

**SEASIDE GROUNDWATER BASIN WATERMASTER
REGULAR MEETING OF THE BOARD OF DIRECTORS**

**Wednesday, September 2, 2020 – 2:00pm
Draft Agenda**

**IN KEEPING WITH GOVERNOR NEWSOM’S EXECUTIVE ORDERS N-29-20 AND N-35-20,
THE WATERMASTER REGULAR BOARD MEETING WILL NOT BE HELD IN PERSON.
YOU MAY ATTEND AND PARTICIPATE IN THE MEETING BY JOINING FROM A PC, MAC,
IPAD, IPHONE OR ANDROID DEVICE (NOTE: ZOOM APP MAY NEED TO BE DOWNLOADED
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Watermaster Board

Coastal Subarea Landowner – Director Paul Bruno

City of Seaside – Mayor Ian Oglesby

California American Water – Director Christopher Cook

City of Sand City – Mayor Mary Ann Carbone

Monterey Peninsula Water Management District – Director George Riley

Laguna Seca Subarea Landowner – Director Wesley Leith

City of Monterey – Councilmember Dan Albert

City of Del Rey Oaks – Councilmember John Gaglioti

Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams, District 5

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMUNICATIONS

Oral communication is on each meeting agenda in order to provide members of the public an opportunity to address the Watermaster on matters within its jurisdiction. Matters not appearing on the agenda will not receive action at this meeting but may be referred to the Watermaster Administrator or may be set for a future meeting. Presentations will be limited to three minutes or as otherwise established by the Watermaster. In order that the speaker may be identified in the minutes of the meeting, it is helpful if speakers use the microphone and state their names.

IV. REVIEW OF AGENDA

A vote may be taken to add to the agenda an item that arose after the 72-hour posting deadline pursuant to the requirements of Government Code Section 54954.2(b). (A 2/3-majority vote is required).

V. MINUTES - Approve Minutes of Regular Board meeting held February 5, 2020 3

VI. CONSENT CALENDAR

A. Consider approving Summary of Payments made January through July 2020 totaling \$118,824.66.. 7

B. Consider approving Fiscal Year 2020 Financial Reports through July 31, 2020 15

- C. Consider approving 2020 Budget transfer of \$5,000 from Monitoring and Management Program (M&MP)-Operations Fund *Evaluate Replenishment Scenarios* line-item to *Program Administration* line-item to cover anticipated additional consulting assistance needed from Montgomery & Associates in the remainder of 2020 19
- D. Consider approving 2020 Budget transfer of \$10,000 from M&MP-Operations Fund *Contingency* line-item to *Technical Program Manager* line-item..... 21
- E. Direct staff to seek grant assistance to fund recharge of the Seaside Groundwater Basin 25

VII. ORAL PRESENTATION - None Scheduled

VIII. NEW BUSINESS

- A. Consider Approving Fiscal Year 2021 Annual Budgets:
 - 1. Proposed Fiscal Year 2021 (January–December) Administrative Budget 29
 - 2. Proposed Fiscal Year 2021 (January–December) Monitoring and Management Program; and M&MP Fund-Operations and M&MP Fund-Capital Budgets..... 35
 - 3. Proposed 2021 Replenishment Assessment Fund Budget – No Action Required..... 51
- B. Consider Approving the following Professional Service Contracts for Fiscal Year 2021:
 - 1. Two Contracts with Montgomery & Associates, Inc.: one for \$17,320 for providing ongoing and as-requested general hydrogeologic consulting services; and the second for \$26,310 to prepare the Seawater Intrusion Analysis Report (SIAR) for 2021 53
 - 2. Two Contracts with MPWMD: one for \$51,118 and the second one for \$3,915, both pertaining to monitoring and other 2021 M&MP work..... 63
 - 3. Two Contracts with Martin Feeney: one for \$4,000 to provide on-call/as-requested hydrogeologic consulting services; and the second for \$18,000.56 to perform 2021 Sentinel Wells induction logging..... 75
 - 4. One Contract with Todd Groundwater: \$4,000 to provide on-call/as-needed hydrogeologic consulting services in 2021 81
- C. Consider Approving Proposed Replenishment Assessment Unit Costs for Natural Safe Yield and Operating Yield Overproduction for Water Year October 1, 2020 through September 30, 2021 83
- D. Discussion of Projected Impacts to Seaside Basin Groundwater Levels Resulting from the Monterey Peninsula Water Supply Project or an Expansion of the Pure Water Monterey Project.... 89

IX. OLD BUSINESS - None

X. INFORMATIONAL REPORTS (No Action Required)

- A. Technical Advisory Committee (TAC) minutes from March 11, June 10, and July 8, 2020..... 141
- B. Budget and Finance Committee draft minutes from August 18, 2020 meeting 155
- C. Watermaster report of production of the Seaside Basin through 3rd quarter Water Year 2020..... 157
- D. Correspondence expressing support of the Monterey Peninsula Water Supply Project..... 159

XI. DIRECTOR'S REPORTS

XII. STAFF COMMENTS

XIII. NEXT REGULAR MEETING DATE – Wednesday, October 7, 2020 - 2:00 P.M.

XIV. ADJOURNMENT

This agenda was forwarded via e-mail to the City Clerks of Seaside, Monterey, Sand City and Del Rey Oaks; the Clerk of the Monterey Board of Supervisors, the Clerk to the Monterey Peninsula Water Management District; the Clerk at the Monterey County Water Resources Agency, Monterey One Water and the California American Water Company for posting on August 25, 2020 per the Ralph M. Brown Act, Government Code Section 54954.2(a).

**SEASIDE GROUNDWATER BASIN WATERMASTER (Watermaster)
REGULAR MEETING MINUTES**

*******DRAFT MINUTES – NOT YET APPROVED*******

Monterey One Water Board Room, 5 Harris Court, Building “D”
Ryan Ranch, Monterey, California
February 5, 2020

I. CALL TO ORDER – The meeting was called to order at 2:00 p.m.

II. ROLL CALL

City of Seaside – Mayor Ian Oglesby
Coastal Subarea Landowner – Director Paul Bruno – Chair
Laguna Seca Subarea Landowner – Director Wesley Leith
City of Del Rey Oaks – Council Member John Gaglioti
City of Sand City – Mayor Mary Ann Carbone
California American Water (CAW) – Director Christopher Cook
City of Monterey – Council Member Dan Albert
Monterey Peninsula Water Management District (MPWMD) – Director George Riley
Monterey County/Monterey County Water Resources Agency – Supervisor Mary Adams

Absent: None

Others Present

Watermaster Technical Program Manager – Robert Jaques
Watermaster Administrative Officer – Laura Paxton
Tim O’Halloran, Engineering Manager, CAW
Jonathan Lear, Water Resources Manager, MPWMD
Sheri Damon, City Attorney, City of Seaside
Scott Ottmar, Senior Engineer, City of Seaside
Joseph Lucido, Hidden Hills resident
Catherine Stedman, CAW

III. 2020 APPOINTMENTS

The Schedule of Watermaster Board Member Representatives and Alternate appointments for 2020 was presented as informational with no action required.

IV. ELECTION OF OFFICERS

Moved by Council Member Gaglioti, seconded by Supervisor Adams and unanimously carried to elect Director Bruno as 2020 Chair of the Watermaster Board of Directors.

Moved by Director Riley, seconded by Council Member Gaglioti and unanimously carried to elect Council Member Albert as 2020 Vice Chair of the Watermaster Board of Directors.

Moved by Council Member Gaglioti, seconded by Mayor Carbone and unanimously carried to elect Laura Paxton as Secretary to the Watermaster Board of Directors for 2020.

Moved by Council Member Bruno, seconded by Mayor Carbone and unanimously carried to elect Director Gaglioti as Treasurer to the Watermaster Board of Directors for 2020.

V. PUBLIC COMMUNICATIONS: None

VI. REVIEW OF AGENDA: There were no requested changes to the agenda.

VII. APPROVAL OF MINUTES

It was moved by Mayor Carbone, seconded by Council Member Albert and carried to approve the minutes of the Regular Board meeting held December 4, 2019. Supervisor Adams abstained having not attended the meeting.

VIII. CONSENT CALENDAR

- A.** Consider approving Summary of Payments for December 2019 totaling \$28,702.62
- B.** Consider approving Fiscal (Calendar) Year 2019 Financial Reports through December 31, 2019
- C.** Consider approving a 2019 budget transfer of \$9,137.50 from Monitoring and Management – Operations Fund contingency line item to technical program manager line item.

Moved by Director Riley, seconded by Mayor Carbone and unanimously carried to approve the consent calendar as presented.

IX. ORAL PRESENTATION: None

X. NEW BUSINESS:

- A.** Discuss/Consider Approval of City of Seaside (City) In-lieu Storage Agreement. Ms. Damon, City of Seaside City Attorney noted that the City is requesting minor changes that were determined after the TAC recommended approval of the agreement at its January 8, 2020 meeting: Correct the typographical error in Recitals Item 2 “III.L.3.j.xix;” add at the end of Item 3 “so long as such storage does not cause material injury to any other party;” and change PRODUCER to CITY under Terms and Conditions Item 18. Mayor Oglesby thanked the Watermaster Board for directing that the City’s application for in-lieu storage be presented to Judge O’Farrell to confirm its consistency with the terms of the Decision.

Moved by Director Riley, seconded by Council Member Gaglioti and unanimously carried, to approve the City of Seaside In-lieu Storage Agreement with the minor changes noted.

- B.** Discuss/Consider California American Water issues pertaining to potential moratorium of new/expanded service in the Laguna Seca Subarea. Director Cook added regarding the third bullet under the Discussion portion of the item staff report that the currently constructed CAW main system intertie to the Laguna Seca Subarea can be used to supply groundwater from the Coastal area to the Bishop/Ryan Ranch area. There is sufficient unproduced alternative production in the Laguna Seca Subarea to meet and offset the pumping needs for Hidden Hills without using the planned Tierra Grande (Carmel River source water) intertie until future water supplies are achieved. The moratorium can be avoided in both the Bishop/Ryan Ranch area and the Hidden Hills area by this plan. Mr. Joe Lucido, party to the PUC proceedings regarding the moratorium, provided documents of his PUC testimony and addressed the board. He requested CAW have a long-term plan for avoiding future moratoriums in the Laguna Seca Subarea.

Director Cook appreciated Mr. Lucido's time and input in the matter. He responded to Mr. Lucido's inquiry of whether the Torro intertie could be used to supply water to Hidden Hills, stating that CAW has used that intertie on an emergency basis, and that permanent use would require special permitting, rate structures and other complications. Director Cook explained that CAW's recommendation to the PUC that the moratorium be suspended does not end proceedings. Next steps are talks with involved parties to reach a settlement agreement that is then presented to the PUC. If the recommendation is not approved, or is required to go before the judge for a decision, there is a 180-day deadline from the application date that most likely would not be met, so the moratorium application would go forward with CAW filing rebuttal testimony for PUC consideration.

Moved by Council Member Gaglioti, seconded by Council Member Albert and unanimously carried, approving staff findings:

- (1) The Decision provides for Producers to over pump their allocations by levying a Replenishment Assessment on the amount of such over pumping;**
- (2) California American Water is allowed by the Decision to over pump its allocation basin-wide, subject to a Replenishment Assessment, with no differentiation as to production in the LSSA versus the other subareas;**
- (3) Watermaster does not identify any adverse impacts associated with California American Water's planned schedule for phasing out its pumping from the LSSA, and therefore does not object to it; and**
- (4) Watermaster recognizes that California American Water's continued pumping from the LSSA at current rates until the interties to California American Water's Main System are constructed is an interim condition that would not necessitate imposing a moratorium on new or expanded service in the LSSA.**

XI. OLD BUSINESS: None

XII. INFORMATIONAL REPORTS:

- A.** Technical Advisory Committee (TAC) draft minutes from January 8, 2020 meeting
- B.** Watermaster report of production of the Seaside Basin first quarter Water Year 2020 (October 1, 2019 – December 31, 2019)
- C.** Letter to Monterey One Water regarding Pure Water Monterey Expansion Draft Environmental Impact Report

XIII. DIRECTOR'S REPORTS: Director Cook met with agencies regarding the Pure Water Monterey Project and learned that the monitoring wells in place to ensure 6-month retention of indirect potable reuse water in the Seaside Basin will also extensively track water quality. He requested the TAC review quality reports and keep the board apprised. Director Bruno suggested any redundancy of data collection and sharing be determined and eliminated. Mr. Jaques noted that the Watermaster hydrogeological consultant compiles the data in the annual Seawater Intrusion Analysis Report.

XIV. STAFF COMMENTS: None

XV. NEXT MEETING DATE: The next meeting of the Watermaster board will be held Wednesday, March 4, 2020 at the Monterey One Water board room at 2:00 p.m.

XVI. There being no further business, Chair Bruno adjourned the meeting at 2:47 p.m.

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SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors
FROM: Laura Paxton, AO
DATE: September 2, 2020
SUBJECT: Summary of Payments made from January through July 2020

RECOMMENDATIONS:

Consider approving payment of bills submitted and authorized to be paid January - July 2020

Summary of Payments Made January 2020

Paxton Associates (Administrative Officer (AO))

December 26, 2019 through January 25, 2020 36 \$ 3,600.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Moratorium item for TAC--Prepare for/attend 1/8 TAC meeting. Treasurer appointment. Fulfill PRA request (Rodney Smith). Process fund assessment payments. Draft agenda for 2/5 board meeting. Collect/follow up/post production and level reporting. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

December 25, 2019 through January 30, 2020 23.5 3,525.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare TAC 1/8/20 meeting agenda packet, add Lucido comments to item, and attend TAC meeting; prepare minutes. Prepare board transmittals for 2/5 board meeting items. Prepare 3/11 TAC agenda packet materials. Prepare/submit comment letter re: PWM Expansion. Research grant programs for recharge water projects.

Monterey Peninsula Water Management District

July through December 2019 RFS 2019-01 217.0 23,143.00

Database entry/maint; water level collection; WQ sample/datalogger collection; CASGEM data reporting; direct costs

July through December 2019 RFS 2019-02: Water level collection 15.5 \$ 1,486.00

Total for January 2020 \$ 31,754.00

Summary of Payments Made February 2020**Paxton Associates (Administrative Officer (AO))**

January 26, 2020 through February 25, 2020 29 \$ 2,900.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Prepare minutes of 12/4 board meeting. Solicit boardmember appointments. Draft agenda for 2/5 board meeting. Prepare Lucido item for board meeting. Prepare and distribute agenda packet for 2/5 board meeting. Prepare for/attend 2/5 board meeting. Prepare RFP for legal services. Revise storage agreement w/City of Seaside, collect signatures. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

January 31, 2020 through February 29, 2020 23 3,450.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Review Lucido documents. Prepare for/attend 2/5 board meeting. Prepare for/attend SVBGSA related meetings. Prepare WY2019 SGMA annual report to DWR. Coordinate with CA State Parks Ord Village Pump Station demolition project & access to SBWM-4 well there. Prepare 3/11 TAC agenda packet materials.

Montgomery & Associates (Technical Consultant)

February 1, 2020 - February 29, 2020 9.5 1,902.50

RFS 2020-01 General Hydrogeologic Consulting

Format contour maps for estimation of change in storage; run scripts to make calculations; and prepare change of storage technical memorandum.

Martin B. Feeney, PG, CHg - Consulting Hydrogeologist

October through November 2019 RFS 2019-01 4.4 858.00

Hydrogeologic consulting; processing data - new induction tool required post processing.

October through November 2019 RFS 2019-02 2.0 390.00

Hydrogeologic consulting; Support to Watermaster regarding MCWD pump station and protection of Sentinel Well No 4

Total for February 2020 \$ 9,500.50

Summary of Payments Made March 2020

Paxton Associates (Administrative Officer (AO))

February 26, 2020 through March 25, 2020 30.5 \$ 3,050.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Teleconf CAW wheeling Glass/Magretto. DBO wheeling to CHOMP new buildings Ryan Ranch. Teleconf CAW rampdown Cook. Data collection services invoicing. Fulfill PRA request Thomas Regan. Prepare minutes of 2/5 board meeting. Update wells inventory and contacts. Collect & post production/level data. Review PG&E well construction application from Monterey County Health. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

March 1, 2020 through March 30, 2020 16 2,400.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare TAC agenda packet materials & prepare for/attend 3/11 TAC meeting; prepare minutes. Field meeting to coordinate with CA State Parks Ord Village Pump Station demolition project & access to SBWM-4 well. 2020 consultant contracts prep for website posting. Begin review of Seaside Basin groundwater level impact analysis in the PWM Expansion Project Supplemental EIR, Appendix D; send questions/comments to D. Williams Montgomery & Associates. Fill out and submit Monterey Subbasin Committee membership application with SVBGSA. Fill out and submit Groundwater/SGMA Survey/Questionnaire from UC Irvine per DWR request. Teleconference with G. King & D. Williams of Montgomery & Associates re: SVBGSA Advisory Committee issues re: preparation of the GSP for the Monterey Subbasin and impacts on the LSSA from Corral de Tierra pumping.

Montgomery & Associates (Technical Consultant)

March 1, 2020 - March 31, 2020 2.0 420.00

RFS 2020-01 General Hydrogeologic Consulting

Prepare for and participate on conference call with B. Jaques regarding how Seaside Watermaster will be represented in the Monterey Subbasin GSP process.

Martin B. Feeney, PG, CHg - Consulting Hydrogeologist

January through March 15, 2020 RFS 2020-01 4.4 9,585.66

Semi-Annual water level collection, induction logging. Repair and surface vaults (clean vaults, insert heli-coils to repair stripped threads, paint covers, new stainless steel bolts) .

January through March 15, 2020 RFS 2020-02 2.0 400.00

Hydrogeologic consulting; Support to Watermaster regarding demolition of MCWD pump station and protection of Sentinel Well No 4.

Total for March 2020	\$ 15,855.66
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Summary of Payments Made April 2020

Paxton Associates (Administrative Officer (AO))

March 26, 2020 through April 25, 2020 24.5 \$ 2,450.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Update wells inventory and contacts list. Collect & post production/level data. Review SGMA related GSP comments from Jaques. Process data collection contract payments & deposit at City of Seaside. Review PUC document re: CAW LSSA moratorium. Review Lucido correspondence. Cancel 5/6 board meeting. Review Jaques documents re: PWM expansion, set up email to board members. Update WM tasks schedule. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

March 31, 2020 through April 30, 2020 34.5 5,175.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare for/attend SVBGSA related meeting. Review LSSA modeling reports to start presentation of info to SVBGSA Monterey Subbasin GSP Committee on Corral de Tierra pumping impacts on the LSSA; review L. Rosenberg's report to the County analyzing Corral de Tierra hydrogeology; review M&A responses to Corral de Tierra comment/questions paper. Complete comment/question paper re: PWM Expansion Project modeling work and send to D. Williams and G. King; begin review of El Toro Groundwater Study by Geosyntec for the County; download and briefly review WM Well Database from J. Lear. Participate in online Zoom tutorial put on by SVBGSA for Advisory Committee and other meetings. Respond to J. Lucido email questions re: LSSA issues. Review PWM Expansion Project SEIR's responses to WM comment letter. Participate in MPWMD online Scoping Session for Cal Am buyout EIR. Telecon w/ Mary Ann Carbone prior to M1W meeting. Teleconference w/ D. Williams and G. King re: LSSA issues and Monterey Subbasin GSP issues; develop outline for PowerPoint presentation for G. King to make to Monterey Subbasin GSP Committee re: LSSA issues.

Montgomery & Associates (Technical Consultant)

April 1, 2020 - April 30, 2020 10.0 2,077.50

RFS 2020-01 General Hydrogeologic Consulting

Review Jaques comments on LSSA groundwater modeling memoranda; prepare comments on Jaques questions and observations regarding modeled groundwater levels in the LSSA; prepare for and participate in call with Jaques on LSSA modeling results and how to participate in the Monterey Subbasin GSP process.

Total for April 2020 \$ 9,702.50

Summary of Payments Made May 2020

Paxton Associates (Administrative Officer (AO))

April 26, 2020 through May 25, 2020 33 \$ 3,300.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. PWM expansion DEIR to board members/comments. Process data collection contract payments & deposit at City of Seaside. Collect & post production/level data. Review PowerPoint presentation for G. King to make to Monterey Subbasin GSP Committee re: LSSA issues. Purchase Zoom account for WM. Telecon w/Chris Cook re: DBO wheeling & production. Review PUC documents re: LSSA moratorium. Fulfill PRA request for 2/5 board meeting draft minutes Lucido and answer questions. Review PUC document re: CAW LSSA moratorium. Cancel 6/3 board meeting. Staff meetings w/Jaques. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

May 1, 2020 through May 31, 2020 28 4,200.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare for/attend SVBGSA related meetings. Prepare TAC agenda packet for 6/10 meeting. Prepare board meeting transmittals. Develop draft PowerPoint presentation for G. King to make to Monterey Subbasin GSP Committee re: LSSA issues. Develop protocols for Zoom teleconference TAC meetings.

Montgomery & Associates (Technical Consultant)

May 1, 2020 - May 31, 2020 12.0 2,225.00

RFS 2020-01 General Hydrogeologic Consulting

Review Jaques' draft presentation for Monterey Subbasin GSP Committee and comment; review past modeling for M1W to determine whether base and project scenario assumptions correspond to scenarios Watermaster would like run; inform Jaques regarding the need to run a new simulation, and outline assumptions to include in the simulation.

Total for May 2020 \$ 9,725.00

Summary of Payments Made June 2020**Paxton Associates (Administrative Officer (AO))**

May 26, 2020 through June 25, 2020 31 \$ 3,100.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Answer Lucido questions. Review TAC packet and attend 6/10 meeting; review minutes. Cancel 7/1 board meeting. Send third data collection invoice past due notice to Mission Memorial. Send second data collection agreement to Gomez City of Sand City. Review PUC filing by Lucido. Fulfill PRA request Grissom. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

June 1, 2020 through June 30, 2020 48.5 7,275.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare for/attend SVBGSA related meetings. Prepare TAC agenda packet for 6/10 & 7/8 meetings; prep for/attend 6/10 TAC meeting; prepare minutes. Review Montgomery & Associates proposal for PWM project impacts and modeling work. Review modeling reports to prepare TAC agenda item in response to TAC direction re: modeling of MPWSP and PWM Expansion Project impacts on groundwater levels. Develop 2021 M&MP Budgets. Debug Zoom teleconference issues.

Montgomery & Associates (Technical Consultant)

June 1, 2020 - June 30, 2020 20.5 3,935.00

RFS 2020-01 General Hydrogeologic Consulting

Prepare TAC presentation on groundwater modeling in LSSA; develop scope of work for PWM Expansion and Non-expansion comparison modeling; review PWM expansion modeling ASR pumping/injection setup for B. Jaques assumptions / scenario for ASR pumping inquiry; prepare for and present at June TAC meeting; respond to B. Jaques questions regarding Cal-Am storing 590 AF of water in the Seaside Basin in 2013 modeling and why there is limited recovery of ASR water in M1W simulations.

Monterey Peninsula Water Management District

January through March 2020 RFS 2020-01 76.0 9,080.00

Database entry/maint; water level collection; WQ sample/datalogger collection; CASGEM data reporting; direct costs

January through June 2020 RFS 2020-02: Water level collection 9 \$ 558.00

Total for June 2020 \$ 23,948.00

Summary of Payments Made July 2020

Paxton Associates (Administrative Officer (AO))

June 26, 2020 through July 25, 2020 36 \$ 3,600.00

Responded to telephone inquiries, e-mail, and other correspondence as needed regarding the Seaside Basin. Review PUC documents re: LSSA moratorium. Review documents re: MPWMD water request, EIR MPWMD takeover of CAW, SWRCB increase in powers. Review TAC packet and attend 7/8 meeting; review minutes. Cancel 8/5 board meeting. Post production & level data. Prepare 9/2 item transmittals; Review Jaques' modeling transmittal for 9/2 board meeting. Discussion w/CAW Cook re: water allocation for previously non-pumping standard producer. McIntosh CAW wheeling review against Decision. Routinely picked up mail from PO Box; reconciled accounts to the City of Seaside Watermaster accounts; prepared financial reports; processed invoices; reviewed and posted items to web site.

Robert Jaques (Technical Program Manager)

June 1, 2020 through June 30, 2020 44.5 6,675.00

Responded to emails, telephone inquiries, and other correspondence on a variety of Watermaster issues. Prepare for/attend SVBGSA related meetings. Prepare TAC agenda packet for 7/8 & 11/18 meetings; prep for/attend 7/8 TAC meeting; prepare minutes. Prepare 9/2 agenda item transmittals. Field meeting at the Ord Village Pump Station to discuss preservation of Sentinel well during / after demolition of the pump station and maintaining access for induction logging. Research water quality sampling requirements for Camp Huffman Sentinel well per Lear. Review State of California's interagency MOA on desalination plant projects. Prepare memo per request of Board Chairman regarding recharge of the Seaside basin. Comments to State Department of Parks and Recreation regarding Draft Right of Entry Permit. Compilation of excerpts from the Decision and Watermaster Rules and Regulations re: wheeling & water transfer issues. Develop 2021 consultant contracts.

Montgomery & Associates (Technical Consultant)

July 1, 2020 - July 31, 2020 5.5 1,100.00

RFS 2020-01 General Hydrogeologic Consulting

Revise Sept Monterey Subbasin meeting presentation; review Camp Huffman water quality data & email Jaques with recommended water quality sampling schedule.

Monterey Peninsula Water Management District

April through June 2020 RFS 2020-01 50.0 6,406.00

Database entry/maint; water level collection; WQ sample/datalogger collection; CASGEM data reporting; direct costs

April through June 2020 RFS 2020-02: Water level collection 9 \$ 558.00

Total for July 2020 \$ 18,339.00

Grand Total January - July 2020 \$ 118,824.66

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Seaside Groundwater Basin Watermaster
Budget vs. Actual Administrative Fund
Fiscal Year (January 1 - December 31, 2020)
Balance through July 31, 2020

	<u>2020 Adopted Revised Budget</u>	<u>Contract Amount</u>	<u>Year to Date Revenue / Expenses</u>
Available Balances & Assessments			
Dedicated Reserve	-		-
FY (Rollover)	37,000.00		37,097.87
Admin Assessments	63,000.00		63,000.00
Available	<u>100,000.00</u>		<u>100,097.87</u>
Expenses			
Contract Staff	50,000.00	50,000.00	22,000.00
Legal Advisor	25,000.00		
Filing fees and postage			-
Total Expenses	<u>75,000.00</u>	<u>50,000.00</u>	<u>22,000.00</u>
Total Available	25,000.00		
Dedicated Reserve	<u>25,000.00</u>		<u>25,000.00</u>
Net Available	<u><u>-</u></u>		<u><u>53,097.87</u></u>

Seaside Groundwater Basin Watermaster
Budget vs. Actual Monitoring & Management - Operations Fund
Fiscal Year (January 1 - December 31, 2020)
Balance through July 31, 2020

	2020 Adopted Budget	Contract Encumbrance	Year to Date Revenue/Expenses
Available Balances & Assessments			
Operations Fund Assessment	\$ 164,000.00	\$ -	\$ 163,966.99
Pass Through	-	3,915.00	1,024.50
Cost Share Reimbursement	-	-	-
FY 2019 Rollover	51,967.00	-	168,250.62
Total Available	\$ 215,967.00	\$ 3,915.00	\$ 333,242.11
Appropriations & Expenses			
GENERAL			
Technical Project Manager	\$ 50,000.00	\$ 50,000.00	\$ 32,700.00
Contingency @ 10% (not including TPM)	15,088.00	-	-
Total General	\$ 65,088.00	\$ 50,000.00	\$ 32,700.00
CONSULTANTS (Montgomery; Web Site Database)			
Program Administration	\$ 13,000.00	\$ 15,400.00	\$ 11,660.00
Production/Lvl/Qlty Monitoring	2,400.00		
Basin Management	30,000.00		-
Seawater Intrusion Analysis Report	24,130.00	24,130.00	-
Total Consultants	\$ 69,530.00	\$ 39,530.00	\$ 11,660.00
MPWMD			
Production/Lvl/Qlty Monitoring	\$ 52,906.00	52,906.00	15,486.00
Pass Through 2018	-	3,915.00	1,116.00
Basin Management	-		-
Seawater Intrusion	1,192.00	1,192.00	-
Direct Costs	-	-	-
Total MPWMD	\$ 54,098.00	\$ 58,013.00	\$ 16,602.00
CONTRACTOR (Martin Feeney)			
Hydrogeologic Consulting Services	\$ 4,000.00	4,000.00	-
Production/Lvl/Qlty Monitoring	19,251.00	19,250.56	9,985.66
	\$ 23,251.00	\$ 23,250.56	\$ 9,985.66
CONTRACTOR (Todd Groundwater)			
Hydrogeologic Consulting Services	\$ 4,000.00	\$ 4,000.00	-
Total Appropriations & Expenses	\$ 215,967.00	\$ 174,793.56	\$ 70,947.66
Total Available	-		262,294.45

[illegible]

		Seaside Groundwater Basin Watermaster								ITEM VI.B.	
		Replenishment Fund									9/2/20
Water Year 2019 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2019)											Page 2
Balance through July 31, 2020											
	</										

SEASIDE GROUNDWATER BASIN
WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: September 2, 2020

SUBJECT: Consider Approving Budget Transfer to Cover Anticipated Additional Costs for Montgomery & Associates to Provide On-Call/As-Requested Hydrogeologic Consulting Services.

RECOMMENDATIONS:

It is recommended that the Board approve a 2020 Budget transfer of \$5,000 from Monitoring and Management Program (M&MP)-Operations Fund from *Evaluate Replenishment Scenarios* line-item to *Program Administration* line-item to cover anticipated additional consulting assistance needed from Montgomery & Associates in the remainder of 2020.

BACKGROUND:

Montgomery & Associates provides on-call/as-requested hydrogeologic consulting services to the Watermaster under one of its contracts with the Watermaster. The approved dollar amount for those services is \$11,000.

DISCUSSION

There have been an increasing number of meetings and interaction by Watermaster staff with the Salinas Valley Groundwater Sustainability Agency, and expected upcoming meetings with the Marina Coast Water District Groundwater Sustainability Agency, all for the purpose of ensuring that groundwater issues affecting the Seaside Basin, and in particular the Laguna Seca Subarea's declining groundwater level issues, are properly addressed in the Groundwater Sustainability Plans being developed by those two agencies.

While staff can handle much of this work by itself, there are technical issues and informational presentations for which staff needs the assistance of Montgomery & Associates.

The original \$11,000 budgeted for such assistance is being depleted more rapidly than originally expected. Staff recommends that an additional \$5,000 be added to that budget to cover anticipated additional assistance during the remainder of 2020.

The Budget and Finance Committee at its August 18th meeting unanimously approved the budget transfer.

FISCAL IMPACT:

The M&MP 2020 O&M Budget contains a line-item titled "Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions" with a budget amount of \$20,000, none of which has thus far been expended. This line-item budget can be drawn on to cover the proposed \$5,000 transfer to fund the requested additional consulting services.

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SEASIDE GROUNDWATER BASIN WATERMASTER

ITEM VI.D.
9-2-20

TO: Board of Directors

FROM: Laura Paxton, Administrative Officer

DATE: September 2, 2020

SUBJECT: Transfer \$10,000 from the Monitoring and Management Program (M&MP) O&M Budget *Contingency* line-item to cover anticipated additional services needed from Technical Project Manager in the remainder of 2020.

RECOMMENDATIONS:

It is recommended that the Board confirm appointment of Watermaster Technical Program Manager to Sustainable Groundwater Management Act related committees and the Pure Water Monterey Water Quality and Operations Committee; and approve transferring up to \$10,000 from the Monitoring and Management Program (M&MP) O&M Budget's Contingency line-item to cover the anticipated additional expense for the remainder of 2020.

BACKGROUND:

There have been an increasing number of meetings and interaction by Watermaster staff relating to SGMA for the purpose of ensuring that groundwater issues affecting the Seaside Basin, and in particular the Laguna Seca Subarea's declining groundwater level issues, are properly addressed in the groundwater sustainability plans being developed by groundwater sustainability agencies surrounding the Seaside Basin.

DISCUSSION

Watermaster has member status on the following committees:

1. Salinas Valley Basin Groundwater Sustainability Agency Advisory Committee
2. Marina Coast Water District GSA Stakeholder Committee for SGMA Compliance & GSP Development
3. Pure Water Monterey Water Quality and Operations Committee
4. Monterey Sub Basin Groundwater Sustainability Plan Committee
5. Seawater Intrusion Work Group for the Salinas Valley Basin Ground Water Sustainability Agency

See Attachment 1 for details of the involvement with these committees.

The original \$50,000 budgeted for Mr. Jaques this fiscal (calendar) year is not anticipated to cover SGMA and water quality/operations meeting attendance. Staff recommends that an additional \$10,000 be added to Technical Program Manager budget line-item to cover his anticipated additional time during the remainder of 2020 if Mr. Jaques is confirmed as Watermaster representative to all of the meetings.

FISCAL IMPACT:

Transfer of \$10,000 from the M&MP 2020 O&M Budget *Contingency* line-item amount of \$15,088 to the *Technical Program Manager* line-item.

ATTACHMENTS: Attachment 1 – SGMA Update by Robert Jaques

ATTACHMENT 1

ITEM VI.D.
9/2/20

SEASIDE GROUNDWATER BASIN WATERMASTER

Robert S. Jaques, Technical Program Manager Report

DATE: September 2, 2020

SUBJECT: Sustainable Groundwater Management Update

Because of the Watermaster's strong interest in the impacts groundwater pumping in the Corral de Tierra area has on the Laguna Seca Subarea (LSSA) of the Seaside Basin, I have been a member of the Advisory Committee of the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) since that Committee was formed in mid-2017. The Advisory Committee reviews draft documents that will ultimately be presented to the SVBGSA's Board of Directors, and provides comments, suggested edits, and in general participates in the development of those documents. One such document was the SVBGSA's Groundwater Sustainability Plan (GSP) for the 180/400-foot Subbasin of the Salinas Valley Groundwater Basin, which was completed in January 2020.

The SVBGSA is about to begin development of the four other GSPs it has to prepare, one of which is for the Monterey Subbasin which abuts the Seaside Groundwater Basin.

I have applied to be a member of the Monterey Subbasin GSP Committee that the SVBGSA is forming. That Committee will be the first line of review and will provide comments/edits to the GSP for that subbasin, before it then goes to the Advisory Committee and ultimately to the SVBGSA's Board. By being on that Committee I will have a greater opportunity for input in the early stages of development of the GSP and should therefore be able to more effectively present the Watermaster's concerns about the impacts Corral de Tierra pumping has on the Seaside Basin.

From discussions with SVBGSA staff and consultants, it is my understanding that the lead agency for development of the GSP for the Monterey subbasin will be the Marina Coast Water District Groundwater Sustainability Agency. However, the SVBGSA will develop the GSP for the Corral de Tierra subarea of the Monterey subbasin. DWR's grant for development of the GSP is with Marina Coast Water District, and they will do the Ord and Marina subareas and the SVBGSA will do the Corral de Tierra subarea. There is a coordination agreement executed in 2017, and a framework agreement executed in 2018, between Marina Coast Water District and the SVBGSA that establishes this working relationship.

