18,344*
Grant procurement services	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*	*$ -*
Consulting Services with TAC Support/Input	***$ 411,830***	***$ 375,318***	***$ 148,240***	***$ 70,349***	***$ 40,660***	***$ 40,980***	***$ 161,309***
Technical Work to Support Sustainable Yield Updates	*$ 271,328*	*$ 270,331*	*$ 27,973*	*$ 30,000*	*$ 30,000*	*$ 30,000*	*$ 150,000*
Develop Scope and Budget for WY 2026-2029 for Sustainable Yield Updates	*$ -*	*$ -*	*$ 15,272*	*$ -*	*$ -*	*$ -*	*$ -*
5-Year Update of the GMP (required by DWR)	*$ 130,654*	*$ 95,139*	*$ 94,947*	*$ 30,000*	*$ -*	*$ -*	*$ -*
Address Ad Hoc Requests from the Board	*$ 9,848*	*$ 9,848*	*$ 10,048*	*$ 10,349*	*$ 10,660*	*$ 10,980*	*$ 11,309*
Environmental Working Group	**$ 352,489**	**$ 344,272**	**$ 159,056**	**$ 20,000**	**$ 20,000**	**$ 20,000**	**$ 20,000**
Biological Restoration of Fallowed Lands	*$ 346,393*	*$ 344,272*	*$ 152,675*	*$ -*	*$ -*	*$ -*	*$ -*
		$ -			*$ -*	*$ -*	*$ -*
Ad Hoc Requests and EWG Meetings	*$ 6,096*	*$ -*	*$ 6,381*	*$ 20,000*	*$ 20,000*	*$ 20,000*	*$ 20,000*
Services to Parties with Manual Read Meters	**$ 6,469**	**$ 7,146**	**$ 7,316**	**$ 7,535**	**$ 7,762**	**$ 7,994**	**$ 8,234**

Table 1

Draft WY 2025 Budget: Five-Year Projection of Borrego Springs Watermaster Operating Budget (WY 2025 through 2029)

Assuming Vendor Extended Payment Terms, 8-Month Delay in DWR Grant Request Reimbursements, and 7-month Operating Reserve Target through 2026

Revenues, Expenditures, and Reserves	WY 2024 Budget (Amended)	Projected Actual WY 2024	WY 2025	Projected Budget[1]			
				WY 2026	WY 2027	WY 2028	WY 2029
Liabilities on Payment Terms[6]							
Beginning Balance	**$ 749,184**	**$ 749,184**	**$ 520,038**	**$ 60,549**	**$ -**	**$ -**	**$ -**
Minimum Monthly Balance	*$ 280,718*		*$ 60,549*	*$ -*	*$ -*	*$ -*	*$ -*
Maximum Monthly Balance	*$ 750,000*		*$ 721,727*	*$ 60,549*	*$ -*	*$ -*	*$ -*
Year-End Balance	**$ 355,088**	**$ 520,038**	**$ 60,549**	**$ -**	**$ -**	**$ -**	**$ -**
Cash Reserves[7]							
Beginning Cash Reserves	**$ 889,614**	**$ 889,614**	**$ 612,825**	**$ 672,671**	**$ 548,592**	**$ 571,741**	**$ 578,385**
Year-End Cash Reserve Balance	**$ 612,825**	**$ 840,000**	**$ 672,671**	**$ 548,592**	**$ 571,741**	**$ 578,385**	**$ 587,003**
Average Reserve Needed During the Year to Maintain Target Operating Expenses (7-9 months)	***$ 786,468***		***$ 672,671***	***$ 524,139***	***$ 488,736***	***$ 497,636***	***$ 601,384***
Minimum Month-End Reserve Balance	*$ 603,744*		*$ 587,671*	*$ 535,267*	*$ 460,453*	*$ 460,453*	*$ 460,453*
Average Month-End Reserve Balance	*$ 773,773*		*$ 668,210*	*$ 601,921*	*$ 568,733*	*$ 573,953*	*$ 578,739*
Variance from Desired Reserve	*$ (12,695)*		*$ (4,461)*	*$ 77,782*	*$ 79,998*	*$ 76,317*	*$ (22,645)*

Notes

1-- The projected budget is estimated based on Staff's best professional judgement as to how the cost of each line item will change over time. Some tasks increase at an assumed inflation rate of 3%; some tasks decrease in cost with efficiencies, followed by annual inflation increases; and some tasks fluctuate year to year based on the level of effort for non-routine work such as Sustainable Yield updates.

2 -- Revenues shown are the amounts invoiced by Watermaster to pumpers, or in the case of the DWR grant, they are the amounts that are eligible for reimbursement, during the Water Year. In the case of the DWR Reimbursements, payment on the reimbursement requests are actually delayed by 8 months from request date. This delay in payment is taken into consideration in the financial model to determine when to defer or pay on vendor invoices to maintain the target cash reserves.

3 -- A total of $2,738,590 was awarded for Watermaster projects for use in Water Years 2022 through 2025. See also Note 2.

*4 -- Expenditures in green are **partially reimbursed** by the Prop 68 grant. Expenditures in blue are **fully reimbursed** by the Prop 68 grant. Expenditures in bold purple text are **costs that would not have been incurred** absent the Prop 68 grant. Expenditures in bold red text are amended compared to the original WY 2024 Budget.*

5 -- Combined interest to West Yost and Land IQ under proposed Payment Terms allowing an outstanding balance of up to $550,000 per vendor in any 30-day period.

6 -- Reflects balances owed to West Yost and Land IQ under Payment Terms allowing outstanding balances of $550,000 and $200,000, respectively, in any 30-day period.

7 -- The cash reserve projections are based on the monthly financial model prepared by Watermaster Staff to support extended payment terms with West Yost and Land IQ, based on expected timing of receipt of payment on Watermaster assessments and reimbursement requests and deferred payments to West Yost and Land IQ.

Table 2: West Yost Labor Hours and Fee Estimate to Provide Professional Services to the Borrego Springs Watermaster: Executive Director and Technical Consultant Services for Water Year 2025

Task and Subtask Descriptions	Labor Hours and Cost													Other Direct Costs					Total Project Costs			
	Executive Director	Lead Technical Consultant	Principal Sci/Eng II	Senior Sci/Geol/Eng II	Associate Sci/Geol/Eng I	Staff Sci/Geo/Eng II	Staff Sci/Geo/Eng I	Field Technician	Administrative III/IV	Task Repetition Multiplier	Total Person Hours	West Yost Labor Cost		Travel	Field Equip-ment Rental or Purchase	Laboratory and Sub-contractors	Total Direct Costs		Sub-Task	Task	% Change in Cost from WY 2024	Reimbursable Costs Included in Prop 68 Grant Award
												Sub-Task	Task				Sub-Task	Task				
Task 1 - Meetings and Court Hearings													**$173,219**					**$1,878**		**$175,097**	**7%**	**$45,107**
1.1 Watermaster Board meetings													**$104,802**					**$1,798**		**$106,600**	12%	**$0**
Prepare for and attend 10 Regular Board meetings (Virtual)	10	5			10		4		1	10	300	$82,810					$0		$82,810			
Prepare for and attend 2 Regular Board meetings (In Person)	13	8			13		4		1	2	78	$21,992		$1,798			$1,798		$23,790			
1.2 Technical Advisory Committee meetings													**$52,444**					**$0**		**$52,444**	16%	**$32,564**
Prepare for and attend 5 TAC meetings (Virtual)	2	10	3		8		2			5	125	$35,980					$0		$35,980			
Prepare TAC Recommendation Reports/Memos (3)	2	8	0		8				2	3	60	$16,464					$0		$16,464			
1.3 Court Hearings													**$3,430**					**$80**		**$3,510**	-13%	**$0**
As-needed support for Court status conferences and hearings	10									1	10	$3,430		$80			$80		$3,510			
1.4 Stakeholder Outreach													**$12,543**					**$0**		**$12,543**	0%	**$12,543**
Sustainable Yield Workshop (October)	4	8			8		3		0.5	1	23.5	$6,491					$0		$6,491			
GMP Assessment Workshop (February)	6	6			6		3		0.5	1	21.5	$6,053					$0		$6,053			
Task 2 - Watermaster Administration and Management													**$115,703**					**$0**		**$115,703**	**-1%**	**$39,004**
2.1 Prepare the draft and final Watermaster budget for WY 2023 (including collaboration with the TAC)	24	4			6	3				1	37		**$11,580**				$0	**$0**		**$11,580**	-1%	**$0**
2.2 Insurance, accounting, and financial services	1				0.75				10	12	141		**$24,564**				$0	**$0**		**$24,564**	28%	**$0**
2.3 Management of Records, Documents, and Website	0.25				1.75				0.75	12	33		**$7,278**				$0	**$0**		**$7,278**	3%	**$2,000**
2.4 Track/respond to public communications and requests	0.25				0.25				0.25	12	9		**$2,184**				$0	**$0**		**$2,184**	3%	**$0**
2.5 As-needed support to the BPA Parties	2				1					12	36		**$11,016**				$0	**$0**		**$11,016**	4%	**$0**
2.6 As-requested admin. of the Judgment, Rules & Regs, and GMP	2				0.75				0.25	12	36		**$10,779**				$0	**$0**		**$10,779**	0%	**$0**
2.7 General administration and project managements tasks	1				2.25				0.5	12	45		**$11,298**				$0	**$0**		**$11,298**	1%	**$0**
2.8 Prop 68 Grant project management and reporting	40				48	14			60	1	162		**$37,004**				$0	**$0**		**$37,004**	-17%	**$37,004**

Table 2: West Yost Labor Hours and Fee Estimate to Provide Professional Services to the Borrego Springs Watermaster: Executive Director and Technical Consultant Services for Water Year 2025

Task and Subtask Descriptions	Labor Hours and Cost													Other Direct Costs					Total Project Costs		% Change in Cost from WY 2024	Reimbursable Costs Included in Prop 68 Grant Award
	Executive Director	Lead Technical Consultant	Principal Sci/Eng II	Senior Sci/Geol/Eng II	Associate Sci/Geol/Eng I	Staff Sci/Geo/Eng II	Staff Sci/Geo/Eng I	Field Technician	Administrative III/IV	Task Repetition Multiplier	Total Person Hours	West Yost Labor Cost Sub-Task	West Yost Labor Cost Task	Travel	Field Equip-ment Rental or Purchase	Laboratory and Sub-contractors	Total Direct Costs Sub-Task	Total Direct Costs Task	Sub-Task	Task		
Task 3 - Engineering and Technical Services													**$379,703**					**$144,180**		**$523,883**	**-36%**	**$400,063**
3.1 Coordinate and implement meter program													**$30,440**					**$0**		**$30,440**	0%	**$18,437**
a Collect and review annual meter calibration/accuracy reports	2	2				24				1	28	$6,434					$0		$6,434			
b Collect, catalog monthly meter reads and calculate pumping	0.5				2		7.5			12	120	$24,006					$0		$24,006			
3.2 Implement Groundwater Monitoring Program													**$82,880**					**$41,180**		**$124,060**	12%	**$64,190**
a Semi-annual field collection of groundwater level and quality, including inspections of new sites	4	12			8	10		142		2	352	$56,956		$6,680	$11,000	$ 23,500	$41,180		$98,136			
b Process field data into to HydroDaVE, review, prepare report	2	4			8		50			2	128	$25,924					$0		$25,924			
3.3 Data Management and Data Reporting													**$20,265**					**$0**		**$20,265**	2%	**$10,936**
a Annual collection, process, and upload of other hydrologic and water quality data	0.5	2			2		24			2	57	$11,327					$0		$11,327			
b Improve DMS (develop custom reports, upload newly identified legacy data from parties, build out library)	2	2	6		8					1	18	$5,272					$0		$5,272			
c MNW Compliance (fall and spring reporting) and other reporting to					6		12			1	18	$3,666					$0		$3,666			
3.4 Combined Annual Report to the Court and DWR (including water rights accounting)	44	30			60		54		16	1	204		**$51,188**					**$0**		**$51,188**	0%	**$51,188**
3.5 Address inactive wells via proper abandonment or conversion to monitoring well	10	30			20		46	30		1	136		**$30,392**	$1,000		$ 102,000	**$103,000**		**$133,392**	-24%	**$132,392**
3.6 As-needed support for implementation of the Judgment, Rules & Regs, and GMP	10	24		4	10		8			1	56		**$16,298**				**$0**		**$16,298**	4%	**$0**
TAC Supported Technical Work																						
3.7 Complete 2025 Update of Sustainable Yield	12	32	8			38			17	1	107		**$27,973**				**$0**		**$27,973**	-90%	**$27,973**
3.8 Develop Scope & Budget for WY 2026-2029 (for Sus. Yield)	4	20	4		20		4		4	1	56		**$15,272**				**$0**		**$15,272**	na	**$0**
3.9 Continue 5-Year Assessment of the GMP & GMP Update	85	90	12		50		96		20	1	353		**$94,947**				**$0**		**$94,947**	-27%	**$94,947**
3.10 Address Ad Hoc Requests from the Board	2	16			10		8		2	1	38		**$10,048**				**$0**		**$10,048**	2%	**$0**
Task 4 - Environmental Working Group													**$22,193**				**$0**		**$22,193**	**-8%**	**$15,812**
4.1 Biological Restoration of Fallowed Lands	2	22			20		11		8	1	63		**$15,812**				**$0**		**$15,812**	-13%	**$15,812**
4.2 Ad Hoc Requests or EWG Meetings	3	12			6					1	21		**$6,381**				**$0**		**$6,381**	5%	**$0**
Task 5 - Services Reimbursed by Parties with Manual-read Meters													**$2,943**				**$0**		**$2,943**	**1%**	**$0**
5.1 Consulting services to Parties with manual-read meters					0.5		0.5		0.25	12	15		**$2,943**				**$0**		**$2,943**	1%	**$0**
Task Totals	**499**	**474**	**45**	**4**	**615**	**99**	**547**	**314**	**290**		**2,254**		**$693,761**	**$9,558**	**$11,000**	**$125,500**	**$146,058**		**$839,819**	**-25%**	**$499,986**

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.D

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: May 6, 2024

Subject: Consideration of Approval of a Well Subcontractor for Conversion of Abandoned Wells

✓ **Recommended Action**	☐ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Approve West Yost request to hire Well Tec Services, a well subcontractor, to secure, convert, and/or properly abandon inactive wells in Borrego Springs Subbasin.

Fiscal Impact: None. The work to retrofit inactive/abandoned wells is included in the approved Water Year 2024 budget and these funds are grant-reimbursable.

Project Overview

Abandoned or permanently inactive wells are defined in the California Department of Water Resources (DWR) Well Standards as wells that have "not been used for one year, unless the owner demonstrates intention to use the well again."[1] The DWR Sustainable Groundwater Management (SGM) grant includes $320,000 under Category C to perform Task 5: *Identify and Address Improperly Abandoned Wells*, which includes the following tasks:

- Develop outreach tools to identify improperly abandoned wells and perform outreach to determine ownership and site access.
- Identify improperly abandoned wells, and if accessible through an easement or other access agreement, the wells will be properly abandoned or converted to a monitoring well.
- Convert inactive production wells to monitoring wells.
- Perform construction management in accordance with SGM grant requirements.
- Deliverables:
    - Documentation of proper abandonments
    - Documentation of monitoring well conversions

[1] DWR. California Well Standards, Chapter 21. Definition of Abandoned Well. Available at: Part III. Destruction of Water Wells (ca.gov)

- Easements and other necessary document(s), if necessary

It is at the discretion of the Watermaster on how to allocate funding to address inactive/abandoned wells, with priority given to inactive/abandoned wells that can be added to the Watermaster's Groundwater Monitoring Program. The Watermaster's Groundwater Monitoring Plan[2] recommends specific areas to improve and expand the monitoring program, which has informed which inactive/abandoned wells should be considered for addition to the monitoring network (if conversion is feasible).

Previously Related Actions by the Board

At the June 14, 2023 Board meeting, the Board approved the WY 2024 budget, which included $187,551 to begin to address inactive/abandoned wells. Budgets for prior water years did not allocate funding for this task. Funding for this task will also be included in the WY 2025 budget and the work is anticipated to be completed during the first few months of WY 2025.

A status update on this task was provided to the Board at its March 12, 2024 meeting, which included a summary of the work performed to-date and the options to address inactive/abandoned wells using SGM grant funding (in order of priority):

1. **Convert inactive/abandoned wells to monitoring wells.** SGM grant funding can be used to convert an inactive/abandoned well to a monitoring well, which can then be added to the Watermaster's Groundwater Monitoring Program. Well conversion activities may include: removing downhole equipment, video logging the wells to document the well screen intervals and conditions, well rehabilitation, installing new well head access points to allow for water-level monitoring and/or low-flow water-quality sampling, and/or installing transducers to measure groundwater-level.
2. **Secure existing inactive/abandoned wells.** SGM grant funding can be used to secure inactive/abandoned wells (i.e. make safer to the public and protect groundwater) that are currently in the monitoring program or will be added. Securing an inactive/abandoned well may include: installing locking well caps, improving the well head, installing a concrete pad around the well head, and/or installing bollards to physically protect the well.
3. **Explore the ability to properly abandon an inactive/abandoned well.** If an inactive/abandoned well cannot be converted to a monitoring well, SGM grant funding can be used to properly abandon the well. For public wells, SGM grant funding can be used to properly abandon the well following State and county standards. For private wells, Watermaster staff has inquired to DWR if grant funding can be used to properly abandon wells on private property. At minimum, SGM grant funding can be used to develop outreach materials to notify private well owners that their well is considered abandoned by the State and describe the necessary steps and available resources to properly abandon their well.

[2] Available on the Watermaster's website at: https://borregospringswatermaster.com/wp-content/uploads/2023/04/R-BSW-Groundwater-Monitoring-Program-FINAL-20230411.pdf

Also discussed at the March 2024 Board meeting was West Yost's efforts to identify inactive/abandoned wells within the Basin. With the support of various stakeholders, West Yost identified seven (7) inactive wells currently in the monitoring program that need the well head secured and six (6) abandoned wells that are that are candidates to convert into monitoring wells. All 13 wells are suitable for groundwater-level monitoring, and three (3) to five (5) wells may also be suitable for groundwater-quality monitoring. Figure 1 shows the location of the 13 wells and their proximity to recommended areas of improvement identified in the Groundwater Monitoring Plan. Although West Yost has identified these 13 inactive/abandoned wells, the number of wells that will ultimately be secured and/or converted with SGM grant funding will depend on cost/budget and schedule constraints.

Well Subcontractor Identified for Board Approval

During the fall 2023 semi-annual monitoring event, the condition of the 13 wells were evaluated in a well canvassing effort. At no cost to the Watermaster, Well Tec Services,[3] a contractor specializing in well inspection, maintenance, and abandonment, joined West Yost in the field to provide input on the work needed to convert/secure the inactive and abandoned wells.

West Yost has identified Well Tec Services as a suitable contactor to perform well conversions because:

- Well Tec Services is based nearby in Beaumont, CA, and has been serving municipal and private customers in Southern California for over 20 years. They are members of the National Groundwater Association and stay abreast with current methods and new technologies. Some of the services they provide include:
    - Water Well Inspections and Maintenance
    - Well Abandonment
    - Well Pumps and Controls
- Well Tec Services meets all SGM grant requirements, including:
    - Licensed Contractor in the State of California and has a Department of Industrial Relations (DIR) number.
    - Ability to bill at prevailing wage.
    - Insurance coverage as specified in Section 10 of the SGM grant agreement and in accordance with the subcontractor requirements in West Yost's Professional Services Agreement with Watermaster.
- Recommendations by other West Yost clients (e.g., Cucamonga Valley Water District, Chino Basin Watermaster).

Borrego Water District (BWD) has also confirmed that the competitive bidding requirement in the SGM grant can be waived for Well Tec Services.

[3] Well Tec Services website: https://www.welltecservices.com/

Based on their experience and ability to meet all SGM grant requirements, West Yost requests Board approval for West Yost to hire and to enter into a Task Order Agreement (TOA) with Well Tec Services where individual task orders (TOs) for each step in the inactive/abandoned well conversion process can be issued by West Yost as the project progress. West Yost will review cost estimates from Well Tec Services to ensure the work is performed within the budget available through the SGM grant.

Next Steps

With this Board approval, West Yost will enter into the TOA with Well Tec Services and begin to issue TOs for well maintenance and conversions. The general task orders will be:

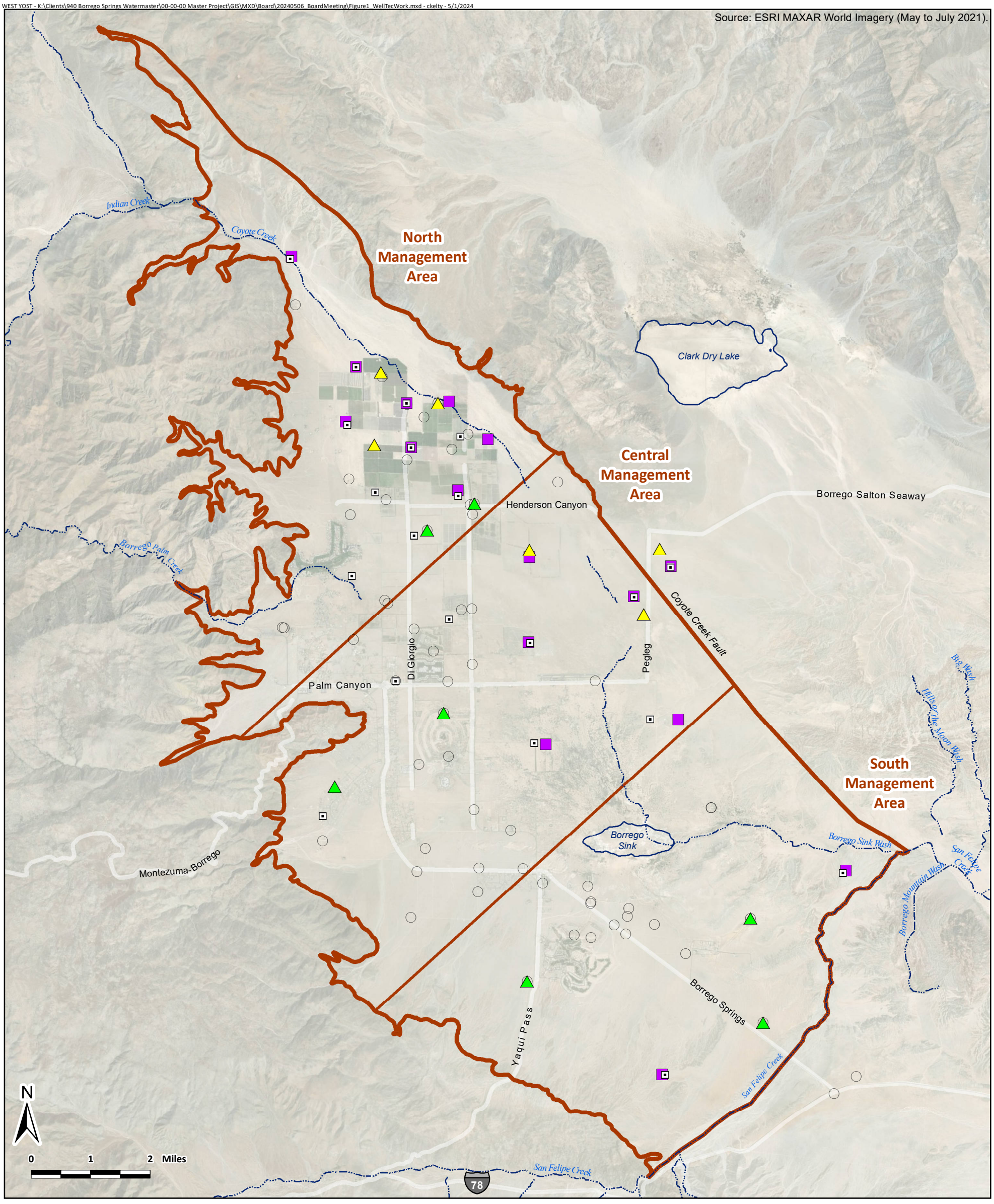
- **Task Order 1** – Develop site-specific workplans, cost estimates, and schedules for each abandoned/inactive well identified by West Yost. West Yost staff will then prioritize and select which wells to convert, secure, or properly abandon based on the importance of the well relative to the gap in the monitoring program, cost, and schedule to complete the conversion.
- **Task Order 2** – Perform the well conversions pursuant to the workplans. [SA1][SA2]West Yost will oversee the work to ensure it is done properly. Depending on the costs and schedule, multiple Task Orders may be issued to perform work in phases.
- **Task Order 3** – Documentation of all well conversions. Documentation will include photographs of the final product and diagrams of the well upgrades. This work will be utilized by West Yost to prepare final reports pursuant to the SGM grant requirements.

Periodic updates on the progress towards addressing inactive/abandoned wells in the Borrego Springs Subbasin will be provided to the Board as part of the Technical Consultant Report during Board meetings as the TOs are implemented.

Enclosures

Figure 1. Inactive/Abandoned Wells to Convert or Secure with Well Tec

WEST YOST - K:\Clients\940 Borrego Springs Watermaster\00-00-00 Master Project\GIS\MXD\Board\20240506_BoardMeeting\Figure1_WellTecWork.mxd - ckelty - 5/1/2024



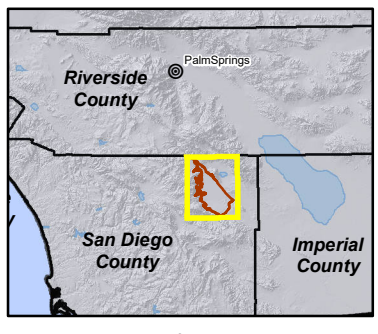
Type of Inactive/Abandoned Well to Convert or Secure

Planned Activity by symbol color

- Secure well
- Convert and secure well

Other Features

- Well in Monitoring Network
- Area of Recommended Additional Water-Level Monitoring
- Area of Recommended Additional Water-Quality Monitoring
- Borrego Springs Subbasin with Management Area Divisions



Borrego Springs Watermaster

Prepared by:

WEST YOST

Figure 1

Inactive/Abandoned Wells to Convert or Secure with Well Tec

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.E

To: Board of Directors

From: Samantha Adams, Executive Director

Date: May 6, 2024

Subject: Pending DWR Review of Judgment and GMP

☐ **Recommended Action**	✓ **Provide Direction to Staff**	☐ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommendation

Provide direction to staff on process to review and address DWR comments on the Watermaster's submission of the Judgment and GMP as an alternative to a GSP

Fiscal Impact: None anticipated at this time, as there is budget available to support review of DWR comments on the Judgment an GMP. Any unanticipated fiscal impacts of Board direction will be noted by Staff.

Discussion

The CA Department of Water Resources (DWR) has communicated to Watermaster Staff that their review of the Watermaster's submission of the Judgment and Groundwater Management Plan for the Borrego Springs Subbains (GMP) as an alternative approach to a Groundwater Sustainability Plan (GSP) is anticipated to be released in the coming month. It is unknow what the outcome of the review will be at this time, but to date all DWR reviews of Alternative Plans or GSPs to have included a number of recommended "corrective actions", even when plans are approved. Thus, it will be important to be able to meet with DWR staff to review, discuss, and get clarifications on the findings of their review. The review will be documented in a formal letter from the DWR and posted to the State's SGMA Portal.

The need to meet with DWR staff in a timely manner will be important as the Watermaster currently has grant funding available to support the required five-year assessment and update (if needed) of the GMP. The grant funding is currently only available through March 2025, so staff hopes to make as much progress on the effort as is practical to minimize costs to the pumpers.

Next Steps

Staff is seeking discussion and direction from the Board as to how they would like the Watermaster to engage with DWR through the process, keep the Board informed, and develop a plan and schedule to address any corrective actions identified by the DWR.

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM V.F

To: Board of Directors

From: Andy Malone, Technical Consultant

Date: May 6, 2024

Subject: Status Update on the Redetermination of Sustainable Yield

☐ **Recommended Action**	☐ **Provide Direction to Staff**	✓ **Information and Discussion**
☐ **Fiscal Impact**	☐ **Cost Estimate: $**	

Recommended Action

Board discussion.