The Salinas Valley Integrated Hydrogeologic Model is what will be used to model the Corral de Tierra subarea. Marina Coast Water District plans to add data to the Salinas Valley Integrated Hydrogeologic Model to develop a model for the Monterey Subbasin which will have better accuracy and completeness. The Salinas Valley Integrated Hydrogeologic Model is expected to become available for use in this regard in late summer of 2020. It is hoped that the Watermaster's Seaside Basin model data will be helpful in development of the Monterey Subbasin model in order to have the groundwater levels between those two models match at the boundary of the Seaside Groundwater Basin.

I spoke with Derrik Williams and Georgina King of Montgomery & Associates about how best to present the Watermaster's concerns during the development of the Monterey Subbasin GSP. Since Mr. Williams is also consulting to the SVBGSA in the development of all of their GSPs, it would be more effective to have a different person make the presentation. Because of the complexity of the hydrogeologic issues involved, I believe the Watermaster's concerns would best be presented by Ms. King who is intimately familiar with the Seaside Basin due to her long-term involvement in the modeling work done for us by HydroMetrics and in the preparation of each year's Seawater Intrusion Analysis Report. She is also working on the development of GSPs for other clients of Montgomery &

Associates, and is therefore very familiar with the requirements of GSPs. She is agreeable to making the presentation.

To minimize costs, I have worked jointly with Ms. King in the preparation of a PowerPoint presentation to be made to the GSP Committee at the appropriate point in the development of the GSP. The presentation describes the findings of our modeling work and groundwater studies previously performed for Monterey County, and the impacts that work shows the Corral de Tierra pumping is having on the LSSA. The presentation also includes recommendations of actions to be included in the GSP that will help to mitigate the adverse impacts that Corral de Tierra pumping is having on groundwater levels in the LSSA.

I have also become a member of the SVBGSA's Seawater Intrusion Group, whose initial focus will be to try to understand the science of seawater intrusion before developing any seawater intrusion mitigation projects. I believe my involvement will be beneficial to the Watermaster as well as to the SVBGSA, due to the Watermaster's interest and long involvement in monitoring and other work pertaining to seawater intrusion into the Seaside Basin.

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**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: September 2, 2020

SUBJECT: Seeking Grant Assistance for Funding to Recharge the Seaside Groundwater Basin

RECOMMENDATIONS:

Have staff continue to monitor funding programs to see if any new programs come up that could be a source of funding to purchase water for recharge of the Basin.

BACKGROUND:

At the Board's December 4, 2019 meeting there was a brief discussion regarding whether the Watermaster could obtain State funding to help purchase water for injection into the Seaside Groundwater Basin in order to raise groundwater levels. This discussion came up during the presentation to the Board of the 2019 Seawater Intrusion Analysis Report. Director Gaglioti emphasized the Watermaster directive to mitigate Basin overdraft and then sustain protective water levels. Director Bruno noted that completion of the desalination plant would provide water to leave in the Basin. Director Riley felt a new source of Basin recharge water was the only solution to achieving protective groundwater levels. Mr. Jaques reported that he had received information from the Department of Water Resources (DWR) that adjudicated basins are not eligible for project grant funding, however MPWMD-submitted Basin projects might be eligible. Director Cook requested that staff and/or TAC explore further the opportunity for Basin project grant funding.

DISCUSSION

This topic was discussed by the TAC at its January and March, 2020 meetings. This is a summary of those discussions:

Based on the initial response from DWR on this question it did not appear that the Watermaster could be the recipient of such funding, because DWR stated that adjudicated basins could not receive such funds.

Subsequent to the Board's December 4 meeting I contacted Kelley List who is DWR's contact person for the Sustainable Groundwater Management Grant Program (SGWMGP) to seek her guidance on how funding for projects to help replenish the Seaside Basin could be obtained. She explained that the SGWMGP is intended only to assist Groundwater Sustainability Agencies (GSAs) in preparing and carrying out their Groundwater Sustainability Plans (GSPs) and that Proposition 68, which is the source of funds for these grants, specifically excludes adjudicated basins from receiving grants. A review of the State's Grant Proposal Solicitation Package confirmed what Ms. List had said, and made it clear that no SGWMGP funds can be used for projects within the adjudicated portions of groundwater basins.

Ms. List also pointed out that to be eligible to receive an SGWMGP grant the applicant must be a GSA, a member agency of a GSA, or a member agency of an approved Alternate to a GSP for the basin for which the application is submitted. Neither the Watermaster nor MPWMD meet this application requirement and thus could not apply for a grant under this program.

She said that there are other grant programs under Propositions 1 and 68 that might be opportunities for the Watermaster to receive financial assistance for a recharge project, since those programs do not exclude adjudicated basins. I believe she was referring to the 2019 Integrated Regional Water Management Grant Program that DWR is using to implement the Proposition 1 (The Water Quality, Supply, and Infrastructure Improvement Act of 2014) IRWM Implementation Grant Program. She said that seawater intrusion is considered an eligible condition to qualify as a cleanup project under those programs, and that in order to submit an application the project would have to go through the local Integrated Regional Water Management (IRWM) organization.

The recharge could presumably be done using the delivery pipeline and the injection wells that have already been constructed for the Pure Water Monterey Project. Based on that assumption, no construction of new facilities would be necessary to accomplish this recharge.

In my subsequent follow-up with the State they clarified that there is no State funding available to purchase water to recharge the Seaside Basin and raise groundwater levels to protective levels to prevent seawater intrusion. Only “projects” are available for funding, and the term “project” in the guidelines for those programs is defined as “Project – means the entire set of activities, including, but not limited to, planning, permitting, constructing, monitoring, and reporting that is included in a request for grant funding from an applicant.” Thus, the term “project” pertains only to physical projects that are to be constructed. The general types of projects eligible for funding, as described in the Grant application documents, are:

Planning and Monitoring Projects. Planning projects generally produce a report or information needed to design and build an eligible implementation project. Planning and monitoring projects include, but are not limited to, site assessment; site characterization; modeling; remedial investigation (RI); feasibility study (FS); monitoring and reporting plan; responsible party search; and preliminary engineering design. Planning projects may include regional modeling, monitoring, and assessment/prioritization efforts necessary to identify and design qualifying implementation projects.

Implementation Projects. Implementation projects can include, but are not limited to the following: design, construction, pilot studies, and initial startup of facilities. Implementation projects must meet the Government Code Section 16727(a) definition of “capital assets” and produce a positive, quantifiable environmental outcome. Implementation projects that prevent or clean up the contamination of groundwater that serves or has served as a source of drinking water include, but are not limited to: a. Wellhead treatment; b. Installation of extraction wells combined with treatment systems; c. Centralized groundwater treatment systems; d. Source area cleanup; e. Groundwater recharge to prevent or reduce contamination of municipal or domestic wells; 5 f. Groundwater injection to prevent seawater intrusion; 6,6 and g. Groundwater well destruction.

Drinking Water Treatment Projects. Projects that treat groundwater for direct potable use, with no cleanup or remediation of the aquifer, are considered “drinking water treatment projects” for purposes of these Guidelines. Drinking water treatment projects generally address regional contamination that is not conducive to aquifer cleanup due to the extent of the contamination, ongoing discharge, or naturally elevated levels of the contaminant (e.g., regional nitrate plumes,

hexavalent chromium). Drinking water treatment implementation projects that benefit DACs or EDAs are eligible for Groundwater Grant Program funding. Groundwater grant amounts may be awarded in addition to grants or principal forgiveness awarded through the DWSRF. The evaluation of a project's eligibility for these funds will be based on the evaluation criteria and funding decision process set forth in the most current version of the DWSRF IUP (see Section 5.1 for Groundwater Grant Program funding limits).

Septic-to-Sewer Projects. Projects that decommission septic systems and connect residents to public sewer infrastructure are considered "septic-to-sewer projects" for the purposes of these Guidelines. Septic-to-sewer projects generally address regional contamination that is not conducive to aquifer cleanup due to the extent of contamination or ongoing discharge, or both. Septic-to-sewer implementation projects that benefit DACs or EDAs and prevent or reduce contamination of municipal or domestic wells are eligible for Groundwater Grant Program funding. Groundwater grant amounts may be awarded in addition to grants or principal forgiveness awarded through the CWSRF. The evaluation of a project's eligibility for these funds will be based on the evaluation criteria and funding decision process set forth in the most current version of the CWSRF IUP (see Section 5.1 for Groundwater Grant Program funding limits).

Contaminants. Implementation projects must address contamination in groundwater that serves or has served as a source of drinking water. Only those projects addressing contaminants causing contamination will be funded by the Groundwater Grant Program. See Appendix A for the definitions of "contaminant" and "contamination."

So, in summary, there currently are no State grant or loan programs available to help fund the cost of purchasing water to recharge the Basin. The purchase of such recharge water will apparently have to be funded through assessments to the Watermaster members, or through some other means.

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SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors
FROM: Laura Paxton, Administrative Officer
DATE: September 2, 2020
SUBJECT: Proposed Fiscal Year (Calendar Year) 2021 Annual Administrative Fund Budget

PURPOSE:

To advise the Board of the estimated amount necessary to properly fund the Administrative oversight portion of the Seaside Groundwater Basin Watermaster for Fiscal Year 2021.

RECOMMENDATION:

Recommended Board approval of the attached proposed Administrative Fund Budget for FY 2021.

DISCUSSION:

The court decision states that next fiscal year's budgets must be approved by the Board of Directors no later than the end of October each year in order for the tentative budgets to be circulated to each Party to the adjudication "no earlier than November 1 and no later than November 15" of each fiscal year.

The Watermaster board directed staff at its June 5, 2019 meeting to issue a request for proposals (RFP) for Watermaster legal services (Attachment 2). Staff is developing a mailing list of proposal candidates and anticipates distribution of the RFP in September. No significant legal issues have arisen in 2020. An estimate of \$25,000 is included in the 2021 Administrative Fund budget. This would roughly cover five hours of service per month at the rate of \$450/hour (not including any retainer).

An estimated \$38,000 in unspent 2020 funds are expected to be carried over to 2021.

FISCAL IMPACT:

An Administrative Fund Assessment of \$62,000 is proposed:

$\$50,000(\text{AO}) + \$25,000(\text{Legal}) + \$25,000(\text{Reserve}) = \$100,000 - \$38,000(\text{Carryover}) = \$62,000$

The assessments for the parties required to contribute to the Administrative Fund are:

California American Water	83.0%	\$51,460
City of Seaside	14.4%	8,928
City of Sand City	2.6%	1,612

The proposed budget was unanimously approved by the Budget and Finance Committee at its August 18 meeting.

ATTACHMENTS

- 1) Proposed Administrative Fund Budget for FY (Calendar Year) 2021
- 2) Watermaster Request for Proposals to Provide Legal Services

**Seaside Groundwater Basin Watermaster
Administrative Fund
Proposed Budget August 18, 2020
Administrative Year 2021**

	<u>2020</u> <u>Adopted</u> <u>Budget</u>	<u>2020</u> <u>Estimated</u> <u>Total</u>	<u>2021</u> <u>Proposed</u> <u>Budget</u>
Assessment Income			
Reserve/Rollover*	\$ 37,000	\$ 50,000	\$ 38,000
Administrative Assessment	<u>63,000</u>	<u>63,000</u>	<u>62,000</u>
Totals	<u>100,000</u>	<u>113,000</u>	<u>100,000</u>
Expenditures			
Contractual Services - Administrative	50,000	40,000	50,000
Legal Services	<u>25,000</u>	<u>10,000</u>	<u>25,000</u>
Total Expenses	<u>75,000</u>	<u>50,000</u>	<u>75,000</u>
Total Available	25,000	63,000	25,000
Less Reserve	<u>25,000</u>	<u>25,000</u>	<u>25,000</u>
Net Available	<u>\$ -</u>	<u>\$ 38,000</u>	<u>\$ -</u>

** Note: The reserve/rollover balance of \$38,000 was determined upon completion by Watermaster staff of a detailed reconciliation from 2006 through July 2020 of the Administrative Fund financial records held at the Watermaster office against the Administrative Fund financial records held by the City of Seaside - the Watermaster fiscal agent.*

Seaside Groundwater Basin Watermaster

REQUEST FOR PROPOSALS FOR LEGAL SERVICES

September 2020

DIRECT INQUIRIES AND PROPOSALS TO:

Laura Paxton, Administrative Officer
Seaside Groundwater Basin Watermaster
PO Box 51502, Pacific Grove, CA 93950
(831) 641-0113
watermasterseaside@sbcglobal.net

I. GENERAL CONDITIONS:

- A. Purpose:** The Seaside Groundwater Basin Watermaster (hereinafter referred to as “WM”), through this Request for Proposals (“RFP”), solicits proposals from qualified law firms to provide legal services in the State of California for WM.
- B. Who May Respond?** Only attorneys who are currently licensed to practice law in California and maintain an office in California, or law firms including such attorneys, may respond to this RFP.
- C. Instructions for Proposal Submission:**
- Closing Submission Date:** Submit by 2:00 PM, Friday, September 25, 2020.
 - Conditions of Proposal:** All costs incurred in the preparation of a proposal responding to this RFP will be the sole responsibility of proposer and WM will not reimburse. Unless otherwise stated, all materials submitted by proposer in response to this RFP shall become the property of WM.
 - Instruction to Proposers:** The preferred method of submission is electronically to *watermasterseaside@sbcglobal.net*. However, if a firm chooses to submit hard copies, one original plus three copies of the proposal must be sealed and received at WM no later than the Due Date. Submit hard copy proposals in a sealed envelope clearly marked in the lower left-hand corner with the following information: Request for Proposal
[Time] [Date]
SEALED PROPOSAL for Legal Services

Submit to: Seaside Groundwater Basin Watermaster Board of Directors
ATTN: Administrative Officer
PO Box 51502, Pacific Grove, CA 93950

Confirmation of receipt of the proposal by WM by the date and time specified above is the sole responsibility of proposer.

4. **Right to Reject:** The issuance of this RFP does not constitute an award commitment on the part of the WM. The WM reserves the right to reject any and all proposals, with or without cause, to negotiate any additional terms and conditions which are in the WM's best interests, and to waive any informality, irregularity, technical defect or clerical error in any proposal as the interest of the WM may require.
5. **Notification of Award:** Contract award will be to one whose service, reputation, and cost is most compatible. WM will be the sole judge in making this determination. WM will inform all proposers in writing the name of the successful proposer upon conclusion of final negotiations.

B. Description of Entity: The decision, as amended, entered in the case, California American Water Company v. City of Seaside, et al. Monterey County Superior Court, filed February 9, 2007, Case No. M66343 (the "Decision"), created WM for the purposes of managing and protecting the Seaside Groundwater Basin for the benefit of the businesses, individuals, and public agencies that overlie or extract groundwater from the Basin. Governance is by a nine member Board of Directors that meets on an as-need basis. WM has an annual budget of approximately \$300,000. Staff consists of a contracted Technical Program Manager and a contracted Administrative Officer. The Administrative Officer's home office in Pacific Grove, CA serves as WM office with a mailing address of PO Box 51502, Pacific Grove, CA 93950. See www.seasidebasinwatermaster.org for more information.

II. SCOPE OF SERVICES: WM seeks the following legal services, as requested by WM Board of Directors and/or staff from time to time:

- A. Serve as court contact on Decision matters.
- B. Review and provide input on WM Annual Report to Court.
- C. Advise on responses to court orders
- D. Advise on requests for information from third parties.
- E. Review, draft, negotiate contracts and agreements.
- F. Advise on water related legal issues as they may pertain to the Decision.
- G. Advise on WM collaboration with other water related agencies including regulations as determined by the State of California.
- H. Review policies, processes, and WM rules and regulations.
- I. Attend Board of Directors and Committee meetings.
- J. Defend and litigate Decision directives.
- K. Other legal services as directed by WM Board of Directors.

Proposer understands and agrees to provide services as an "independent contractor" as per conditions of California Assembly Bill No.5, Chapter 296, Section 2750.3 (a) (1) recently added to the labor code. WM shall be exempt from payment of all proposer benefits including but not limited to unemployment compensation, FICA, retirement, life and/or medical insurance and worker's compensation insurance.

III. PROPOSAL CONTENTS: The proposal, shall, as a minimum, include the following:

- A. Legal Experience:** Describe legal experience, including the names, addresses, contact persons, and telephone numbers of at least three clients, preferably including clients similar to WM. Experience should include the following categories:
 - 1. Expertise with water law and policy.
 - 2. Expertise advising clients regarding adjudicated basins or governmental water related orders similar to WM.
 - 3. Expertise in the Brown Act and California Public Records Act.
 - 4. Describe the firm's general approach to accomplishing the work.
- B. Organization, Size, Structure, and Areas of Practice:** If the proposer is a firm, describe the organization, size, structure, areas of practice, and office location(s).
- C. Attorney Qualifications:** Describe the qualifications of attorneys to be assigned to Watermaster representation, including professional and educational background.
- D. Price:** Include information on hourly billing rates of each attorney or other legal staff expected to represent. Include the billing rate for expenses, if any, such as legal research, copies, delivery, and travel time. Include the monthly flat fee, if any, charged to advise WM on routine matters that could be handled over the telephone or otherwise without extensive research or other legal work. WM reserves the right to negotiate with proposer on the structure of the billing and/or retainer fee.
- E. Conflict of Interest:** Provide a statement of any potential conflicts the proposer and/or key staff may have regarding these services. The statement should not only include actual conflicts, but also any working relationships potentially perceived as a conflict. If no potential conflicts of interest are identified, so state in your proposal.
- F. Insurance:** Provide a certificate of professional liability insurance for a minimum \$1 Million per claim, to be maintained for at least a year after performance of services for the Watermaster is completed.

IV. PROPOSAL EVALUATION

- A. Evaluation Procedure and Criteria:** The Watermaster Budget and Finance Committee reviews and presents recommended proposals to the Board of Directors. The Board of Directors may request a meeting with qualified proposers prior to final selection. Proposal review is in accordance with the following criteria:
 - 1. Proposer's experience with similar clients and legal matters.
 - 2. Cost
 - 3. Interview, if conducted.

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TO: Board of Directors
FROM: Robert S. Jaques, Technical Program Manager
DATE: September 2, 2020
SUBJECT: Proposed Fiscal Year 2021 Monitoring and Management Program (M&MP); and 2021 M&MP - Operations and Capital Budgets

RECOMMENDATIONS:

Approve, or make changes to and then approve, the below:

1. FY 2021 M&MP
2. FY 2021 M&MP Operations Fund Budget
3. FY 2021 M&MP Capital Fund Budget (unfunded)

The projected 2022 Operations and Capital Fund Budgets are informational only with no action required.

BACKGROUND:

At its August 12, 2020 meeting the TAC reviewed, discussed, and approved the attached FY 2021 M&MP and its associated Operations and Capital Budgets. At its August 18, 2020 meeting the Budget and Finance Committee reviewed, discussed, and approved these Budgets.

DISCUSSION

2021 M&MP:

Most of the differences between the 2020 M&MP and the proposed 2021 M&MP are relatively minor, but included in Task I.3.a.3 is some new modeling work pertaining to injection of water to raise groundwater levels. This additional work was initially proposed last year, but was removed based on input from Todd Groundwater and Montgomery & Associates that pointed out that if all the water injected by the PWM and desalination plant projects is subsequently extracted, then there would be little if any net increase in groundwater levels. The TAC recommends reinstating wording in the M&MP this year which is focused on getting additional water above and beyond that which would be injected by the desalination plant or the PWM Expansion Project (depending on which of these moves forward to construction) and not extracted in order to raise groundwater levels to protective elevations Basinwide.

Also, two sections of the M&MP which have been completed and no longer need to be included were deleted. These were the sections pertaining to performing a hydrogeologic evaluation of the Sand City Public Works well and completing preparation of the Seawater Intrusion Response Plan.

As was the case with the 2020 M&MP, none of the Recommendations from the updated Basin Management Action Plan (BMAP) were included in the 2021 M&MP because the TAC felt that only three of those recommendations (water conservation, coordination with the Salinas Valley Basin GSA, and Seaside storm water recharge) were feasible for pursuit at this time. The other BMAP recommendations may become feasible or necessary in future years.

2021 M&MP Budgets:

Attached are the proposed M&MP Operations and Capital Budgets for 2021 and 2022. The Board has asked that two-year budgets be developed to alert the Board to potential changes in scope and/or cost in near future years. The projected 2022 Operations and Capital Fund Budgets are informational only, and no action on those budgets is required.

The following are comments and/or principle revisions from the 2020 M&MP Budget:

Technical Program Manager: Due to the voluminous amount of agenda materials from, and meetings being held by, the Salinas Valley Basin Groundwater Sustainability Agency's committees that I serve upon representing the Watermaster, and the increasing work associated with working toward obtaining replenishment water to protect the Seaside Basin against the threat of seawater intrusion, a 2020 budget transfer of \$10,000 from \$50,000 to \$60,000 to cover the increased workload was presented in an earlier item. I anticipate that this increased workload will continue in 2021, so this proposed line-item budget amount is increased to \$60,000 in 2021.

Tasks M.1.c, M.1.d, and M.1.e (On-call/as-needed Consulting Services): In 2020 we have needed a greater amount of assistance from Montgomery and Associates in evaluating a number of different issues that have come before the TAC, than has been the case in prior years. Consequently, I needed to authorize an additional \$5,000 to them this month, in order to ensure that funds are available for them to continue providing those services through the rest of 2020. In 2021 there will be some hourly rate increases for the Montgomery and Associates staff that will likely be the ones to provide on-call/as-needed hydrogeological consulting services under Tasks M.1.c, M.1.d, and M.1.e (Derrik Williams and Georgina King). I anticipate that there may be an ongoing need for this higher level of services in 2021, and have increased their on-call consulting services allowance by \$4,000 in this proposed 2021 line-item budget amount.

Task M.1.g (SGMA Documentation Preparation): Although the scope of work for this Task is unchanged from 2020, in 2021 there will be some hourly rate increases for the Montgomery and Associates staff that perform this work. Therefore, the amount proposed for 2021 is slightly increased from 2020 amount.

Task I.2.b.3 (Collect Quarterly Water Quality Samples): The proposed cost for the induction logging work that is performed by Mr. Feeney and his subcontractor is lower than it was in 2020 because less maintenance work on the Sentinel wells is anticipated in 2021. Thus far, the State Department of Parks and Recreation has been authorizing the induction logging of the Sentinel Wells which are located within the Fort Ord Dunes State Park. with minimal requirements. However, they have recently determined that they need to issue a formal Right-of-Entry Permit to perform this work. The 2021 proposed cost includes a \$50 cost to obtain this Permit. The Permit will likely need to be renewed at that cost each year.

Task I.2.b.7 (CASGEM Data Submittal for Watermaster's Voluntary Wells): MPWMD has been able to reduce the amount of time needed to format and submit this data to DWR in 2021 to comply with the SGMA requirements for adjudicated basins. Consequently, the number of hours provided for this Task in 2021 has been significantly reduced from the number of hours required in 2020.

Task I.3.a.3 (Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions): Included in Task I.3.a.3 is \$50,000 to perform some new modeling work pertaining to injection of water to raise groundwater levels. This additional work was initially proposed for 2020, but was removed based on input from Todd Groundwater and Montgomery & Associates that pointed out that if all the water injected by the PWM and desalination plant projects is subsequently extracted, there would be little if any net increase in groundwater levels. Reinstating that work is proposed for 2021 in order to work on getting additional water above and beyond that which would be injected by the desalination plant or the PWM Expansion Project (depending on which of these moves forward to construction) and not extracted, in order to raise groundwater levels to protective elevations Basinwide.

Task I.4.c (Annual Report- Seawater Intrusion Analysis): The scope of work for this Task in 2021 adds making a presentation of the SIAR to the Board of Directors as well as to the TAC. However, it is expected that those presentations will be made remotely (either via teleconference or Zoom) rather than in person, so there is only a minor cost change for this part of the work. Also, in 2021 there will be some hourly rate increases for the Montgomery and Associates staff that perform this work. Therefore, the amount proposed for 2021 is slightly increased from the 2020 amount.

Since no Capital Projects are anticipated in 2021, there is no change in the M&MP Capital Budget from 2020 to 2021, and the budget remains at zero dollars.

SUMMARY:

As indicated by the right-hand column titled “Comparative Costs from 2020 Budget” in the proposed 2021 M&MP Operations Budget in Attachment 2, the proposed 2021 Budget is \$68,102 higher (\$284,069-\$215,967) than the 2020 Budget.

Proposed 2021 Operations Fund assessment amounts are as follows. There is an estimated \$64,069 available in the Operations Fund balance at the end of 2020 that has been deducted from the 2021 proposed budget amount:

$$\$284,069 - \$64,069 = \$220,000$$

California American Water	91.0%	\$200,200
City of Seaside	7.0%	15,400
DBO Development No. 30	0.9%	1,980
Graniterock	0.9%	1,980
Cypress/Calabrese	0.2%	<u>440</u>
Total		\$220,000

Since no Capital Projects are anticipated in 2021, there is no change in the M&MP Capital Budget from 2020 to 2021, and the budget remains at zero dollars.

1. Proposed 2021 M&MP
2. M&MP: Operations Fund Budgets Proposed for 2021
3. M&MP: Operations Fund Budgets Projected for 2022
4. M&MP: Capital Fund Budgets Proposed for 2021 and Projected for 2022 (both unfunded)

ATTACHMENT 1

Seaside Groundwater Basin

2021 Monitoring and Management Program

The tasks outlined below are those that are anticipated to be performed during 2021. Some Tasks listed below are specific to 2021, while other Tasks are recurring such as data collection, database entry, and Program Administration Tasks. Within the context of this document the term “Consultant” refers either to a firm providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term “Contractor” refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.

M.1 Program Administration

M. 1. a
Project Budget and Controls
(\$0)

Consultants will provide monthly or bimonthly invoices to the Watermaster for work performed under their contracts with the Watermaster. Consultants will perform maintenance of their internal budgets and schedules, and management of their subconsultants. The Watermaster will perform management of its Consultants.

M. 1. b
Assist with Board and
TAC Agendas
(\$0)

Watermaster staff will prepare Board and TAC meeting agenda materials. No assistance from Consultants is expected to be necessary to accomplish this Task.

M. 1. c., M. 1. d, & M.1.e
Preparation for and Attendance at
Meetings, and Peer Review of
Documents and Reports
(\$23,000)

The Consultants’ work will require internal meetings and possibly meetings with outside governmental agencies and the public. For meetings with outside agencies, other Consultants, or any other parties which are necessary for the conduct of the work of their contracts, the Consultants will set up the meetings and prepare agendas and meeting minutes to facilitate the meetings. These may include planning and review meetings with Watermaster staff. The costs for these meetings will be included in their contracts, under the specific Tasks and/or subtasks to which the meetings relate. The only meeting costs that will be incurred under Tasks M.1.c, M.1.d, and M.1.e will be:

Those associated with attendance at TAC meetings (either in person or by teleconference connection), including providing periodic progress reports to the Watermaster for inclusion in the agenda packets for the TAC meetings, when requested by the Watermaster to do so. These progress reports will typically include project progress that has been made, problem identification and resolution, and planned upcoming work. From time-to-time when Watermaster staff asks Consultants to make special presentations to the Watermaster Board and/or the TAC, and which are not included in the Consultant’s contracts for other tasks.

Appropriate Consultant representatives will attend TAC meetings (either in person or by teleconference connection) when requested to do so by Watermaster Staff, but will not be asked to prepare agendas or meeting minutes. As necessary, Consultants may provide oral updates to their progress reports (prepared under Task M.1.d) at the TAC meetings.

When requested by the Watermaster staff, Consultants may be asked to assist the TAC and the Watermaster staff with peer reviews of documents and reports prepared by various other Watermaster Consultants and/or entities.

M. 1. f
QA/QC
(\$0)

A Consultant (MPWMD) will provide general QA/QC support over the Seaside Basin Monitoring and Management Program. These costs are included in the other tasks.

M.1.g
Prepare Documents for
SGMA Reporting
(\$2,320)

Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the Watermaster in conjunction with preparing its own Annual Reports. However, some information such as changes in basin storage is not currently generated and will require consultant assistance to do so. This task will be used to obtain this consultant assistance, as needed.

? Comprehensive Basin Production, Water Level and Water Quality Monitoring Program

I. 2. a. Database Management

I. 2. a. 1
Conduct Ongoing
Data Entry and Database
Maintenance/
Enhancement
(\$17,004)

The database will be maintained by a Consultant (MPWMD) performing this work for the Watermaster. MPWMD will enter new data into the consolidated database, including water production volumes, water quality and water level data, and such other data as may be appropriate. Other than an annual reporting of data to another Watermaster Consultant at the end of the Water Year, as mentioned in Task I.4.c below, no reporting of water level or water quality data during the Water Year is required. However, MPWMD will promptly notify the Watermaster of any missing data or data collection irregularities that were encountered.

At the end of the Water Year MPWMD will prepare an annual water production, water level, and water quality tabulation in Access format and will provide the tabulation to another Watermaster Consultant who will use that data in the preparation of the SIAR under Task No. I.4.c of the Monitoring and Management Program.

I. 2. a. 2
Verify Accuracy of Production Well
Meters
(\$0)

No enhancements to the database are anticipated during 2021. To ensure that water production data is accurate, the well meters of the major producers were verified for accuracy during 2009 and again during 2015. No additional work of this type is anticipated during 2021.

I. 2. b. Data Collection Program

I. 2. b. 1
Site Representation
and Selection
(\$0)

The monitoring well network review that was started in 2008 has been completed, and sites have been identified where future monitoring well(s) could be installed, if it is deemed necessary to do so in order to fill in data gaps. No further work of this type is anticipated in 2021.

I. 2. b. 2
Collect Monthly
Manual Water Levels
(\$3,726)

Each of the monitoring wells will be visited on a regular basis. Water levels will be determined by either taking manual water levels using an electric sounder, or by dataloggers. The wells where the use of dataloggers is feasible or appropriate have been equipped with dataloggers. All of the other wells will be manually measured.

This Task includes the purchase of one datalogger and parts for the datalogger to keep in inventory as a spare if needed.

I. 2. b. 3

Water quality data will be collected quarterly from certain of the

**Collect Water Quality Samples.
(\$42,101)**

monitoring wells, but will no longer be collected from the four coastal Sentinel Wells. Discontinuing water quality sampling in those wells is the result of the finding made in 2018 that the water quality samples being extracted from those wells are not representative of the aquifer. Those wells were designed for the purpose of electric induction logging, and will therefore continue to be induction logged twice a year in WY 2021.

In 2012 water quality analyses were expanded to include barium and iodide ions, to determine the potential benefit of performing these additional analyses. These two parameters have been useful in analyzing seawater intrusion potential in other vulnerable coastal groundwater basins, and are briefly mentioned in the Watermaster's annual Seawater Intrusion Analysis Reports. These parameters were added to the annual water quality sampling list for the four Watermaster Sentinel wells (SBWM-1, SBWM-2, SBWM-3, and SBWM-4), and also for the 3 most coastal MPWMD monitoring wells (MSC, PCA, and FO-09). Barium and iodide analyses will continue being performed on the 3 most coastal MPWMD monitoring wells in 2021, but will no longer be performed on the Watermaster's coastal Sentinel Wells as discussed above.

Water quality data may come from water quality samples that are taken from these wells and submitted to a State Certified analytic laboratory for general mineral and physical suite of analyses, or the data may come from induction logging of these wells and/or other data gathering techniques. The Consultant or Contractor selected to perform this work will make this judgment based on consideration of costs and other factors.

Under this Task in 2013 retrofitting to use the low-flow purge approach for getting water quality samples was completed on all of the wells that are sampled. This sampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump is found to be no longer adequate due to declining groundwater levels an allowance to purchase a replacement sampling pump has been included in this Task.

Improvements to the QA/QC program for the water quality sampling work were adopted in mid-2017 and will be included in this work in 2021.

**I. 2. b. 4
Update Program Schedule and
Standard Operating Procedures.
(\$0)**

All recommendations from prior reviews of the data collection program have been implemented. No additional work of this type is anticipated in 2021.

**I. 2. b. 5
Monitor Well Construction (\$0)**

An additional monitoring well was installed in 2009. No further work of this type is anticipated in 2021.

**I. 2. b. 6
Reports**

This task was essentially eliminated starting in 2020 by having the data collected by MPWMD under tasks I.2.b.1, I.2.b.2, and I.2.b.3 reported

(\$2,086)

in the SIAR under Task I.4.c. The work remaining under this task is for MPWMD to prepare and provide the data appendix to the Consultant that prepares the SIAR.

No formalized reporting on a quarterly basis is required. However, MPWMD will promptly notify the Watermaster and the Consultant that prepares the SIAR of any missing data or data collection irregularities in the water quality and water level data collected under Tasks I.2.b.2 and I.2.b.3.

I.2.b.7

CASGEM Data Submittal

(\$5,960)

On the Watermaster's behalf MPWMD will compile and submit data on the Watermaster's "Voluntary Wells" into the State's CASGEM groundwater management database. The term "Voluntary Well" refers to a well that is not currently having its data reported into the CASGEM system, but for which the Watermaster obtains data. This will be done in the format and on the schedule required by the Department of Water Resources under the Sustainable Groundwater Management Act.

I. 3 Basin Management

I. 3. a.

Enhanced Seaside Basin Groundwater Model

(Costs listed in subtasks below)

The Watermaster and its consultants use a Groundwater Model for basin management purposes.

I.3.a.1

Update the Existing Model

(\$0)

The Model, described in the report titled "Groundwater Flow and Transport Model" dated October 1, 2007, was updated in 2009 in order to develop protective water levels, and to evaluate replenishment scenarios and develop answers to Basin management questions. The Model was again updated in 2014.

In 2018 the Model was recalibrated and updated. No further work of this type is anticipated in 2021.

I. 3. a. 2

Develop Protective Water Levels

(\$0)

A series of cross-sectional models was created in 2009 in order to develop protective water levels for selected production wells, as well as for the Basin as a whole. This work is discussed in Hydrometrics' "Seaside Groundwater Basin Protective Water Elevations Technical Memorandum." In 2013 further work was started to refine these protective water levels, but it was found that the previously developed protective water levels were reasonable. Protective water levels will be updated, if appropriate, as part of the work of Task I.3.c.

I. 3. a. 3

Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions

(\$70,000)

In 2009 the updated Model was used to evaluate different scenarios to determine such things as the most effective methods of using supplemental water sources to replenish the Basin and/or to assess the impacts of pumping redistribution. This work is described in HydroMetrics' "Seaside Groundwater Basin Groundwater Model Report." In 2010, and again in 2013, HydroMetrics used the updated Model to develop answers to some questions associated with Basin management.

Modeling performed to date indicates that the solution to the problem of water levels in the Seaside Basin being below Protective Water Levels will be to inject water. In the not-too-distant future there might be the ability of Monterey Peninsula Water Supply Project's (MPWSP) desalination plant (if it gets built) to provide additional water for Basin

injection on an interim basis until California American Water's demand level reaches the desalination plant's design capacity. There is some growth built into that plant's capacity for such things as lots of record and economy bounce back, which will likely not all be needed for some years into the future.