Fiscal Impact: None.

Background and Previously Related Actions by the Board

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 Farm Process (FMP)

Task 3 – Correct Errors Identified in the 2021 BVHM

Task 4 – Model Recalibration

Task 5 – Determine the Sustainable Yield

At the January 8, 2024 Regular Board meeting, the Board requested monthly status updates on the efforts to redetermine the Sustainable Yield at each Regular Board meeting in 2024.

Status Update on the Effort to Redetermine the Sustainable Yield by 2025

To-date, West Yost has completed Tasks 1 through 3 of the scope of work and is currently executing Task 4 – *Model Recalibration.*

[1] https://borregospringswatermaster.com/wp-content/uploads/2023/02/TAC-Recommendation-Report_SY-2023-24_final.pdf

The following work was performed in April 2024:

- Began performing model recalibration.
- Per the TAC recommendation following its Ad-Hoc meeting on March 29, 2024, developed a methodology for using OpenET to validate the ability of the FMP to estimate crop water demands (evapotranspiration [ET]).[2] The proposed methodology was applied to evaluate the FMP results from the *Pre-Calibrated BVHM*.
- Prepared a presentation to summarize the proposed methodology for using OpenET data as a validation check (including the evaluation of the *Pre-Calibrated BVHM*) and distributed to the TAC for review. The presentation slides included: (i) a description of how OpenET estimates ET; (ii) a description of how the FMP estimates ET; (iii) the proposed method for using OpenET data as a validation check on the FMP; and, (iv) the results of applying the proposed method to evaluate the FMP-estimated ET from the *Pre-Calibrated BVHM*. Comments from the AAWARE TAC member were received prior to the meeting.
- Held an Ad-Hoc TAC meeting on May 1, 2024 to discuss the proposed methodology for using OpenET data as a validation check on the FMP (including the evaluation of the *Pre-Calibrated BVHM*). Some TAC members invited additional experts in OpenET and modeling to attend. Following the meeting, West Yost sent an email to the TAC with the following requests:

    1. Specific recommendations on how to use OpenET as a validation check on the ability of the FMP to estimate ET (*e.g.,* specific OpenET models; validation methods; etc.).
    2. Any other input on this topic.

    A TAC Comments Summary Table (attached) summarizes the TAC responses to these requests. Based on the comments received by the TAC, West Yost recommends proceeding with Task 4 as follows:

    1. Limit the set of OpenET models to use for FMP validation to the two models most-appropriate for Borrego Springs (geeSEBAL and EEMETRIC) and the Ensemble model.
    2. Do not use OpenET directly to adjust the FMP (as unanimously recommended by the TAC at its May 29, 2024 meeting).

Next Steps (May 2024)

West Yost is proceeding with the current scope-of-work to perform *Task 4 – BVHM Recalibration* with the addition of using OpenET as a validation check on the ability of the FMP to estimate ET. Results of model recalibration and validation of the FMP will be presented to the TAC during its next regular meeting, which will be scheduled for June to early July 2024. In the interim, West Yost will continue to keep the TAC informed of the progress made under Task 4 – *Model Recalibration.* Preliminary results of model recalibration will be emailed to the TAC as soon as available prior to the next TAC meeting.

[2] Following its March 29, 2024 meeting, the TAC unanimously agreed that: (i) OpenET should be used to validate the ability of the FMP to estimate crop water demands and (ii) OpenET should not be used directly in the 2025 Redetermination of the Sustainable Yield.

Attachments

Summary of TAC Comments from the May 1, 2024 Ad-Hoc TAC Meeting

Responses to TAC Comments/Recommendations on use of OpenET Data during the 2025 Redetermination of the Sustainable Yield

Comments/Recommendations	TAC Members					
	AAWARE *Bob Wagner*	BWD *Trey Driscoll*	County of San Diego *Jim Bennett*	T2 Borrego *Tom Watson*	Roadrunner Club *John Peterson*	Borrego Springs Community *Russell Detwiler*
Specific recommendations on how to use OpenET as a validation check on the ability of the FMP to estimate ET						
Use the range of ET estimates from the geeSEBAL and EEMETRIC models to validate the FMP.		X		X		
Use ET-estimates from the EEMETRIC model to validate the FMP.	X					
Use ET-estimates from the Ensemble model to validate the FMP.		X				X
Use OpenET as a validation check on the FMP.			X			
Additional Comments						
Replace crop coefficient (KC) values in the FMP with reference ET fractions from OpenET.	X					
Estimate the on farm efficiency (OFE) using EEMETRIC ET values and metered pumping data (where, OFE = ET/pumping)	X					
QAQC CIMIS station reference ET data	X					
Use EEMETRIC ET data directly in the FMP	X					
No Comment						
No comment or recommendation					X[1]	

Notes:

1) Replied via email that Mr. Peterson did not have any recommendations.

Wagner&Bonsignore
Consulting Civil Engineers, A Corporation

Nicholas F. Bonsignore, P.E.
Robert C. Wagner, P.E.
Paula J. Whealen

Martin Berber, P.E.
Patrick W. Ervin, P.E.
David P. Lounsbury, P.E.
Vincent Maples, P.E.
Leah Orloff, Ph.D, P.E.
David H. Peterson, C.E.G., C.H.G.
Ryan E. Stolfus

MEMORANDUM

To: Andy Malone PG and Lauren Salberg, Technical Consultant (West Yost)
Borrego Springs Watermaster – Technical Advisory Committee

From: Robert Wagner, P.E, A. Leonardo Urrego-Vallowe, EIT, and Dr. Jan Hendrickx, Professor Emeritus of Hydrology, New Mexico Tech

Date: May 3, 2024

Re: **Follow-up on Borrego Springs Watermaster Technical Advisory Committee Ad-Hoc Meeting May 1, 2024**

This memo provides response to the recommendations requested by Watermaster Technical Consultant during the May 1, 2023 ad-hoc TAC meeting regarding the methods to use OpenET as a validation check on the ability of the FMP to estimate evapotranspiration (ET).

We consider eeMETRIC the best OpenET model for Borrego Springs. We have prepared this brief statement with references that support our recommendation.

The six different ET models in OpenET have all been developed for different applications. PT-JPL was developed for global ET mapping at a pixel scale of about 25x25 miles on a monthly scale. This is hard to do so that the JPL scientists had to make simplifications to obtain reasonable global ET values from available global databases. The original publication of *Fisher et al.* [2008] has been cited 1047 times; about 1010 of these citations had the word "global" in their title. For global ET mapping the PT-JPL method would be the first choice; not so for field scale ET mapping because due to its needed simplifications it lacks internal calibration.

Three of the six models in OpenET estimate each component of the energy balance: ALEXI/DisALEXI [*Anderson et al.*, 2018; *Anderson et al.*, 2007], eeMETRIC, and geeSEBAL. Unfortunately, ET from isolated irrigated areas in semi-arid regions may be underestimated by ALEXI/DisALEXI in some cases[1] so that this method is not recommended for Borrego. On the other hand, the eeMETRIC and geeSEBAL models have a robust internal calibration and a track record in arid regions that makes them suitable for Borrego.

[1] https://etdata.org/known-issues/

The internal calibration of the eeMETRIC and geeSEBAL models needs land surfaces with a clear hydrological contrast of dry and wet areas [*Allen et al.*, 2011; *Allen et al.*, 2007a; *Allen et al.*, 2007b; *Bastiaanssen et al.*, 1998a; *Bastiaanssen et al.*, 1998b]. The coldest and warmest of these areas are used to estimate the sensible heat flux. In the coldest areas such as a well-irrigated alfalfa field the sensible heat flux is zero and the latent heat flux, i.e. the ET, is the difference between the net radiation and the soil heat flux; in the warmest areas such as a fallow field or desert the sensible heat flux is at its maximum and the latent heat flux, the ET, is zero. By constraining the sensible heat fluxes to a known minimum and maximum, sensible heat flux outliers are prevented and latent heat flux, i.e. ET, estimates are greatly improved. On a clear day the net radiation can be estimated from Landsat images and meteorological data such as air temperature, pressure and humidity with an accuracy of about 5-10% [*Ferreira et al.*, 2020; *Mira et al.*, 2016; *Samani et al.*, 2007]. Given that the soil heat flux is relatively small, accurate ET estimates result by taking the net radiation and subtracting the sum of sensible heat flux and soil heat flux. A principal difference between geeSEBAL and eeMETRIC is that the latter uses hourly meteorological measurements to calculate the hourly reference ET so that it compensates for regional advection effects where ET can exceed daily net radiation. A feature that is certainly of importance for Borrego. Overall, eeMETRIC is the recommended method for Borrego because its performance in arid and semi-arid environments is excellent [*Allen et al.*, 2007a; *Hong*, 2008; *Madugundu et al.*, 2017; *Upper Colorado River Commission*, 2022; *Volk et al.*, 2024].

In areas without any agricultural fields, water bodies, or dense patches of vegetation internal calibration becomes challenging. The USGS is charged to study the landscape of the entire United States and its natural resources. Therefore, the USGS needs to deal with areas that have little or no hydrological contrast often in addition to a complex topography. For ET mapping in such areas *Senay et al.* [2013] developed SSEBop by predefining a temperature difference between "hot" and "cold" reference values for each pixel. This is very different from eeMETRIC and geeSEBAL that use only one pair of a "hot" and "cold" pixel for each uniform hydro-climate region and consider all four components of the energy balance for their internal calibration. SSEBop uses only the net radiation and empirically calculates the actual ET as the product of an ET-fraction times the reference evapotranspiration times a scaling coefficient for the reference evapotranspiration. The ET-fraction is a temperature ratio obtained by dividing the temperature difference between the land surface of a pixel minus its "cold" reference temperature by the temperature difference between the "hot" and "cold" reference temperatures. Since this is a simplified empirical method, it may need to be changed for different conditions. As a matter of fact, several adaptations of SSEBop have been published since 2013 [*Senay*, 2018; *Senay et al.*, 2023]. After a nine-year study the Consumptive Use Study Workgroup of the Upper Colorado River Basin[2] recommended the use of the Automated METRIC (eeMETRIC) model for regional ET estimation, as it consistently performed better than the SSEBOP model. The workgroup also recommended continued monitoring and increased understanding of eeMETRIC and other

[2] www.ucrcommission.com/wp-content/uploads/2022/08/Consumptive-Use-Study-Workgroup-Technical-Recommendation-updated-for-June-Mtg..pdf

methods and ensembles as developed by the OpenET platform. In short, the SSEBop model is not recommended for use in Borrego.

The SIMS model in OpenET assumes that the crop grown in a field is well-watered. If this is the case, the predictions of the SIMS model will be close to the predictions based on the crop coefficient. Under conditions of deficient soil moisture, the SIMS ET estimate will be too high. The SIMS model is not recommended for estimating the actual ET in an agricultural field.

Responses to Watermaster Consultant questions

1. Do you have specific recommendations on how to use OpenET as a validation check on the ability of the FMP to estimate ET (*e.g.,* specific OpenET models to use; validation methods; etc.)? If so, briefly describe:

   We recommend using eeMETRIC because this model is based on physics with a robust internal calibration, it is appropriate for evaluation of local arid environments, and it is adopted by the Colorado River Commission for ET studies in the Upper Colorado River Basin.

   The validation check of the FMP values should be done by comparing the total ET provided by eeEMTRIC vs. the ET predicted by the FMP instead of the range of the minimum and maximum for all six models. If there is a discrepancy, the FMP parameters need to be redefined to match OpenET data.

2. Do you have any other input on this topic? If so, briefly describe:

   We recommend replacing the KC value for each FMP active cell with the reference ET fraction (available as part of eeMETRIC, with a spatial resolution of 30mx30m). This methodology involves calculating the average reference ET fraction within each FMP active cell (600mx600m resolution).

   The new estimates for OFE can be obtained by dividing the new ET values estimated from eeMETRIC with the metered pumping.

   The section “Insertion of ET Fluxes in Hydrologic Models” in the attached publication by Hendrickx et al. (2016) provides information on how to incorporate eeMETRIC data into FMP.

   An important variable is the reference evapotranspiration (ETo) that is calculated from hourly weather data of a CIMIS station. The quality of this data needs to be tested and corrected if possible. This can be done using the QAQC approach by the University of Idaho REF-ET software and QAQC system. For the Borrego environment an aridity correction most probably needs to be applied to the weather data before calculating the

reference evapotranspiration. The Ref ET software can be downloaded at https://www.uidaho.edu/cals/kimberly-research-and-extension-center/research/water-resources/ref-et-software.

OpenET data could be used directly for the 2025 Redetermination of the Sustainable Yield. This approach has been shown to considerably improve hydrologic decision support tools compared to their traditional implementations. The attached paper by *Hendrickx et al.* [2016] shows how METRIC ET data can be used directly in hydrological models. The paper describes direct implementation in three operational hydrologic models for the prediction of (1) annual ET in the ET Toolbox developed by the United States Bureau of Reclamation, (2) rainfall runoff hydrographs for the Gridded Surface/Subsurface Hydrologic Analysis model developed by the U.S. Army Corps of Engineers, and (3) the average annual groundwater recharge for the Distributed Parameter Watershed Model used by Daniel B. Stephens & Associates. The 12 authors of this paper received the William R. Boggess Award for the most outstanding paper "Benchmarking Optical/Thermal Satellite Imagery for Estimating Evapotranspiration and Soil Moisture in Decision Support Tools" published in the Journal of the American Water Resources Association during 2016. Since OpenET will soon have ET data available since 1985, at least for the last 39-year ET data can be used directly for redetermination of the sustainable yield.

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Lauren Salberg

From: Russ Detwiler <detwiler@uci.edu>
Sent: Saturday, May 4, 2024 3:14 PM
To: Andy Malone
Cc: LUEG, GroundWater, PDS; Trey Driscoll; John Peterson; Tom Watson; Robert Wagner; Leonardo Urrego; Samantha Adams; Lauren Salberg; Eric W.H. Chiang
Subject: Re: Notice of Ad-Hoc Technical Advisory Committee Meeting on May 1, 2024 at 9:00 am
Attachments: Volk(2024a) - Assessing the accuracy of OpenET satellite-based evapotranspiration data to support water resource and land management applications.pdf

Hi Andy,

Thanks for the opportunity to comment on this issue. Here are my responses:

1. Do you have specific recommendations on how to use OpenET as a validation check on the ability of the FMP to estimate ET (*e.g.,* specific OpenET models to use; validation methods; etc.)? If so, briefly describe:

   I do not have extensive experience with OpenET and the models it uses to convert satellite images into ET estimates. However, based on my current understanding of these various models, I recommend continuing to use the approach presented during the Ad Hoc TAC Meeting on May 1. That is, compare ET estimates derived resulting from the FMP parameters in the updated model to the ensemble estimates from OpenET.

   While reasonable arguments can be made for the relative merits of the different models used by OpenET, a recently published comparison of ET estimates from the different OpenET models to on-the-ground measurements suggests the ensemble estimates perform as well or better than any of the individual models for a range of conditions and crop types (Volk et al., Nature Water, 2024; attached). Using the ensemble minimizes the risk of introducing potential biases that may result from a single model. It also inherently accounts for the uncertainty associated with each of the models by providing estimates of upper and lower bounds.

2. Do you have any other input on this topic? If so, briefly describe:

   No.

Best,
Russ

Russell Detwiler
Associate Professor
Civil and Environmental Engineering
University of California, Irvine

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http://detwiler.eng.uci.edu

On Wed, May 1, 2024 at 2:22 PM Andy Malone <amalone@westyost.com> wrote:

> Thank you for attending today's ad-hoc TAC meeting on the subject of using OpenET during ***Task 4 – BVHM Recalibration***. The meeting presentation and recording have been posted to the website here. The Board's intention is

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Torrance, CA 90503
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WORKING DRAFT TECHNICAL MEMORANDUM

To:	Andy Malone, Borrego Springs Watermaster, BorregoSpringsWM@westyost.com
From:	Trey Driscoll, PG, CHG, Erick Fox, Guillermo Martinez
Subject:	2025 Redetermination of the Sustainable Yield Using OpenET as a Validation Check on the FMP Yield By 2025 – Response for May 1, 2024 TAC Meeting
Date:	May 3, 2024
cc:	Geoff Poole, Borrego Water District

INTERA previously presented a review of OpenET for Water Years 2021 and 2022 in our technical memorandum titled Farm Process (FMP) Update to Redetermine the Sustainable Yield By 2025 – Response for August 29, 2023 TAC Meeting dated September 15, 2023. The preliminary review of Open ET presented in our previous technical memorandum is provided here for ease of review along with additional information and comments based on the May 1, 2024 Technical Advisory Committee (TAC) meeting.

Review of OpenET for Water Years 2021 and 2022

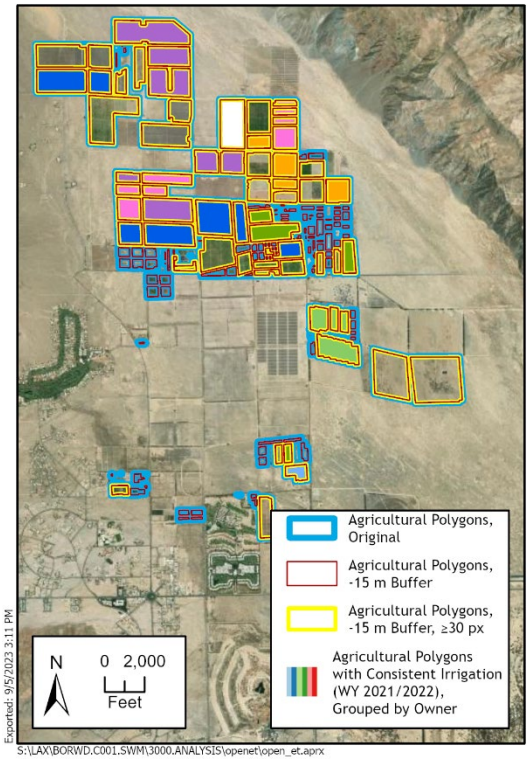


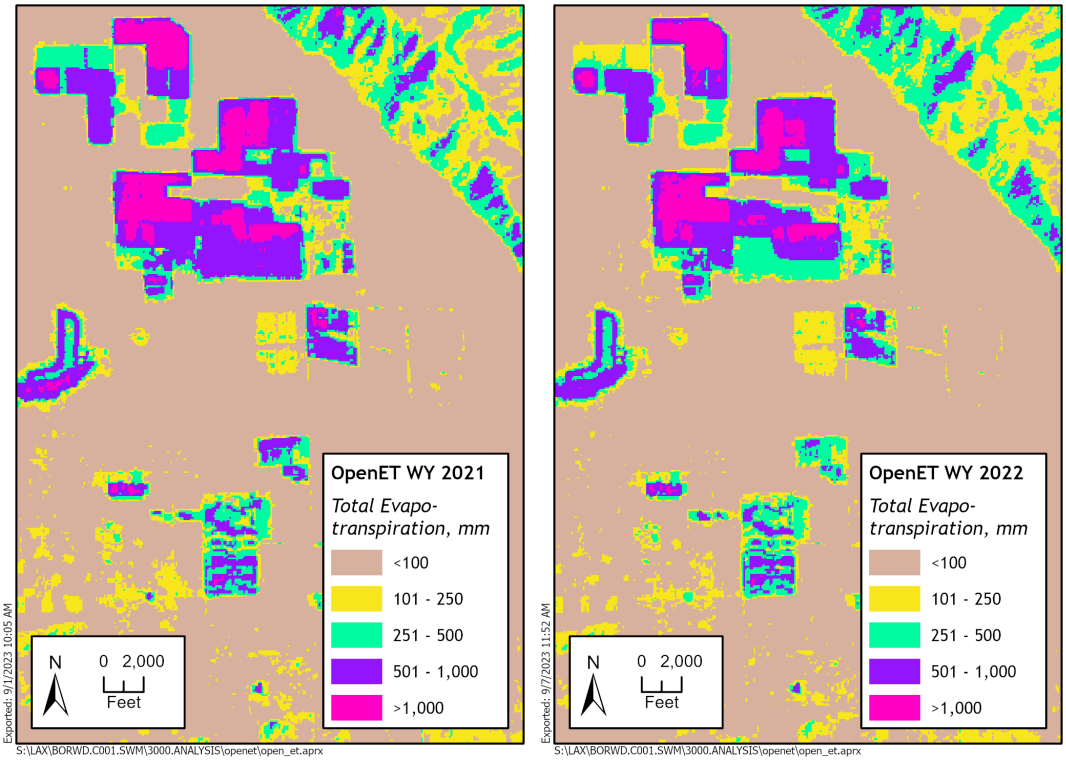
Figure 1. Selected and Filtered Agricultural Polygons

INTERA has completed a preliminary comparison of actual evapotranspiration (ET) as measured by OpenET to metered pumping for selected agricultural areas in the Subbasin for WY 2021 and WY 2022. OpenET is a gridded dataset of ET across the Western United States comprising six sub-models as well as an ensemble model, which was used in this exercise. The data are made available on the Google Earth Engine (GEE) cloud computing platform at a 30-meter resolution on a monthly timestep for calendar years 2016 to 2022.

The first step was to identify agricultural polygons on which to perform the analysis. A geographic information systems (GIS) shapefile of agricultural polygons developed for the Baseline Pumping Allocation (BPA) evaluation was used to define the area of interest. The polygons were preprocessed in the following ways: 1) an inward buffer of 15 meters was applied, to ensure that the 30-meter OpenET pixels fall fully within the polygon; 2) filtered to only include polygons with ≥30 pixels (approximately 6.5 acres), for improved statistical validity; 3) filtered to only include polygons with higher-than-background ET for ≥9 months for each water year

for improved signal to noise characteristics; and 4) associating groups of polygons with metered well pumping records. Figure 1 shows the original, buffered, and filtered polygons, grouped by owner. These groups were manually matched to the well pumping records using the best available information. Not all groups were able to be matched.

A script was used to extract the gridded monthly OpenET data from the GEE platform and used to compute the average the ET values (in millimeters) for each of the agricultural polygons. The cumulative ET for each water year is shown in Figures 2a and 2b.



Figures 2a and 2b. Cumulative Evapotranspiration for Water Years 2021 and 2022

The monthly ET data was converted to acre-feet and plotted against the metered pumping values (Figure 3). The resulting scatterplot shows a strong correlation coefficient of 0.87, indicating a good match between measured ET and metered pumping. However, some polygon groups (notably the dark blue and green groups) show much more pumping than ET, possibly indicating that not all agricultural fields supplied by these wells were successfully matched to the pumping records. Conversely, the orange group shows a number of months with ET of approximately 10 to 25 acre-feet without any associated pumping, another indication that the matching of metered wells to actual supplied acreage is an area for improvement.

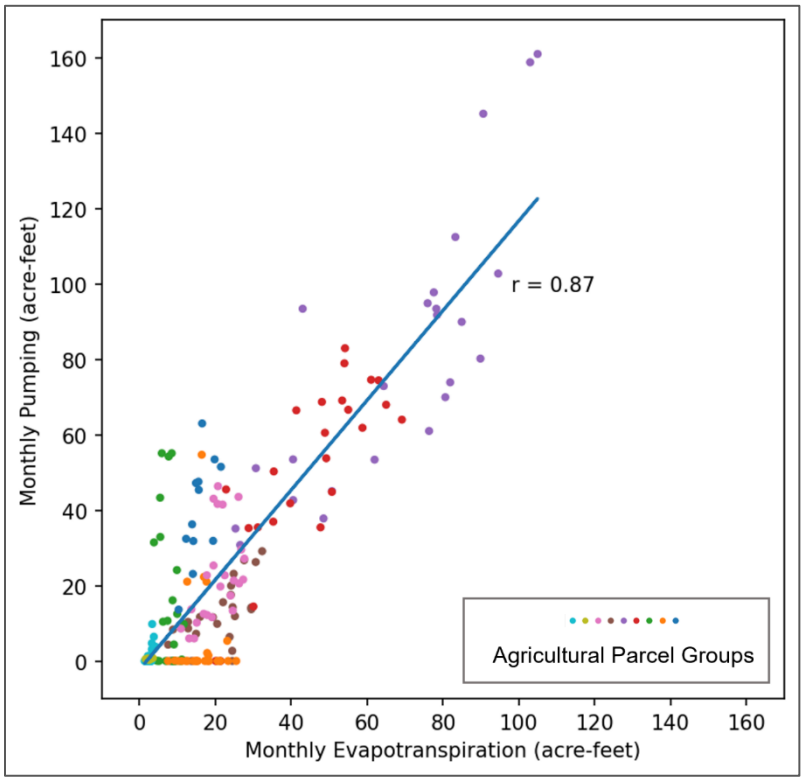


Figure 3. Correlation of Evapotranspiration and Pumping

The OpenET data provides a good estimate of metered pumping and may be used to help verify metered data or as proxy when metered data is not available. The OpenET data may be used to help constrain estimated FMP pumping for the current available 5-year period for calendar years 2016 to 2022 and back to 1985 once OpenET releases the historical data set.

West Yost presented a comparison of the January 2016 to September 2022 Open ET data to the active farms in the FMP using monthly data and the ensemble ET value[1] (Figures 4a and 4b). The Open ET data indicated average annual ET of 12,200 acre-feet per year (AFY) and the FMP data[2] indicated average annual ET of 14,700 AFY.

Figure 5 shows that the January 2016 to September 2022 average annual difference in ET by farm (OpenET minus FMP). The FMP calculated ET is greater than the OpenET data by 2,500 AFY. Closer inspection of the spatial distribution of the 2016 to 2022 Difference in ET indicates that Open ET underestimates ET compared to FMP for several Farm IDs. This 19 percent difference may partially be attributed to the OpenET model (ensemble ET value) used or may be a result of the coarse grid size of the FMP.

[1] The OpenET ensemble ET value is currently calculated as the average of all models after excluding outliers. Outliers are flagged and removed based on the median absolute deviation (MAD) approach, using a threshold of +/- 2*MAD (OpenET 2024; see Attachment B, Methodologies).
[2] Farm Process ET is estimated based on knowledge of crop type, crop area, and reference ET for each "Water Balance Subregion" in the FMP using a monthly timestep and spatial resolution of approximately 600 meters[2].