Also, if the Pure Water Monterey (PWM) Project were to be expanded this could be another source of water, at least some of which could be injected and left in the Basin to bring up water levels.

Montgomery & Associates agrees that injection is the quickest way to bring groundwater levels up in the Seaside Basin. The original 3,500 AFY PWM Project is already in operation, and construction of either the MPWSP desalination plant or the PWM Expansion Project is expected to begin in 2021. Modeling to determine the additional amount of replenishment water needed to achieve protective groundwater level elevations though the Basin, after those projects are constructed, could be performed to aid the Watermaster in pursuing approaches to obtain that additional water for Basin replenishment.

Based on the costs of previous modeling, it is expected to cost approximately \$14,000 to model each scenario. Montgomery & Associates anticipates that it would take a minimum of 3 scenarios to perform an initial assessment of the most cost-effective method of using additional injected water to raise groundwater levels to protective elevations. This Task includes a \$50,000 allowance to perform this modeling, if directed by the Watermaster Board.

Modeling performed in 2014, 2015, and 2016 led to the conclusion that groundwater levels in parts of the Laguna Seca Subarea will continue to fall even if all pumping within that subarea is discontinued, because of the influence of pumping from areas near to, but outside of, the Basin boundary. Additional modeling work may be performed in 2021 to further examine this situation. This Task provides a \$20,000 allowance to perform modeling or other work to develop answers to basin management questions, if directed by the Watermaster Board.

**I. 3. b.
Complete Preparation of Basin
Management Action Plan
(\$0)**

The Watermaster's Consultant completed preparation of the Basin Management Action Plan (BMAP) in February 2009. The BMAP serves as the Watermaster's long-term seawater intrusion prevention plan. The Sections that are included in the BMAP are:

Executive Summary

Section 1 – Background and Purpose

Section 2 – State of the Seaside Groundwater Basin

Section 3 – Supplemental Water Supplies

Section 4 – Groundwater Management Actions

Section 5 – Recommended Management Strategies

Section 6 – References

**I. 3. c.
Refine and/or Update
the Basin Management
Action Plan
(\$0)**

In 2019 the BMAP was updated based on new data and knowledge that has been gained since it was prepared in 2009.

No further work of this type is anticipated in 2021. However, after the Groundwater Sustainability Plan (GSP) for the adjacent Monterey

Subbasin of the Salinas Valley Groundwater Basin is completed, it may be appropriate to further update the BMAP to reflect the impacts of implementing that GSP. That GSP is scheduled to be completed by early 2022.

**I. 3. d.
Evaluate Coastal Wells
for Cross-Aquifer Contamination
Potential (\$0)**

If seawater intrusion were to reach any of the coastal wells in any aquifer, and if a well was constructed without proper seals to prevent cross-aquifer communication, or if deterioration of the well had compromised these seals, it would be possible for the intrusion to flow from one aquifer to another. An evaluation of this was completed in 2012 and is described in MPWMD's Memorandum titled "Summary of Seaside Groundwater Basin Cross-Aquifer Contamination Wells Investigation Process and Conclusions" dated August 8, 2012. This Memorandum did not recommend performing any further work on this matter, other than to incorporate into the Watermaster's Database data from wells that were newly identified by the work performed in 2012. That data has now been incorporated into the Database, and no further work by the Watermaster on this matter is anticipated. In late 2017 a request was made to MPWMD to destroy one of its no-longer-used monitoring wells that is perforated in multiple aquifers (Well PCA-East Multiple). MPWMD performed this work in 2018.

No further work of this type is anticipated in 2021.

**I.3. e.
Seaside Basin
Geochemical Model
(\$10,000)**

When new sources of water are introduced into an aquifer, with each source having its own unique water quality, there can be chemical reactions that may have the potential to release minerals which have previously been attached to soil particles, such as arsenic or mercury, into solution and thus into the water itself. This has been experienced in some other locations where changes occurred in the quality of the water being injected into an aquifer. MPWMD's consultants have been using geochemical modeling to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program.

In order to predict whether there will be groundwater quality changes that will result from the introduction of desalinated water and additional ASR water (under the Monterey Peninsula Water Supply Project) and advance-treated water (under the Pure Water Monterey Project) geochemical evaluations, and potentially modeling, will be performed in the areas of the Basin where injection of these new water sources will occur.

In 2019 a geochemical evaluation of introducing advance-treated water from the Pure Water Monterey Project was performed. That evaluation concluded that there would be no adverse geochemical impacts as a result of introducing that water into the Basin. A similar evaluation of the impact of introducing ASR water also concluded that there would be no adverse geochemical impacts. An evaluation of introducing desalinated water will be performed if the Monterey Peninsula Water Supply Project's desalination plant proceeds into the construction phase.

If any of the geochemical evaluations indicate the potential for problems to occur, then Montgomery and Associates may use the

Watermaster's updated groundwater model, and information about injection locations and quantities, injection scheduling, etc. provided by MPWMD for each of these projects, to develop model scenarios to see if the problem(s) can be averted by changing delivery schedules and delivery quantities. This Task includes an allowance of \$10,000 to have Montgomery and Associates perform such modeling, if necessary.

If the modeling predicts that there may be adverse impacts from introducing these new sources of water, measures to mitigate those impacts will be developed under a separate task that will be created for that purpose when and if necessary.

I. 4 Seawater Intrusion Response Plan (formerly referred to as the Seawater Intrusion Contingency Plan)

I. 4. a. Oversight of Seawater Intrusion Detection and Tracking (\$0)

Consultants will provide general oversight over the Seawater Intrusion detection program under the other Tasks in this Work Plan.

I. 4. c. Annual Report- Seawater Intrusion Analysis (\$27,502)

At the end of each water year, a Consultant will reanalyze all water quality data. Water level and water quality data will be provided to the Consultant in MS Access format. The Consultant will put this data into a report format and will include it as an attachment to the Seawater Intrusion Analysis Report. Semi-annual chloride concentration maps will be produced for each aquifer in the basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. The annual EM logs will be analyzed to identify changes in seawater wedge locations. All analyses will be incorporated into an annual report that follows the format of the initial, historical data report. Potential seawater intrusion will be highlighted in the report, and if necessary, recommendations will be included. The annual report will be submitted for review by the TAC and the Board. Modifications to the report will be incorporated based on input from these bodies, as well as Watermaster staff.

I. 4. e. Refine and/or Update the Seawater Intrusion Response Plan (\$0)

At the beginning of 2009 it was thought that it might be beneficial or necessary to perform work to refine the SIRP and/or to update it based on new data or knowledge that was gained subsequent to the preparation of the SIRP. However, this did not prove to be necessary, and no further work of this type is anticipated in 2021.

I. 4. f. If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan (\$0)

The SIRP will be implemented if seawater intrusion, as defined in the Plan, is determined by the Watermaster to be occurring.

ATTACHMENT 2

Monitoring and Management Program Operations Budget For Tasks to be Undertaken in 2021							Comparative Costs from 2020 Budget	
Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS ⁽³⁾				Total
				MPWMD	Private Consultants	Contractors		
Labor								
			Technical Project Manager	\$0	\$60,000	\$0	\$60,000	\$50,000
M.1 Program Administration								
	M.1.a		Project Budget and Controls	\$0	\$0	\$0	\$0	\$0
	M.1.b		Assist with Board and TAC Agendas	\$0	\$0	\$0	\$0	\$0
	M.1.c, M.1.d, & M.1.e		Preparation for and Attendance at Meetings and Peer Review of Documents and Reports ⁽⁵⁾	\$0	\$23,000	\$0	\$23,000	\$19,000
	M.1.f		QA/QC	\$0	\$0	\$0	\$0	\$0
	M.1.g		SGMA Documentation Preparation	\$0	\$2,320	\$0	\$2,320	\$2,000
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed in Phase 1)								
I.2 Production, Water Level and Quality Monitoring								
	I.2.a.		Database Management					
		I.2.a.1.	Conduct Ongoing Data Entry/ Database Maintenance/Enhancement ⁽¹⁵⁾	\$14,604	\$2,400	\$0	\$17,004	\$17,004
		I.2.a.2.	Verify Accuracy of Production Well Meters	\$0	\$0	\$0	\$0	\$0
	I.2.b.		Data Collection Program					
		I.2.b.1.	Site Representation and Selection ⁽⁷⁾	\$0	\$0	\$0	\$0	\$0
		I.2.b.2.	Collect Monthly Water Levels ⁽⁶⁾	\$3,726	\$0	\$0	\$3,726	\$3,726
		I.2.b.3.	Collect Quarterly Water Quality Samples and Perform Sentinel Well Induction Logging ⁽¹⁾⁽⁵⁾⁽⁶⁾	\$23,550	\$0	\$18,551	\$42,101	\$42,801
		I.2.b.4.	Update Program Schedule and Standard Operating Procedures.	\$0	\$0	\$0	\$0	\$0
		I.2.b.5.	Monitor Well Construction ⁽⁷⁾	\$0	\$0	\$0	\$0	\$0
		I.2.b.6.	Reports	\$2,086	\$0	\$0	\$2,086	\$2,086
		I.2.b.7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	\$5,960	\$0	\$0	\$5,960	\$8,940
I.3 Basin Management								
	I.3.a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)				
		I.3.a.1	Update the Existing Model ⁽¹¹⁾	\$0	\$0	\$0	\$0	\$0
		I.3.a.2	Develop Protective Water Levels ⁽¹²⁾	\$0	\$0	\$0	\$0	\$0
		I.3.a.3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions ⁽¹⁰⁾	\$0	\$70,000	\$0	\$70,000	\$20,000
	I.3.b.		Complete Preparation of Basin Management Action Plan	\$0	\$0	\$0	\$0	\$0
	I.3.c.		Refine and/or Update the Basin Management Action Plan	\$0	\$0	\$0	\$0	\$0
	I.3.d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	\$0	\$0	\$0	\$0	\$0
	I.3.e		Seaside Basin Geochemical Model ⁽¹³⁾	\$0	\$10,000	\$0	\$10,000	\$10,000
I.4 Seawater Intrusion Contingency Plan								
	I.4.a.		Oversight of Seawater Intrusion Detection and Tracking	\$0	\$0	\$0	\$0	\$0
	I.4.b.		Provide focused area hydrogeologic investigation for Sand City Public Works Well ⁽¹⁶⁾	\$0	\$0	\$0	\$0	\$0
	I.4.c.		Annual Report- Seawater Intrusion Analysis	\$1,192	\$26,310	\$0	\$27,502	\$25,322
	I.4.d.		Complete Preparation of Seawater Intrusion Response Plan ⁽²⁾⁽¹⁶⁾	\$0	\$0	\$0	\$0	\$0
	I.4.e.		Refine and/or Update the Seawater Intrusion Response Plan ⁽²⁾⁽⁹⁾	\$0	\$0	\$0	\$0	\$0
	I.4.f.		If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan ⁽²⁾	(No Costs are Included for This Task, as This Task Will Likely Not be Necessary During 2021. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)				
TOTALS CONSULTANTS & CONTRACTORS				\$51,118	\$194,030	\$18,551		
SUBTOTAL <u>not</u> including Technical Program Manager =							\$203,699	\$150,879
Contingency (not including Technical Program Manager) @ 10% ⁽⁴⁾ =							\$20,370	\$15,088
Technical Program Manager =							\$60,000	\$50,000
TOTAL=							\$284,069	\$215,967

Footnotes:						
(1) Under this Subtask the Watermaster will directly contract with an outside contractor to perform the Sentinel Well induction logging work, and to also collect water level data in conjunction with doing the induction logging. MPWMD will perform the other portions of the work of this						
(2) The response plan would only be implemented in the event sea water intrusion is determined to be occurring.						
(3) Within the context of this document the term "Consultant" refers either to a Private Consultant providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term "Contractor" refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.						
(4) Due to the uncertainties of the exact scopes of some of the larger Tasks listed above at the time of preparation of this Budget it is recommended that a Contingency of approximately 10% be included in the Budget.						
(5) The MPWMD portion of this Task includes \$1,000 to maintain equipment previously installed for this purpose, \$2,000 to purchase a new sampling pump if an existing one needs to be replaced, and lab costs to analyze for barium and iodide ions in certain of these wells as was done in preceding years beginning in 2012. The Contractor portion of this Task includes the newly imposed \$50 to pay the State Department of Parks and Recreation annual fee to renew the Right-of-Entry Permit to perform this work.						
(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks. Includes the purchase and installation of one new and/or replacement datalogger at a price of \$700, plus \$50 for installation parts, to keep in inventory as a spare if needed.						
(7) No additional monitoring well is expected to be constructed in 2021.						
(8) This cost is for Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when requested to do so by the Technical Program Manager. This work may include participation in conference calls and reviewing documents prepared by others.						
(9) If work under this Task is found to be necessary, it will be funded through the Contingency line item in this Budget.						
(10) Since the BMAP was updated in 2019, this Task would only be used if there were other issues the Board wished to evaluate and which were not covered in the updated BMAP.						
(11) The Model was updated and recalibrated in 2018, so no costs for this Task are anticipated in 2021.						
(12) The protective water levels developed in 2009 were examined in 2013 to see if they needed to be updated. It was concluded that the 2009 protective levels were still satisfactory for Basin management purposes, and that no revisions were needed. No work under this Task is anticipated in 2021.						
(13) This was a new Task that was started in 2018, and was completed for the PWM AWT water in 2019. Funds allocated for this Task in 2021 would only be used if the geochemical modeling that is expected to be performed in 2021 for the MPWSP desalination plant water indicates the need to have Montgomery and Associates use the Seaside Basin groundwater model to provide additional information needed by the geochemical model to develop mitigation measures for any adverse water quality impacts the geochemical model predicts could occur from introducing desalinated water into the Basin.						
(14) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions.						
(15) Includes \$200/month for an outside consultant to maintain the Watermaster's website and post documents on it.						
(16) This work was completed some years ago and no longer needs to be included in this Budget. It will be eliminated from the M&MP in 2021.						

ATTACHMENT 3

Monitoring and Management Program Operations Budget							
For Tasks to be Undertaken in 2022 ⁽¹²⁾							
Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS ⁽³⁾			Total
				MPWMD	Private Consultants	Contractors	
Labor							
			Technical Project Manager	\$0	\$60,000	\$0	\$60,000
M.1 Program Administration							
	M.1.a		Project Budget and Controls	\$0	\$0	\$0	\$0
	M.1.b		Assist with Board and TAC Agendas	\$0	\$0	\$0	\$0
	M.1.c, M.1.d, & M.1.e		Preparation for and Attendance at Meetings and Peer Review of Documents and Reports ⁽⁸⁾	\$0	\$23,690	\$0	\$23,690
	M.1.f		QA/QC	\$0	\$0	\$0	\$0
	M.1.g		SGMA Documentation Preparation	\$0	\$2,390	\$0	\$2,390
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed in Phase 1)							
I.2 Production, Water Level and Quality Monitoring							
	I.2. a.		Database Management				
		I.2. a. 1.	Conduct Ongoing Data Entry/ Database Maintenance/Enhancement	\$15,042	\$2,472	\$0	\$17,514
		I.2. a. 2.	Verify Accuracy of Production Well Meters	\$0	\$0	\$0	\$0
	I.2. b.		Data Collection Program				
		I.2. b. 1.	Site Representation and Selection ⁽⁷⁾	\$0	\$0	\$0	\$0
		I.2. b. 2.	Collect Monthly Water Levels ⁽⁶⁾	\$3,838	\$0	\$0	\$3,838
		I.2. b. 3.	Collect Quarterly Water Quality Samples ⁽¹⁾⁽⁵⁾⁽⁶⁾	\$24,257	\$0	\$19,108	\$43,364
		I.2. b. 4.	Update Program Schedule and Standard Operating Procedures.	\$0	\$0	\$0	\$0
		I.2. b. 5.	Monitor Well Construction ⁽⁷⁾	\$0	\$0	\$0	\$0
		I.2. b. 6.	Reports	\$2,149	\$0	\$0	\$2,149
		I.2. b. 7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	\$6,139	\$0	\$0	\$6,139
I.3 Basin Management							
	I.3. a.		Enhanced Seaside Basin Groundwater Model	(Costs Shown in Subtasks Below)			
		I.3. a. 1	Update the Existing Model	\$0	\$0	\$0	\$0
		I.3. a. 2	Develop Protective Water Levels	\$0	\$0	\$0	\$0
		I.3. a. 3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions	\$0	\$20,000	\$0	\$20,000
	I.3. b.		Complete Preparation of Basin Management Action Plan	\$0	\$0	\$0	\$0
	I.3. c.		Refine and/or Update the Basin Management Action Plan ⁽¹¹⁾	\$0	\$0	\$0	\$0
	I.3. d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential ⁽¹³⁾	\$0	\$0	\$0	\$0
	I.3. e		Seaside Basin Geochemical Model ⁽¹⁴⁾	\$0	\$0	\$0	\$0
I.4 Seawater Intrusion Contingency Plan							
	I.4. a.		Oversight of Seawater Intrusion Detection and Tracking	\$0	\$0	\$0	\$0
	I.4. b.		Analyze and Map Water Quality from Coastal Monitoring Wells	(Costs Included Under I.4.a)			
	I.4. c.		Annual Report- Seawater Intrusion Analysis	\$1,228	\$27,099	\$0	\$28,327
	I.4. d.		Complete Preparation of Seawater Intrusion Response Plan ⁽²⁾	\$0	\$0	\$0	\$0
	I.4. e.		Refine and/or Update the Seawater Intrusion Response Plan ⁽²⁾⁽⁹⁾	\$0	\$0	\$0	\$0
	I.4. f.		If Seawater Intrusion is Determined to be Occurring, Implement Contingency Response Plan ⁽²⁾	(No Costs are Included for This Task, as This Task Will Likely Not be Necessary During 2019. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)			
	TOTALS CONSULTANTS & CONTRACTORS			\$52,652	\$135,651	\$19,108	
SUBTOTAL not including Technical Program Manager =							\$147,410
Contingency (not including Technical Program Manager) @ 10% ⁽⁴⁾ =							\$14,741
					Technical Program Manager		\$60,000
TOTAL=							\$222,151

Footnotes:						
(1) Under this Subtask the Watermaster will directly contract with an outside contractor to perform the Sentinel Well induction logging work, and to also collect water level data in conjunction with doing the induction logging. MPWMD will perform the other portions of the work of this Subtask.						
(2) The response plan would only be implemented in the event sea water intrusion is determined to be occurring.						
(3) Within the context of this document the term "Consultant" refers either to a Private Consultant providing professional engineering or other types of technical services, or to the Monterey Peninsula Water Management District (MPWMD). The term "Contractor" refers to a firm providing construction or field services such as well drilling, induction logging, or meter calibration.						
(4) Due to the uncertainties of the exact scopes of some of the Tasks listed above at the time of preparation of this Budget, it is recommended that a 10% Contingency be included in the Budget.						
(5) A portion of this cost is for maintaining sampling equipment that was installed in prior years.						
(6) Does not include costs for MPWMD to collect water level data or water quality samples from wells other than those that are part of the basic monitoring well network, i.e. for private well owners who have requested that the Watermaster obtain this data for them. Costs to obtain that data are to be reimbursed to the Watermaster by those well owners, so there should be no net cost to the Watermaster for that portion of the work under these Tasks.						
(7) No additional monitoring well is expected to be constructed in 2022.						
(8) For Montgomery and Associates, Todd Groundwater, and Martin Feeney to provide hydrogeologic consulting assistance to the Watermaster, beyond that associated with performing other specified Tasks, when requested to do so by the Technical Program Manager.						
(9) If work under this Task is found to be necessary, it will be funded through the Contingency line item in this Budget.						
(10) Not used.						
(11) If necessary to reflect knowledge gained from modeling work or other data sources. Since the BMAP was updated in 2018, no work on this Task is anticipated in 2022.						
(12) Includes a 3% inflation factor on most annually recurring costs in the 2021 Budget, except the Technical Program Manager cost which has no inflation factor applied to it.						
(13) No further work on this Task is anticipated in 2022.						
(14) It is assumed that all work of this Task will be completed in 2021.						

ATTACHMENT 4

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2021

No Capital projects are anticipated to be undertaken in 2021, so this budget is \$0.

Monitoring and Management Program Capital Budget For Tasks to be Undertaken in 2022

No Capital projects are anticipated to be undertaken in 2022, so this budget is \$0.

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**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: September 2, 2020

SUBJECT: Consider Approving the following Professional Service Contracts for Fiscal Year 2021:

1. Two Contracts with Montgomery & Associates, Inc. — one for \$17,320 for providing ongoing and as-requested general hydrogeologic consulting services during the year and the second for \$26,310 to prepare the Seawater Intrusion Analysis Report (SIAR) for 2021
2. Two Contracts with MPWMD—one for \$51,118 and the second one for \$3,915, both pertaining to monitoring and other work on the Seaside Groundwater Basin Monitoring and Management Program (M&MP) for 2021
3. Two Contracts with Martin Feeney—one for \$4,000 to provide on-call/as-requested hydrogeologic consulting services and one for \$18,000.56 to perform induction logging of the Sentinel Wells in 2021
4. One Contract with Todd Groundwater—for \$4,000 to provide on-call/as-needed hydrogeologic consulting services

RECOMMENDATIONS:

It is recommended that the Board approve the attached RFSs No. 2021-01 and 2021-02 with Montgomery & Associates, RFSs No. 2021-01 and 2021-02 with MPWMD, RFSs No. 2021-01 and 2021-02 with Martin Feeney, RFS No. 2021-01 with Todd Groundwater.

BACKGROUND:

Attached are the proposed initial contracts for each of the Watermaster's consultants that are expected to work on M&MP activities during 2021. Each of these firms is currently working under a master form of agreement with the Watermaster called a "Professional Services Agreement" (PSA). Actual work assignments are made through the issuance of Requests for Service (RFS) under the umbrella language of the PSA. The TAC reviewed and discussed the Montgomery & Associates, MPWMD, Martin Feeney, and Todd Groundwater items at its August 12, 2020 meeting and recommended that the Board approve each of them.

DISCUSSION

The attached RFSs constitute the proposed initial 2021 work assignments for each of these consultants as follows:

- Montgomery & Associates RFS No. 2021-01 covering their providing general on-call/as-requested hydrogeologic consulting services and for providing assistance in preparing documents that the Watermaster will need to submit to fulfill its reporting requirements under the Sustainable Groundwater Management Act. These tasks are similar to those in preceding years.
- Montgomery & Associates RFS No. 2021-02 covering their preparing the 2021 Seawater Intrusion Analysis Report.

- MPWMD RFS No. 2021-01 covering their anticipated 2021 M&MP tasks. These tasks are similar to those in preceding years.
- MPWMD RFS No. 2021-02 covering their obtaining water quality and water level data from private producers who ask the Watermaster collect this data for them. The costs for this work are reimbursed by the private producers, and there is no net cost to the Watermaster for work performed under this RFS.
- Martin Feeney RFS No. 2021-01 covering his performing induction logging of certain of the Watermaster's monitoring wells and providing that data to MPWMD and Montgomery & Associates. This work also includes performing some maintenance on the Sentinel Wells.
- Martin Feeney RFS No. 2021-02 covering his providing general on-call/as-requested hydrogeologic consulting services.
- Todd Groundwater RFS No. 2021-01 covering their providing general on-call/as-requested hydrogeologic consulting services.

These contracts are being presented to the Board for approval at today's meeting to ensure the contacts will be in effect by the start of 2021. All of these costs are included in the Budgets that the Board is asked to approve at today's meeting under a preceding agenda item.

If geochemical modeling needs to be performed on Cal Am's desalination plant water in 2021, and if that indicates the need to develop mitigation measures for possible adverse impacts from introducing non-native water into the Basin, I will develop an additional RFS for Montgomery & Associates during 2021 to use the Seaside Basin Groundwater Model to provide information to MPWMD's consultant (Pueblo Water Resources) to use in performing that geochemical modeling to develop such mitigation measures. Funds for this additional RFS have been included in the proposed M&MP Operations Budget for 2021. When and if drafted, the RFS would come to the TAC for approval before going to the Board.

ATTACHMENTS:

1. Montgomery & Associates RFS No. 2021-01
2. Montgomery & Associates RFS No. 2021-02
3. MPWMD RFS No. 2021-01
4. MPWMD RFS No. 2021-02
5. Martin Feeney RFS No. 2021-01
6. Martin Feeney RFS No. 2021-02
7. Todd Groundwater RFS No. 2021-01.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-01 (To be filled in by WATERMASTER)

TO: Hale Barter
Montgomery & Associates
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: General hydrogeologic consulting and document preparation services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2021, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 17,320.00 (Cost is authorized only when evidenced by signature below.)
(See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:** _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____.
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to interpretation of water level and water quality data collected by WATERMASTER, BMAP and SIRP implementation issues, and preparation of documents for WATERMASTER's use in fulfilling its Sustainable Groundwater Management Act reporting requirements.

Providing these services will likely involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, most of which will be attended remotely. These TAC meetings do not include special TAC or other meetings which may be required as part of performing other work which may be authorized under other RFSs issued to PROFESSIONAL by WATERMASTER. Any such other scope and cost proposals will incorporate costs for those meetings.

The Tasks in WATERMASTER's 2021 Monitoring and Management Program (M&MP) to which this RFS No. 2021-01 pertains are:

M. 1. c & M.1. d - Preparation and Attendance of Meetings

M. 1. e - Peer Review of Documents and Reports

M.1.g – Sustainable Groundwater Management Act Documentation Preparation

ESTIMATED COSTS

Tasks M.1.c, M.1.d, and M.1.e: General Consulting Services will consist of working on these Tasks and attending some TAC and other meetings either remotely or in-person in Monterey, as requested by WATERMASTER.

\$15,000 in labor, travel, and incidental costs of this RFS No. 2021-01 are allocated to performing work on these Tasks.

Task M.1.g: Section 10720.8 of the Sustainable Groundwater Management Act (SGMA) requires adjudicated basins to submit annual reports. Most of the documentation that needs to be reported is already generated by the WATERMASTER in conjunction with preparing its own Annual Reports. However, information regarding changes in basin storage is not currently generated. PROFESSIONAL will provide an estimate of the change in basin storage under this RFS No. 2021-01.

\$2,320 in labor costs of this RFS No. 2021-01 are allocated to performing work for Task M.1.g.

All work under this RFS No. 2020-01 will be billed at the following hourly rates, including all markups and other direct costs:

Derrik Williams = \$260.00/hour

Georgina King = \$215.00/hour

The total cost authorized by this RFS No. 2021-01 is \$17,320.00.

ATTACHMENT 2
SCHEDULE

Montgomery & Associates RFS No. 2021-01

Work Schedule

ID	Task Name	2021																			
		Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr		
1	M. 1. c - Preparation and Attendance of Meetings																				
2	M. 1. e - Peer Review of Documents and Reports																				
3	M.1.g - SGMA Document Preparation																				

Montgomery Work Schedule for RFS No 2021-01 7-14-20.mpp

Page 1

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 1/1/2021

RFS NO. 2021-02 (To be filled in by WATERMASTER)

TO: Hale Barter
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Prepare the Seawater Intrusion Analysis Report for 2021. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2021, and shall be performed in accordance with the Schedule contained in Attachment 2.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 26,310.00 (Cost is authorized only when evidenced by signature below.)
(See Attachment 3 for Detailed Breakdown of Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:** _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____.
PROFESSIONAL

ATTACHMENT 1

SCOPE OF WORK

The scope consists of providing professional consulting services to WATERMASTER for preparation of the 2021 Seawater Intrusion Analysis Report (SIAR).

To promote efficiency, much of the text and graphics from the 2020 SIAR will be incorporated directly into the 2021 SIAR.

Preparing the 2021 SIAR will involve analyzing all water quality data at the end of Water Year 2021 (October 1, 2020 to September 30, 2021) and producing semi-annual (2nd and 4th quarters 2021) chloride concentration maps for each aquifer in the Basin. Time series graphs, trilinear graphs, and stiff diagram comparisons will be updated with new data. Second and fourth quarter groundwater elevation maps will also be produced. The annual EM logs will be analyzed to identify changes in seawater wedge locations. A determination of whether there is any evidence of seawater intrusion will be made, and recommendations will be included as warranted.

Water level and water quality data for WY 2021 will be provided to PROFESSIONAL in MS Access format. PROFESSIONAL will put this data into a report format and will include it as an attachment to the 2021 SIAR.

A Draft 2021 SIAR will be provided to WATERMASTER in electronic (not printed) form for review. WATERMASTER will provide its review comments and those of its TAC members through direct discussions with PROFESSIONAL at a TAC meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. In addition to these oral comments, some TAC members may also provide recommended editorial changes electronically directly to PROFESSIONAL. These comments will be addressed in a Final 2021 SIAR. PROFESSIONAL will also present the Final version of the SIAR to the Board at a meeting which PROFESSIONAL will attend remotely via teleconference or Zoom. A CD containing an electronic version of the entire Final 2021 SIAR in MS Word and up to 15 printed and bound copies of the Final 2021 SIAR (quantity to be determined by WATERMASTER) will be provided to WATERMASTER.

ATTACHMENT 2

Montgomery & Associates RFS No. 2021-02																										
Work Schedule																										
ID	Task Name	2021																								
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1	I.4.c Annual Seawater Intrusion Analysis Report (SIAR)																									
2	HydroMetrics Provides Draft SIAR to Watermaster												◆ 11/10													
3	TAC Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 11/17													
4	Board Approves Annual Seawater Intrusion Analysis Report (SIAR)												◆ 12/1													

ATTACHMENT 3

DETAILED BREAKDOWN OF ESTIMATED COSTS

Note: Regardless of the use of the term "Estimated Cost" in this RFS, if the work of this RFS is to be compensated for using Lump Sum Payment method, it is understood and agreed to by PROFESSIONAL that the Total Price listed on page 1 of this RFS is binding and limiting as defined in Section V of the Agreement.

Task	Hours		Costs			
	Georgina King (\$215 per hr)	Staff (\$150 per hr)	Georgina King	Staff	Expenses	Total Costs
2021 Seawater Intrusion Analysis Report						
Prepare 2021 SIAR, including added appendices for groundwater levels and quality (15 hardcopies)	32	108	\$6,880	\$16,200	\$650	\$23,730
Prepare for and Attend One TAC Meeting and One Board Meeting Online	12	0	\$2,580	\$0	\$0	\$2,580
TOTALS	44	108	\$9,460	\$16,200	\$650	\$26,310

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SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-01 To be filled in by WATERMASTER)

TO: Jonathan Lear

FROM: Robert Jaques.

Monterey Peninsula Water Management District
PROFESSIONAL

WATERMASTER

Services Needed and Purpose:

Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2021 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2021-01 shall be completed in accordance with the schedule contained in Attachment 2.

Method of Compensation: Time and Expense Payment Method (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 51,118.00 (See Attachment 3 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:** _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____.
PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2021-01

Background:

The Watermaster Board approved the Budget for the 2021 Monitoring and Management Program (hereinafter referred to as the “2021 M&MP”) at its meeting of October 7, 2020.

This RFS No. 2021-01 authorizes PROFESSIONAL to perform certain work on certain of the Tasks described in the 2021 M&MP. The Task numbers listed in Table 1 of this Detailed Scope of Work for RFS No. 2021-01 correspond to the Task numbers in the 2021 M&MP.

Table 1

I. 2. a.1	Conduct ongoing data entry/ database maintenance	PROFESSIONAL will perform water production, water level, and water quality data entry into WATERMASTER's database, and data editing as necessary, and will provide appropriate quality control and quality assurance for this data. Other than an annual reporting of data to another WATERMASTER Consultant at the end of the Water Year, as mentioned below, no reporting of water level or water quality data during the Water Year is required. However, PROFESSIONAL will promptly notify the Watermaster of any missing data or data collection irregularities that were encountered during the quarterly reporting period. Upon request from WATERMASTER, PROFESSIONAL will also enter other data into the database, such as updated information pertaining to well records. WATERMASTER will provide PROFESSIONAL with water production data. PROFESSIONAL will review the water production data provided by WATERMASTER for quality assurance and quality control purposes, and will notify WATERMASTER of any discrepancies PROFESSIONAL observes in this data. WATERMASTER will follow up as appropriate with the water producers to resolve any such discrepancies. PROFESSIONAL will also host and maintain the Watermaster's Database. Any changes to WATERMASTER's database will be authorized under a separate agreement for performing such work for WATERMASTER. That agreement will either be with PROFESSIONAL or with another consultant. At the end of the Water Year PROFESSIONAL will prepare an annual water production, water level, and water quality tabulation in Access format and will provide the tabulation to another WATERMASTER Consultant who will use that data in the preparation of the SIAR under Task No. I.4.c of the Monitoring and Management Program.
I. 2. b. 2	Collect Monthly Water Levels	The monitoring wells from which water level data is to be collected by PROFESSIONAL are listed under the heading "MONITORING TO BE PERFORMED BY PROFESSIONAL" in the column titled "Level" in Table 2. PROFESSIONAL will visit each of the indicated wells at the frequencies shown in Table 2 in order to obtain the water level data. At these visits PROFESSIONAL will measure and record water levels by either taking manual water levels using an electric sounder, or by dataloggers. The wells where the use of dataloggers is feasible or appropriate have already been equipped with dataloggers. This Task includes the purchase of one datalogger @ \$700 to keep in inventory as a spare if needed, plus \$50 in parts for the datalogger. All of the other wells will be manually measured.

I. 2. b. 3	Collect Quarterly Water Quality Samples	The monitoring wells from which water quality data is to be collected by PROFESSIONAL are listed under the heading “MONITORING TO BE PERFORMED BY PROFESSIONAL” in the column titled “Quality” in Table 2. PROFESSIONAL will visit each of the indicated wells at the frequencies shown in Table 2 in order to obtain the water quality samples, and will perform water quality analyses on these samples. The water quality constituents that will be measured in these analyses are: Specific Conductance (micromhos/cm), Total Alkalinity (as CaCO₃), Bicarbonate (as HCO₃-), pH, Chloride, Sulfate, Ammonia Nitrogen (as NH₃), Nitrate Nitrogen (as NO₃), Total Organic Carbon, Calcium, Sodium, Magnesium, Potassium, Iron, Manganese, Orthophosphate, Total Dissolved Solids, Hardness (as CaCO₃), Boron, Bromide, and Fluoride. For the following wells listed in Table 2, Barium and Iodide will also be measured quarterly: MSC Shallow, MSC Deep, PCA-W Shallow, PCA-W Deep, MPWMD #FO-09 Shallow, and MPWMD #FO-09 Deep. The data may either come from water quality samples that are collected by the airlift method, by the positive displacement method during induction logging of these wells and/or other data gathering techniques, or combinations of these methods, at the discretion of PROFESSIONAL, and will be submitted to a State-certified analytical laboratory for analysis. Retrofitting to use the low-flow purge approach for getting water quality samples has already been completed on all of the wells that are sampled on a quarterly basis. Retrofitting of the wells that are sampled on an annual basis is not warranted. This sampling equipment sits in the water column and may periodically need to be replaced or repaired. Accordingly, an allowance of \$1,000 to perform maintenance on previously installed equipment has been included in this Task. Also, in the event a sampling pump is found to be no longer adequate due to declining groundwater levels, or if a sampling pump needs to be installed on a Sentinel Well, an allowance of \$2,000 to purchase a sampling pump has been included in this Task.
I.2.b.7	CASGEM Data Submittal	PROFESSIONAL will compile and submit data on the Watermaster’s “Voluntary Wells” into the State’s CASGEM groundwater management database. The term “Voluntary Well” refers to a well that is not currently having its data reported into the CASGEM system, but for which the Watermaster obtains data. This will be done in the format and on the schedule required by the Department of Water Resources under the Sustainable Groundwater Management Act.
I.4.c	Review Seawater Intrusion Analyses	WATERMASTER will have another consultant perform analyses and prepare mapping and other documents pertaining to seawater intrusion detection. PROFESSIONAL may participate in meetings with that consultant during the course of its work, and may provide review comments and recommendations to WATERMASTER regarding this work as it is being carried out by that consultant.