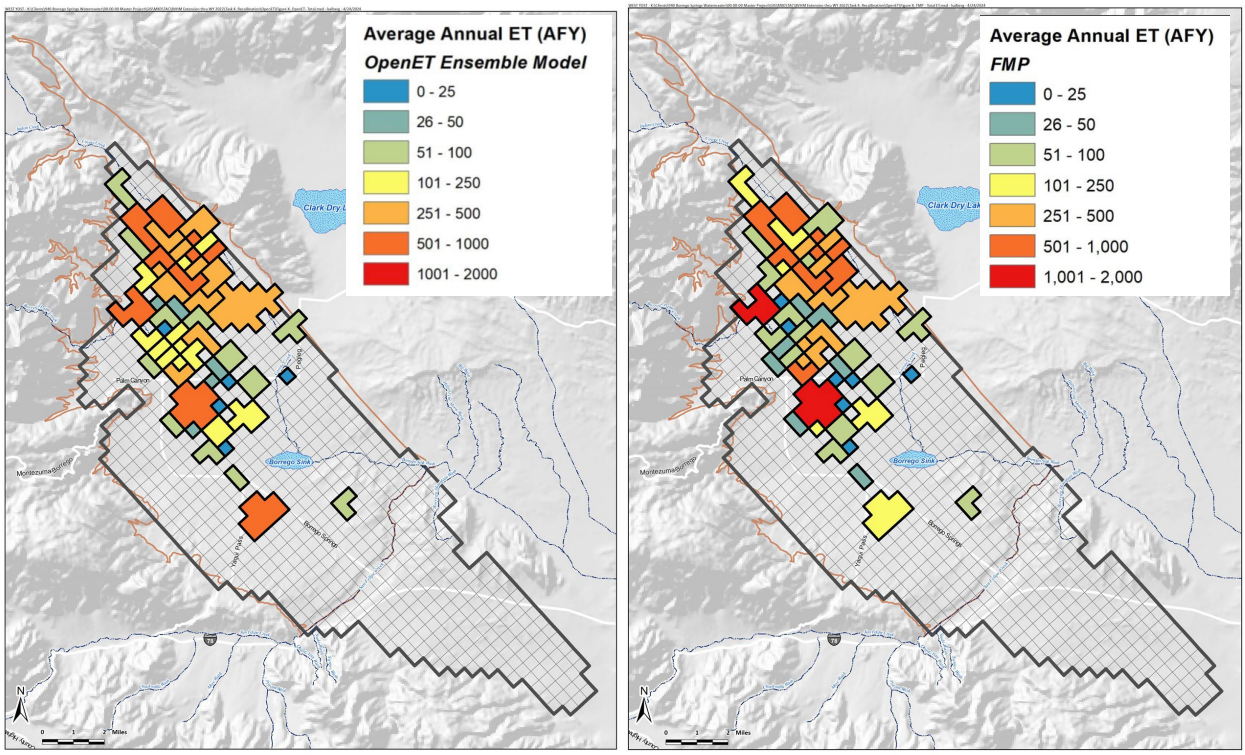


Figure 4a and 4b. 2016 to 2022 Average Annual Open ET (Ensemble Model) and FMP ET, West Yost 2024

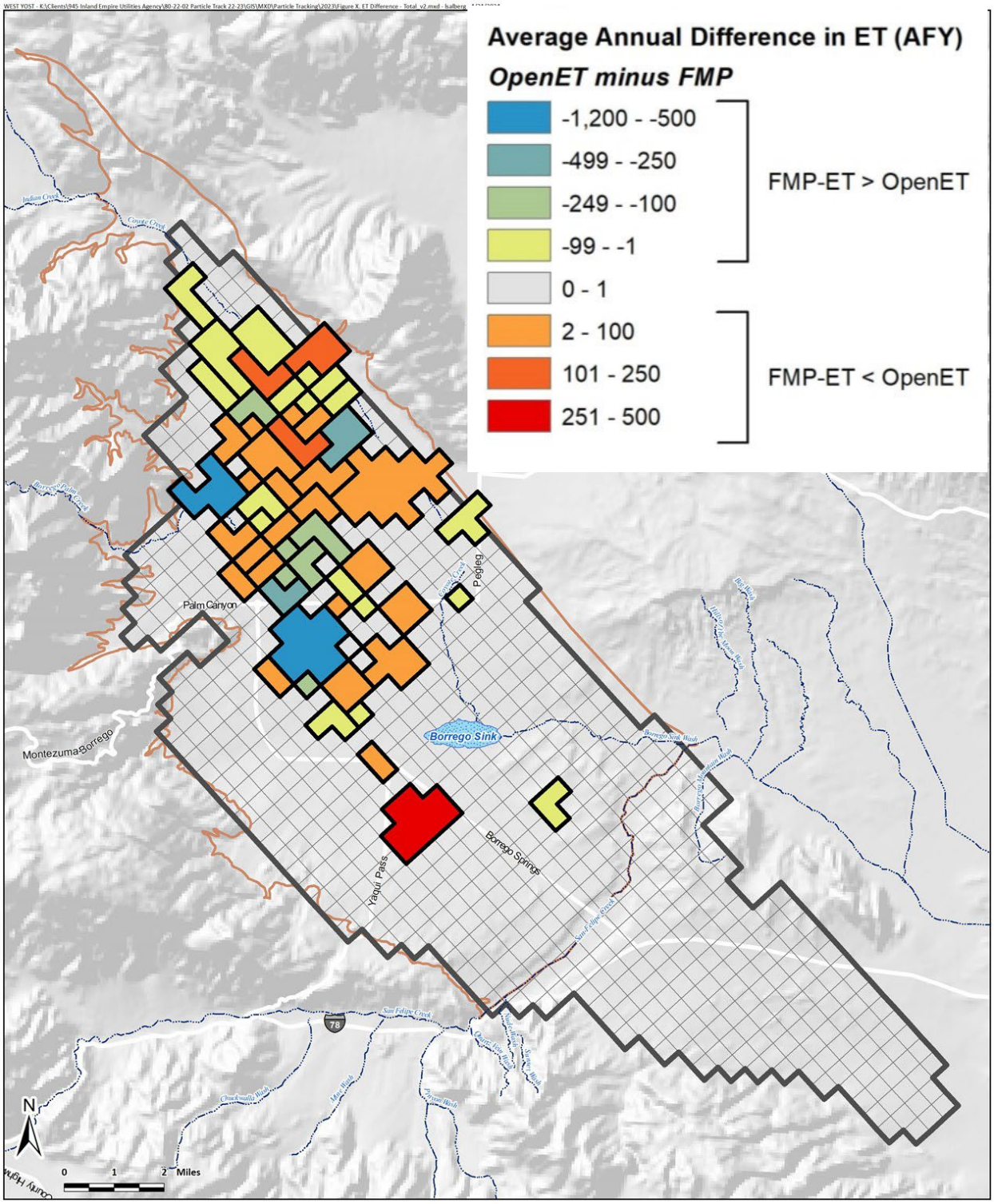


Figure 5. 2016 to 2022 Difference in ET (OpenET minus FMP Pumping) West Yost, 2024

CIMIS Data and OpenET Reference Evapotranspiration

Reference evapotranspiration (ETo) data in the Borrego Springs Subbasin is available from California Irrigation Management Information System (CIMIS) Station No. 207 and operated and maintained by the California Department of Water Resources (DWR). Data from CIMIS Station No. 207 is available from January 2008 to April 2024 as displayed in Figure 4 and provided in Attachment A (DWR 2023). It is recommended that CIMIS Station No. 207 be compared to the Basin Characterization Model (BCM) data downscaled from Parameter-elevation Regressions on Independent Slopes Model (PRISM) climate data used by the Borrego Valley Hydrologic Model (BVHM). Note declining ETo documented from 2017 to 2023. DWR was contacted by INTERA in 2023 to verify calibration of Station No. 207; however, as of to date no response has been received from DWR.

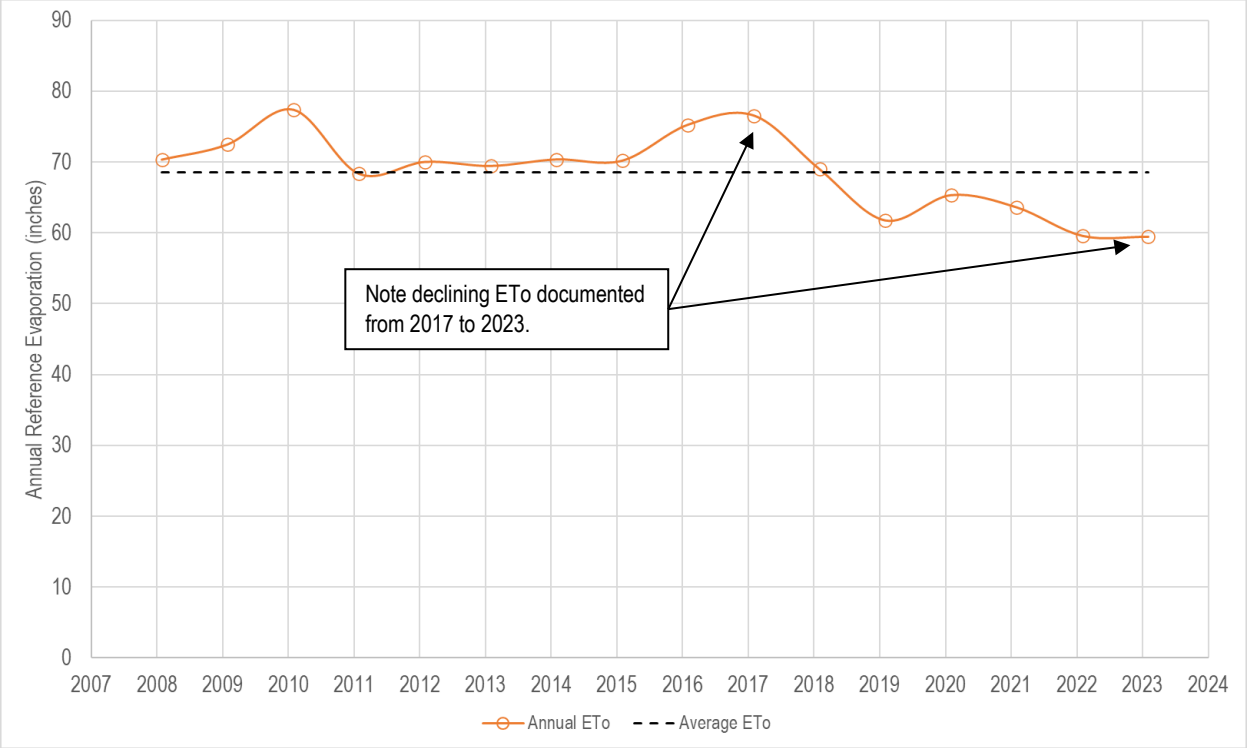


Figure 6. Calendar Year Reference Evapotranspiration (ETo) Totals for Borrego Springs CIMIS Station No. 207 from 2008 to 2023 (inches)

Closer inspection of the monthly CIMIS Station No. 207 and comparison to the available monthly OpenET Reference Evapotranspiration indicates that the CIMIS Station appears to underpredict maximum ETo and that for a period around September 2022 CIMIS Station 207 was out of service potentially for maintenance (Figure 7). We recommend that additional quality assurance/quality control be performed

to evaluate the CIMIS Station 207 calculation of ETo using the hourly data[3]. In particular, the station specific cloud factors values used in the CIMIS Penman equation for Station 207 should be evaluated to determine if they are appropriate for the site-specific conditions in Borrego Springs.

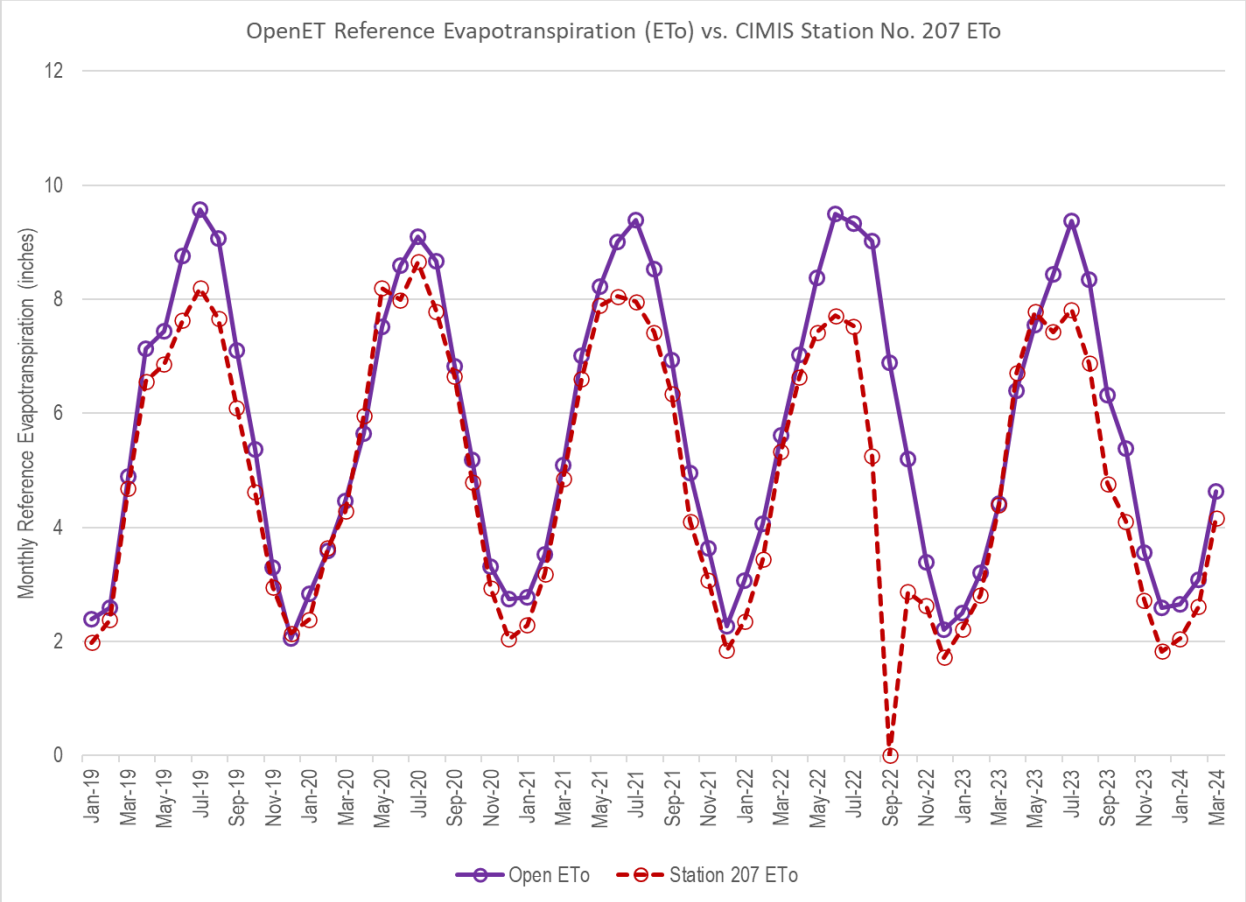


Figure 7. Monthly OpenET Reference Evapotranspiration (ETo) and CIMIS Station 207 (inches)

Conclusions and Recommendations

As per the March 29, 2024 TAC meeting consensus, OpenET should be used to validate the ability of the FMP to estimate crop demands; however it is premature to use the data directly at this time in the 2025 Redetermination of the Sustainable Yield. INTERA concurs that OpenET should be evaluated to provide a validation check on the ability of the FMP to estimate ET. As previously described, a preliminary analysis

[3] The CIMIS version of the Pruitt/Doorenbos modified Penman equation uses a wind function developed at the University of California, Davis and unique cloud factor values for each station location to calculate "CIMIS ETo." Because of those modifications, the equation is referred to as the "CIMIS Penman" equation (CIMIS 1998).

of OpenET data provided a good estimate of metered pumping and may be used to help verify metered data or as proxy when metered data is not available.