Table 2. Monitoring Wells

WELL NAME AND SUBAREA LOCATION ⁽⁸⁾	MONITORING NETWORK ⁽¹⁾		MONITORING REQUIRED BY DECISION ⁽²⁾		MONITORING CURRENTLY BEING PERFORMED BY PROFESSIONAL NOT SUBJECT TO THIS RFS ⁽³⁾		MONITORING TO BE PERFORMED BY PROFESSIONAL UNDER THIS RFS ⁽⁴⁾			
	Professional's	Watermaster's	Level (Monthly)	Quality (Annually)	Level		Level		Quality	
					Frequency		Frequency		Frequency	
					Monthly	Quarterly	Monthly	Quarterly	Annually	Quarterly
Northern Coastal Subarea (and vicinity)										
MSC-Shallow		X					X			X
MSC-Deep		X					X			X
PCA-W Shallow		X						X		X
PCA-W Deep		X						X		X
PCA-E (Multiple) Shallow	X				X				X	
PCA-E (Multiple) Deep	X				X				X	
Ord Grove Test-Shallow /Deep	X				X					
Paralta Test-Shallow /Deep	X				X					
Ord Terrace-Shallow	X				X				X	
Ord Terrace-Deep ⁽¹¹⁾	X				X					
MPWMD #FO-09-Shallow	X				X					X
MPWMD #FO-09-Deep	X				X					X
MPWMD #FO-10-Shallow		X					X		X	
MPWMD #FO-10-Deep		X					X		X	
Fort Ord Monitor MW-B-23-180-Dune/Aromas ⁽¹³⁾		X					X		X	
CDM MW-1-Dune/Aromas		X					X			
CDM MW-2-Dune/Aromas		X					X			
CAW Del Monte Observation-Shallow		X							X	
SBWM MW-1-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-2-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-3-Deep (Purisima) ⁽⁶⁾		X						X		
SBWM MW-4-Deep (Purisima/Santa Margarita) ⁽⁶⁾		X						X		
Northern Inland Subarea (and vicinity)										
MPWMD #FO-01-Shallow	X					X				
MPWMD #FO-01-Deep	X					X				
MPWMD #FO-07-Shallow	X					X				
MPWMD #FO-07-Deep	X					X				
MPWMD #FO-08-Shallow	X					X				
MPWMD #FO-08-Deep	X					X				
MPWMD #FO-11-Shallow	X					X				
MPWMD #FO-11-Deep	X					X				
SBWM MW-5-Shallow (Paso Robles) ⁽⁶⁾		X						X	X	
SBWM MW-5-Deep (Santa Margarita) ⁽⁶⁾		X						X	X	

Table 2 (Continued)

Southern Coastal Subarea (and vicinity)										
Plumas '90 Test-Deep		X					X			
K-Mart-Dune/Aromas		X					X			
CDM MW-3-Dune/Aromas		X					X			
CDM MW-4-Dune/Aromas		X					X			
MW-BW-08A-Dune/Aromas		X					X			
MW-BW-09-180-Shallow		X					X			
Shea		X						X		
Sand City Public Works Well		X					X		X	
Laguna Seca Subarea (and vicinity)										
MPWMD #FO-03-Shallow	X					X				
MPWMD #FO-03-Deep	X					X				
MPWMD #FO-04-Shallow (E)	X					X				
MPWMD #FO-04-Deep (W)	X					X				
MPWMD #FO-05-Shallow	X					X				
MPWMD #FO-05-Deep	X					X				
MPWMD #FO-06-Shallow	X					X				
MPWMD #FO-06-Deep	X					X				
Justin Court (RR M2S)-Shallow	X					X				
LS Pistol Range (Mo Co TH-1)-Deep	X					X				
York Rd-West (Mo Co MW-1 D)-Deep	X					X				
Seca Place (Mo Co MW-2)-Deep	X					X				
Robley Shallow (North) (Mo Co MW-3S)-Shallow	X					X				
Robley Deep (South) (Mo Co MW-3D)-Deep	X					X				
LS No. 1 Subdivision-Deep	X					X				
Blue Larkspur-East End-Believed to be Deep	X					X				
York School-Shallow		X	X						X	
Laguna Seca Driving Range (SCS-Deep)-Shallow ⁽¹²⁾		X						X		
Laguna Seca County Park #2-Shallow		X	X						X	
CAW Granite Construction-Deep		X					X			
CAW Ryan Ranch (RR) #7-Deep		X	X						X	
Laguna Seca Golf New #12-Deep ⁽⁹⁾		X							X	
Pasadera Main Gate-Deep		X	X						X	
No. of Wells in Each Network ⁽⁶⁾⁼	32	31	4	0	8	24	15	10	15	6

Notes:

- (1) The wells within the Professional's Monitoring Well Network are the wells that PROFESSIONAL monitors as part of PROFESSIONAL's own monitoring program. The wells within the Watermaster's Monitoring Well Network are the wells to be monitored under this RFS.
- (2) Monitoring required by the Decision is the monitoring described in the Monitoring and Management Program which was incorporated by reference in the Decision of the Court dated February 9, 2007.
- (3) Monitoring currently being performed by PROFESSIONAL not subject to this RFS is monitoring work PROFESSIONAL is performing under other monitoring programs. This monitoring is not a part of this RFS.
- (4) Monitoring to be performed by PROFESSIONAL is the monitoring to be performed under this RFS.
- (5) The Watermaster's Monitoring Well Network includes the wells recommended in the Enhanced Monitoring Well Network report prepared by PROFESSIONAL, dated October 23, 2007, plus the 4 new Sentinel Wells installed in 2007 and the BLM well installed in 2011.
- (6) The Seaside Basin Watermaster (SBWM) wells are all equipped with dataloggers that obtain measurements at least daily, but will be manually sounded for water level on a quarterly basis for calibration purposes.
- (7) Not used.
- (8) Shallow=Paso Robles; Deep=Santa Margarita or Purisima.
- (9) This well is so close to the Laguna Seca Old No. 12 well that no water level monitoring is necessary.
- (10) CAW East Fence Shallow well can no longer be sampled and was therefore dropped from this list.
- (11) Ord Terrace deep well is obstructed and can no longer be sampled.
- (12) Laguna Seca Driving Range Shallow cannot be sampled because water levels have fallen so far that they are below the level that an electric pump or a pneumatic pump can be used due to obtain samples.
- (13) MW-BW-23-180 was no longer in use and was destroyed by the U.S. Army so it cannot be sampled.

ATTACHMENT 2

MPWMD RFS No. 2021-01 Work Schedule																										
ID	Task Name	2021												2022												
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	I.2.a DATABASE MANAGEMENT																									
2	I.2.a.1 Conduct Ongoing Data Entry/Database Maintenance																									
3	Annual Water Production, Water Level, and Water Quality Tabulation for 2021																									
4	I.2.b DATA COLLECTION PROGRAM																									
5	I.2.b.2 Collect Monthly Water Levels (MPWMD)																									
6	I.2.b.3 Collect Quarterly Water Quality Samples (MPWMD)																									
7	I.2.b.7 CASGEM Data Submittal																									
8	I.4.c MPWMD Provides Assistance in Seawater Intrusion Detection																									

ATTACHMENT 3 SUMMARY OF ESTIMATED COSTS						
M&MP TASK NO.	LABOR HOURS		HOURLY RATE	SUPPLIES AND MATERIALS		TOTAL
	BREAKDOWN	TOTAL		BREAKDOWN	TOTAL	
I. 2. a. 1	12 mo. @ 8 hrs/mo.	96	\$149	Other services needed to host and maintain Watermaster's Database, estimate \$300 for the year.	\$300	\$14,604
I. 2. b. 2.	12 mo. @ 4 hrs/mo.	48	\$62	Purchase one datalogger @ \$700 plus \$50 in parts to keep in inventory as a spare if needed.	\$750	\$3,726
I. 2. b. 3.	Quarterly WQ wells (Table 2): MPWMD Coastal wells (6 wells - shallow and deep aquifers @ 3 sites: MSC, PCA-W, FO-09), plus one additional verification WQ sample at Ord Terrace Shallow Well. Labor: 4 events @ 16 hrs/event	64	\$62	Fuel: 4 events @ \$10/site x 3 sites = \$120; Lab costs: 4 events @ \$225/well x 7 wells = \$6,300; plus one verification sample lab cost = \$225.	\$6,645	\$10,613
	Annual WQ wells (Table 2): 1 event @ 28 hrs/event = 28 hrs	28	\$62	BLM site: Eductor setup (use MPWMD portable unit): \$0 x 1 site = \$0; Airlift equip.: \$100 x 1 site x 1 event = \$100; Fuel: \$20 x 1 site x 1 event = \$20. Lab cost (annual WQ wells): \$175 x 15 wells x 1 event = \$2,625; maintenance on previously installed sample collection equipment = \$1,000. One-time cost, if necessary, for replacing a well sampling pump if the existing pump fails or is found to be inadequate due to dropping groundwater levels = \$2,000.	\$5,745	\$7,481
	WM Sentinel and Northern Inland wells: download/store dataloggers, 4 events @ 2 hrs/event	8	\$62	N/A	\$0	\$496
	Compile data: 4 events @ 20 hours/event	80	\$62	N/A	\$0	\$4,960
I. 2. b. 6	Provide Data Appendix for SWI Report	14	\$149	N/A	\$0	\$2,086
I.2.b.7	Quarterly CASGEM Data Submittal for Watermaster's Voluntary Wells	40	\$149	N/A	\$0	\$5,960
I. 4. c	Provide SWI supplemental data and review.	8	\$149	N/A	\$0	\$1,192
TOTAL ESTIMATED COST =						\$51,118

Notes:

1. Vehicle mileage is included in the labor costs above.
2. Regardless of the use of the term "Estimated Cost" in this RFS, if the work of this RFS is to be compensated for using Lump Sum Payment method, it is understood and agreed to by PROFESSIONAL that the Total Price listed on page A-1 of this RFS is binding and limiting as defined in Section V of the Agreement.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-02 (To be filled in by WATERMASTER)

TO: Jonathan Lear

FROM: Robert Jaques.

Monterey Peninsula Water Management District
PROFESSIONAL

WATERMASTER

Services Needed and Purpose:

Perform water level and water quality data collection for specified wells within the Seaside Basin in accordance with the Scope of Work contained in Attachment 1.

Completion Date: The work of this RFS No. 2021-02 shall be completed on an as-directed basis from the Watermaster during 2021. All work under this RFS will be completed not later than December 31, 2021.

Method of Compensation: Time and Expense Payment Method (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$3,915.00 (See Attachment 1 for details regarding this Total Price, and how costs will be authorized on an as-directed basis. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:** _____
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work for RFS No. 2021-02

Background:

The WATERMASTER Board authorized its staff to contract with the PROFESSIONAL to collect water level and water quality data from certain wells located within the Seaside Basin, if the owners/operators of those wells expressed this desire to the WATERMASTER. The procedures for this data collection are described in the January 17, 2008 "Notice to Well Owners" that was sent out by the Watermaster to well owners in the Seaside Groundwater Basin.

This RFS No. 2021-02 authorizes PROFESSIONAL to perform this data collection work on an as-directed basis, with formal authorization from the WATERMASTER to the PROFESSIONAL being required prior to the PROFESSIONAL performing such work on any specified well. This will provide the WATERMASTER with full control over which wells are provided this service, as well as over the costs for having this work performed.

The wells to which these services may be provided are listed in Table 1.

The estimated costs, per well, to perform these services are as follows:

Monthly Water Levels - It is estimated that it will take approximately 0.5 hour/well to perform a water level measurement. This time estimate is based on the assumption that the water level measurements will be performed at the time that a field person is already out and about collecting data from other wells, and the fact that the distance between wells located within the Basin is not that great. This labor would be billed at the field rate of \$62/hr, so the estimated cost per water level measurement would be \$31.00.

The total estimated cost would be \$372 per year per well for 12 monthly measurements.

Annual Water Quality Sampling - Assuming that annual water sample collection would coincide with water level collection at a well, it is estimated that it will take approximately 0.5 hr to collect the water quality sample, including sampling time, bottle labeling, custody forms, delivery to laboratory, etc. There will also be an estimated 0.5 hr for receipt, review and computer entry of laboratory data, and an estimated \$175 per sample for the laboratory analysis. The sampling work would be billed at the field rate of \$62/hr, and the review and computer data entry work would be billed at the rate of \$149/hr, so the estimated cost per annual water quality sample would be \$105.50 for labor, and \$175 for laboratory services, for a total cost per sample of \$280.50. Only one sample per well per year will need to be collected and analyzed. This sample will be collected in the fall.

The total estimated cost for collecting and analyzing the sample per well is \$280.50.

Combined Water Level Measurements and Water Quality Sampling: For combined water level and water quality monitoring, the total estimated cost, per well, for the 12-month period is \$652.50.

Of the wells listed in Table 1 it is assumed that not more than 6 will ask to have data collected for them by the WATERMASTER, the total estimated cost would be:

Potential No. of Wells Needing Water Level Data Collected	= 6 @ \$372 =	\$2,232
Potential No. of Wells Needing Water Quality Data Collected	= 6 @ \$280.50 =	<u>\$1,683</u>
	TOTAL =	<u>\$3,915</u>

Table 1

APN	DETAILS	COMPANY	Watermaster "Producer" Well?	MPWMD Assigned Well #	Monthly Water Levels Required	Monthly Water Levels Being Collected?	Annual Water Quality Analyses Required?	Annual Water Quality Data Being Collected?
Within MPWMD Boundaries								
012-432-004	CAW - Plumas #4	California American Water Co.	Y	T15S/R1E-27Jg	Y	Y	Y	N
012-843-013	CAW - Darwin	California American Water Co.	Y	T15S/R1E-23Ea	Y	Y	Y	N
011-041-018	CAW - Military	California American Water Co.	Y	T15S/R1E-14Nd	Y	Y	Y	N
011-061-004	CAW - Ord Grove #2	California American Water Co.	Y	T15S/R1E-23Bc	Y	Y	Y	N
011-071-018	CAW - New Luzern	California American Water Co.	Y	T15S/R1E-23De	Y	Y	Y	N
011-091-017	CAW - Playa #3	California American Water Co.	Y	T15S/R1E-22Bc	Y	Y	Y	N
011-091-017	CAW - Playa #4	California American Water Co.	Y	T15S/R1E-22Bf	Y	Y	N	
011-493-028	CAW - Paralta	California American Water Co.	Y	T15S/R1E-14Ra	Y	Y	Y	N
031-151-010	Reservoir Well	City of Seaside	Y	T15S/R1E-13Na	Y	?	Y	N
031-231-062	Coe Avenue Well	City of Seaside	Y	T15S/R1E-14Ma	Y	?	Y	N
011-181-014	Public Works Corp. Yard	City of Sand City	Y	T15S/R1E-22Ed	Y	?	Y	N
011-011-020	Cypress Pacific	Monterey Peninsula Engineering	Y	T15S/R1E-22Dd	Y	N	Y	N
011-236-010	Robinette -Design Ctr.	City of Sand City	Y	T15S/R1E-22Mc	Y	?	Y	N
011-041-043	(in front of Target)	DBO Development	Y	T15S/R1E-22Ce	Y	N	N	
011-061-022	MMP prod well	Mission Memorial Park	Y	T15S/R1E-23Ab	Y	Y	N	
011-061-022	PRTIW -operated by MMP	Mission Memorial Park	Y	T15S/R1E-23Ac	Y	N	Y	N
011-501-014-500		Security National Guaranty, Inc.	Y	T15S/R1E-15K1	Y	N	Y	N
011-532-005		Granite Rock Company	Y	T15S/R1E-22Eb	Y	?	N	
012-511-005	Shea Well	City of Del Rey Oaks	Y	T15S/R1E-26Mc	Y	N	N	
012-115-017	City #4	Seaside Municipal Water System	Y	T15S/R1E-23Gc	Y	?	Y	?
012-653-003	City #2	Seaside Municipal Water System	Y	T15S/R1E-23Pb	Y	?	N	
012-664-017	City #1	Seaside Municipal Water System	Y	T15S/R1E-23Lb	Y	?	N	
012-115-017	City #3	Seaside Municipal Water System	Y	T15S/R1E-23Ga	Y	?	Y	?
173-071-052	East Well (Lot #9)	CAW - Bishop Unit	Y	T16S/R2E-05Fa	Y	N	N	
173-072-034	well lot Bishop #1 (west)	CAW - Bishop Unit	Y	T16S/R2E-05Ea	Y	Y	N	
173-072-041	well lot Bishop #2 (east)	CAW - Bishop Unit	Y	T16S/R2E-05Fb	Y	Y	N	
416-111-002	Mutual	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cb	Y	N	N	
416-111-004	Standex	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cc	Y	N	N	
416-111-004	Bay Ridge	CAW - Hidden Hills Unit	Y	T16S/R2E-09Cd	Y	Y	N	
259-031-011	RR#7	CAW - Ryan Ranch #7	Y	T15S/R1E-36Nb	Y	Y	N	
259-031-012	RR#8	CAW - Ryan Ranch #8	Y	T16S/R1E-01Cb	Y	Y	N	
259-031-012	RR#11	CAW - Ryan Ranch #11	Y	T16S/R1E-01Cd	Y	Y	N	
173-071-056	Old Main Gate (Lot #12)	Pasadera - New Cities Developme	Y	T16S/R2E-05Mg	Y	Y	N	
173-071-051	Paddock #1(Lot #11)	Pasadera - New Cities Developme	Y	T16S/R2E-05Mf	Y	N	N	
203-031-034	01-349	York School	Y	T15S/R1E-36Qa	Y	?	N	
173-071-048	(new #12)	Laguna Seca Golf Resort	Y	T16S/R2E-06Hb	Y	Y	N	
173-071-048	(racetrack)	Laguna Seca Golf Resort	Y	T16S/R2E-06Ga	Y	Y	N	
Outside MPWMD Boundaries								
173-011-025, -026	LS Cnty Park #3	MPRPD	Y	T16S/R2E-05Gd	Y	?	N	
173-011-025, -026	LS Cnty Park #4	MPRPD	Y	T16S/R2E-05Ge	Y	?	N	
					Y = 38	N or ? = 21	Y = 16	N or ? = 16

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SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-01 (To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Feeney
PROFESSIONAL

FROM: Robert Jaques.
WATERMASTER

Services Needed and Purpose:

Perform certain Tasks contained within the Watermaster's Monitoring and Management Plan for 2021 (See detailed Scope of Work in Attachment 1).

Completion Date: The work of this RFS No. 2021-01 shall be completed in accordance with the schedule described in Attachment 1.

Method of Compensation: Time and Expense Payment Method (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 18,500.56 (See Attachment 2 for a Breakdown of this Total Price. Cost is authorized only when evidenced by signature below.)

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Authorized by: _____ **Date:** _____.
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____.
PROFESSIONAL

ATTACHMENT 1

Detailed Scope of Work for RFS No. 2021-01

Background:

The Watermaster Board approved the Budget for the 2021 Management and Monitoring Program Work Plan (hereinafter referred to as the “2021 M&MP Work Plan”) at its meeting of October 7, 2020.

Scope of Work

This RFS No. 2021-01 authorizes PROFESSIONAL to perform the work described in PROFESSIONAL’s Proposal for Hydrogeologic Services, dated July 20, 2020 and contained in Attachment 2, with the following clarifications and/or additions:

PROFESSIONAL will collect water level data from the wells identified as SBWM-1, SBWM-2, SBWM-3, and SBWM-4. PROFESSIONAL will also perform induction logging on each of these wells. Because the State Department of Parks and Recreation may be requiring PROFESSIONAL to carry additional insurance to perform this work under a new Right-of-Entry Permit, an additional \$500 has been included in the cost authorization in the event PROFESSIONAL incurs additional costs to obtain such insurance. These wells are commonly referred to as WATERMASTER’s Sentinel Wells. Water level data collection and induction logging will be performed on each of these wells as described below and according to the schedule described below:

Induction Logging

Induction logging will be performed on each of the four Sentinel Wells semi-annually in March and September.

Water Level

Water levels in each of the four Sentinel Wells will be continuously measured by data loggers and will be downloaded semi-annually when induction logging is being performed.

PROFESSIONAL will transmit the digital water level data to the Monterey Peninsula Water Management District (MPWMD), Montgomery and Associates, and to the WATERMASTER promptly after the data is acquired, so that (1) MPWMD can use that data in preparing its reports to the WATERMASTER and (2) Montgomery and Associates and the WATERMASTER will be made promptly aware of the data. Digital induction data will also be provided to MPWMD, Montgomery and Associates, and to the WATERMASTER as soon as it becomes available to PROFESSIONAL. Digital induction data will also be reduced and presented graphically and provided to Montgomery and Associates for use by Montgomery and Associates in preparing reports for the WATERMASTER.

ATTACHMENT 2

Martin B. Feeney
Consulting Hydrogeologist

P.G. 4634
C.E.G. 1454
C.Hg 145

July 20, 2020

Seaside Basin Watermaster
PO Box 51502
Pacific Grove CA.
93950

Attention: Bob Jaques, PE

Subject: Sentinel Well Data Collection Program 2021 – Proposal for Hydrogeologic Services

Dear Bob:

Following up on our discussions, I'm pleased to provide this proposal to assist the Seaside Basin Watermaster (Watermaster) with data collection from the Sentinel Wells for the upcoming year. Presented in this proposal are an outline of the data collection plan and an estimate of associated costs.

The data collection program for the Sentinel Wells will continue as it has been performed the last half of 2017. The data collection program currently includes semi-annual induction logging and continuous water level data collection. The program previously included depth-specific downhole water quality sampling, however, the data proved unreliable and this portion of the program was terminated. The subcontractor for the induction logging remains unchanged.

The components of this program are as follows:

Data collection from each well:

- Semi-Annual down-loading of water level data logger.
- Semi-Annual induction logging (March and September)
- Transmittal of water level data to Monterey Peninsula Water Management District personnel.
- Processing of induction log data and presentation

The well vaults that protect the Sentinel Wells continue to need maintenance to remain functional. This could include painting of the vault covers, repairing stripped threads for the bolts that hold down the covers, and general cleaning. Costs of these services are included in this proposal.

It is understood that, as in the past, the Monterey Peninsula Water Management District (District) will share some of the data collection and analysis tasks of the overall data collection program. The District will collect water level data from the array of data loggers on the alternate quarters. Water level data from the data loggers will be collected as part of this scope of services only when induction logging is performed. Collected water level data will be transmitted to the District for compilation and processing. Induction logging data will continue to be compiled and processed by this author.

Annual costs for the data collection program are estimated at \$ 18,500.56 inclusive of outside services. A breakdown of costs is presented in the table below.

P.O. Box 23240, Ventura, CA 93002 ♦ Phone: 831-915-1115 ♦ e-mail mfeeney@ix.netcom.com

SENTINEL WELLS LOGGING/SAMPLING WL DATA COLLECTION PROGRAM 2021					
Pacific Surveys	Unit Cost	Number	Semi- Annual Cost	# per annum	Annual Cost
Service Charge	1085	1	1085	2	\$ 2,170.00
Induction Logging	0.75	5310	3982.5	2	\$ 7,965.00
E-file generation/transmittal	115	1	115	2	\$ 230.00
mileage	0.99	422	417.78	2	\$ 835.56
per diem	175	2	350	2	\$ 700.00
					\$ 11,900.56
Professional Services (hrs)					
Well Vault Maintenance	175	4	700	1	\$ 700.00
Supervise Logging/Download Data Loggers	175	10	1750	2	\$ 3,500.00
Process Induction Data	200	4	800	2	\$ 1,600.00
Transmit Water Level Data	200	2	400	2	\$ 800.00
					\$ 6,600.00
				Total	\$ 18,500.56

The opportunity to present this proposal is appreciated. Please call if you have any questions.

Sincerely,



Martin B. Feeney

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-02 (To be filled in by WATERMASTER)

TO: Martin Feeney
Martin Blair Feeney
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Consultation and other hydrogeologic services. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2021.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$4,000.00 (Cost is authorized only when evidenced by signature below.) (See Attachment 1 for derivation of this Total Price).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:**_____.
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:**_____.
PROFESSIONAL

ATTACHMENT 1

On an ongoing and as-requested basis, PROFESSIONAL will provide general hydrogeologic consulting services to WATERMASTER on a variety of topics. These may include, but not be limited to, interpretation of water level and water quality data, and seawater intrusion analysis issues.

Providing these services will likely involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) and /or Board meetings, most of which will be attended telephonically or via Zoom.

Consulting services will be provided at the rate of \$200/hour. Related other direct costs (such as travel costs) will be billed at actual cost. Services under this RFS No. 2021-02 will only be provided when specifically requested by WATERMASTER.

The total cost authorized by this RFS No. 2021-02 is \$4,000.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: January 1, 2021

RFS NO. 2021-01 (To be filled in by WATERMASTER)

TO: Gus Yates
Todd Groundwater
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than December 31, 2021.

Method of Compensation: Time and Materials (As defined in Section V of Agreement.)

Total Price Authorized by this RFS: \$ 4,000.00 (Cost is authorized only when evidenced by signature below.)
(See Attachment 1 for Estimated Costs).

Total Price may not be exceeded without prior written authorization by WATERMASTER in accordance with Section V. COMPENSATION.

Requested by: _____ **Date:** _____
WATERMASTER Technical Program Manager

Agreed to by: _____ **Date:** _____
PROFESSIONAL

ATTACHMENT 1

Scope of Work

On an ongoing and as-requested basis PROFESSIONAL will provide hydrogeologic consulting services to WATERMASTER on groundwater modeling and related topics. These may include, but not be limited to, responding to questions regarding the Seaside Basin Model that HydroMetrics WRI has prepared for WATERMASTER, assisting in the interpretation of modeling results, and other related activities.

Providing these services may involve attending certain of WATERMASTER's Technical Advisory Committee (TAC) meetings, some of which may be attended telephonically or via Zoom.

Estimated Costs

Consulting services provided under this RFS No. 2021-01, including attending meetings either remotely or in-person as requested by WATERMASTER, will be billed at PROFESSIONAL's standard hourly rates for calendar year 2021, including all markups and other direct costs.

In addition to hourly labor costs, an allowance of \$500.00 is included in the estimated cost of this RFS to cover travel and other incidental costs associated with the performance of this work.

The total cost authorized by this RFS No. 2021-01 is \$4,000.00.

SEASIDE GROUNDWATER BASIN WATERMASTER

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: September 2, 2020

SUBJECT: Discuss/Consider Recommendation to the Watermaster Board to Approve the Proposed Replenishment Assessment Unit Costs for Natural Safe Yield and Operating Yield Overproduction

RECOMMENDATIONS:

Adopt a Replenishment Assessment Natural Safe Yield Unit Cost of \$2,947/AF and an Operating Yield Unit Cost of \$737/AF for Water Year 2021 (October 1, 2020 through September 30, 2021).

BACKGROUND:

Per page 33 of the Decision, “The per acre-foot (AF) amount of the Replenishment Assessments shall be determined and declared by Watermaster in October of each Water Year in order to provide Parties with advance knowledge of the cost of Over-Production in that Water Year.” Thus, the per acre-foot amount determined by the Board on or before October of 2020 will be used to calculate Replenishment Assessments for pumping that occurs during Water Year 2021 which begins on October 1, 2020 and ends on September 30, 2021.

For Water Years 2014, 2015, and 2016 the Board adopted a Replenishment Assessment Natural Safe Yield Unit Cost of \$2,702/AF. This unit cost was developed starting with Water Year 2014 by taking the average of the Base Unit Cost (\$/AF) of the four potential water supply projects that the Board felt were the most likely to be implemented. For Water Year 2017 the Board adopted a revised Replenishment Assessment Natural Safe Yield Unit Cost of \$2,872. This revised Unit Cost was calculated using updated unit cost data for the three projects which the Board at that time felt were the most likely to be implemented. The number of projects was reduced from four to three, because when the WY 2017 Unit Cost was being calculated, it was determined that two of the previous four projects (Regional Desalination and the Pure Water Monterey Groundwater Replenishment Projects) would be part of a combined project referred to as the Monterey Peninsula Water Supply Project. The Water Year 2017 Unit Cost was carried over to the three subsequent Water Years because no updated cost data was available for those projects, and no other viable projects could be identified.

DISCUSSION

At its August 18, 2020 meeting, the Budget and Finance Committee was presented, and discussed, the attached Table which includes updated cost data for one of the three projects, the Pure Water Monterey Project. The proponents of the Cal Am desalination project and the Regional Urban Water Augmentation Project reported that the previously used cost data had not been updated, and that the previously used unit costs should still be used. In that Table a blended unit cost value is provided for the Monterey Peninsula Water Supply Project based on a reduced size desalination plant offset by water to be provided by the Pure Water Monterey Project. Based on the updated Pure Water Monterey Project’s unit cost, the blended unit cost for that combined project was updated from \$4,591/AF to \$4,817/AF.

The Table also includes updated “Potential Dates Replenishment Water Could Become Available.”

During the Budget and Finance Committee meeting, it was noted that the ASR Expansion Project unit cost might also need to be updated. MPWMD reported that if the figure needed to be updated, it would provide the updated figure to Mr. Jaques. Subsequent to the Budget and Finance Committee meeting, MPWMD reported that it would be appropriate to continue using the \$2,025 per acre-foot unit cost that had been previously provided by them for the Seaside Basin ASR Expansion Project. Thus, there was no need to revise the Replenishment Assessment unit cost figure from that which had been presented at the Budget and Finance Committee meeting.

Therefore, the updated Natural Safe Yield Unit Cost that is recommended for use in Water Year 2021 is \$2,947/AF, calculated as: $(\$4,817 + \$2,025 + \$2,000) / 3$. These are the three **bold-faced** unit costs in the attached Table. The Operating Yield Over Production Replenishment Assessment Unit Cost is 25% of that amount, or \$737.

ATTACHMENTS

1. Updated Unit Cost Data Table
2. Water Year 2014 Unit Cost Data
3. Water Year 2017 Unit Cost Data

WATER YEAR 2021 (October 1, 2020-September 30, 2021)

ANTICIPATED UNIT COSTS OF WATER COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) ⁽¹⁾	BASE UNIT COST (\$/AF)	BASE UNIT COST YEAR
Regional Desalination ⁽²⁾	2022	6,250	\$6,147	2019
Groundwater Replenishment Project (Pure Water Monterey) ⁽⁶⁾	2020	3,500	\$2,442	2020
Monterey Peninsula Water Supply Project (Combined Regional Desalination with Groundwater Replenishment Project)	GWRP in 2020 Regional Desalination in 2022	9,750	\$4,817⁽³⁾	2018-2020
Seaside Basin ASR Expansion ⁽⁴⁾	2020	1,000	\$2,025	2016
Regional Urban Water Augmentation Project ⁽⁵⁾	2020	1,400-1,700	\$2,000	2018

FOOTNOTES:

(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the CAW distribution system, based on the desalination plant having a 6.4 MGD capacity which is equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 4). For the GWRP this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD. This unit cost was confirmed in August 2020 by Tim O'Halloran of Cal Am as being the latest unit cost available for this project.

(3) Flow-weighted average unit cost of the combined desalination and groundwater replenishment projects, calculated as:

$$(6,250 \times \$6,147 + 3,500 \times \$2,442) / 9,750 = \mathbf{\$4,817}.$$

(4) Base unit cost data provided by MPWMD in 2016 and confirmed as still applicable in August 2020. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(5) Project data provided by MCWD in 2016. This unit cost was confirmed in August 2020 by Patrick Breen of MCWD as being the latest unit cost available for this project.

(6) Base unit cost based on information provided by Dave Stoldt of MPWMD as reported in the Carmel Pine Cone in early August 2020, and confirmed during Budget and Finance Committee meeting on August 18, 2020.

WATER YEAR 2014 (October 1, 2013-September 30, 2014)

ANTICIPATED UNIT COSTS OF REPLENISHMENT WATER FOR THE SEASIDE BASIN

POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISHMENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) ⁽¹⁾	LEVEL OF PROJECT DEVELOPMENT	CONTINGENCY INCLUDED IN BASE UNIT COST ⁽²⁾ (%)	BASE UNIT COST (\$/AF)	BASE UNIT COST YEAR	ADDITIONAL CONTINGENCY ADDED TO REFLECT LEVEL OF PROJECT DEVELOPMENT ⁽³⁾ (%)	UNIT COST INCLUDING ADDITIONAL CONTINGENCY (\$/AF)	UNIT COST INFLATED @ 3% FROM COST BASIS YEAR TO YEAR REPLENISHMENT WATER COULD BECOME AVAILABLE (\$/AF)	VOLUME-WEIGHTED AVG %
Monterey Peninsula Water Supply Project (Regional Desalination) ⁽⁴⁾	2018	9,752	Project Report	30%	\$3,507	2012	0%	\$3,507	\$4,188	56.53%
Seaside Basin ASR Expansion ⁽⁵⁾	2015	1,000	Conceptual	11%	\$1,800	2012	39%	\$2,502	\$2,734	5.80%
Regional Urban Water Augmentation Project ⁽⁶⁾	2017	3,000	Design	5%	\$2,000	2013	10%	\$2,200	\$2,476	17.39%
Groundwater Replenishment Project (GWRP) ⁽⁷⁾	2017	3,500	Conceptual	50%	\$3,500	2017	0%	\$3,500	\$3,500	20.29%

Total Quantity of Replenishment Water (AFY) the Listed Projects Could Cumulatively Potentially be Able to Produce Within the Next 10 Years ⁽⁸⁾ = 17,252

FOOTNOTES:

(1) For the Monterey Peninsula Water Supply Project this is the total amount of water from this source which could potentially come to the CAW distribution system. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 5). For the RUWAP this is the total amount of water that this project is expected to produce. Only a portion of this amount might be used as in-lieu replenishment of the Seaside Basin. For the GWRP this is the quantity of water that is being considered at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.

(2)(3) The following Contingency percentages were considered reasonable for the indicated levels of project development: Conceptual Level - 50%, Project Report Level - 30%, and Design Level - 15%. The sum of the values in the columns titled "Contingency Included in Base Unit Cost" and "Additional Contingency Added to Reflect Level of Project Development" equals the Contingency appropriate for the project's level of development.

(4) Project data based on documents provided by Cal Am and MPWMD.

(5) Project data provided by MPWMD. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.

(6) Project data provided by MCWD.