INTERA offers the following recommendations on how to use OpenET as a validation check to estimate historical water use in the Borrego Springs Subbasin:

- INTERA was able to use OpenET data to achieve a good estimate of metered pumping using the agricultural polygons developed for the BPA. The spatial resolution of the FMP is approximately 600m x 600m (89 acres) and the spatial resolution of the OpenET is 30m x 30m (0.22 acres). While we understand that the scale of the grid size for each "Water Balance Subregion" in the FMP is driving the scale of the analysis, this spatial scaling will inherently introduce error. As such, to compare the OpenET more accurately with metered pumping, we recommend that in addition to the "Water Balance Subregion" analysis that separate analysis be performed at the field scale (i.e., BPA polygons). This will inform whether future updates to BVHM require finer discretization of land use.
- Sample time series shown during the TAC meeting in the OpenET online viewer and reported for CIMIS Station No. 207 (Figure 6 and 7) indicate a decrease of ETo. Evaluate the ETo time series used by OpenET by comparing with other stations and forcings. For California, OpenET uses Spatial CIMIS meteorological datasets generated by the DWR to compute American Society of Civil Engineers grass reference ET[4]. Review of the Borrego Springs CIMIS station timeseries indicates a possible recent anomaly at CIMIS station No. 207 with the last 5 years of the 16-year record below the long-term average ETo (Figures 6 and 7). Reference ET values produced by CIMIS and OpenET could be scaled to a revised ETo, if necessary.
- Evaluate weighted area crop coefficient (Kc) approach as opposed to calculating a single Kc value per model cell. The fraction of ETo from OpenET could be used to evaluate the methodology to estimate Kc.
- Check which OpenET models are being excluded from the model ensemble and contrast with models suitable for the conditions of the area based on literature review, the approach recommended in Attachment B for arid environments and feedback from the TAC meeting.

We understand that the current scope of work and schedule to Redetermine the Sustainable Yield by 2025 require use of the FMP and associated scale of analysis. To better understand the potential error introduced by scale, especially for land use, we recommend that in addition to performing the analysis at Water Balance Subregion-level in the FMP that the same analysis should be performed at the BPA polygon scale to evaluate which approach provides a better fit. While this analysis is not necessary to complete the current scope of work, it will inform the potential error introduced by the FMP limitations described in the presentation (i.e., coarse grid cell size does not always match the farmed area and account for in farm variations in crop density and consumptive use).

INTERA looks forward to working with the TAC and Borrego Springs Watermaster staff to further improve historical water estimates within the Borrego Springs Subbasin.

[4] https://etdata.org/methodologies/

References

CIMIS (California Irrigation Management Information System), 1998. Technical Elements of CIMIS. California Department of Water Resources. December 1998. https://cimis.water.ca.gov/Content/PDF/Technical%20Elements%20of%20CIMIS%20(1998).pdf

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Attachment A
CIMIS Data for Station No. 207

Monthly and Yearly Reference Evapotranspiration (ETo) Totals for Borrego Springs CIMIS Station No. 207 from 2008 to 2024

Year[a]	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Total (Inches)	Annual Total (Feet)
2008	0.46	3.43	6.16	7.6	9.3	10.02	9.07	6.76	6.77	5.13	3.36	2.27	70.33	5.86
2009	2.68	5.16	5.69	7.07	8.76	8.28	8.87	8.71	7.21	5	3.08	1.96	72.47	6.04
2010	2.41	3.21	8.81	9.84	8.58	9.22	9.51	9.11	7.44	4.36	2.88	1.98	77.35	6.45
2011	2.68	3.35	5.55	7.12	8.77	8.23	7.98	8.47	6.43	4.92	2.72	2.11	68.33	5.69
2012	2.85	3.56	5.33	6.77	7.66	9.47	8.77	8.04	7.09	5.04	3.2	2.23	70.01	5.83
2013	2.54	3.57	5.75	7.56	8.64	9.02	8.01	7.57	6.46	5.05	3	2.27	69.44	5.79
2014	2.67	3.66	5.94	7.23	8.66	9.13	8.83	8	6.97	4.55	3.14	1.58	70.36	5.86
2015	2.17	3.54	5.82	7.22	7.96	8.51	8.76	8.74	6.54	5.15	3.37	2.4	70.18	5.85
2016	2.42	4.15	6.35	7.44	8.97	9.79	10.17	8.91	6.51	5.17	3.37	1.99	75.24	6.27
2017	2.33	3.28	6.27	8.18	9.14	10.2	9.7	9.43	6.99	5.38	3.16	2.47	76.53	6.38
2018	2.77	3.44	5.39	7.66	8.64	9.12	8.64	8.01	6.46	4.23	2.95	1.68	68.99	5.75
2019	1.98	2.38	4.69	6.56	6.86	7.63	8.2	7.66	6.1	4.62	2.96	2.14	61.78	5.15
2020	2.39	3.64	4.28	5.96	8.2	7.99	8.66	7.79	6.65	4.8	2.94	2.04	65.34	5.45
2021	2.29	3.19	4.85	6.6	7.89	8.05	7.96	7.42	6.34	4.11	3.07	1.84	63.61	5.30
2022	2.36	3.44	5.33	6.64	7.42	7.71	7.53	5.25	6.71	2.87	2.63	1.72	59.61	4.97
2023	2.22	2.82	4.39	6.71	7.78	7.43	7.82	6.88	4.77	4.11	2.73	1.83	59.49	4.96
2024	2.05	2.61	4.17	6.3										
15-Year Average	**2.45**	**3.49**	**5.63**	**7.24**	**8.26**	**8.65**	**8.63**	**8.00**	**6.58**	**4.62**	**3.01**	**2.02**	**68.58**	**5.72**

Notes: Provisional Data. Additional quality assurance/quality control of CIMIS data to be completed.

a. 2008 does not have a complete record for January and is not included in the 15-Year Average.

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Attachment B
Calculating the OpenET Ensemble Value

Differences in model physics, assumptions, and input data result in a range of ET estimates from the ensemble of models included in OpenET. The use of multi-model ensembles is a common practice within the climate science, hydrology, and decision-making communities. For many applications, it has been shown previously that when estimates from an ensemble of models are combined, they yield estimates that are, on average, equally or more accurate than any individual model (Thompson, 1977; Branzei et al., 2001; Kirtman et al., 2014; Arsenault et al., 2015). In addition to improved accuracy, the use of a single estimate calculated from an ensemble of ET models reduces confusion about which ET model to use, provides a path toward acceptance and consistency, and is useful for identifying both model outliers and potential errors in ground-based ET datasets. In cases where ET estimates vary substantially, legitimate questions around model accuracy and which model is "the best" can present significant barriers to the operational use and adoption of satellite-based ET data. A key objective of OpenET is to provide a single ET estimate for each location and time step, calculated from an ensemble of six models, while making individual model results available to provide transparency and support assessment and increased understanding of uncertainties. The use of a single ET value calculated from the ensemble of models can reduce barriers to use and adoption of remotely-sensed ET for a wide range of water management applications.

Many multi-model ensemble averaging approaches exist, ranging from the simple arithmetic average, weighted average, to stochastic Bayesian model averaging. Each approach has strengths and weaknesses related to simplicity, speed, accuracy, and ease of operational implementation. The optimal approach ideally addresses most, if not all, of these factors. Limitations due to small sample size, outliers, and overfitting also need to be considered.

For OpenET, a simple yet robust approach was chosen where the single ensemble ET estimate is computed at monthly time steps as the simple arithmetic average after outlier ET estimates are removed. Outlier ET estimates are detected and removed using the Median Absolute Deviation (MAD) method initially developed by Carl Friedrich Gauss, and more recently rediscovered and popularized by Hampel (1974) and Leys et al. (2013). The MAD is a measure of scale, or spread of the data, based on the median of the absolute deviations from the median of the distribution. Huber (1981) describes the method as "the single most useful ancillary estimate of scale" since it overcomes many limitations of more common standard deviation and interquartile approaches for identifying outliers. The MAD parameters used for identifying outliers were a multiplier of 2, which is a commonly used cutoff for screening outliers, and an additional scaling factor of 1.4826 applied to the MAD, which is a theoretically derived value related to the assumption of normality in the sample data (Rousseeuw and Croux, 1993). A refinement was added to the MAD outlier detection approach to account for the small size of the OpenET ensemble of models. Rather than exclude all models that may be flagged as outliers, a minimum of four models was always retained to calculate the single ensemble value. This approach still consistently eliminates outliers in most settings, while also taking advantage of an ensemble of models to improve the accuracy of ET estimates, especially for desert areas during the warm season where many, but not all models commonly estimate ET at or near zero.

From close inspection of the ensemble average, median, and individual model ET estimates, both spatially and temporally, it is clear that all models can produce erroneous ET estimates, and that these

errors include both random and systematic errors. These erroneous ET estimates are often easily identified as outliers relative to the ensemble average and median. In some instances, however, the 'outlier' ET estimates may be the more correct estimate, though comparison against data collected from 148 eddy covariance stations shows that this is a rare occurrence. In other cases, the range of model results is large enough that the MAD approach fails to detect and remove outliers. Results from application of the MAD approach, using a threshold of plus-or-minus two times the MAD to eliminate outliers, indicate that it is rare that more than one model is dropped within cropland areas. Where one or more models are dropped within cropland areas, these models are usually estimating significantly lower ET than the majority. These limited instances mostly occur in arid to semi-arid regions where advection plays an important role in the land surface energy balance. In mountainous and complex terrain, one or more models are commonly dropped due to generation of ET estimates at extreme ends of the ensemble range, likely due to differences in model physics and assumptions for these regions. In rainfed arid and semi-arid grasslands and desert regions with low vegetation cover, it is common that two models are dropped due to complexities in estimating and accounting for precipitation and soil water balances, and accurately representing the land surface energy balance when ET is exceptionally low, or near zero.

There are some circumstances in which the MAD approach fails to detect outliers. When the range of modeled ET is large relative to the ensemble median, the utility of the MAD outlier detection approach (and others) is limited, and models with systematic biases may not be flagged as outliers and removed prior to calculation of the ensemble average. As a result, it is possible in some regions for models with local or regional systematic biases to be included in the calculation of the OpenET ensemble value.

Based on the OpenET team's experience, and results of the intercomparison and accuracy assessment to date, the ensemble average value appears to provide the most reliable and stable estimate of ET for expansive regions with well-watered crops, and for many natural land cover types. Examples include most of California's Central Valley and Delta, and most agricultural regions in the Midwest. However, from the limited number of cropland in-situ flux stations located in arid and semi-arid environments, it is evident that some models have a systematic low bias for smaller agricultural areas in arid regions, and the MAD outlier filtering approach does not filter outliers as desired due to the large range in model estimates. This can result in a low bias for the ensemble ET value. These areas are often indicated by a wide range of ET estimates across the ensemble of ET models for the majority of fields within a region. Over the coming months, the OpenET team will continue to conduct additional research in these more challenging settings and develop a Best Practices Manual that will provide more region and application specific guidance. Note that the ensemble value is likely to evolve in the coming year as the team conducts additional research and designs more region-specific approaches for calculation of the ensemble ET value. We strongly encourage users to rely upon their knowledge of local conditions in applying the ensemble ET value, or selecting a single model or subset of models for use in their application. When the Best Practices Manual is complete, it will be made prominently available on the OpenET website.

Lauren Salberg

From: Andy Malone
Sent: Friday, May 3, 2024 9:27 AM
To: Lauren Salberg; Eric W.H. Chiang
Subject: FW: Open ET validation

Follow Up Flag: Follow up
Flag Status: Flagged

FYI

From: Tom Watson <tom.watson@aquilogic.com>
Sent: Friday, May 3, 2024 9:23 AM
To: Andy Malone <amalone@westyost.com>; LUEG, GroundWater, PDS <PDS.LUEGGroundWater@sdcounty.ca.gov>; Trey Driscoll <tdriscoll@intera.com>; John Peterson <petersonenv@hotmail.com>; Robert Wagner <rcwagner@wbecorp.com>; Leonardo Urrego-Vallowe <lurrego@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>
Cc: Shannon Smith <shannon@ramshill.com>; Cathy Milkey <cmilkey@considinecos.com>
Subject: Open ET validation

Andy,

Per your request and based on our review of the various Open ET methods, and our discussion at the TAC earlier this week, we are recommending that the Watermaster utilize geeSEBA and EMETRIC Open ET ranges to help validate the modeled FMP estimate of ET for the 2025 update report. The rationale for this recommendation is the subject methods are, in our opinion, the only ET methods that are best suited for the physical and hydrogeologic conditions found in Borrego.

Best,

Tom

Thomas Watson, P.G.

Principal Geologist

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Tel.: +1.714.770.8040 ext. 133

Lauren Salberg

From: John Peterson <petersonenv@hotmail.com>
Sent: Saturday, May 4, 2024 11:07 AM
To: Andy Malone; LUEG, GroundWater, PDS; Trey Driscoll; Tom Watson; Robert Wagner; Leonardo Urrego; Russ Detwiler
Cc: Samantha Adams; Lauren Salberg; Eric W.H. Chiang
Subject: Re: Notice of Ad-Hoc Technical Advisory Committee Meeting on May 1, 2024 at 9:00 am

Thanks much Andy. I do not have direct knowledge of working with OpenET and as a result I do not have any recommendation in regard to the incorporation of the program into the calibration process.

JP

John Peterson
Peterson Environmental Services
California Professional Geologist #3713 Certified Hydrogeologist #90
P.O. Box 512 Borrego Springs Ca. 92004
cell 858-220-0877

From: Andy Malone <amalone@westyost.com>
Sent: Wednesday, May 1, 2024 2:22 PM
To: LUEG, GroundWater, PDS <PDS.LUEGGroundWater@sdcounty.ca.gov>; Trey Driscoll <tdriscoll@intera.com>; John Peterson <petersonenv@hotmail.com>; Tom Watson <tom.watson@aquilogic.com>; Robert Wagner <rcwagner@wbecorp.com>; Leonardo Urrego <lurrego@wbecorp.com>; Russ Detwiler <detwiler@uci.edu>
Cc: Samantha Adams <sadams@westyost.com>; Lauren Salberg <lsalberg@westyost.com>; Eric W.H. Chiang <echiang@westyost.com>
Subject: RE: Notice of Ad-Hoc Technical Advisory Committee Meeting on May 1, 2024 at 9:00 am

Thank you for attending today's ad-hoc TAC meeting on the subject of using OpenET during ***Task 4 – BVHM Recalibration***. The meeting presentation and recording have been posted to the website here. The Board's intention is to maintain TAC consensus on the methods being employed to Redetermine the Sustainable Yield by 2025. The Board will receive a report from me on the outcome of the TAC meeting and this follow-up email correspondence.