(7) Project data provided by MRWPCA. MRWPCA reported that the GWRP quantity being used in the current CEQA documentation is 3,500 AFY, but that the project could potentially supply 6,500 AFY or more. The unit cost would be lower if a quantity larger than 3,500 AFY were produced.

(8) This value is the cumulative production capacity of all of the Potential Sources of Replenishment Water that listed in this table, and is used only to determine the "Volume-Weighted Average." It is not the amount of water that is expected to be available to the Seaside Basin.

TABLE 2

WATER YEAR 2017 (October 1, 2016-September 30, 2017)				
ANTICIPATED UNIT COSTS OF WATER COULD POTENTIALLY BE USED FOR REPLENISHMENT OF THE SEASIDE BASIN				
POTENTIAL SOURCE OF REPLENISHMENT WATER	POTENTIAL DATE REPLENISH-MENT WATER COULD BECOME AVAILABLE	POTENTIAL VOLUME OF WATER THAT COULD BE SUPPLIED BY THE PROJECT (AFY) ⁽¹⁾	BASE UNIT COST (\$/AF)	BASE UNIT COST YEAR
Regional Desalination ⁽²⁾	2020	6,250	\$6,147	2019
Groundwater Replenishment Project (Pure Water Monterey) ⁽²⁾	2018	3,500	\$1,811	2018
Monterey Peninsula Water Supply Project (Combined Regional Desalination with Groundwater Replenishment Project)	GWRP in 2018 Regional Desalination in 2020	9,750	\$4,591	
Seaside Basin ASR Expansion ⁽³⁾	2020	1,000	\$2,025	2016
Regional Urban Water Augmentation Project ⁽⁴⁾	2018	1,400-1,700	\$2,000	2018
FOOTNOTES:				
(1) For the Regional Desalination Project this is the total amount of water from this source which could potentially come to the CAW distribution system, based on the desalination plant having a 6.4 MGD capacity which is equivalent to 7,169 AFY. Only a portion of this amount might be available as initially unused capacity that could be used to help replenish the Seaside Basin. For the RUWAP this is the total amount of non-potable water from this source. Only a portion of this amount might be used for in-lieu replenishment of the Seaside Basin. For the ASR Expansion Project this is the additional amount of water that could potentially be provided by this project (see footnote 3). For the GWRP this is the quantity of water that is being planned at this time by CAW for inclusion in its Monterey Peninsula Water Supply Project.				
(2) Base unit cost data based on PUC filing documents and provided by Dave Stoldt of MPWMD.				
(3) Base unit cost data provided by MPWMD. The 1,000 AFY of potential water that this project could supply would be in addition to the 1,300 AFY included as part of the Monterey Peninsula Water Supply Project, and would be an annual average taking into account river flow and hydrologic conditions that change from year to year.				
(4) Project data provided by MCWD.				

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**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: September 20, 2020

SUBJECT: Discussion of Projected Impacts to Seaside Basin Groundwater Levels Resulting from the Monterey Peninsula Water Supply Project (MPWSP) or an Expansion of the Pure Water Monterey (PWM) Project

RECOMMENDATIONS:

It is recommended that the Board discuss, and provide direction to staff on, ways of obtaining additional water to recharge the Basin in order to raise groundwater levels so that the Basin does not continue to be at risk of seawater intrusion.

BACKGROUND:

At its March and June, 2020 meetings the TAC discussed two potential scenarios:

- (1) What the groundwater level impacts would be to the Seaside Basin if the desalination plant portion of the MPWSP was not constructed and there was no expansion of the Pure Water Monterey Project, and
- (2) What would happen if the desalination plant was not built but the Pure Water Monterey expansion was built.

A cost and scope of work proposal was solicited from Montgomery & Associates to perform modeling work they said would be needed to answer these questions and to prepare a Technical Memorandum discussing these impacts. The TAC was concerned about the cost of the Montgomery & Associates proposal (over \$30,000) as well as some of the assumptions that were made in the previous modeling work performed for the PWM Expansion Project. I reported that modeling work had previously been performed for the Watermaster and others that might be adequate to evaluate these scenarios, and offered to research that work and provide a summary of it to the TAC at its July 2020 meeting.

DISCUSSION

At its July 2020 meeting the TAC unanimously recommended that the Board receive the information that had been provided to the TAC on this topic. That information is provided below, and in the attachment to this agenda item.

Attached is a paper that contains a compilation of modeling work and other reports that I believe provides sufficient information to assess the two scenarios described above. These are the principle conclusions I drew from the attached paper:

Current Groundwater Levels and Protective Elevations

- Of the eight wells in the Northern Coastal Subarea only four have groundwater levels above sea level. These four are all shallow wells. All of the deep aquifer wells have groundwater levels well below sea level.
- All four of the Sentinel Wells have groundwater levels well below sea level.
- Of the three wells in the Northern Inland Subarea only the two shallow wells have groundwater levels above sea level. The one deep aquifer well has a groundwater level well below sea level.
- The two wells in the Southern Coastal Subarea are both shallow wells and both have groundwater levels above sea level.
- Of the six wells for which protective elevations have been developed, only two have groundwater levels above protective elevations. These are both shallow wells. All of the groundwater levels in the deep wells are well below protective elevations.

If the Desalination Plant is Not Constructed and There is No Expansion of the Pure Water Monterey Project

- This is referred to as the “Project” scenario in the modeling work done for the PWM EIR. Under this scenario the only project constructed is the original 3,500 AFY PWM Project. The desalination plant is not constructed.
- Groundwater levels rise slightly in some wells and fall slightly in some wells. This variation is due to the hydrologic cycle and the amounts of water that are injected and extracted in any given year. There are “reserves” in the PWM project of approximately 2,000 AF of water that is intended to be left in the Basin for operating and drought purposes. When these reserves need to be used, they are to be replenished up to this amount. However, even with these reserves, there is little net change in groundwater levels because most of water that is replenished is extracted and not left in the Basin.
- Of the two wells that have protective elevations established for them, and for which hydrographs were prepared for the Project scenario, one of the wells (a shallow well) has a groundwater level above its protective elevation, but this is also true even if the PWM Project is not constructed. The other well (a deep well) has a groundwater level that is well below its protective elevation.
- The Basin will not be protected against seawater intrusion if neither the desalination plant nor the PWM Expansion Project are constructed.

If the Desalination Plant is Not Constructed and the Pure Water Monterey Expansion Project is Constructed

- Under this scenario both the original PWM Project and the PWM Expansion Project would be in operation.
- These two projects are intended to deliver 5,750 acre-feet per year to the Seaside Basin.
- When the groundwater modeling for the original PWM Project was done, the same Cal Am water demand figures that were used in the EIR/EIS for the MPWSP were used. The groundwater modeling performed for the PWM Expansion Project used Cal Am water demand figures that are several thousand AFY lower than the demand figures that were used when the modeling was done for the original PWM Project. If the higher demand figures were used, projected groundwater levels would be lower than are predicted by the modeling that was done for the PWM Expansion Project.
- Simulated groundwater levels are, on average, higher than those under No-Project conditions at all simulated observation wells.
- The long-term coastal groundwater levels are also higher than those under No-Project conditions, indicating that the PWM Expansion Project is likely to reduce the potential for seawater intrusion.

- Groundwater storage is increased by about 400 AF/year because not all of the water that is injected is extracted. In the Paso Robles aquifer not all of the injected water reaches the extraction wells during the simulation period, so it remains in the aquifer as stored water. Also, some of the additional extraction water made possible by the PWM Expansion Project is water flowing into the Seaside Basin from the adjacent Monterey subbasin to the north.
- Offshore inflows are reduced and offshore outflows are increased, decreasing the potential for seawater intrusion in the Seaside Basin. This is primarily true in the shallower Paso Robles aquifer.
- There continues to be a potential for seawater intrusion in the Seaside Basin even if the PWM Expansion Project is constructed. If the higher Cal Am water demand figures mentioned above prove to be more accurate than those used in the PWM Expansion Project modeling, there will be an even greater potential for seawater intrusion.

Additional Replenishment Water Will be Needed to Achieve Protective Elevations

- Previous modeling indicates injecting on the order of 1,000 AFY of additional water into the Seaside Basin for 25 years, along with the existing original PWM Project and either the desalination plant or the PWM Expansion Project, may be necessary to achieve protective elevations at all Basin locations within 25 years.
- Groundwater modeling that incorporates the actual projects that are to be constructed, i.e. either the desalination plant or the PWM Expansion Project, would need to be performed to refine the amount of additional injection water that would be needed.
- If the desalination plant is constructed, a smaller PWM Expansion Project could likely provide the additional water needed to achieve protective elevations.

Also attached is a set of excerpts from groundwater modeling reports, the Updated Basin Management Plan, and other prior agenda transmittals that all highlight the need to obtain recharge water that can be left in the basin and not pumped out, in order to achieve protective groundwater elevations.

ATTACHMENT:

1. Staff report titled *Impacts of Possible Groundwater Replenishment Scenarios*
2. Excerpts from prior reports and agenda transmittals

Attachment 1

IMPACTS OF POSSIBLE GROUNDWATER REPLENISHMENT SCENARIOS

The purpose of this paper is to draw upon previously performed modeling work and other reports to estimate the impacts on groundwater levels in the Seaside Basin under several possible groundwater replenishment scenarios. Two scenarios were proposed for evaluation at prior TAC meetings: (1) what the impacts would be if the desalination plant is not constructed and there is no expansion of the Pure Water Monterey Project, and (2) what would happen if the desalination plant is not built but the Pure Water Monterey expansion is built. These are discussed below.

Background Information

Protective Elevations Modeling

The Watermaster had its *Basin Management Action Plan* updated in 2018. That document includes information regarding protective elevations for wells within the Seaside Basin. Below are excerpts from that document.

The persistence of groundwater levels below most coastal protective groundwater elevations implies that seawater will likely eventually intrude into the Basin. Although intrusion may take many years or decades to occur, groundwater levels need to rise above protective elevations to ensure protection of the aquifers.

Hydrographs. To provide background information, Figure 2 below shows the locations of wells in the Seaside Basin and Figures 5 through 8 below show historical groundwater level hydrographs for a number of wells in the Seaside Basin.

Protective groundwater elevations. The 2009 BMAP used the Ghyben-Herzberg surface as the protective elevations. Since that report, groundwater elevations at several coastal monitoring wells have been developed with the aid of the groundwater model. As shown below in Table 5, the protective groundwater elevations at these wells range from 2 to 11 feet above mean sea level for the shallow aquifer and from 4 to 17 feet above mean sea level for the deep aquifer. Hydrographs for these wells are shown below in Figures 11 through 16.

Table 5. Summary of Protective Elevations for Coastal Monitoring Wells

Subarea	Well	Completion	Protective Elevation, feet above sea level
Northern Coastal	MSC	Deep	17
		Shallow	11
	PCA-W	Deep	17
		Shallow	2
	Sentinel Well 3	Deep	4
Southern Coastal	CDM-MW4	Shallow	2



EXPLANATION

- Adjudicated Seaside Groundwater Basin Boundary
- Basin Boundary
- Subarea Boundary
- Monitoring Well
- Production Well
- ASR Well
- Laguna Seca Anticline
- Faults

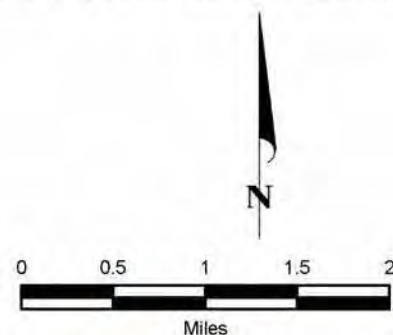


Figure 2. Seaside Basin Well Locations

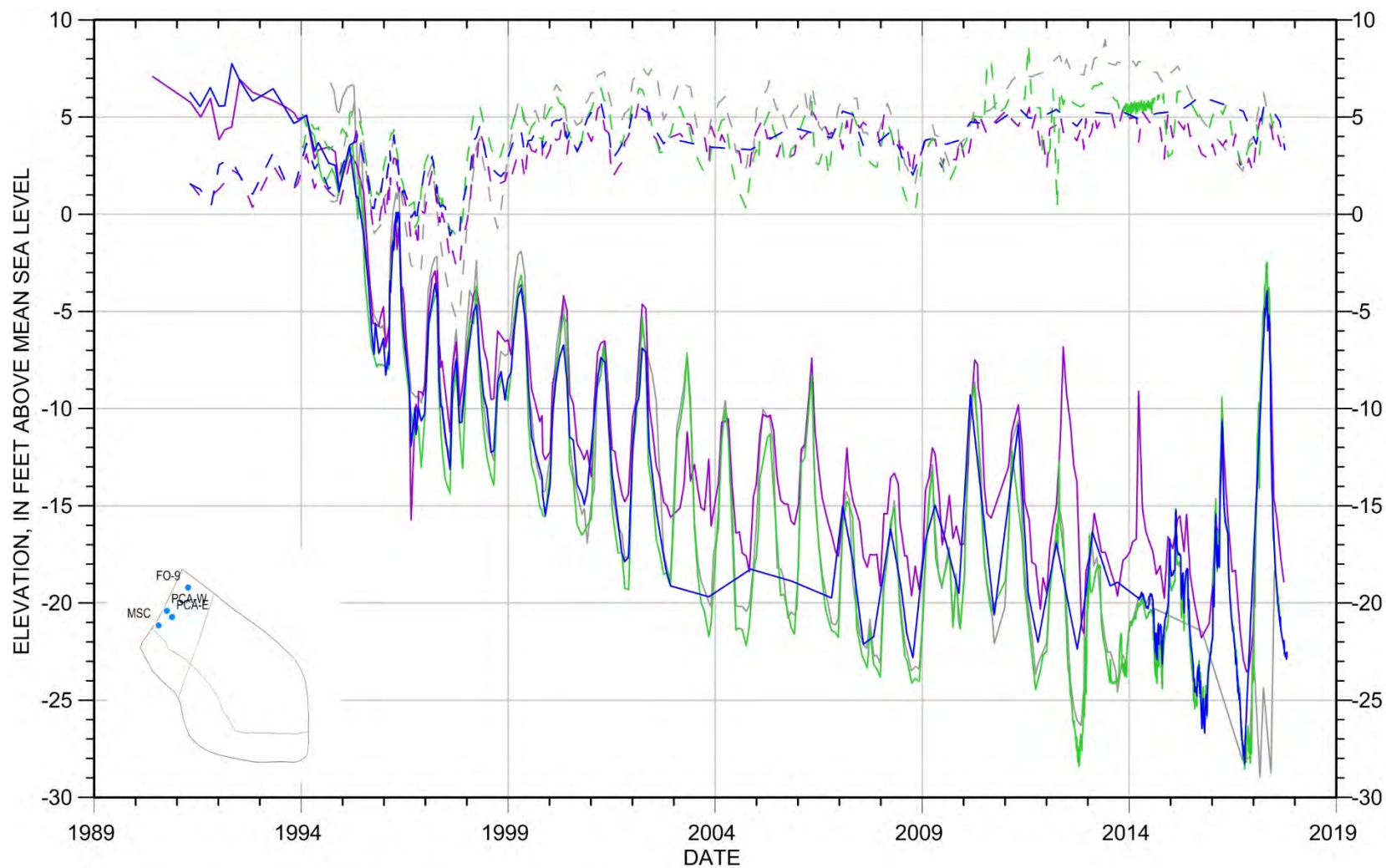


Figure 1. Northern Coastal Subarea Hydrographs

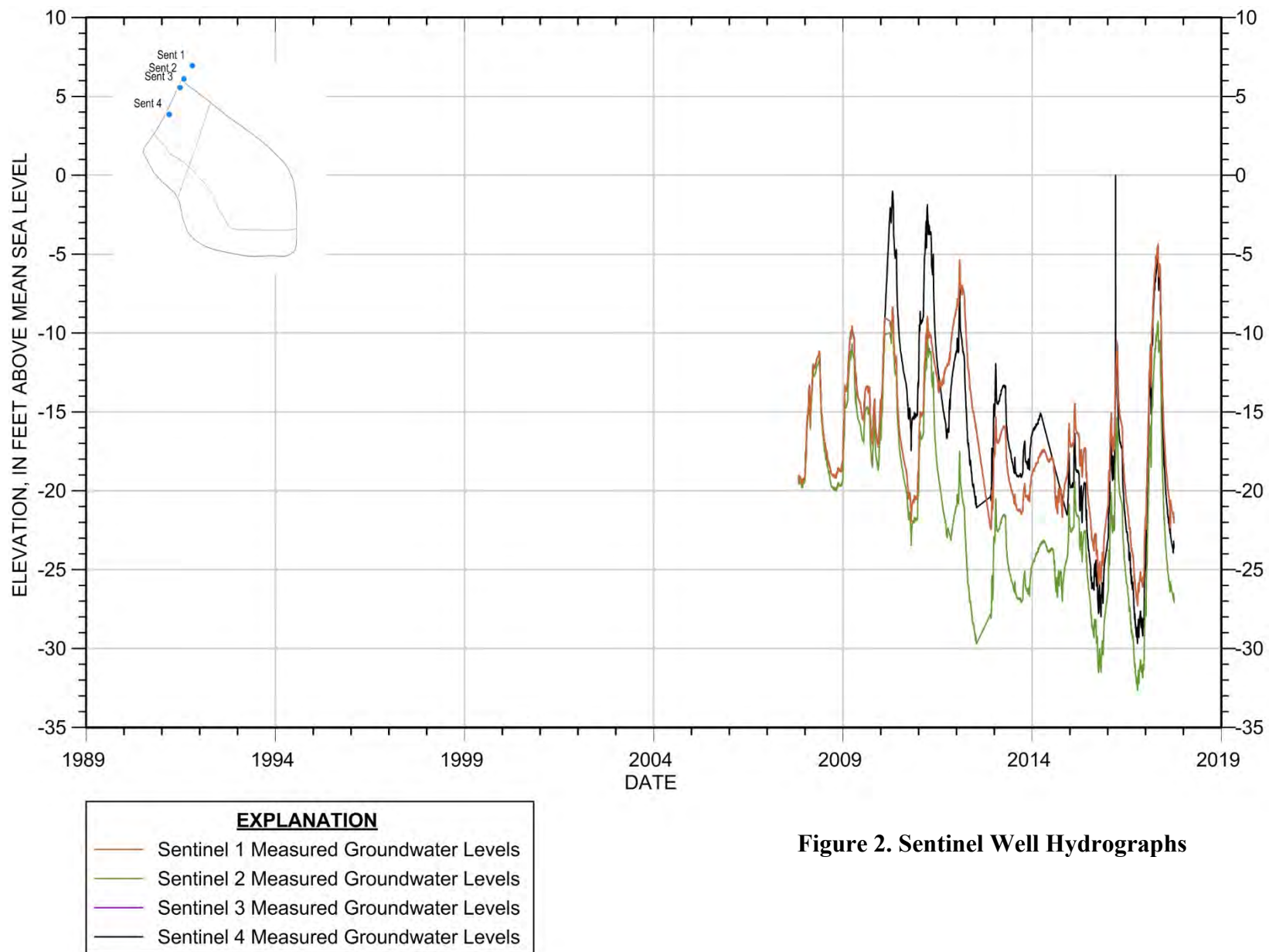


Figure 2. Sentinel Well Hydrographs

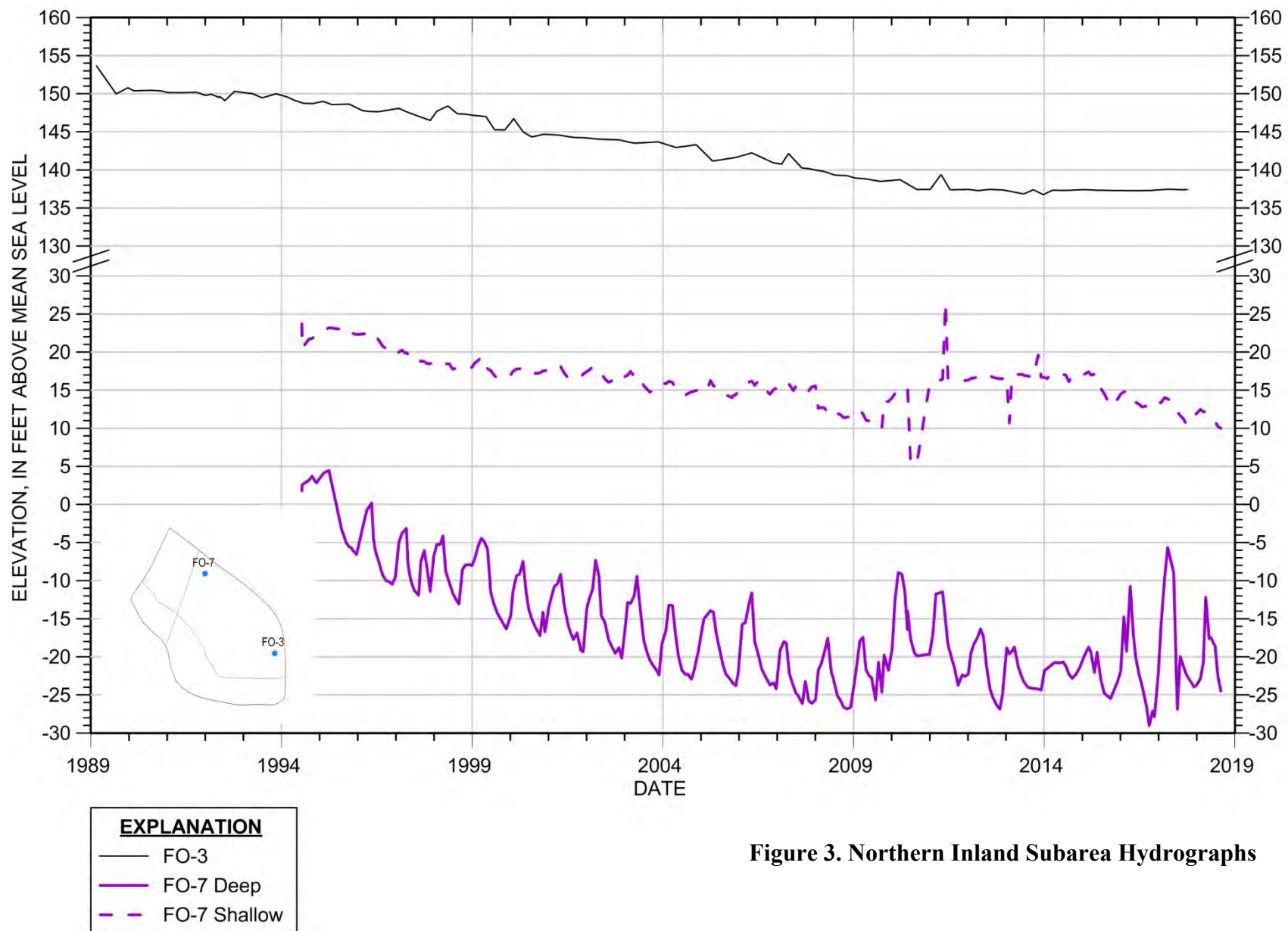


Figure 3. Northern Inland Subarea Hydrographs

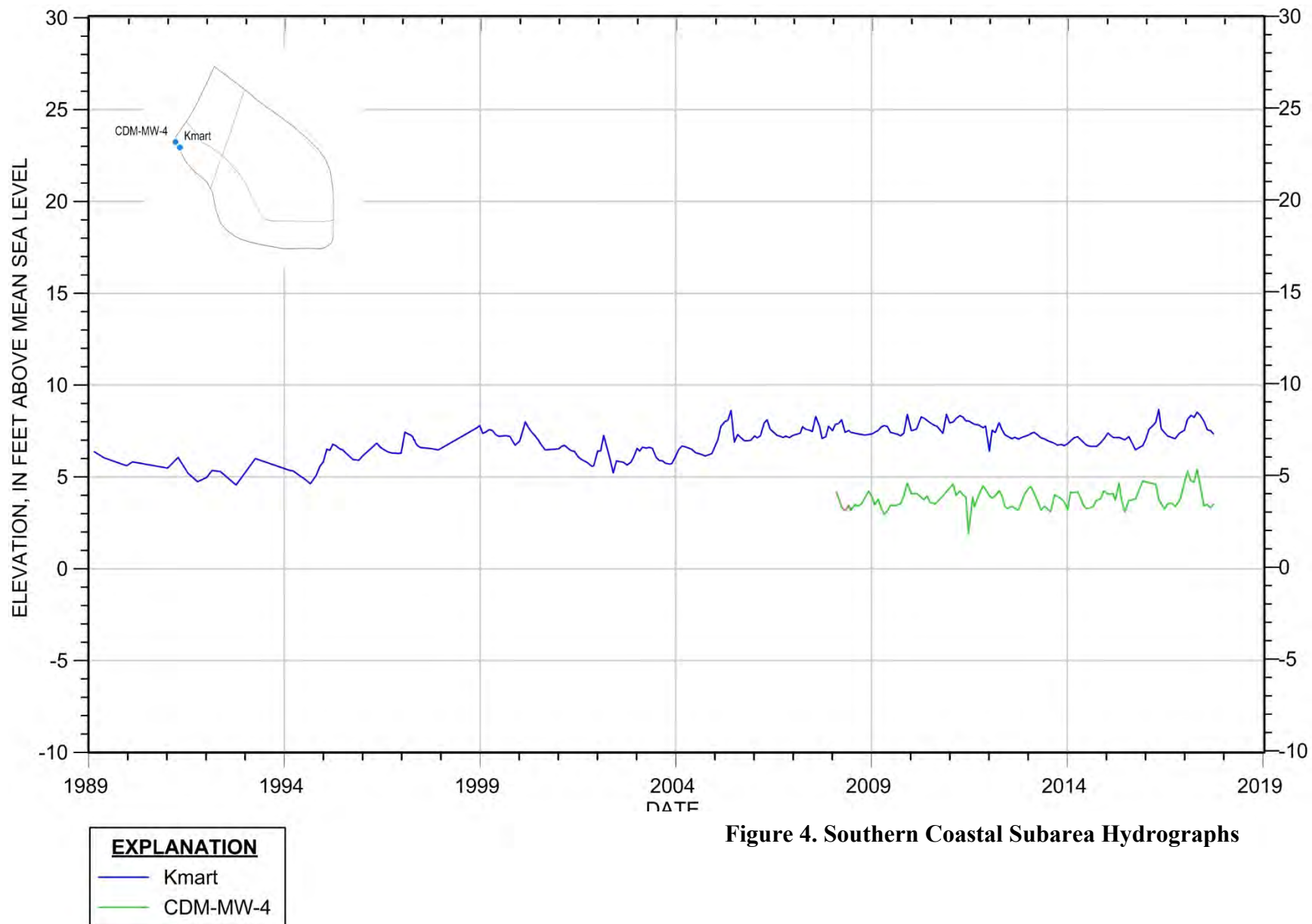


Figure 4. Southern Coastal Subarea Hydrographs

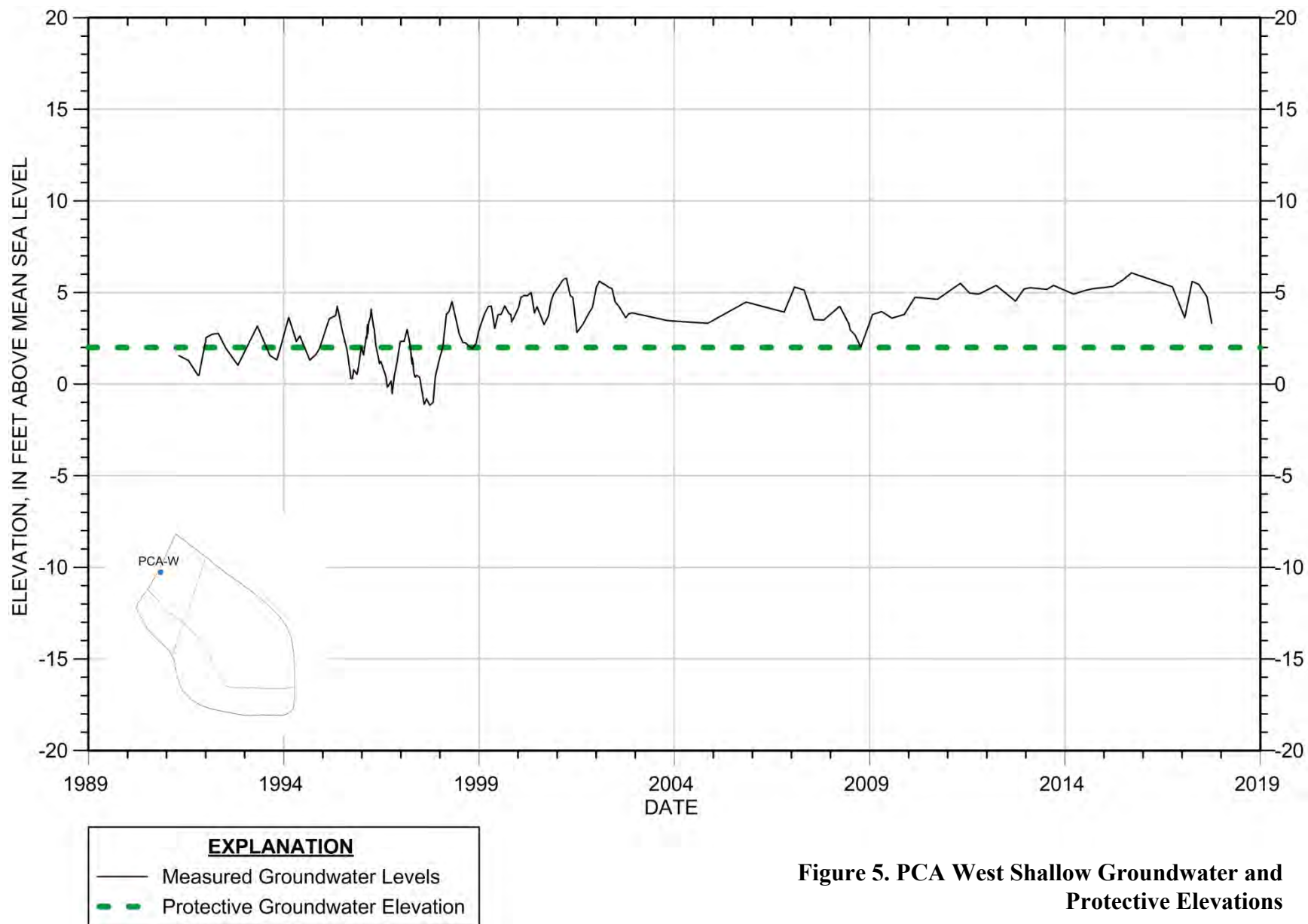


Figure 5. PCA West Shallow Groundwater and Protective Elevations

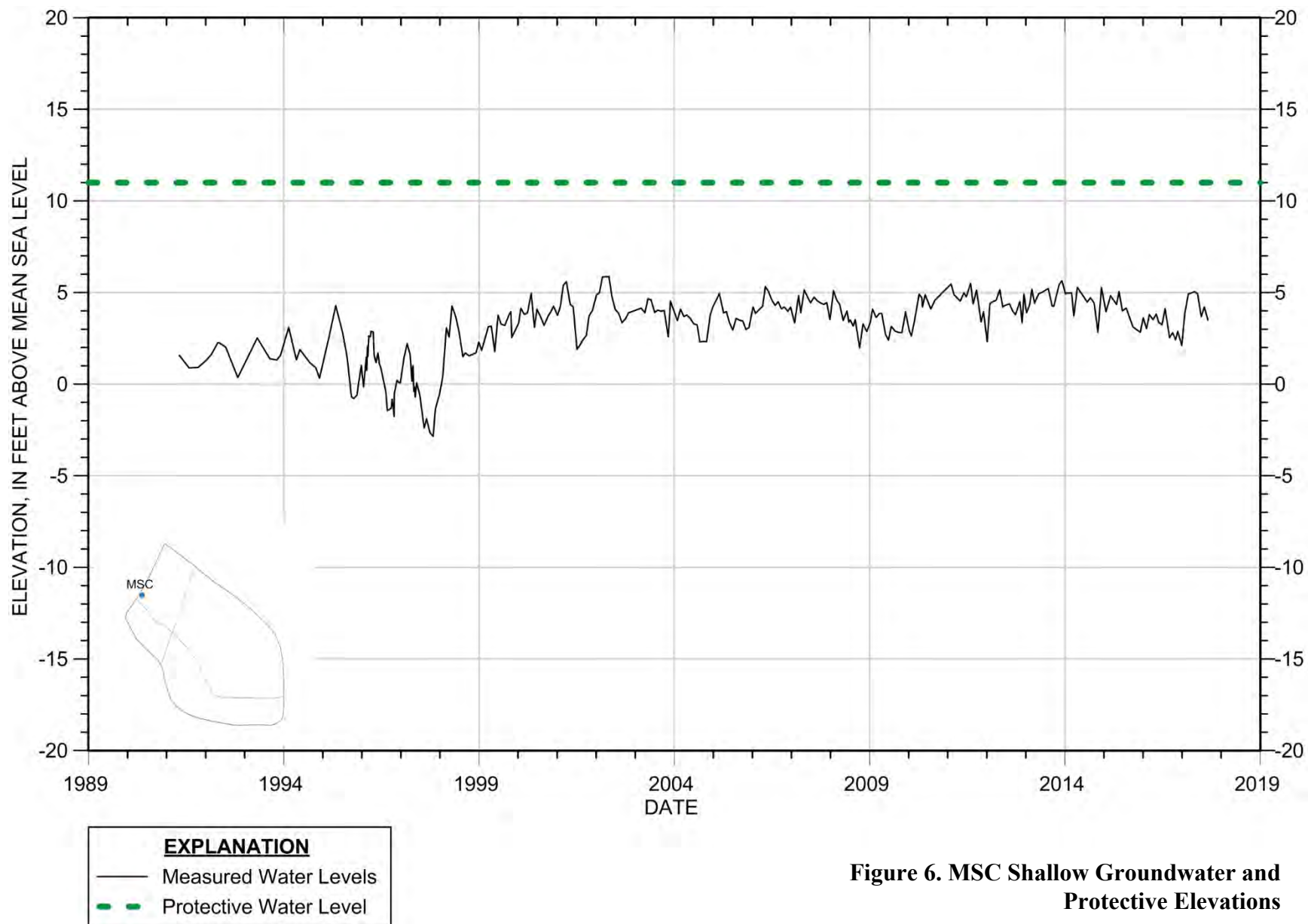


Figure 6. MSC Shallow Groundwater and Protective Elevations

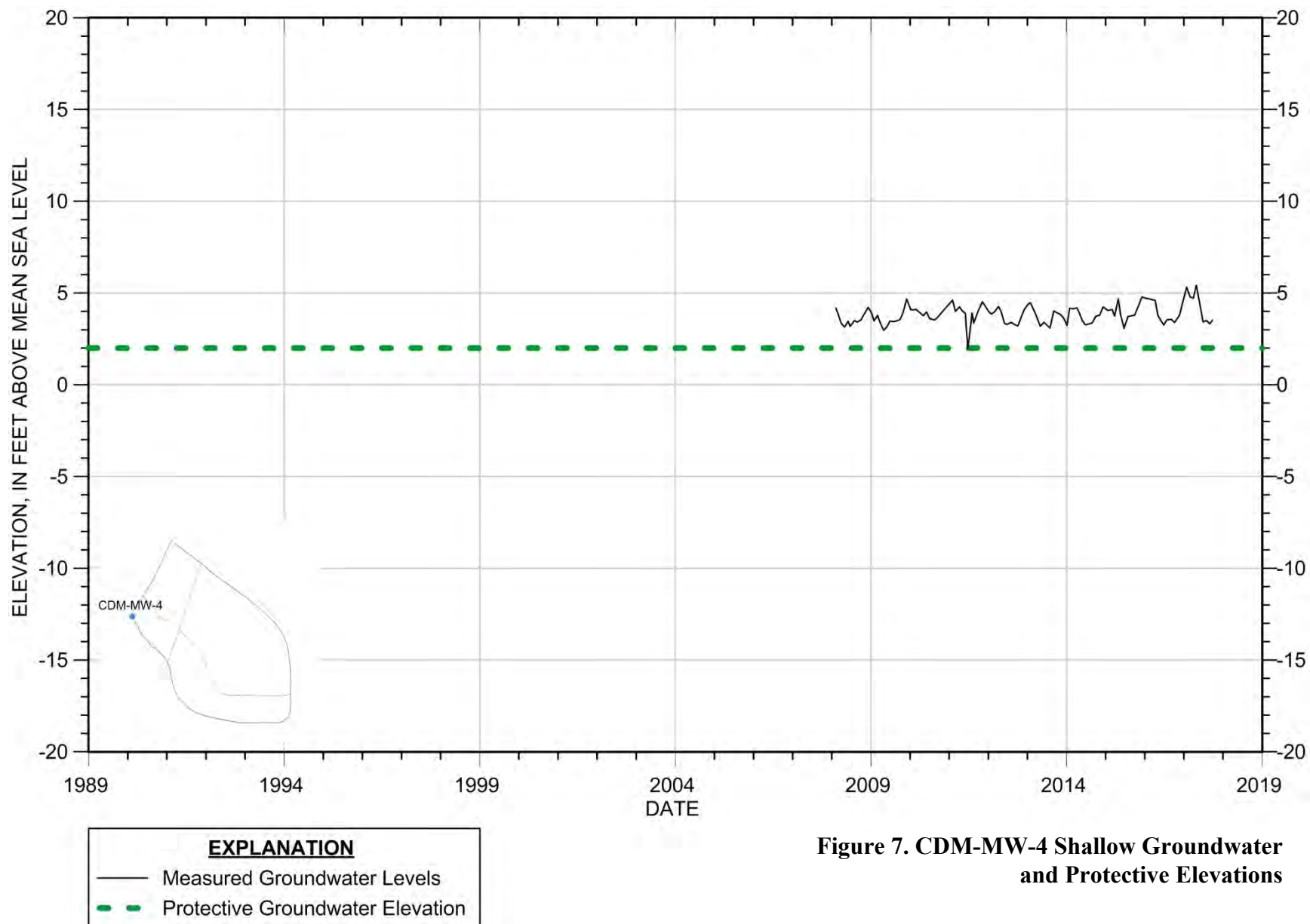


Figure 7. CDM-MW-4 Shallow Groundwater and Protective Elevations

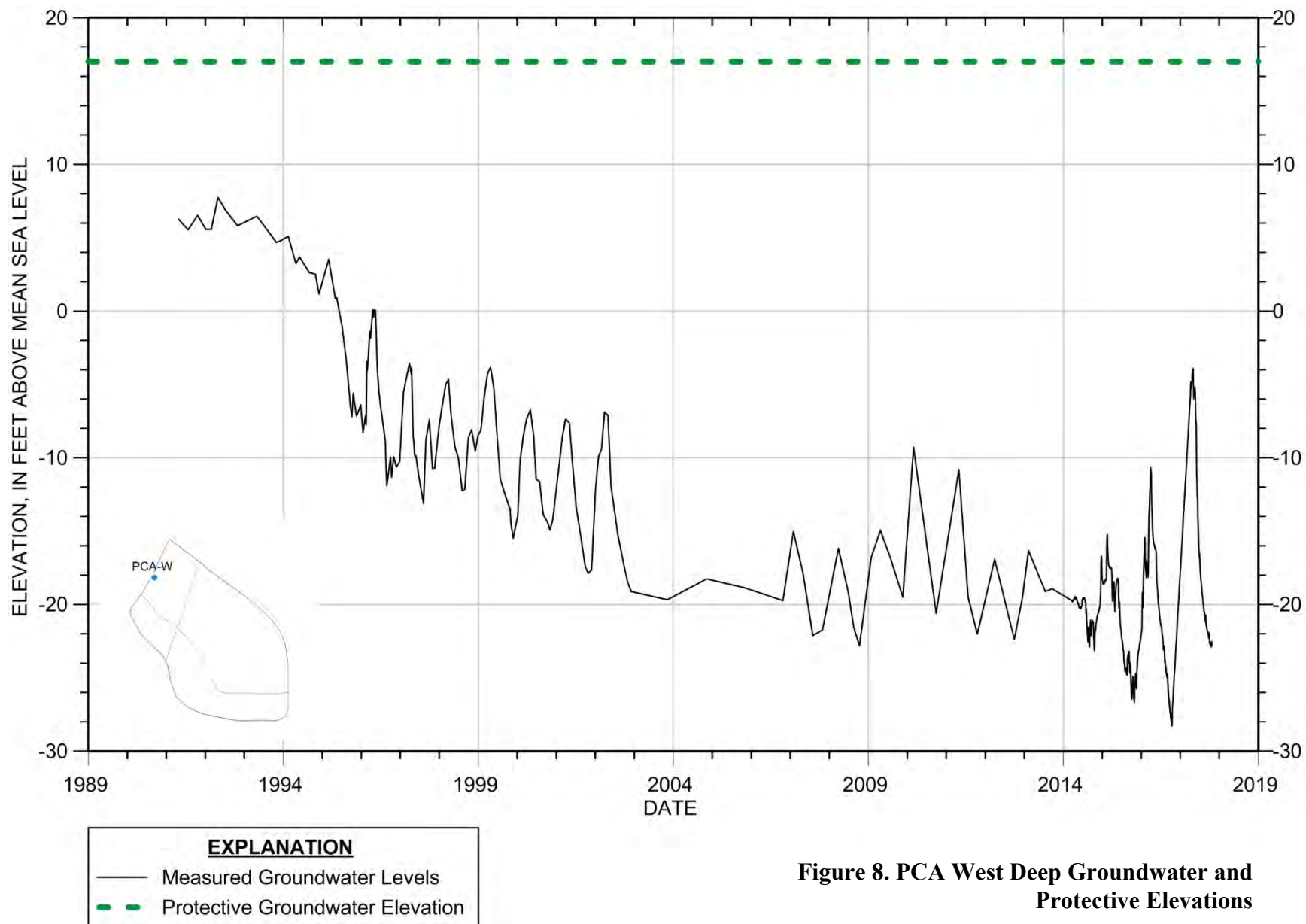


Figure 8. PCA West Deep Groundwater and Protective Elevations

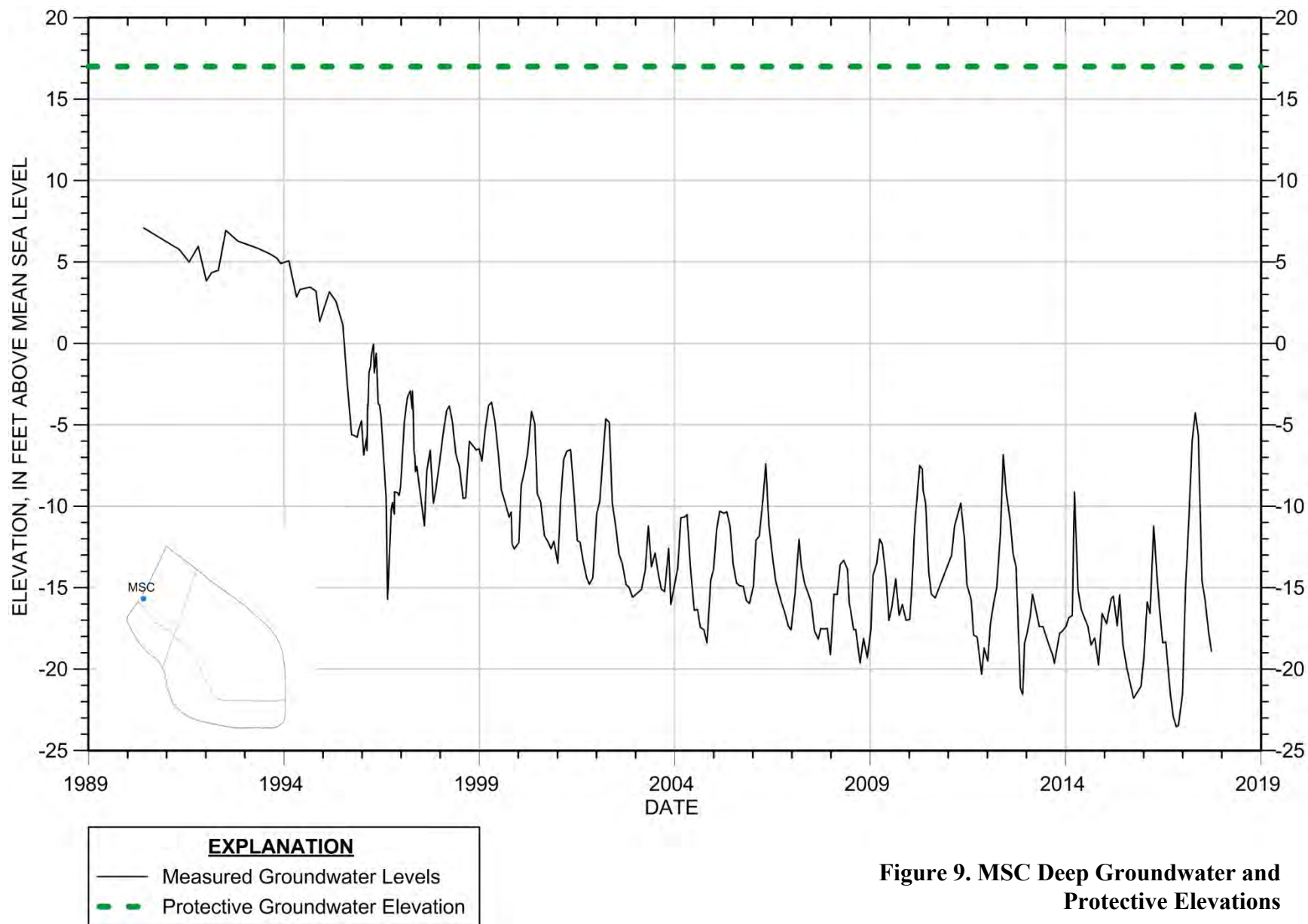


Figure 9. MSC Deep Groundwater and Protective Elevations

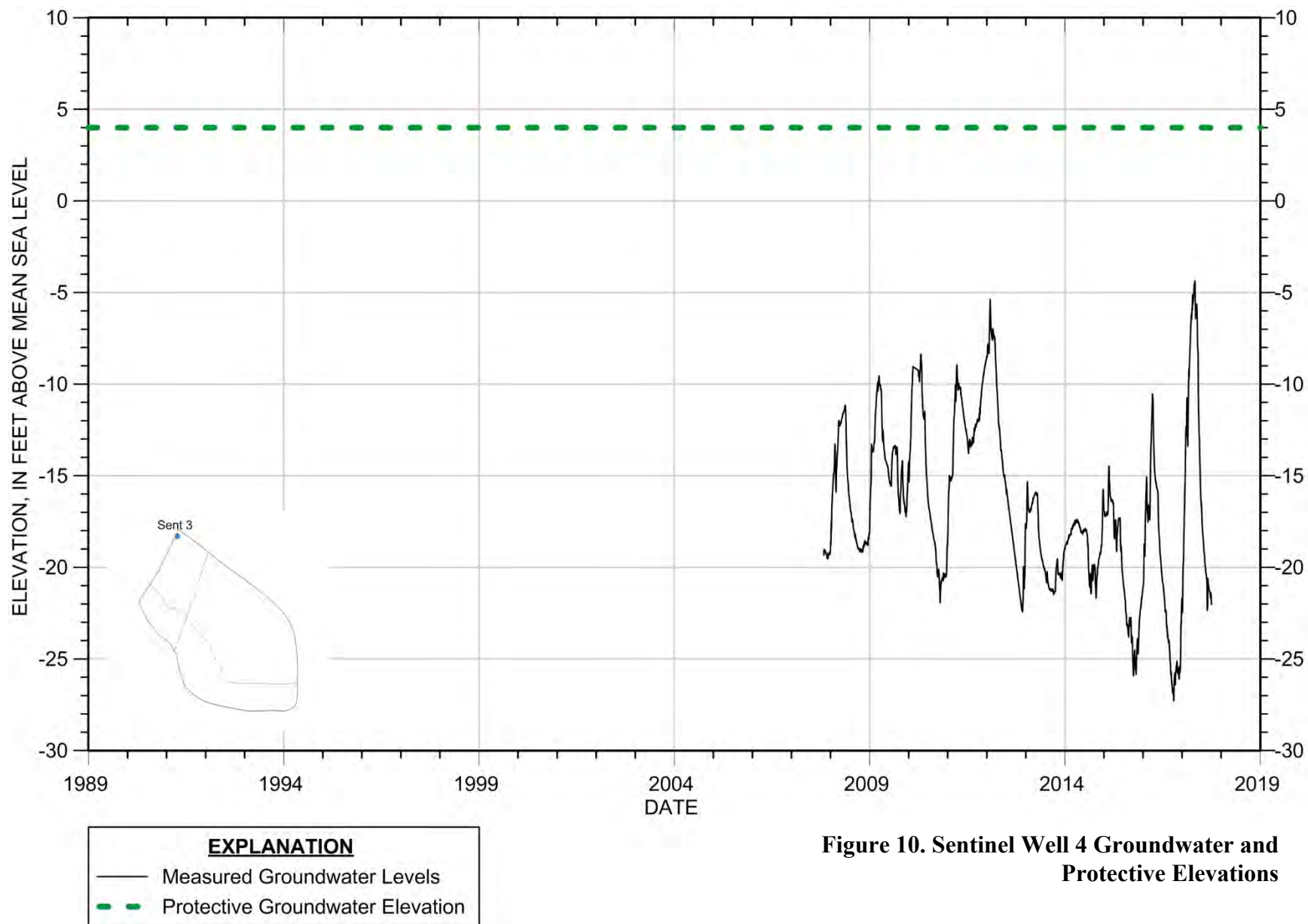


Figure 10. Sentinel Well 4 Groundwater and Protective Elevations

Cal Am Replenishment Repayment Modeling

In 2013 the Watermaster had HydroMetrics WRI prepare a document titled *Technical Memorandum Groundwater Modeling Results of Replenishment Repayment in the Seaside Basin* dated April 5, 2013. That report evaluates groundwater level impacts that will result from implementation of Cal Am's 700 acre-feet per year for 25-years overpumping repayment plan. That repayment plan was predicated upon Cal Am constructing the desalination plant to enable it to reduce its Seaside basin pumping by 700 acre-feet per year. However, the repayment plan could potentially also be implemented if the desalination plant is not built but the Pure Water Monterey Expansion Project is built, particularly if Cal Am's actual water demand is lower than projected in the Final EIR for the Monterey Peninsula Water Supply Project (MPWSP).

The modeling was performed to determine the impacts on groundwater levels for three scenarios. Two of these scenarios were:

Scenario 1: For 25 years Cal Am reduces its Decision-allowed pumping by 700 AFY, from 1,474 AFY to 774 AFY, and all other Basin Standard Producers pump at their Decision-allowed pumping levels. Alternate Producers pump at their historical pumping levels. Cal Am's reduced pumping is distributed among Cal-Am wells relative to the amount each well pumps as a percentage of monthly pumping.

Scenario 3: Same as Scenario 1 but replenishment water is injected through the ASR wells to reach Protective Elevations within the 25-year period during which Cal Am pumps at the 774 AFY level.

The following excerpts from this report describe the groundwater level impacts from these two scenarios.

Under Scenario 1 Cal-Am proposes to repay its post-adjudication overpumping by reducing its Seaside Basin pumping for 25 years. During this 25-year period, Cal-Am plans to provide a portion of the water to its customers from a desalination facility in-lieu of pumping. The desalination facility will be commissioned in 2017. Cal-Am's proposal consists of reducing its pumping by 700 acre-feet per year for 25 years, resulting in a total repayment of 17,500 acre-feet of water. Cal-Am and the Seaside Basin Watermaster Board of Directors asked HydroMetrics Water Resources Inc. (WRI) to perform modeling to determine if this repayment schedule would allow groundwater elevations to reach protective levels.

The objective of Scenario 3 is to achieve protective groundwater elevations within 25 years. In this scenario, Cal-Am reduces its pumping by 700 acre-feet per year for 25 years. Additional water is injected into the existing ASR wells to restore groundwater elevations. The amount of water injected into the ASR wells is iteratively adjusted until protective elevations are achieved in the four coastal monitoring well locations after 25 years of operation. The increased injection begins in December of 2016 and is applied at a constant rate in ASR wells 1 through 4 for the months of December through May. The injected water is divided evenly between the four injection wells.

The pumping assumptions used in Scenarios 1 and 3 are:

- Except for Cal Am, Standard Producer pumping follows the Decision-prescribed triennial reductions. All water injected by ASR wells is pumped from select Cal-Am wells. 1,445

AFY is assumed as the annual amount of [Carmel River] ASR water that is injected and recovered.

- Except for the Seaside golf courses, golf course wells pump at rates based on the hydrologic year. This ensures that the demand corresponds to the hydrology. If the amount pumped by a Producer pre-adjudication exceeded the Producer's adjudicated right, pumping was capped at the Producer's adjudicated amount.
- The City of Seaside expects to begin pumping an average of 360 AFY from its wells for golf course supply starting in September 2016. These projected quantities were used rather than using demand based on the hydrologic year.
- Alternative Producers, excluding golf courses, pump at their Water Year (WY) 2011 volumes from WY 2013 onwards.
- All other pumpers that are not covered by the Decision, including Cal Water Service and private wells, also pump at WY 2011 volumes from WY 2013 onwards.

The simulated groundwater elevations for each scenario were evaluated in six monitoring wells used for establishing protective elevations against seawater intrusion. These monitoring wells are: MSC Deep, MSC Shallow, PCA-West Deep, PCA-West Shallow, Sentinel Well 3, and CDM MW-4 (see Figure 1 below).

The protective elevations at each well were used as a benchmark for comparing the relative success of each scenario at achieving protective elevations. Simulated hydrographs for the baseline scenario and three model scenarios are provided below in Figures 3 through 5. In these figures, the hydrographs for well CDM MW-4 appear significantly different from the other hydrographs because well CDM MW-4 is very shallow and is located in a different model layer and hydrostratigraphic layer than the other wells. The spikes observed in the CDM MW-4 hydrograph are a response to recharge occurring during winter months. This behavior is not observed in the deeper wells where groundwater levels are less sensitive to seasonal and inter-annual variations in rainfall and recharge. Additionally, the groundwater elevation scale is different than the scales on the other plots.

Under Scenario 1 (Cal-Am's 25-year replenishment scenario), the model predicts some additional recovery above the baseline scenario [in which Cal Am continues pumping at its full Decision-allowed level with no pumping reduction], but not enough to bring any groundwater levels up to protective elevations (see Table 1 below). Groundwater levels recover 1 to 1.5 feet in the shallow wells and approximately 3 feet in the deep wells by the end of this scenario (see Table 2 below). As expected, there is almost no recovery in CDM-MW-4 because it is very shallow and Cal-Am pumps from deeper aquifers.

Under Scenario 3 (reduced Cal Am pumping with injection) an additional 1,000 AFY of water injected in ASR wells 1 through 4 was found to achieve protective elevations in all six coastal monitoring wells by 2041. This amount is in addition to the 1,445 AFY currently injected in ASR wells 1 through 4, for a total injection rate of 2,445 AFY. Unlike the 1,445 AFY stored and recovered in the aquifer by Cal-Am, the additional 1,000 AFY is allowed to remain in the aquifer without being pumped out.

Conclusions:

- Scenario 1: Cal-Am's proposed 25-year replenishment repayment increases groundwater elevations by 1 to 1.5 feet in the shallow aquifer coastal wells and 3 feet in the deep aquifer coastal wells. These increases do not achieve protective elevations.
- Scenario 3: When combined with Cal-Am's 25-year repayment schedule, protective elevations can be realized by injecting an additional 1,000 acre-feet per year of water into the existing ASR wells. Recharged water is left in the basin, and not pumped by Standard or Alternative producers. *[Note that the need to continue injecting water and leaving it in the Basin in order to maintain protective elevations beyond the end of the simulation period in 2041 was not evaluated or reported on in this Technical Memorandum. Other modeling work done for the Watermaster (Groundwater Modeling Results of Coastal Injection in the Seaside Basin, dated July 19, 2013 by HydroMetrics WRI) to compare the effectiveness of injecting water at coastal injection wells to injecting water at the existing ASR wells that are inland found that for injection at coastal wells it would be necessary to continue injecting 850 AFY on an ongoing basis to maintain protective elevations. That modeling report did not discuss whether or not there was a need for ongoing injection at the existing ASR well sites in order to maintain protective elevations.]*

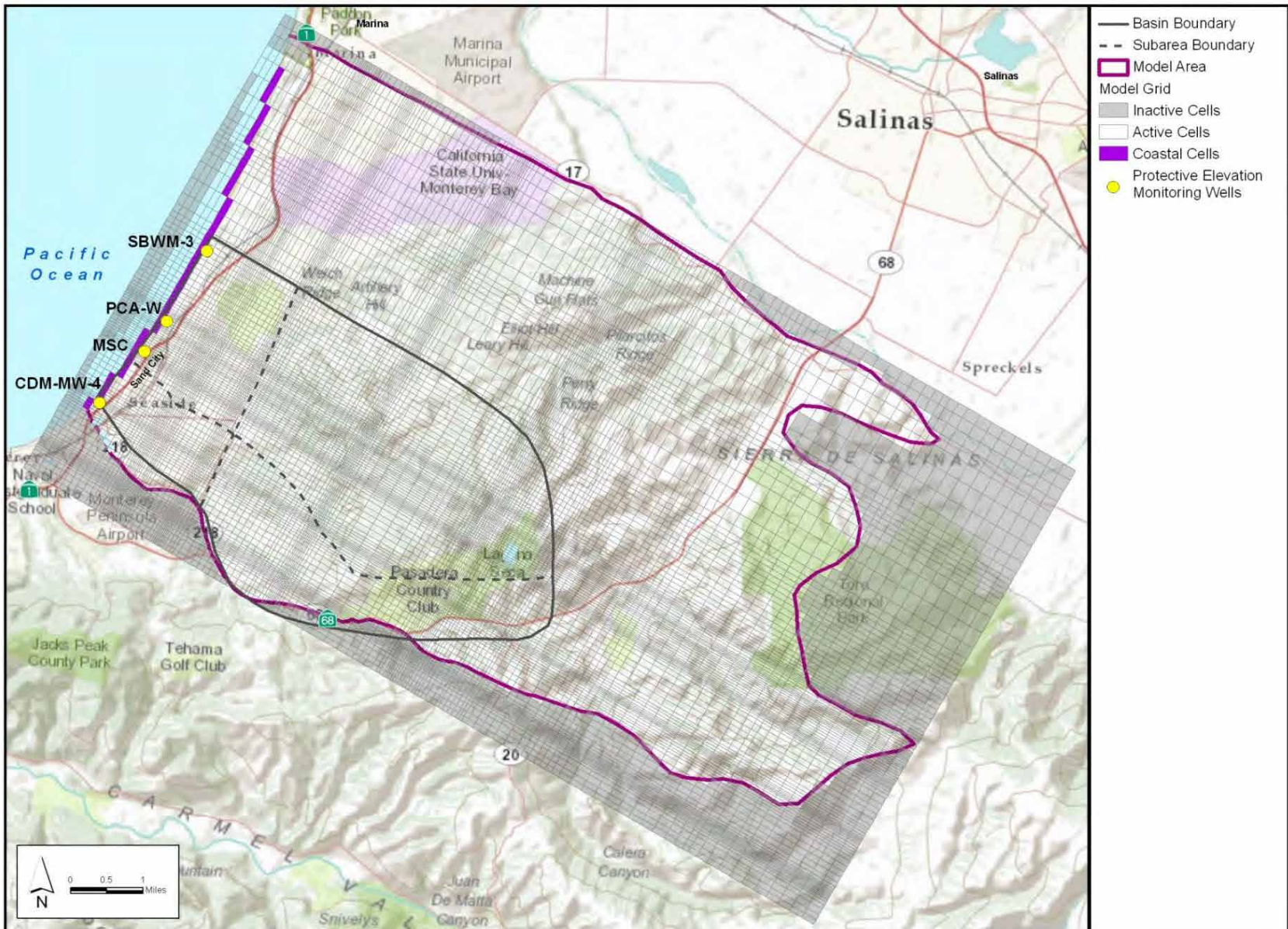


Figure 11: Location of Coastal Cells and Protective Elevation Monitoring Wells

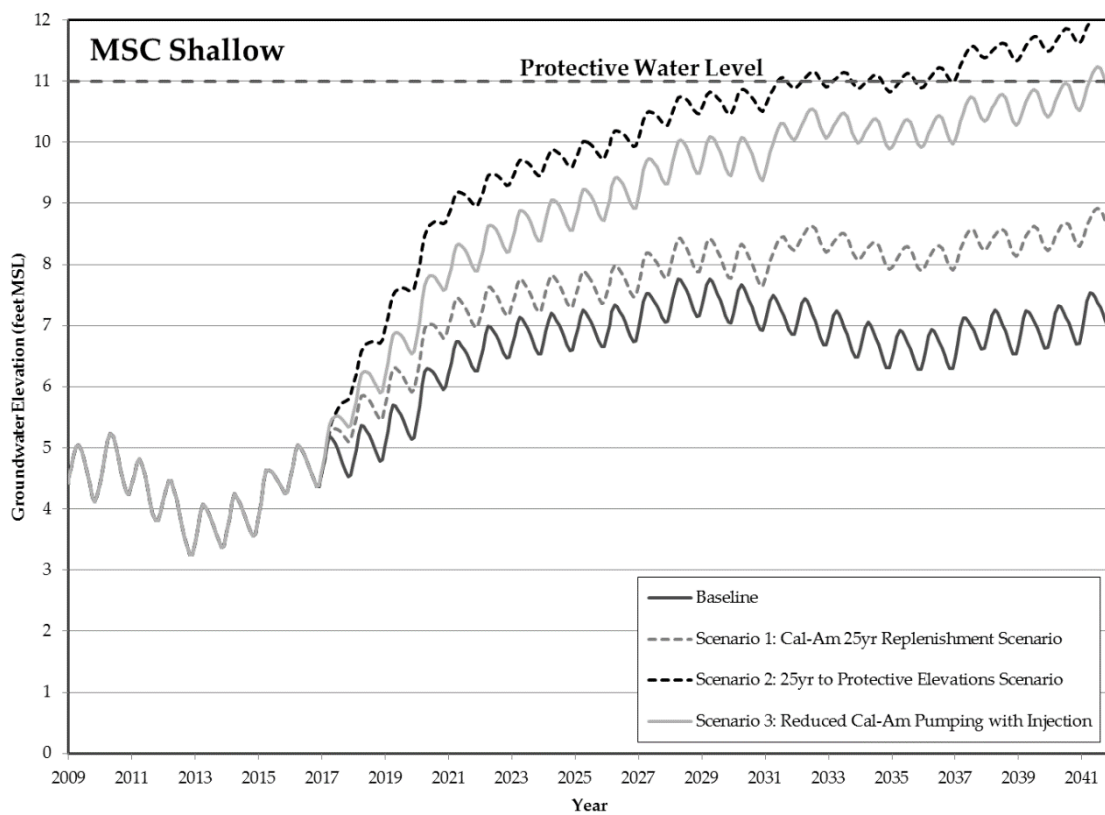
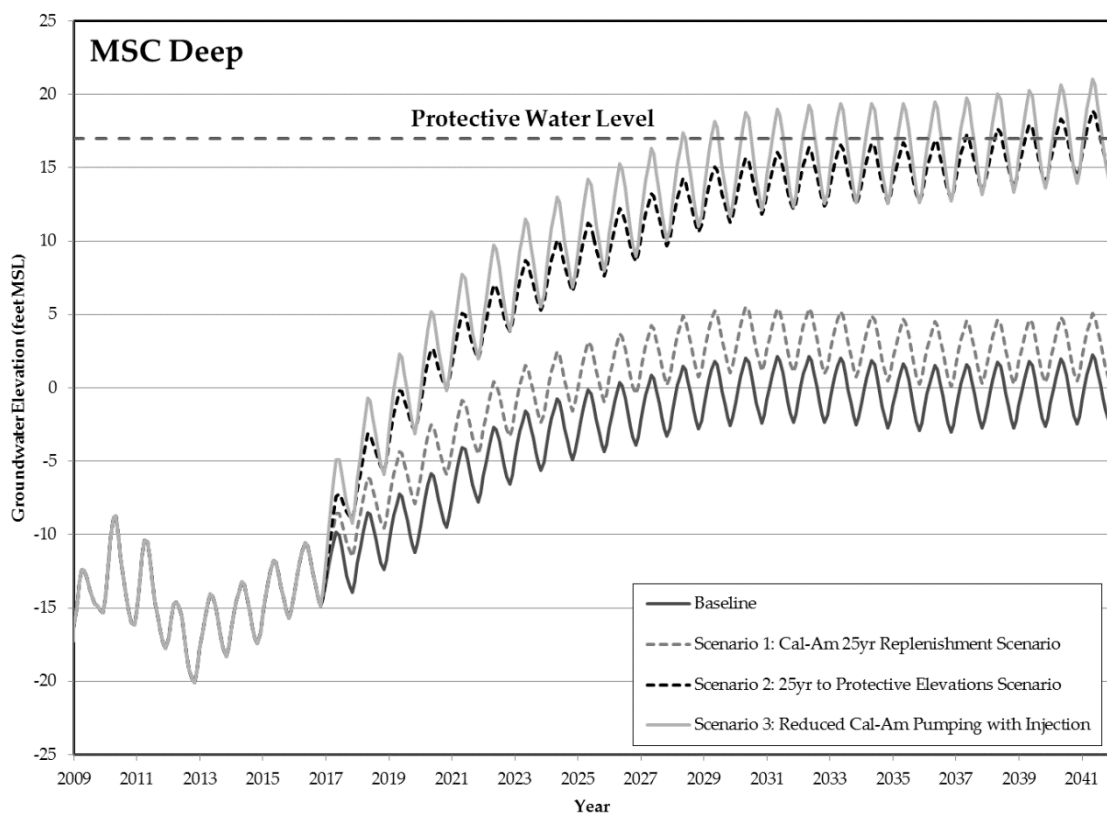


Figure 12: Predicted Groundwater Elevations and Protective Elevations for the MSC Wells

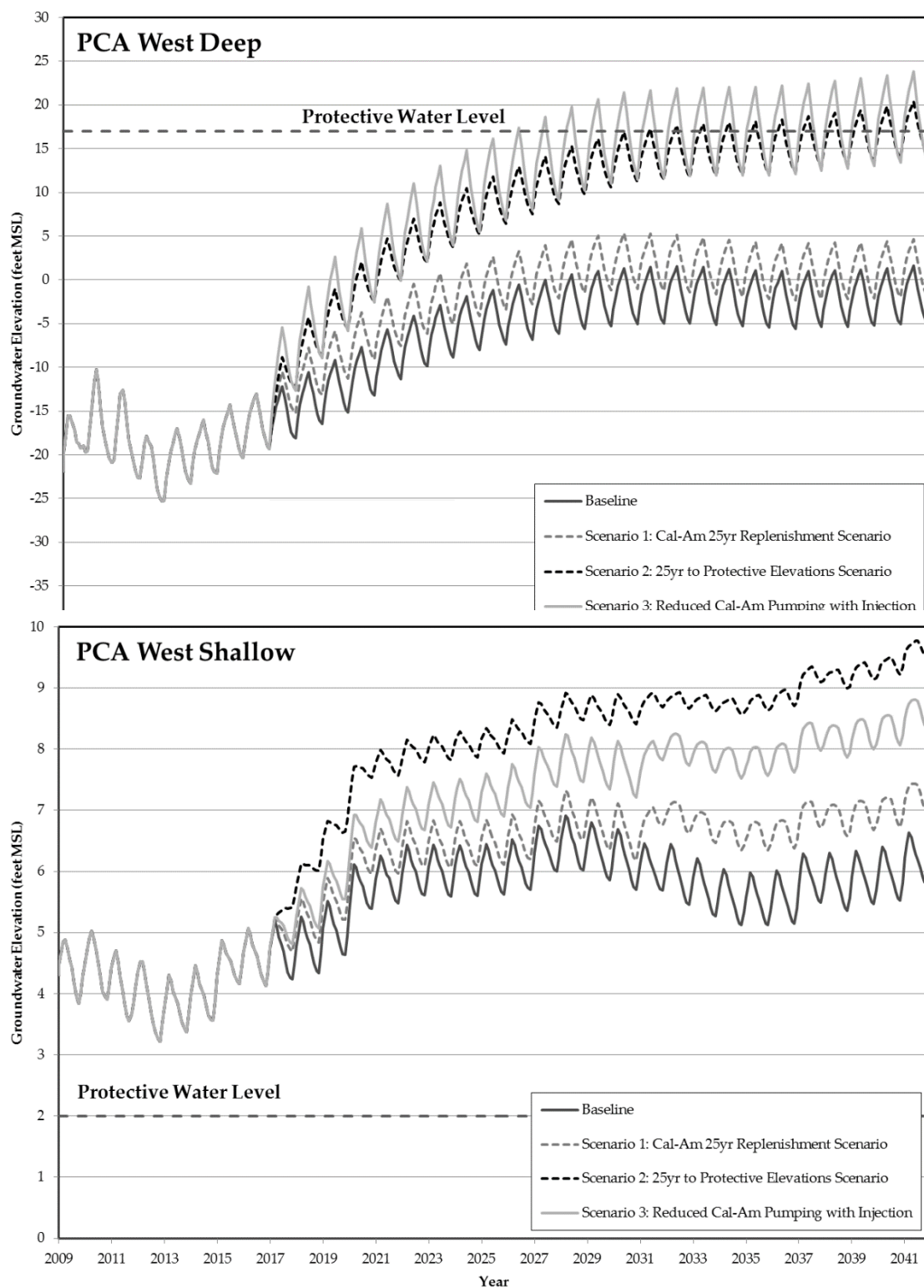


Figure 13: Predicted Groundwater Elevations and Protective Elevations for the PCA West Wells