As you may recall, following the March 29 ad-hoc TAC meeting, there was unanimous TAC agreement that:

- OpenET *should* be used to validate the ability of the FMP to estimate crop demands, and

Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM VI.C.a

To: Board of Directors

From: Samantha Adams, Executive Director

Date: May 6, 2024

Subject: Review of Pumping-to-Date in Water Year 2024

Background and Previously Related Actions by the Board

The Judgment requires that all non-de minimis pumpers install Watermaster-approved meters on all active groundwater wells to measure and record groundwater production. Measured production is reported to the Watermaster on a monthly basis for the purpose of performing water rights accounting and technical analyses of the Basin. A more thorough description of the Meter Read Program can be found in Resolution 23-02 of the Borrego Springs Watermaster Establishing a Revised Comprehensive Metering Program[1].

The end of March 2024 marked the end of the first half of Water Year (WY) 2024. Groundwater pumping that occurred during the first half of WY 2024 (October 1, 2023 through March 30, 2024) was analyzed to:

1. Determine if individual Parties and the Basin are on-track to meet, exceed, or pump less than the Annual Allocation for WY 2024. In WY 2024, the Annual Allocation is 80% of the baseline pumping allocation (BPA) [2].
2. Identify and notify any Parties that may be at risk of pumping in exceedance of their maximum allowable pumping for the Water Year (Annual Allocation plus any available Carryover), based on pumping trends from the first six months of the water year.
3. Compare groundwater pumping during the first six months of the current WY (WY 2024) to the same period from prior WYs (WY 2021, 2022, and 2023).

Discussion

Meter data is reported by Parties or collected By Watermaster for each active well on a monthly basis. The meter data were aggregated by Party and by sector type (agriculture, municipal, recreation, and

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[1] https://borregospringswatermaster.com/wp-content/uploads/2023/03/Resolution-23-02-Establishing-a-Revised-Metering-Program-Executed.pdf

[2] The Annual Allocation is the maximum amount of pumping allowed by a Party in a given WY, excluding Carryover or imported water if available. The Annual Allocation for each WY is determined by multiplying the Party's BPA by the Pumping Percentage in effect for that WY. Annual Allocation is rounded to the nearest whole af (Judgment, Section I.A.51). For example, if a Party's BPA right is 418 acre-feet, the WY 2024 Annual Allocation is 334 af (0.80 X 418 af = 334.40 af).

other Non-De Minimis) for the first six months of WY 2024. Four exhibits were prepared to characterize pumping, including:

- Exhibit 1. *WY 2024 Allowable Pumping and Year-to-Date Total by Party*. Exhibit 1 is a table that shows the following for each Party:
    - Sector
    - BPA
    - Annual Allocation for WY 2024 (80% of the BPA)
    - Carryover Balance at the start of WY 2024
    - Maximum allowable pumping for WY 2024, calculated as the sum of the Party's Annual Allocation and Carryover balance
    - Remaining allowable pumping for WY 2024, calculated as the difference between the maximum allowable pumping and the pumping-to-date in WY 2024
    - Percent of maximum allowable pumping to date, calculated as the fraction of the pumping-to-date relative to the maximum allowable pumping
    - Pumping for the same period (October through March) of prior WYs 2021, 2022, and 2023 (some Parties were not yet metered in WY 2021 and 2022 and, therefore, no pumping is shown for the comparison)
- Exhibit 2. *Pumping-to-Date (October 2023 – March 2024) Compared to WY 2024 Annual Allocation by Sector Type.* Exhibit 2 is a chart that compares total groundwater pumping-to-date in WY 2024 to the Annual Allocation for WY 2024 for the four sectors. Groundwater pumping by sector is also compared to pumping-to-date for the same period of the prior WY (WY 2023).
- Exhibit 3. *Pumping-to-Date (October 2023 – March 2024) Compared to Maximum Allowable Pumping in WY 2024 by Sector Type.* Exhibit 3 is a chart that compares total groundwater pumping-to-date in WY 2024 to the maximum allowable groundwater pumping for WY 2024 for the four sectors. The maximum allowable groundwater pumping for WY 2024 is the sum of each Party's Annual Allocation plus the Carryover Balance at the start of WY 2024. Groundwater pumping by sector is also compared to pumping-to-date for the same period of the prior WY (WY 2023).
- Exhibit 4. *Comparison of Cumulative Pumping by Month – Water Years 2021 to. 2024.* Exhibit 4 is a figure comparing cumulative groundwater pumping, by month, for WYs 2021 through WY 2024.

In reviewing the data presented in Exhibits 1 through 4, the following observations were made for the first six months of WY 2024:

- Compared to the same time period in WY 2023 (October 2022 to March 2023), groundwater pumping was 176 af less in WY 2024. Total groundwater pumping was 3,185 acre-feet (af). Over the same period in WY 2023, total groundwater pumping was 3,361 af.

- Three parties are potentially at risk to pump in exceedance of their maximum allowable pumping. In the first six months of WY 2024, these parties pumped 60%, 58%, and 85% of their maximum allowable allocation, respectively, as shown in Exhibit 1.
- The average percentage of the total maximum allowable pumped to-date across all Parties was 20%.
- The average percentage of the WY 2024 Annual Allocation pumped across all Parties was 27% (e.g. excluding allowable pumping of Carryover).
- Groundwater pumping to-date in WY 2024 was less than groundwater pumping for the same period in WY 2023 across all sectors except for the recreation sector, which increased pumping by 81 af in WY 2024 compared to WY 2023.
- The distribution of the WY 2024 pumped to-date by sector (as a percent of total mid-year pumping) is as follows (see Table 1 below):
    - Agriculture: 57%
    - Municipal: 21%
    - Other Non-De Minimis: 1%
    - Recreation: 21%
- Table 1 below summarizes total pumping-to-date for each sector and compares the distribution of pumping in WY 2024 to the same period (October to March) in WY 2023. As shown in Table 1, the agriculture sector pumped the majority of groundwater by mid-year in both WY 2023 and 2024.

Table 1. Total Mid-Year Pumping (October to March) by Sector
WY 2024 vs. WY 2023

Sector	WY 2024		WY 2023	
	Total Mid-Year Pumping (*acre-feet*)	**Total Mid-Year Pumping (*acre-feet*)**	**Total Mid-Year Pumping (*acre-feet*)**	**Percent of Total Mid-Year Pumping**
Agriculture	1,809	57%	2,002	60%
Municipal	652	21%	705	21%
Other Non-De Minimis	42	1%	53	2%
Recreational	682	21%	601	18%
Total	**3,185**		**3,361**	

Next Steps

Individual Parties will be receiving a table summarizing their pumping-to-date and the other metrics described above. The individual tables that will be sent to the Parties are structured similar to the table in Exhibit 1, however, the information will be Party-specific. The Parties will be notified in July of the Overproduction Penalty Assessment and reminded to plan to lease or transfer Carryover or Annual

Allocation to avoid any Penalty Assessments based on WY 2024 pumping. Parties will have through the end of WY 2024 (September 30, 2024) to make such transfers or leases.

Enclosures

Exhibit 1. *WY 2024 Allowable Pumping and Year-to-Date Total by Party*

Exhibit 2. *Pumping-to-date (October 2023 – March 2024) Compared to Maximum Allowable Allocation in WY 2024 by Sector Type*

Exhibit 3. *Pumping-to-date (October 2023 – March 2024) Compared to WY 2024 Annual Allocation by Sector Type*

Exhibit 4. *Comparison of Cumulative Pumping by Month – Water Years 2021 to 2024*

Exhibit 1. WY 2024 Allowable Pumping and Year-to-Date Total by Party
(all values in acre-feet)

Party	Sector	BPA	WY 2024 Allocation (80% of BPA)	Carryover Account Balance as of October 1, 2023[1]	Maximum Allowable Pumping in WY 2024[2]	Total Pumping to Date Oct 2023 to March 2024	Remaining Allowable Pumping in WY 2024[3]	Percent of Maximum Allowable Allocation Pumped	Pumping through March of Prior Water Years		
									WY 2023	WY 2022	WY 2021
Alan & Tracy Asche	Other Non-De Minimis	5.00	4.00	10.00	14.00	0.53	13.47	4%	0.78	0.36	NA
David And Juli Bauer	Agriculture	1,411.00	1,129.00	700.00	1,829.00	214.51	1,614.49	12%	251.71	396.12	387.55
Borrego Air Ranch Mutual Water & Improvement Co.	Other Non-De Minimis	12.00	10.00	9.28	19.28	2.49	16.79	13%	2.53	2.51	NA
Borrego Nazareth LLC[6]	Recreational	1,462.00	1,170.00	1,331.27	2,501.27	15.68	2,485.59	1%	16.49	26.61	20.67
Borrego Water District	Municipal	2,588.30	2,071.00	2,368.60	4,439.60	651.55	3,788.05	15%	704.97	719.31	658.36
Jensen/Sommerville/Conzelman	Agriculture	4,741.00	3,793.00	2,965.43	6,758.43	656.05	6,102.38	10%	586.78	1,441.38	1,499.81
Desert Farm LLC Crumrine Family Trust 04-19-06	Other Non-De Minimis	21.00	17.00	4.06	21.06	7.70	13.36	37%	5.43	4.56	NA
CWC Casa Del Zorro, LLC	Other Non-De Minimis	22.00	18.00	0.00	18.00	10.80	7.20	60%	11.51	10.69	1.03
De Anza Desert Country Club	Recreational	957.00	766.00	431.33	1,197.33	292.38	904.95	24%	296.91	444.28	359.32
John B. & Silvia H. Hogan	Other Non-De Minimis	8.00	6.00	6.12	12.12	2.33	9.79	19%	2.07	2.51	NA
JM Roadrunner, LLC	Agriculture	1,594.87	1,276.00	1,928.20	3,204.20	199.63	3,004.57	6%	279.05	259.92	343.09
Gamini D. Weerasekera	Agriculture	103.00	82.00	0.00	82.00	37.64	44.36	46%	38.00	52.67	62.09
Ronald Pecoff	Other Non-De Minimis	114.00	91.00	70.20	161.20	0.17	161.03	0%	15.80	NA	NA
The Roadrunner Club At Borrego, LP	Recreational	520.00	416.00	261.07	677.07	136.43	540.64	20%	115.68	174.17	165.50
Seley Ranches, L.P.	Agriculture	2,226.00	1,781.00	1,540.92	3,321.92	399.56	2,922.36	12%	317.42	582.79	480.92
Soli Organic Inc.	Agriculture	61.00	49.00	0.00	49.00	28.26	20.74	58%	25.17	32.04	35.20
The Springs RV And Golf Resort, LP	Recreational	261.70	209.00	207.26	416.26	132.83	283.43	32%	103.77	132.35	108.82
T2 Farms LLC	Agriculture	485.00	388.00	447.46	835.46	33.23	802.23	4%	130.38	97.56	135.91
Bagdasarian Farms, LLC	Agriculture	1,142.00	914.00	160.67	1,074.67	229.10	845.58	21%	216.83	306.63	224.39
Michael C. Ward, Sr. Revocable Trust 10-05-17	Agriculture	82.00	66.00	113.62	179.62	3.19	176.43	2%	2.45	3.09	NA
T2 Borrego LLC (Rams Hill)	Recreational	2,536.00	2,029.00	4,996.05	7,025.05	105.17	6,919.88	1%	68.18	151.71	234.16
Carpenter Family Trust 12-11-07	Other Non-De Minimis	6.00	5.00	1.04	6.04	5.10	0.94	85%	1.42	NA	NA
Gary D. & Darlis A. Bailey	Agriculture	7.00	6.00	3.36	9.36	2.02	7.34	22%	2.37	NA	NA
Borrego Unified School District[7]	Other Non-De Minimis	22.00	22.00	NA	22.00	8.78	13.22	40%	8.78	20.11	13.28
Anza Borrego Desert State Park	Other Non-De Minimis	20.00	20.00	NA	20.00	3.79	16.21	19%	4.70	7.74	4.69
BWD (Purchase From D & J Bauer)[8]	Agriculture	415.00	332.00	353.00	685.00	0.00	685.00	0%	40.70	36.77	71.88
BWD (Purchase From W. Bauer)[9]	Agriculture	670.00	536.00	1,009.43	1,545.43	0.00	1,545.43	0%	35.10	NA	NA
T2 Palms, LLC[10]	Agriculture	887.00	710.00	309.46	1,019.46	6.18	1,013.28	1%	75.64	73.91	82.94

Notes:

1) The Judgment establishes separate, non-BPA pumping rights for two entities that are not subject to pumping Rampdown, Carryover, or transfer provisions.

2) NA means that the Party's Water Rights are not subject to the pumping Rampdown and does not have Carryover rights.

3) Unless a Party executes a lease or transfer by September 30, 2024.

4) If remaining allowable pumping is a negative number, then a water transfer is needed to avoid Overproduction Penalty Assessments in future years.

5) NA means that the Party was not metered prior to entry of the Judgment.

6) Total mid-year pumping includes estimated pumping for one of three wells due to meter malfunction during the first half of the water year. The meter has been serviced and is being assessed for accuracy. The pumping at this well is estimated to be approximately 2.67 af. This estimate may be updated based on review of meter reads for the remainder of the water year compared to pumping from WY 2023.

7) Total mid-year pumping is an estimate due to meter malfunction during the first half of the water year. The BSUSD has meter has been serviced and is being assessed for accuracy. The pumping at this well is estimated to be 8.78 af, which is equal to the first half pumping in WY 2023. This estimate may be updated based on review of meter reads for the remainder of the water year compared to pumping in WY 2023.

8) In WY 2023, BWD purchased a portion of BPA from David and Juli Bauer. The total pumping through March of prior WYs 2021, 2022, and 2023 represent pumping from the portion of BPA formerly owned by David and Juli Bauer.