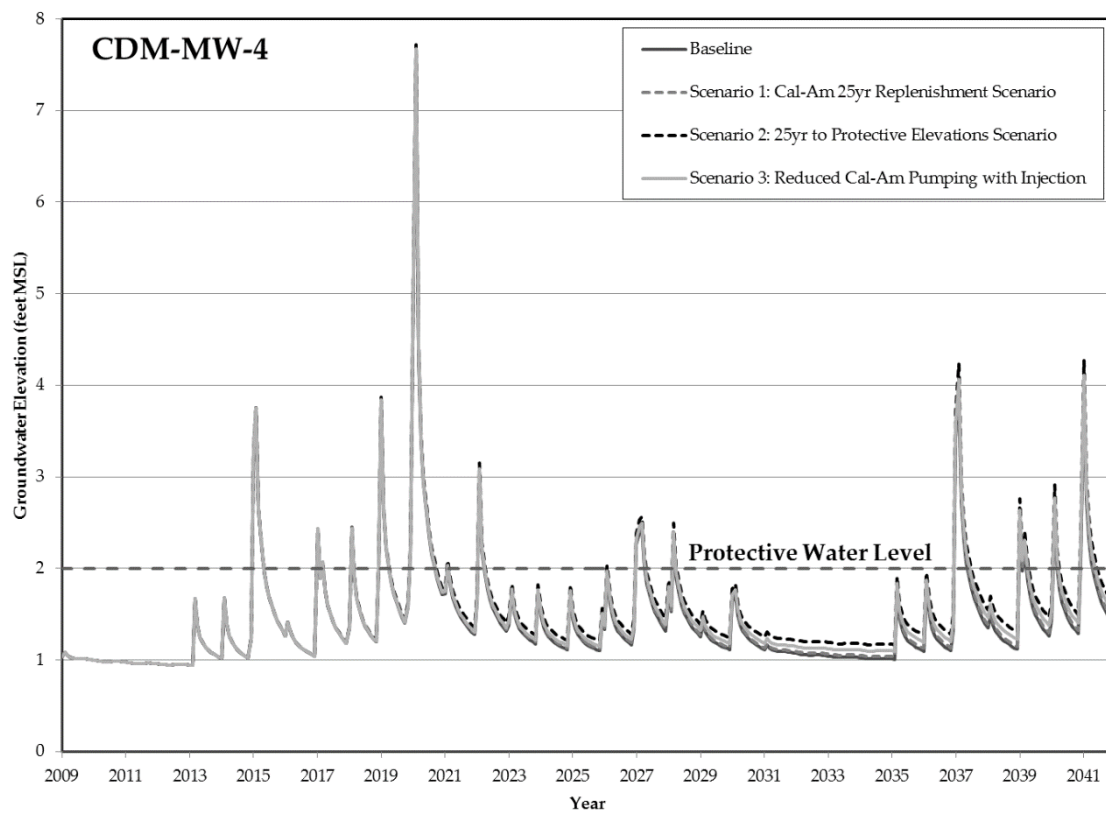
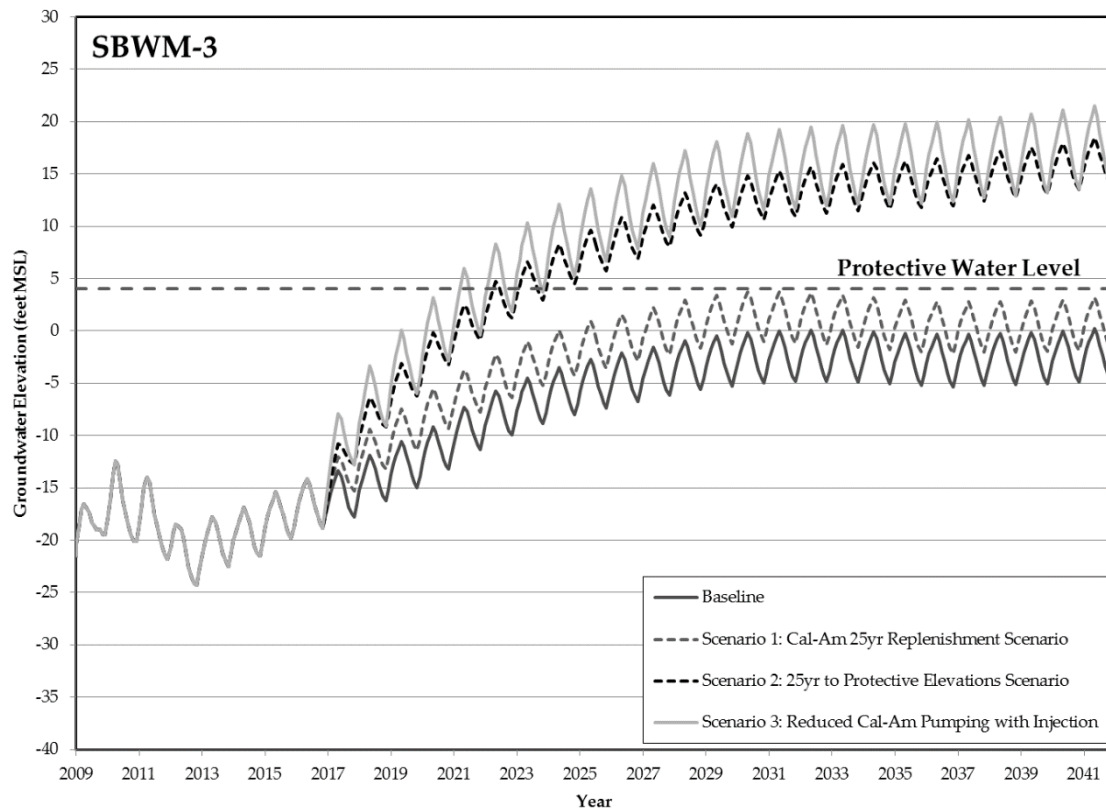


Figure 14: Predicted Groundwater Elevations and Protective Elevations for Sentinel Well 3 (SBWM-3) and CDM MW-4 Wells

Table 1: Summary of Protective Elevation Achievement

Scenario	MSC Deep	MSC Shallow	PCA-West Deep	PCA-West Shallow	Sentinel-3	CDM MW-4
Baseline	Not achieved	Not achieved	Not achieved	Already achieved	Not achieved	Not achieved
Scenario 1: 25 Year Cal-Am Replenishment Scenario	Not achieved	Not achieved	Not achieved	Already achieved	Not achieved	Not achieved
Scenario 3: 25 Year Cal-Am Replenishment Scenario with Additional Water Injection	Achieved in 2030	Achieved in 2041	Achieved in 2034	Already achieved	Achieved in 2022	Achieved in 2041

Table 2: Average Groundwater Elevation Difference at the End of Simulation (Scenario- Baseline)

Scenario	MSC Deep	MSC Shallow	PCA-West Deep	PCA-West Shallow	Sentinel-3	CDM MW-4
Scenario 1: 25 Year Cal-Am Replenishment Scenario	2.9	1.6	3.0	1.2	3.0	0.05
Scenario 3: 25 Year Cal-Am Replenishment Scenario with Additional Water Injection	18.8	3.9	22.2	2.6	21.3	0.1

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Below is the water service demand table from the Final EIR/EIS for the MPWSP. Demand assumptions differ between the various modeling reports that are discussed in the following sections of this paper.

2.3.2 Other Service Area Demand Assumptions

In addition to meeting existing annual demand and demand associated with the Pebble Beach water entitlements, CalAm proposes that the MPWSP be sized to provide, in conjunction with other supply sources, sufficient supplies to also meet the water demands associated with the anticipated economic recovery (or “rebound”) of the local hospitality industry, resulting in increased water demand by existing businesses compared to current levels, and demand associated with the development of existing legal lots of record in jurisdictions served by the project (Svindland, 2013a). **Table 2-3** shows existing system demands together with demands associated with economic recovery and lots of record, which total approximately 1,680 afy; these demand components are discussed further below.

**TABLE 2-3
OTHER DEMAND ASSUMPTIONS**

Demand Component	Annual Demand (acre-feet)
Existing Annual Service Area Demand	12,270
Pebble Beach Water Entitlements	325
Hospitality Industry Rebound Economic Recovery	500
Legal Lots of Record	1,180
Total to Service Area	14,275

SOURCE: RBF Consulting, 2013; Svindland, 2016.

Impacts If the Desalination Plant Is Not Constructed

and

There Is No Expansion of the Pure Water Monterey Project

Under this scenario the only replenishment project in operation would be the original Pure Water Monterey Project, which is intended to deliver 3,500 acre-feet per year for injection into, and subsequent recovery from, the Seaside Basin.

The groundwater level impacts from this scenario were evaluated in the *Consolidated Final Environmental Impact Report for the Pure Water Monterey Groundwater Replenishment Project* (PWM EIR) dated January, 2016. Specifically, the modeling that was performed in conjunction with that project is contained in Appendix L and Appendix M rev to the PWM EIR. Those appendices contain several documents that are pertinent to this issue:

- Appendix L: *Recharge Impacts Assessment Report* dated March 2015, prepared by Todd groundwater.
 - Appendix A to the *Recharge Impacts Assessment Report* titled *Todd Groundwater Technical Memorandum Selection of Recharge Location for GWP Project Seaside Groundwater Basin*, dated May 29, 2014
 - Appendix C to the *Recharge Impacts Assessment Report* titled *Technical Memorandum-GWR Project EIR: Project Modeling Results* prepared by HydroMetrics WRI dated January 12, 2015.
- Appendix M_rev: *GWR Project EIR: Cumulative Projects Modeling Results* prepared by HydroMetrics WRI dated December 16, 2015.

The report titled *GWR Project EIR: Cumulative Projects Modeling Results* provides the most useful information for evaluating the impacts if the desalination plant is not constructed and there is no expansion of the Pure Water Monterey Project. In addition, it provides information about the impacts if the desalination plant is constructed and there is no expansion of the Pure Water Monterey Project. This report estimates the impacts on groundwater levels in the Seaside basin for: (1) The “No Project” scenario in which none of the proposed replenishment projects are built and the desalination plant is not built, (2) The “Project” scenario in which only the PWM Project (referred to in this report as the GWR Project) and not the desalination plant is built, and (3) The “Cumulative Projects” scenario in which both the PWM and the MPWSP desalination plant are built. The following excerpts from this report describe the groundwater level impacts from these three scenarios:

The Cumulative Projects analysis in the GWR Project’s Environmental Impact Report (EIR) assesses the environmental impacts of operating the smaller desalination plant and the GWR Project jointly. The GWR Project EIR refers to the joint operation of the two projects as the Cumulative Projects. The MPWSP EIR refers to the joint operation of the two projects as the Variant Project.

Cal-Am provided average monthly projections of both the groundwater injection and groundwater pumping needed to meet their anticipated future demands for their Variant Project. [Note that these projections differ slightly from those contained in the Final EIR/EIS for the MPWSP.] These projections were incorporated into the predictive model to the degree possible. Some modifications to Cal-Am’s

projections were needed to compensate for anticipated pumping capacity shortfalls in specific future years.

Model results show that the Cumulative Projects Scenario is generally neutral or beneficial compared to the No Project conditions. Groundwater elevations are generally higher under the Cumulative Projects conditions than under the No Project conditions. These higher groundwater levels will tend to slow seawater intrusion.

The simulated GWR Project recharges varying volumes of water each year, with an average of 3,500 acre-feet recharged per year. The amount of water recharged each year depends upon whether the predicted hydrology is in a drought or non-drought year, and upon a reasonable assumption of the rules for banking and delivering drought reserve water to the Castroville Seawater Intrusion Project (CSIP). In non-drought years, GWR Project deliveries to the Seaside Basin are 3,700 acre-feet. This provides 3,500 acre-feet for extraction by Cal-Am, and provides 200 acre-feet of groundwater storage for a Drought Reserve. The Drought Reserve is capped at 1,000 acre-feet. When the Drought Reserve is full and drought conditions do not exist, the GWR Project delivers 3,500 acre-feet to the Seaside Basin for extraction by Cal-Am. In drought years when Drought Reserve water is available, the GWR Project delivers less than 3,500 acre-feet to the Seaside Basin, and Cal-Am draws from the Drought Reserve.

The MPSWP small desalination plant that is part of the MPSWP Variant Project will provide 590 acre-feet per year of desalinated water for injection through the ASR wells, for subsequent extraction and distribution to Cal Am customers.

Table 1 below shows the average monthly supply and demand estimates provided by Cal-Am for the Cumulative Projects. This table was produced by Cal-Am as a part of their effort to analyze the groundwater impacts of the MPWSP Variant Project, and MPWMD and MRWPCA agreed to use it as the basis for the Cumulative Projects pumping and injection projections. *[Note that this table includes Cal-Am's 25-year overpumping repayment plan which reduces their Seaside Basin pumping from their Decision-allowable 1,474 acre-feet per year to 770 acre-feet per year. Also note that at the time HydroMetrics WRI prepared their report (December 2015) the only document available to them for this information was the Draft EIR for the MPWSP. Hence, Table 1 data came from the Draft EIR. The Final EIR for the MPWSP was issued in 2018 and contained revised (slightly lower) demand figures.]*

The impact of the Cumulative Projects on groundwater elevations was determined by comparing results from the Cumulative Projects simulation with results from the GWR Project and No-Project scenarios.

Hydrographs for simulated groundwater elevations under the Cumulative Projects, Project, and No-Project scenarios are shown below on Figures 12 through Figure 18. The blue lines represent the simulated static groundwater elevation under the No-Project scenario; the green lines represent the simulated static groundwater elevation under the GWR Project scenario, and the purple lines represent the simulated static groundwater elevation under the Cumulative Projects scenario. The simulated groundwater elevations are generally higher under the Cumulative Projects scenario than under the No-Project and GWR Project scenarios. This is primarily the result of reduced extraction of native groundwater that occurs under the Cumulative Projects scenario.

Simulated groundwater elevations around Cal-Am production wells, such as Ord Grove #2, are also higher under the Cumulative Projects scenario because they have lower extraction rates than under the GWR Project and No-Project scenarios.

Comparing GWR Project and No-Project Hydrographs of the PCA-West Deep and PCA-West Shallow wells allows us to evaluate how the Cumulative Project may impact seawater intrusion in the Seaside Basin. The simulated groundwater elevations at the PCA-West Deep and PCA-West Shallow wells are higher under the Cumulative Projects scenario than under the GWR Project and No-Project scenarios, indicating that the combined GWR and desalination project would not worsen the potential for seawater intrusion at this location. Instead, it appears that the Cumulative Projects would cause this location to become less vulnerable to seawater intrusion. *[Note that in 2009 the Watermaster had HydroMetrics WRI develop “Protective Elevations” for several wells closest to the coast. More information about these protective elevations is contained in the next section. The only protective elevation wells that have hydrographs shown for them in this report are the PCA-West Shallow and Deep wells. These hydrographs show that the Shallow well will have a groundwater level above its protective elevation under all scenarios, while the Deep well will not have a protective elevation under any scenario.]*

Table 1: Average Monthly CAW Supply and Demand

TYPICAL OPERATIONS BASED ON AVERAGE MONTHLY FLOWS – MPWSP VARIANT														
	Average Monthly Flow (mgd)												TOTAL (AFY)	
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec		
Demand														
Average Demand	10.3	10.5	11.4	12.8	15.5	16.6	17.3	17.1	16.8	13.3	11.8	10.3	15,300	
Water Returned to Salinas Valley	0.0	0.0	0.0	0.0	0.9	1.2	1.1	1.1	1.1	0.4	0.0	0.0	549	
System Supplies														
Carmel River to Distribution System	5.7	5.7	5.7	5.2	2.2	1.0	1.0	1.0	1.0	1.0	1.0	5.7	3,376	
Seaside GW Production Wells to Distribution System	0.0	0.0	0.0	1.0	1.1	1.1	1.1	1.1	1.1	1.1	0.5	0.0	770	
Sand City Desalinated Supplies to Distribution System	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	94	
Supplies Extracted from Seaside Groundwater Basin ASR System	0.0	0.0	0.0	0.9	6.8	9.6	10.4	10.2	9.5	5.9	4.1	0.0	5,390	
MPWSP Desalinated Supplies to Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671	
Total Supplies to Distribution System	10.3	10.5	11.4	12.8	15.5	16.6	17.3	17.1	16.8	13.3	11.8	10.3	15,300	
MPWSP Desalination Plant Operations														
Desalinated Supplies for Distribution System	4.5	4.7	5.6	5.6	5.3	4.8	4.6	4.7	5.1	5.3	6.2	4.5	5,671	
Desalinated Supplies for ASR Injection	1.7	1.5	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.4	0.0	1.7	590	
Desalinated Supplies for Salinas Valley	0.0	0.0	0.0	0.0	0.9	1.2	1.1	1.1	1.1	0.4	0.0	0.0	549	
Total Desalinated Supplies	6.14	6.18	6.16	6.15	6.22	5.92	5.78	5.78	6.18	6.15	6.18	6.16	6,809	
Supplies Extracted from Seaside Groundwater Basin ASR System														
Highly Treated Wastewater from MRWPCA Regional WWTP	0.0	0.0	0.0	0.6	4.4	6.2	6.8	6.6	6.2	3.8	2.6	0.0	3,500	
Carmel River	0.0	0.0	0.0	0.2	1.6	2.3	2.5	2.5	2.3	1.4	1.0	0.0	1,300	
Desalinated Supplies	0.0	0.0	0.0	0.1	0.7	1.1	1.1	1.1	1.0	0.6	0.4	0.0	590	
Total Extraction	0.0	0.0	0.0	0.9	6.8	9.6	10.4	10.2	9.5	5.9	4.1	0.0	5,390	