9) In WY 2023, BWD purchased the entirety of BPA from William Bauer. The total pumping through March of prior WYs 2021, 2022, and 2023 represent pumping from the portion of BPA formerly owned by William Bauer.

10) In WY 2023, T2 Palms purchased the entirety of BPA from John Doljanin. The total pumping through March of prior WYs 2021, 2022, and 2023 represent pumping from the portion of BPA formerly owned by John Doljanin.

Exhibit 2. Pumping-to-date (October 2023 - March 2024) Compared to WY 2024 Annual Allocation
By Sector Type

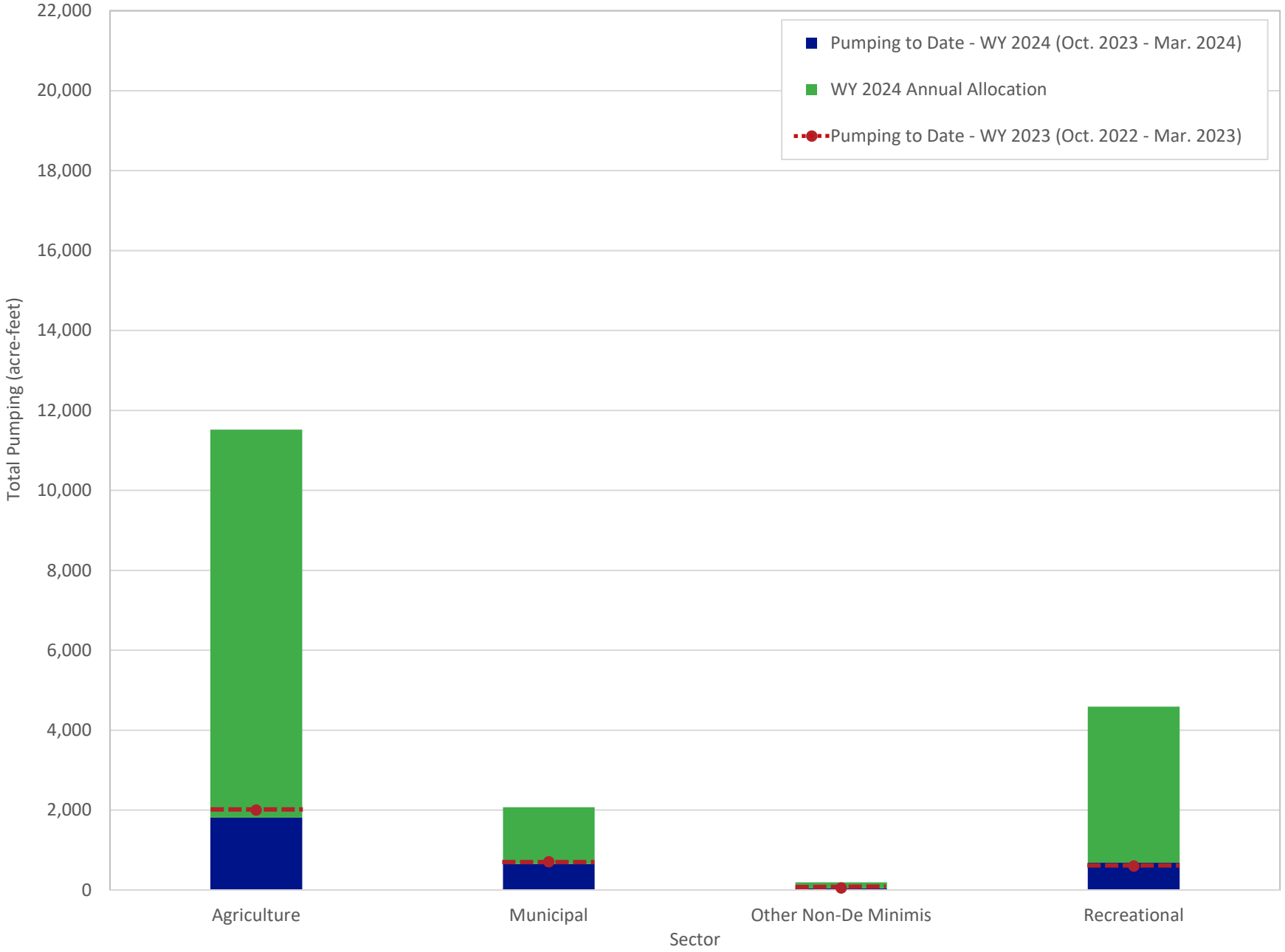


Exhibit 3. Pumping-to-date (October 2023 - March 2024) Compared to Maximum Allowable Pumping in WY 2024
By Sector Type

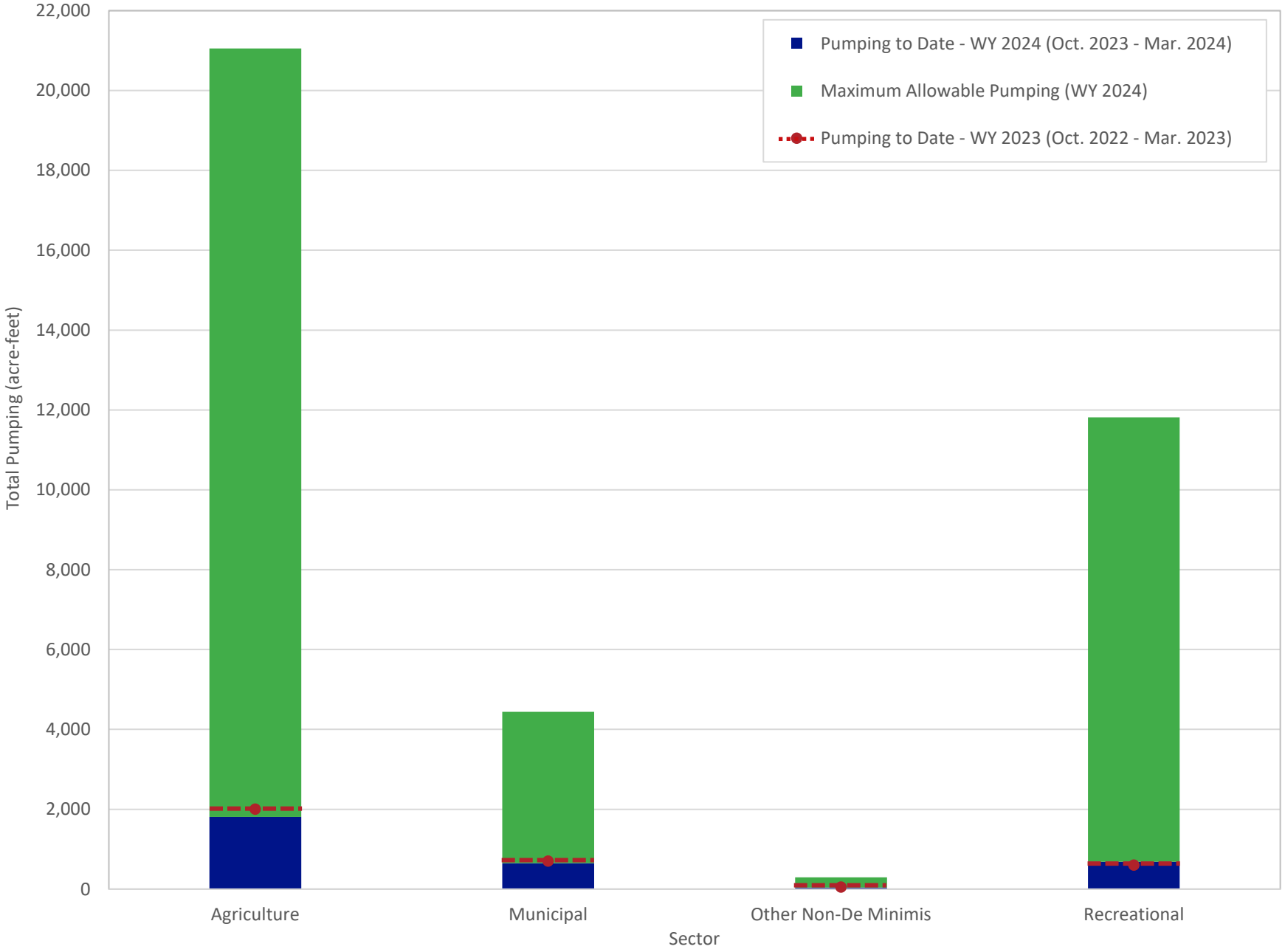
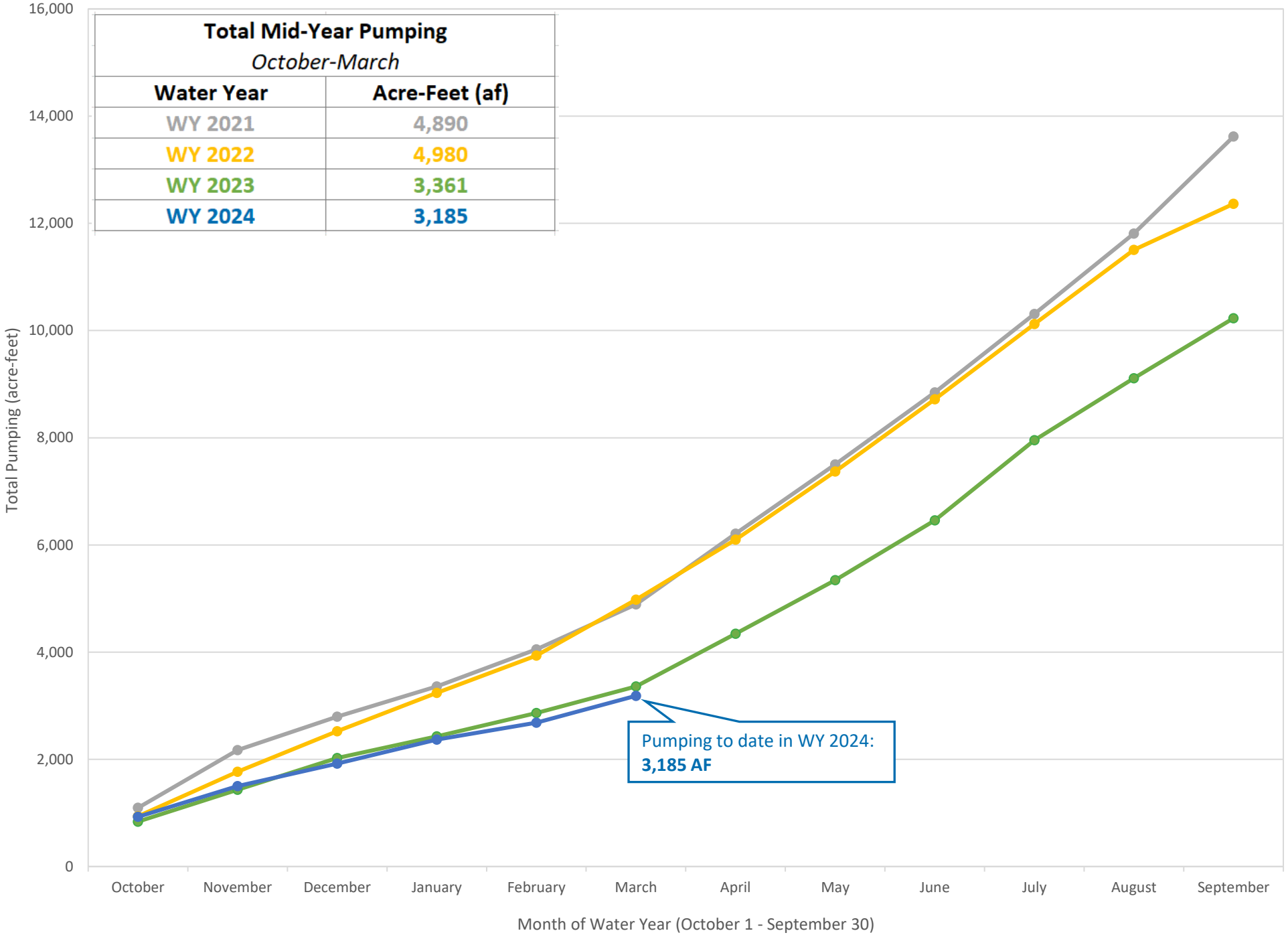


Exhibit 4. Comparison of Cumulative Pumping by Month - Water Years 2021 to 2024



Borrego Springs Watermaster
Board of Directors Meeting
May 9, 2024
AGENDA ITEM VII

To: Board of Directors

From: Samantha Adams, Executive Director

Date: May 6, 2024

Subject: Establishing Agenda for June 13, 2024 Regular Board Meeting

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Process

To set the June agenda, the Board will:

1. Review the initial June agenda topics planned by Staff, as listed below
2. Review the July and August tentative topics planned by Staff and previously requested items by Board members, as listed below (if any)
3. List out additional items that have arisen during the May 9, 2024 Board meeting (such as during public comment)
4. Call on Directors to request additional items for consideration of inclusion on the June 2024 or other future agenda
5. Consider motion(s) to approve the agenda (the agenda can be approved in a single motion or multiple motions to cover each item). The Agenda/items are approved by majority vote (3 of 5 directors)

Staff's Initial Agenda for June Regular Meeting

The June 13, 2024 Regular meeting (held virtually) will include all standard items of: public correspondence, consent calendar (meeting minutes, financial reports, staff invoices, etc.), verbal Staff and Chair reports, establishing the agenda for the subsequent meeting, Board member comments, listing of future meeting dates, and adjournment.

In addition to the standard items, the initial agenda planned by Staff for June 2024 includes the following business items for consideration and possible action:

1. Consideration of Approval of the WY 2025 Budget
2. Status Update on the Redetermination of the Sustainable Yield
3. Consideration of Approval of next TAC Meeting Agenda
4. Spring 2024 Semi-Annual Monitoring Report (*pending receipt of all results in-time*)
5. Status Update on the 5-year Assessment of the Groundwater Management Plan

Staff's Tentative Topics for July and August

July Agenda Topics

1. Consideration of Approval of next EWG Meeting Agenda
2. WY 2024 3rd Quarterly Budget Status Review
3. Status Update on the Redetermination of the Sustainable Yield

August Agenda Topics – none – propose to cancel meeting if no topics