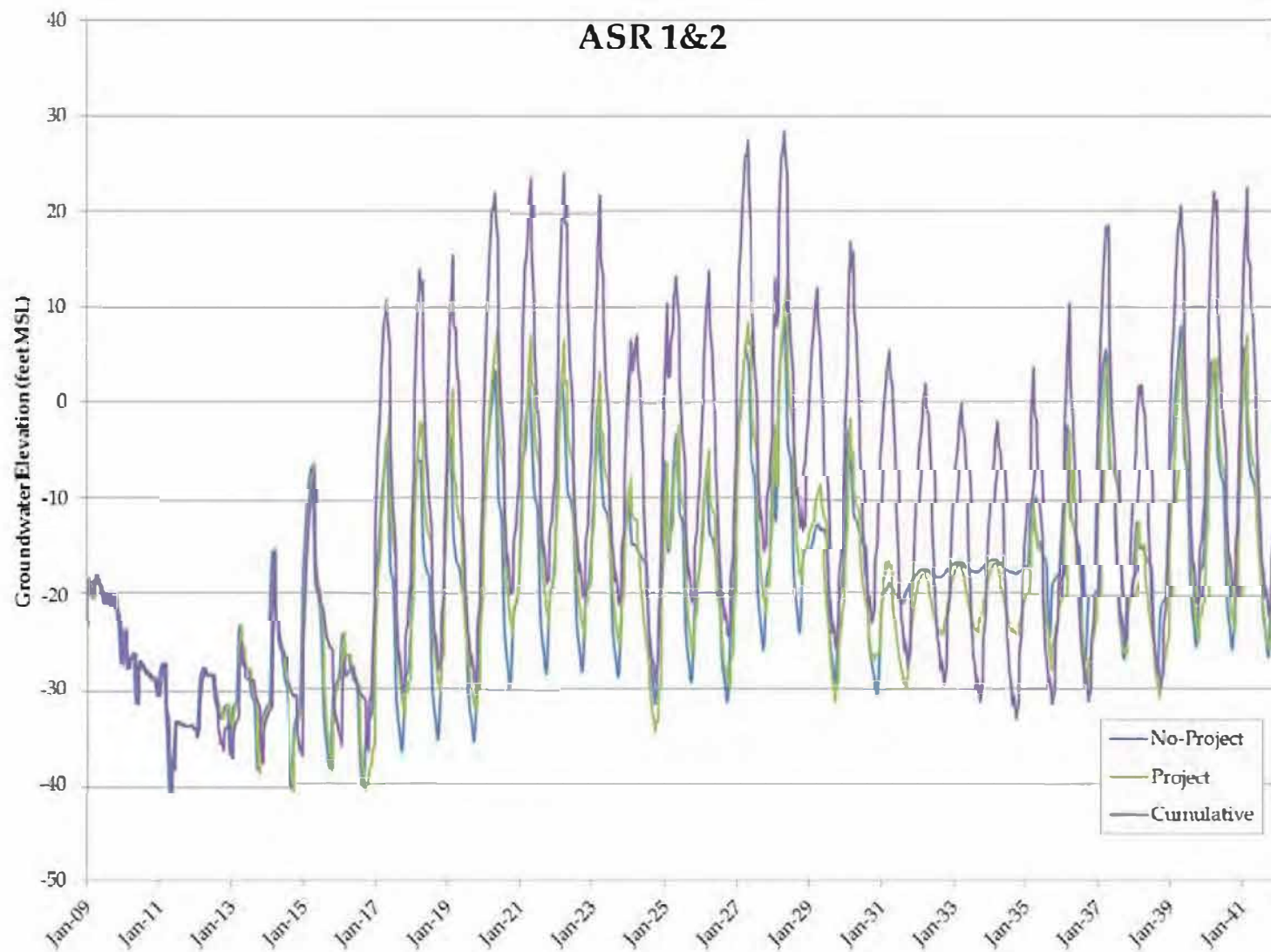


Figure 12: Predicted Static Groundwater Elevations at ASR 1&2 Wells

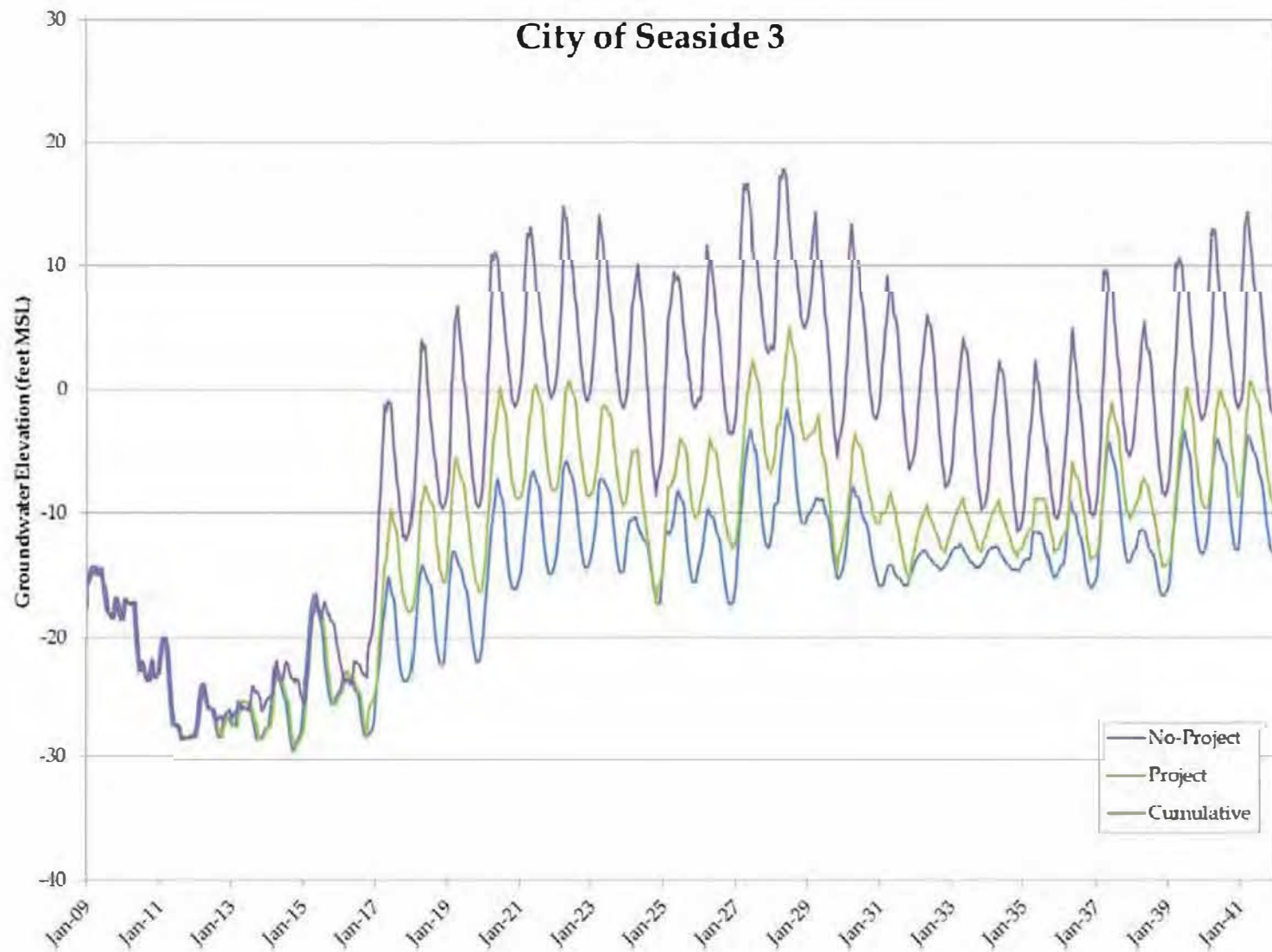


Figure 13: Predicted Static Groundwater Elevations at City of Seaside 3 Well

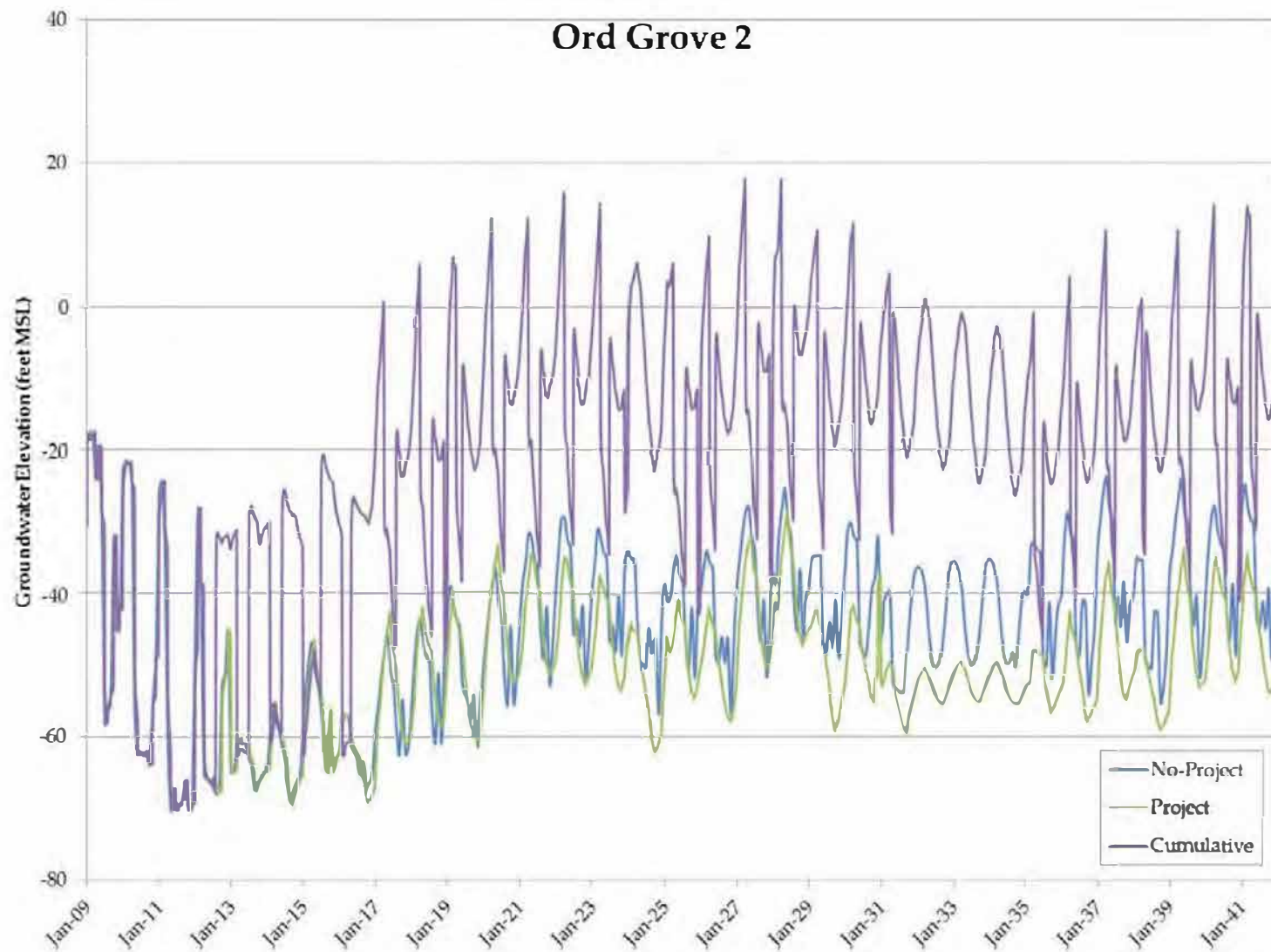


Figure 14: Predicted Static Groundwater Elevations at Ord Grove 2 Well

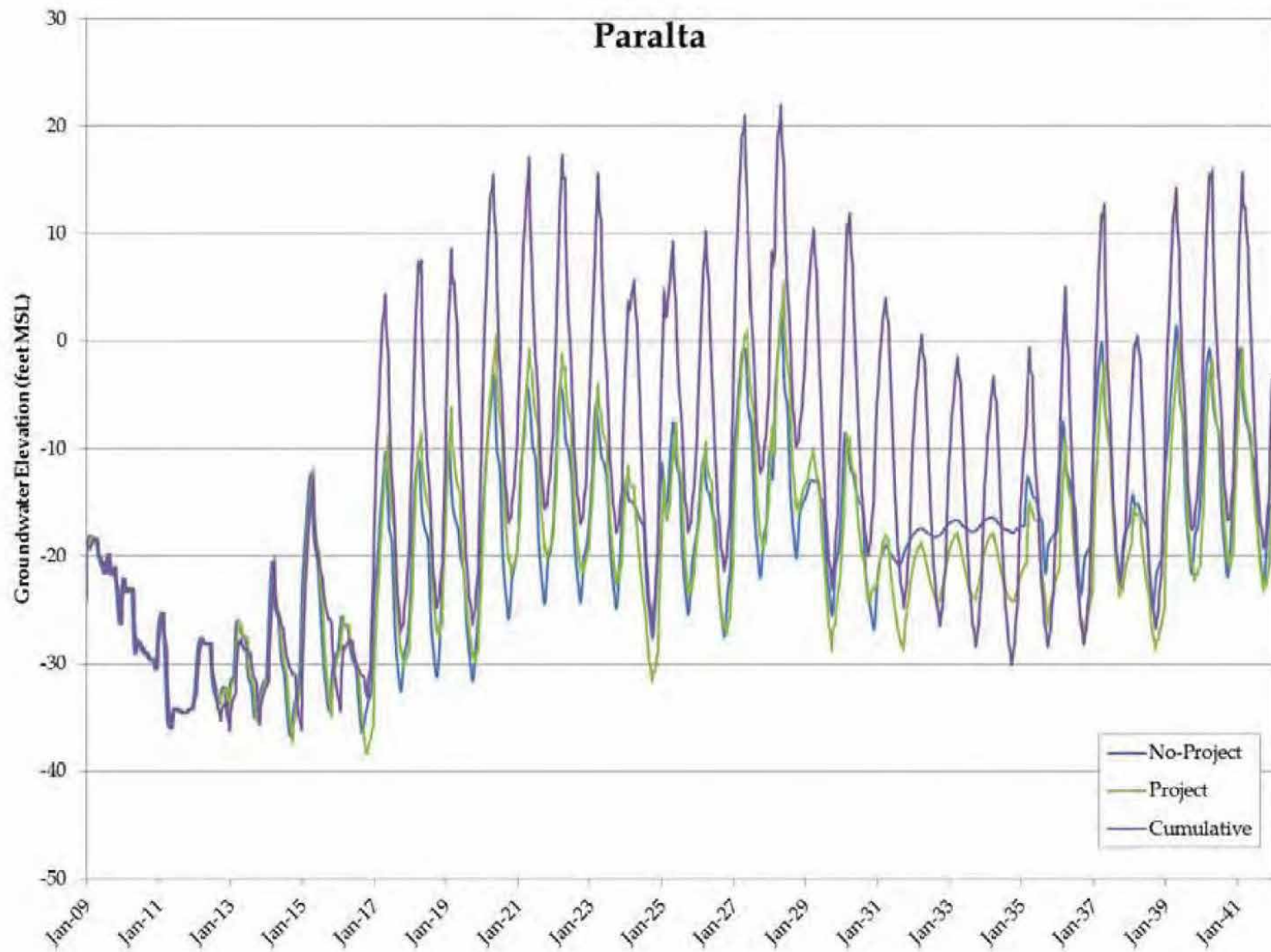


Figure 15: Predicted Static Groundwater Elevations at Paralta Well

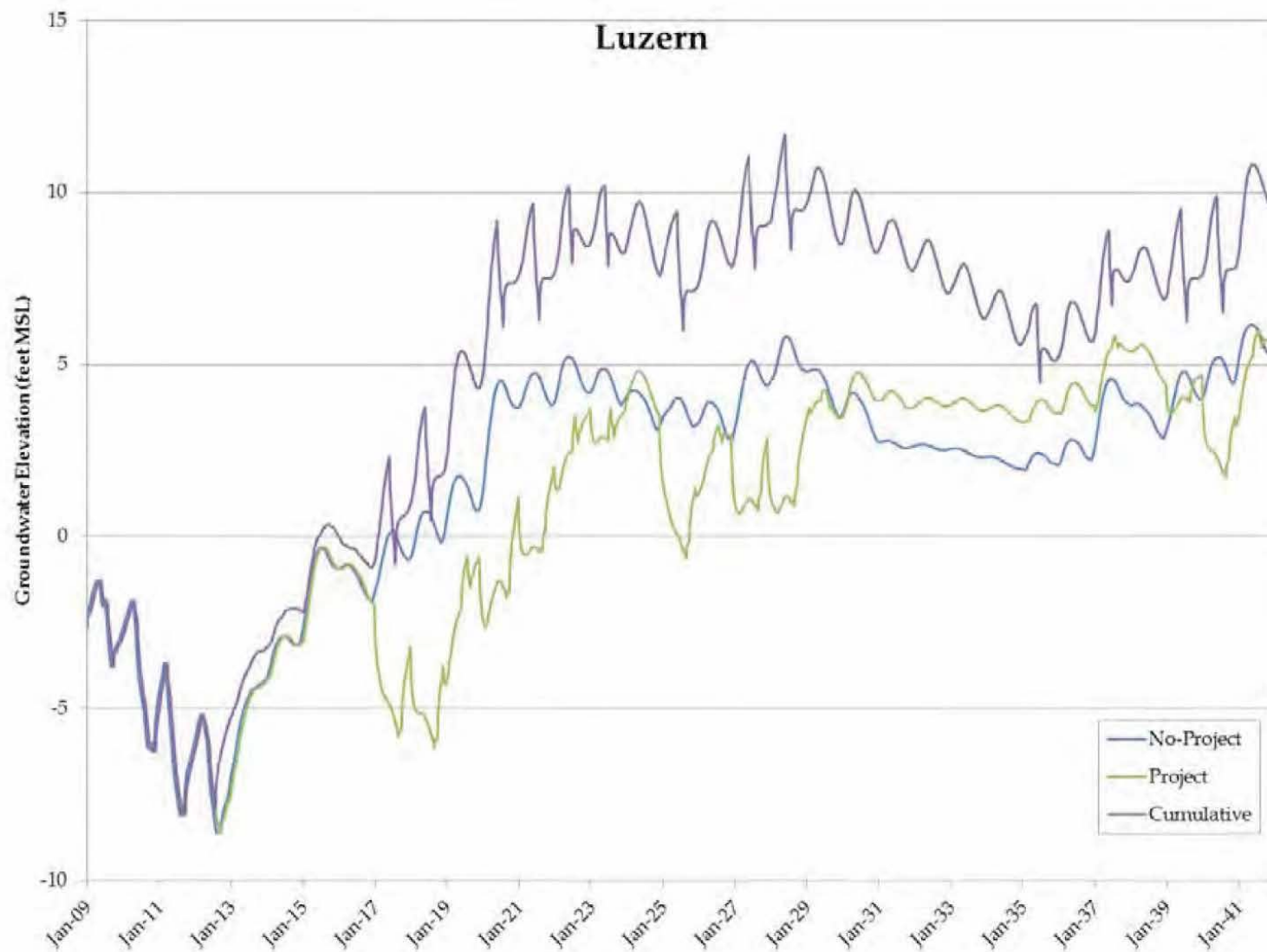


Figure 16: Predicted Static Groundwater Elevations at Luzern Well

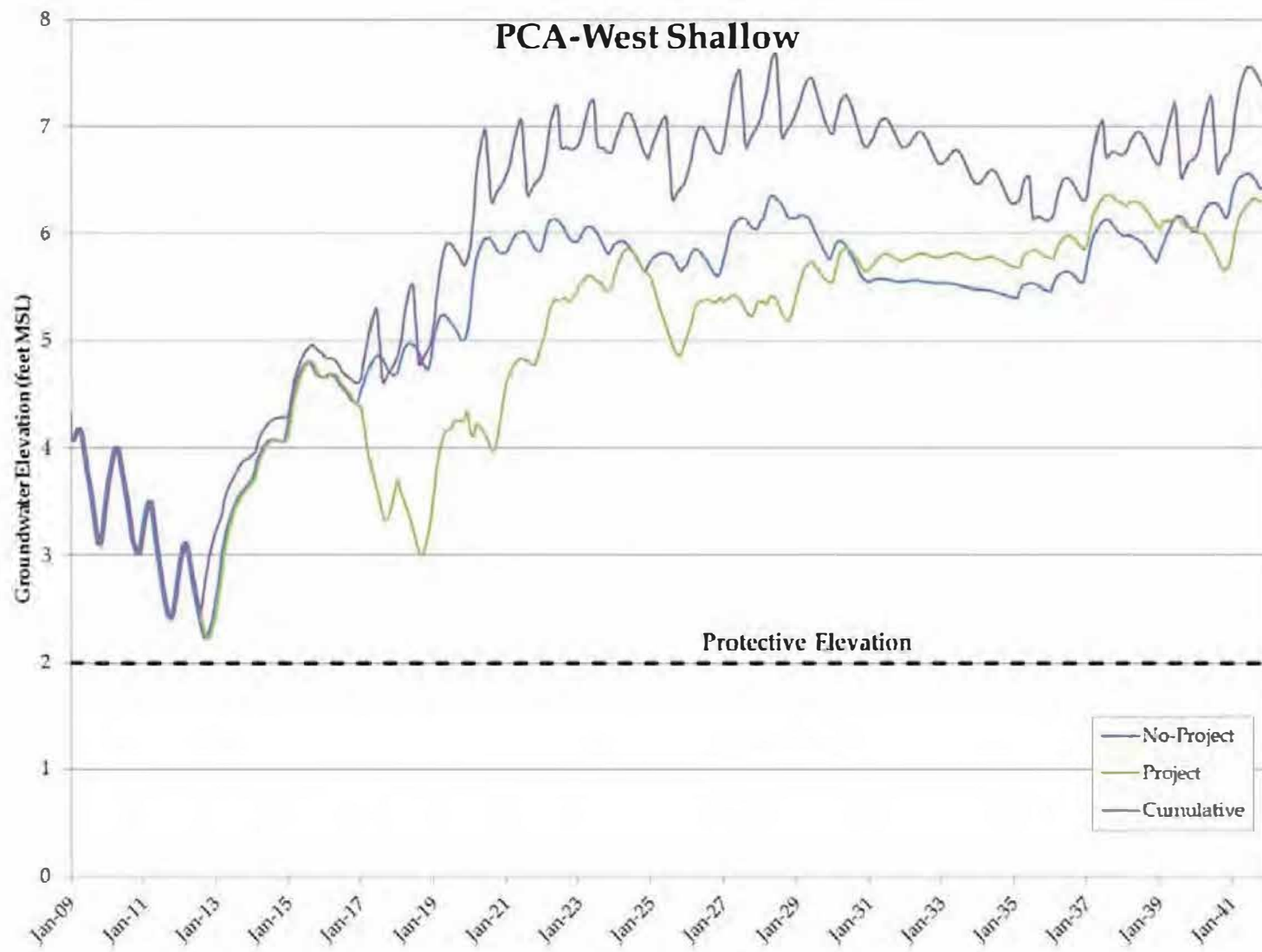


Figure 17: Predicted Static Groundwater Elevations at PCA-West Shallow Well

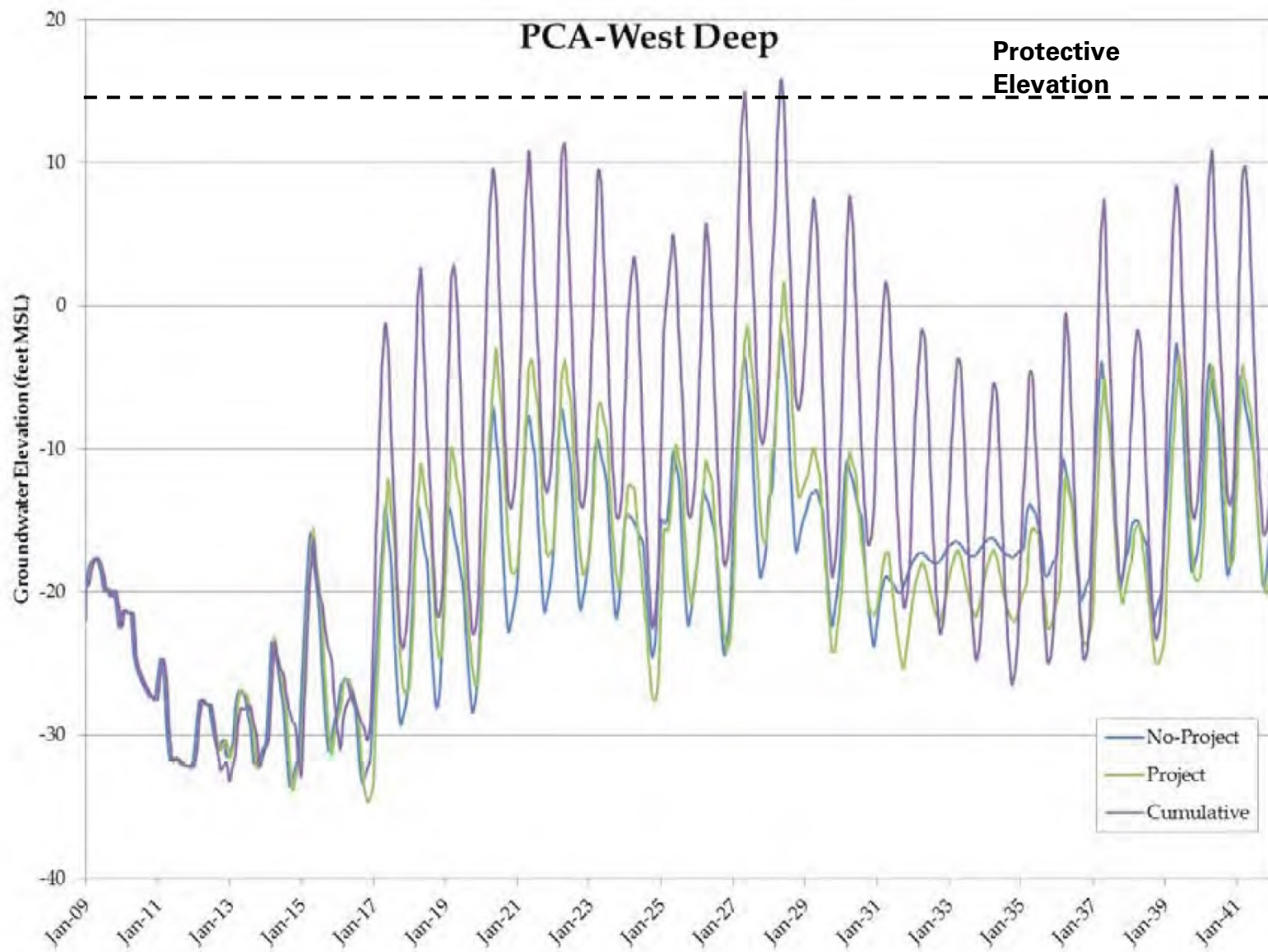


Figure 18: Predicted Static Groundwater Elevations at PCA-W Deep Well

Impacts If the Desalination Plant is Not Constructed
but
The Pure Water Monterey Expansion Project is Constructed

Under this scenario both the original PWM Project and the PWM Expansion Project would be in operation. Together these two projects are intended to deliver 5,750 acre-feet per year for injection into, and subsequent recovery from, the Seaside Basin.

The groundwater level impacts from this scenario were evaluated in the *Supplemental Environmental Impact Report for the Proposed Modifications to the Pure Water Monterey Groundwater Replenishment Project* (PWM SEIR) dated November 2019. Specifically, the modeling that was performed in conjunction with the expansion project is contained in Appendix D to the PWM SEIR. Appendix D contains the Technical Memorandum titled *Expanded PWM/GWR Project SEIR: Groundwater Modeling Analysis*, prepared by Montgomery & Associates dated November 1, 2019.

The *Expanded PWM/GWR Project SEIR: Groundwater Modeling Analysis* provides the most useful information for evaluating the impacts if the desalination plant is not constructed but there is an expansion of the Pure Water Monterey Project. This report estimates the impacts on groundwater levels in the Seaside basin for: (1) The No Project scenario (the same “No Project” scenario used in the original PWM EIR in which none of the proposed replenishment projects are built), and (2) The Project scenario in which both the original PWM Project and the expansion of the PWM Project are built, but no desalination plant is built. The following excerpts from this report describe the groundwater level impacts from the Project scenario.

The proposed modifications would expand the Advanced Water Purification Facility peak capacity from 5 MGD to 7.6 MGD and increase recharge of purified recycled water in the Seaside Basin by 2,250 AF/yr (for a total average replenishment rate of 5,750 AF/yr).

The original PWM Project included four injection well sites, however only two of the four approved well sites have been constructed based on final design of the original PWM Project. The proposed modifications include installing additional injection well facilities in an expanded area to the east. The expanded injection well area includes up to three well sites. Under the proposed modifications, two of the four approved deep injection wells (DIWs) would be relocated into the expanded injection well area. In addition, one new DIW would be constructed and operated. No new vadose zone wells (VZWs) are proposed as part of the proposed modifications.

The proposed modifications require increased well injection capacity to accommodate the additional 2,250 AF/yr of purified recycled water. Of the average 5,750 AF/year of purified recycled water injected into the Seaside Basin, 90% will be injected/recharged into the deeper confined Santa Margarita Aquifer, while 10% will be injected/recharged into the shallower unconfined Paso Robles Aquifer. The amount of water recharged each year depends on whether the predicted hydrology is in a drought or non-drought year, and on the rules for banking and delivering water to the Castroville Seawater Intrusion Project (CSIP) for irrigation use in the Salinas Valley.

For Cal-Am to extract additional groundwater injected by the proposed modifications into the Seaside Basin, deliver it to meet its system demands at all times, and also provide system redundancy, the following Cal-Am potable water system improvements would be built and operated:

- Four new extraction wells and associated infrastructure; including two new extraction wells located at the Seaside Middle School (EW-1 and EW-2) and two new extraction wells located along General Jim Moore Boulevard (EW-3 and EW-4) and,
- New conveyance facilities along General Jim Moore Boulevard and at the Seaside Middle School site.

The calibrated groundwater flow model of the Seaside Groundwater Basin, the same model used to support the preparation of the approved PWM Project EIR (HydroMetrics, 2015), was used to evaluate potential changes to groundwater levels, changes to inflows and outflows to and from the Basin, and to estimate the underground retention time of injected purified recycled water from Project injection wells to nearby production wells in the Santa Margarita Aquifer and Paso Robles Aquifer.

A predictive model incorporating variable future hydrologic conditions was developed for this impact analysis. The groundwater model was calibrated through 2008; therefore, the predictive model begins in 2009. The predictive model simulates a 33-year period: from 2013 through 2045. Injection from the Pure Water Monterey project was assumed to start in October 2020 and was operating throughout the remaining 25 years of the simulation. The hydrogeological properties for the Santa Margarita Aquifer in the model were updated locally in the vicinity of the project to incorporate site specific data from aquifer pump tests conducted in project wells DIW-1 and DIW-2 and in five nearby wells consisting of ASR-1, ASR-2, ASR-3, ASR-4, and the Paralta well. The model was not recalibrated with updated parameters, though a comparison of calibration error statistics was evaluated and indicate no significant reduction or change to the calibration statistics at the regional model scale or the local basin subarea scale.

Monterey Peninsula Water Management District (MPWMD) estimated the amount of Carmel River water available for ASR injection for the predictive simulation based on historical streamflow records.

HydroMetrics WRI made a number of assumptions about future pumping rates by various entities in the Seaside Basin for the original PWM Project EIR modeling. For the expanded PWM Project simulation, new Cal-Am pumping assumptions were developed based on predicted hydrology, water demands, pumping capacity, operational rules, and water availability. These assumptions were incorporated into a spreadsheet water supply/demand model developed by MPWMD (*Supply and Demand for Water on the Monterey Peninsula*, dated September 19, 2019), which was then used to assign Cal-Am pumping rate inputs for the groundwater model. The MPWMD supply/demand model starts off with a Cal Am total demand of 10,398 acre-feet (AF) in October of 2020 (Model Year 8) and increases linearly to 11,325 AF through 2045 (Model Year 33). The monthly distribution of Cal-Am's annual deliveries, provided by MPWMD, was used to estimate future monthly demand, and are based on monthly averages of deliveries from 2007 to 2017. These values are summarized below in Table 3.

Table 3: Cal-Am Estimated Monthly Demand

Month	Percent of Annual Delivery	Estimated Future Monthly Demand (AF) Model Year 8	Estimated Future Monthly Demand (AF) Model Year 33
October	9.1%	950	1,034
November	7.5%	778	847
December	6.7%	702	764
January	7.9%	819	892
February	6.8%	702	765
March	8.3%	863	940
April	8.2%	852	928
May	9.0%	933	1,017
June	8.9%	923	1,005
July	9.5%	983	1,071
August	9.5%	986	1,074
September	8.7%	907	988

[Note that the original PWM EIR used a total Cal Am demand of 15,300 AFY for all future years, while the total starting demand in Model Year 8 of Table 3 is only 10,398 AFY, ramping up to 11,325 AFY in Model Year 33.]

Cal-Am's future pumping from the Seaside Basin will be drawn from three pools of water, listed in the order in which they are applied to meet monthly demand:

- Native groundwater
- PWM project water recovery
- Carmel River ASR recovery

Figure 6 below shows how Cal-Am's pumping is allocated to these three pools during the simulation. Pre-project values are consistent with previous model input (MY4 through MY7). On this figure, Cal-Am's annual Seaside Basin pumping needed to meet demand is shown by the dashed orange line. The area between the dashed orange line and the purple line represents the demand met by direct service of Carmel River water and Sand City Desal water. The amount of water pumped from each of the three pools is represented by the three colored areas under the dashed orange line. From WY 2022 onward, the allotment from the three water pools is sufficient to supply the requisite pumping. *[Note that this statement pertains to the requisite pumping needed to supply the demand in Table 3 above, not necessarily to the demand included in the Final EIR/EIS for the MPWSP. Also note that in Figure 6 the reason there is no ASR pumping shown in WYs 2022-2027 is because MIW and MPWMD agreed on different assumptions for how Cal-Am might operate their system in the future. The rule for ASR recovery provided by MPWMD in these simulations is that ASR water is only recovered if the Seaside Basin pumping demand cannot be met by a combination of pumping Cal-Am's native groundwater right plus recovering PWM water. ASR water is third priority in these simulations. With the expansion project, there is so much more PWM water, that there are periods when no ASR water is needed to meet to the demand, and the ASR water stays in storage in the aquifer.]*

Cal-Am forgoes 700 AF of water from the native groundwater pool every year as a replenishment repayment once the Cease and Desist Order on the Carmel River is met, which we assume occurs at the start of the project. We therefore assume that Cal-Am pumps only 774 AF/year of its assumed natural safe yield of 1,474 AF/year beginning in October 2020 (MY8).

The No-Project scenario developed for the original 2015 PWM Project EIR analysis was also used as a No-Project scenario in the PWM Expansion Project analysis to show overall changes in groundwater conditions due to implementation of the expanded PWM Project.

Hydrographs for simulated groundwater elevations under the No-Project and expanded PWM Project scenario are shown below on Figures 12 through Figure 19. The blue lines represent the simulated static groundwater elevation under the No-Project scenario and the green lines represent the simulated static groundwater elevation under the expanded Project scenario.

In general, the expanded PWM Project scenario hydrographs show long-term increases in average groundwater elevations relative to the No-Project hydrographs. Increased groundwater elevations are apparent within one year of the start of the expanded PWM Project, with the hydraulic head in the wells screened in the deeper confined Santa Margarita aquifer increasing the most quickly, and the water level rise in the wells screened in the unconfined shallow aquifers showing a more gradual increase. The hydrographs for the wells closest to the ASR and PWM injection sites (ASR 1&2, City of Seaside #3, Ord Grove #2, and Paralta) show long-term groundwater elevation increases of between approximately 5 to 20 feet above the No-Project baseline.

The expanded PWM Project scenario hydrographs also reveal increasing groundwater elevations farther to the west of the injection sites. At the Luzern well (Figure 14), screened in the shallower Paso Robles aquifer, groundwater elevations rise by between 5 and 10 feet above the No-Project baseline during the Project. At the PCA-West Shallow well (Figure 15), groundwater elevations rise by 1 to 2 feet. These wells are screened in the upper unconfined aquifer, so the effect of increased injection and extraction in the Santa Margarita Aquifer on annual variability is somewhat dampened.

A comparison of the simulated PCA-West well hydrographs for the expanded PWM Project and No-Project scenarios relative to the protective groundwater elevations provides insight into the impacts of the expanded PWM Project on the potential for seawater intrusion in the Seaside Basin. As shown on Figure 15, the groundwater elevations at the PCA-West Shallow well are consistently above the protective elevation for the shallow aquifer both during the expanded PWM Project and also for the No-Project baseline, and reach over five feet above the protective elevation by the end of the simulated expanded PWM Project. Figure 16 shows that groundwater elevations at the PCA-West Deep well are consistently below the protective elevation for the Santa Margarita Aquifer in both the No-Project baseline and the expanded PWM Project scenario. This indicates that there is a potential for seawater intrusion both with and without the expanded PWM Project at this location.

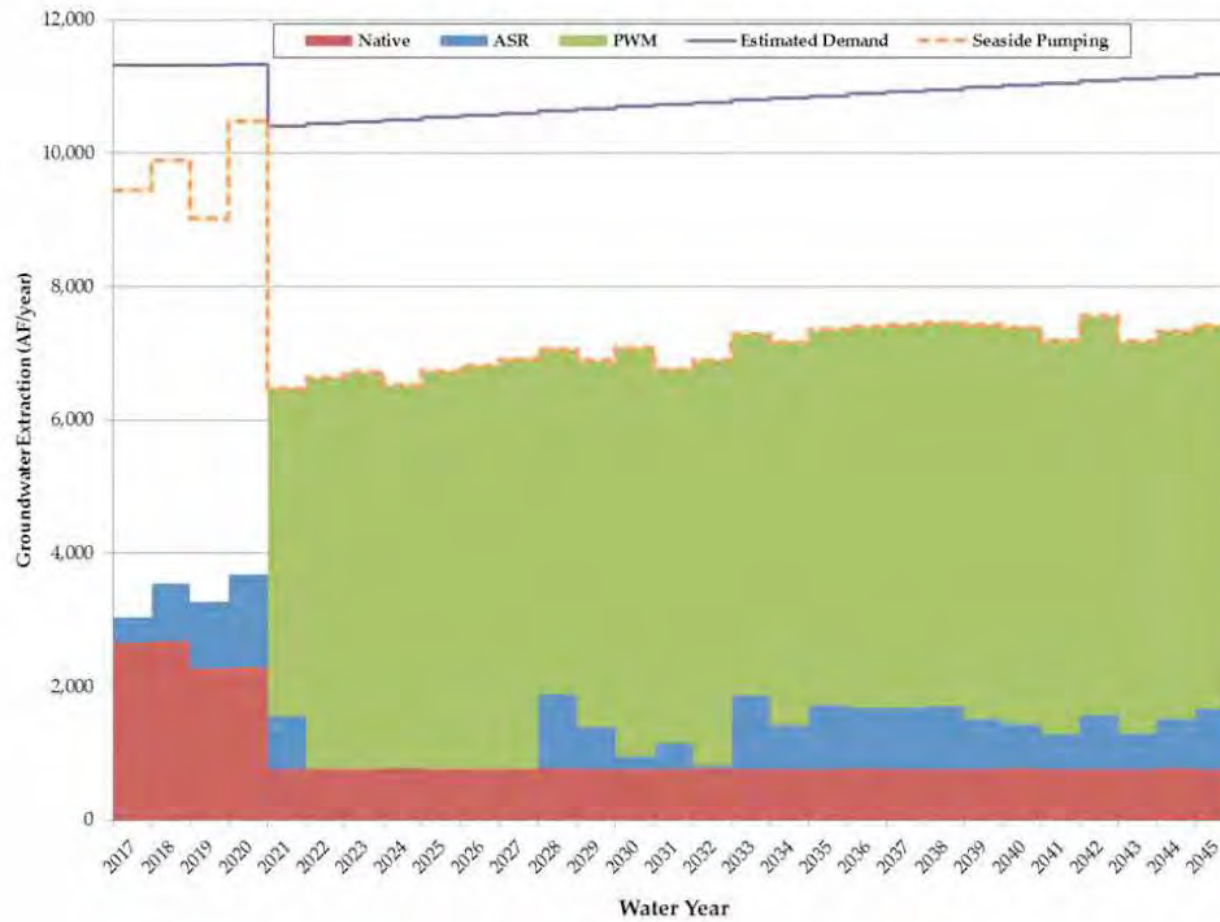


Figure 6: Annual Cal-Am Water Allocation by Water Right Source (expanded PWM/GWR Project)

The hydrographs for the Sentinel 3 monitoring well (Figure 19), located at the coast and screened in the deeper aquifer down gradient of the DIW-SITE-5 and DIW-SITE-6 injection sites, are similar to PCA-West Deep, where the No-Project baseline water levels are always below the protective elevation established for the well. The expanded PWM Project water levels are on average 5 to 10 feet above No-Project water levels and are above the protective elevation for periods of time, indicating that the expanded PWM Project decreases the potential for seawater intrusion at this location.

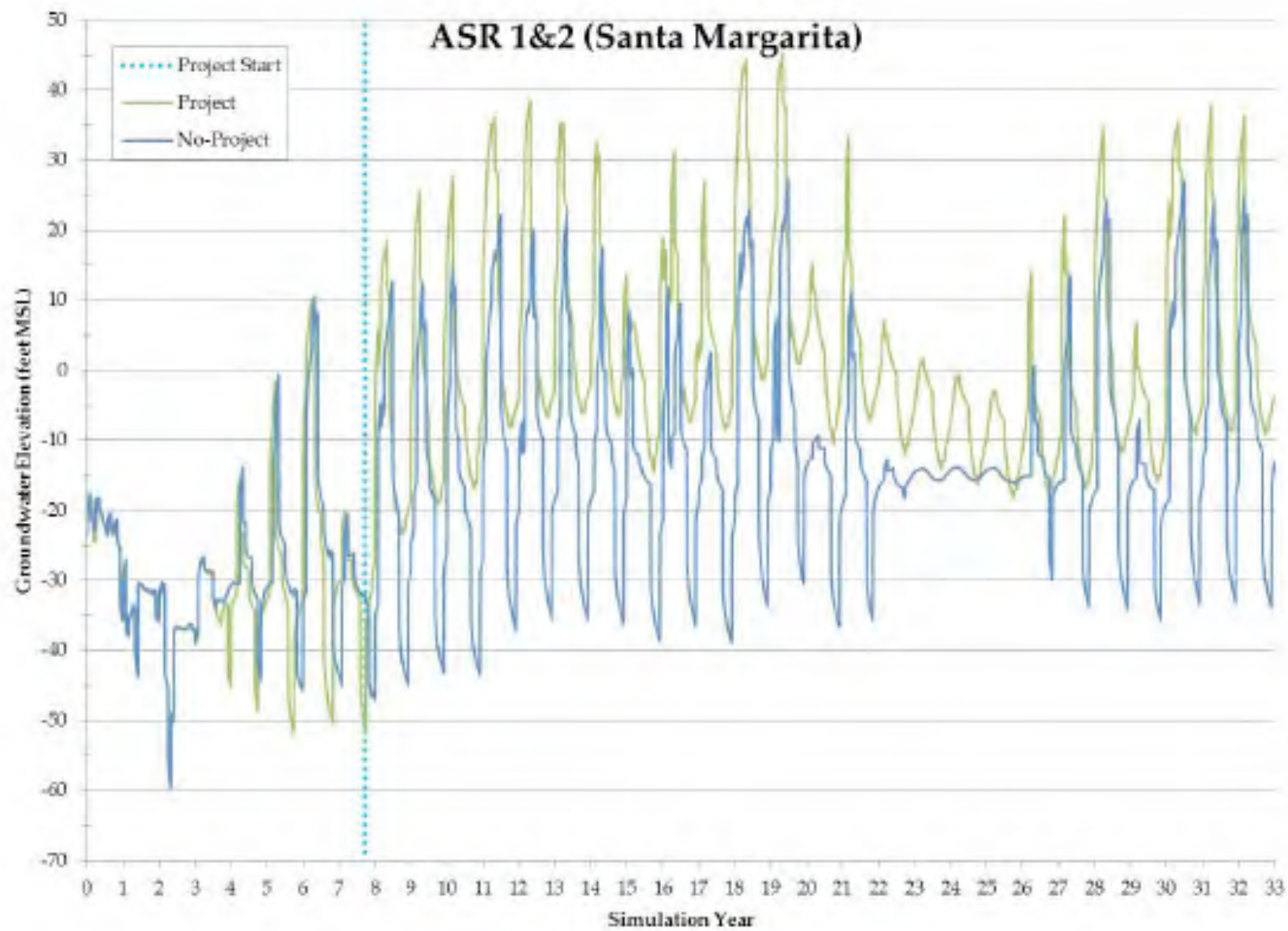


Figure 12. Predicted Static Groundwater Elevations at ASR 1&2 Wells

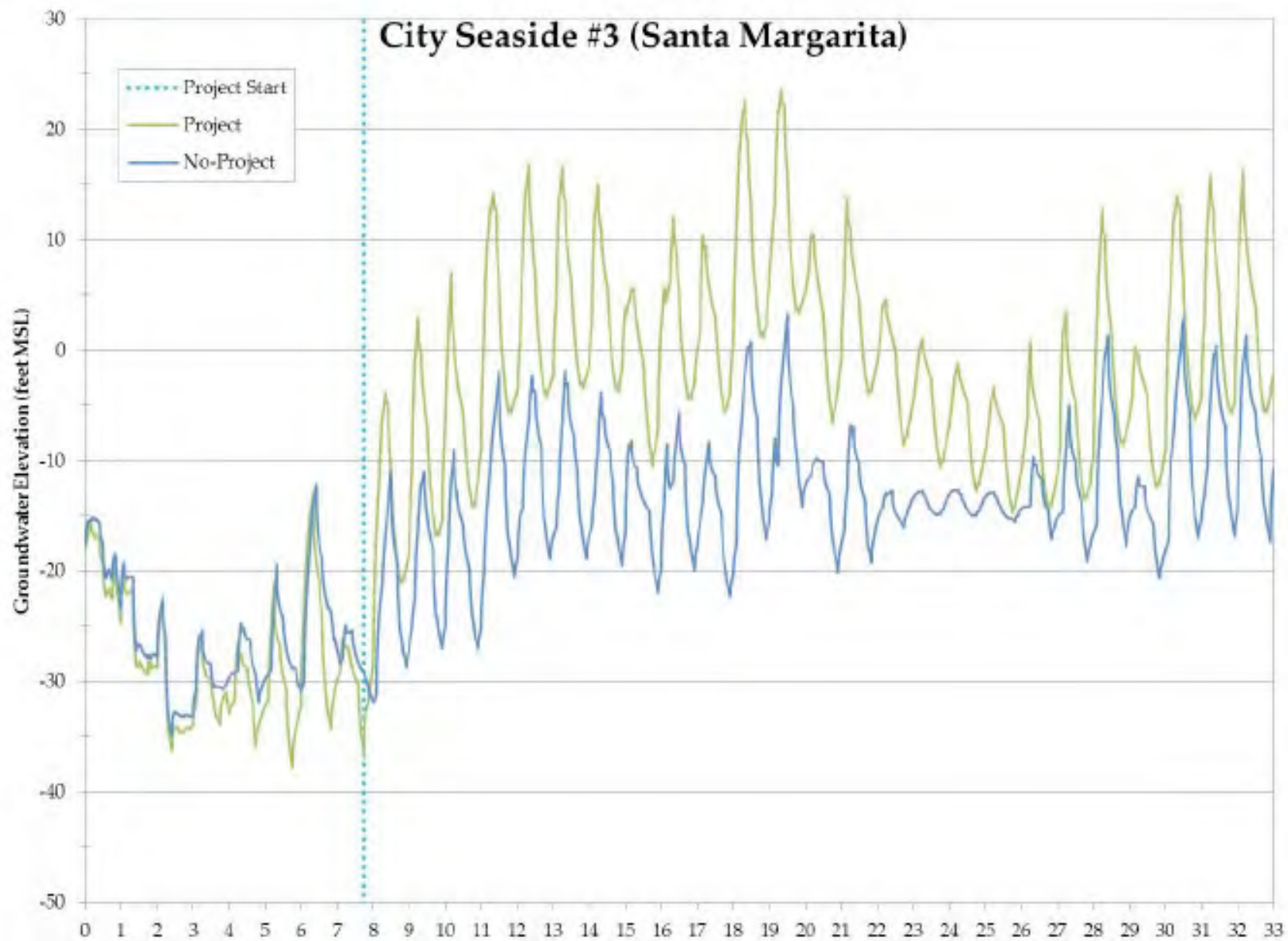


Figure 13. Predicted Static Groundwater Elevations at City of Seaside 3 Well

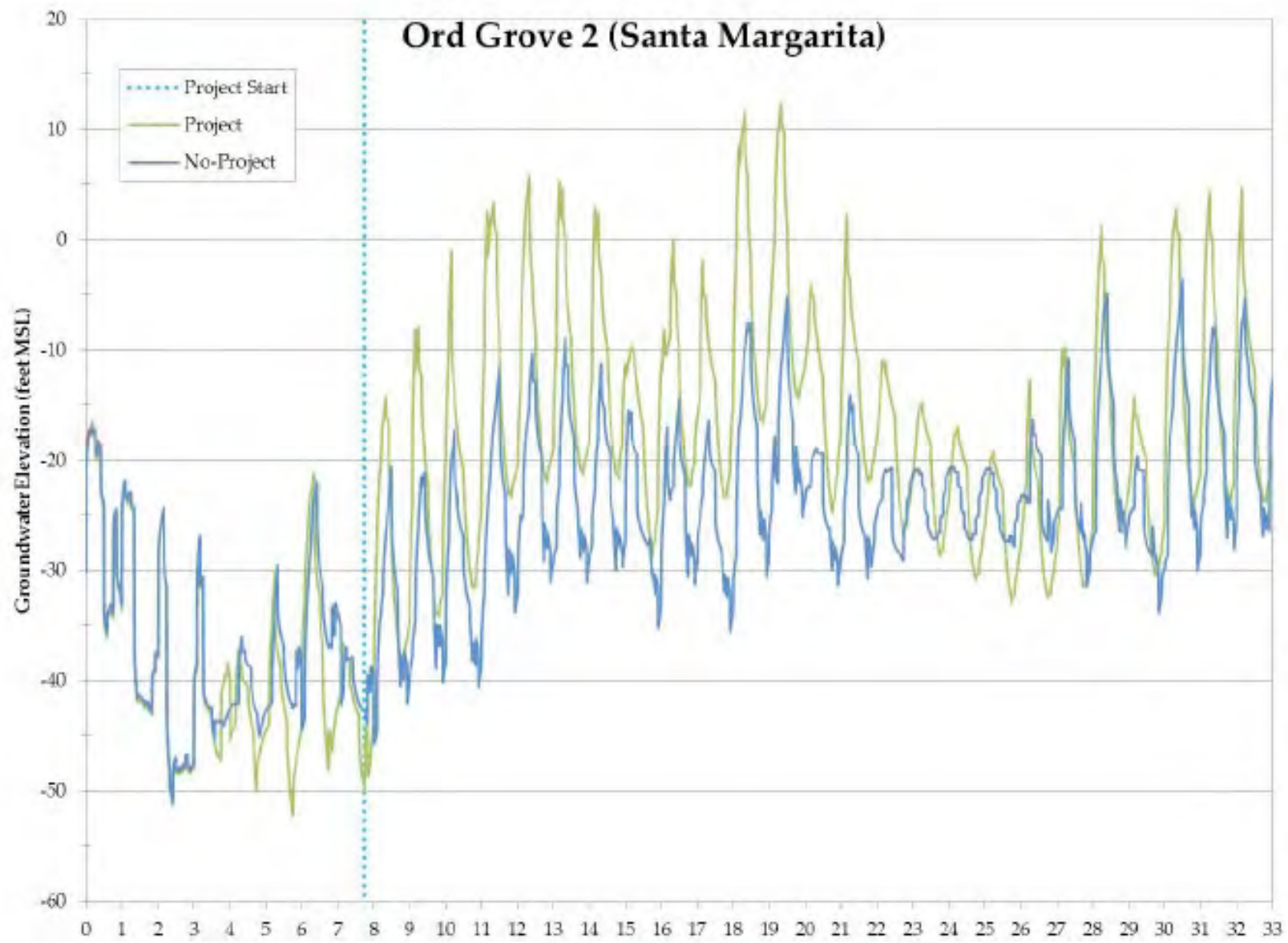


Figure 14. Predicted Static Groundwater Elevations at Ord Grove 2 Well

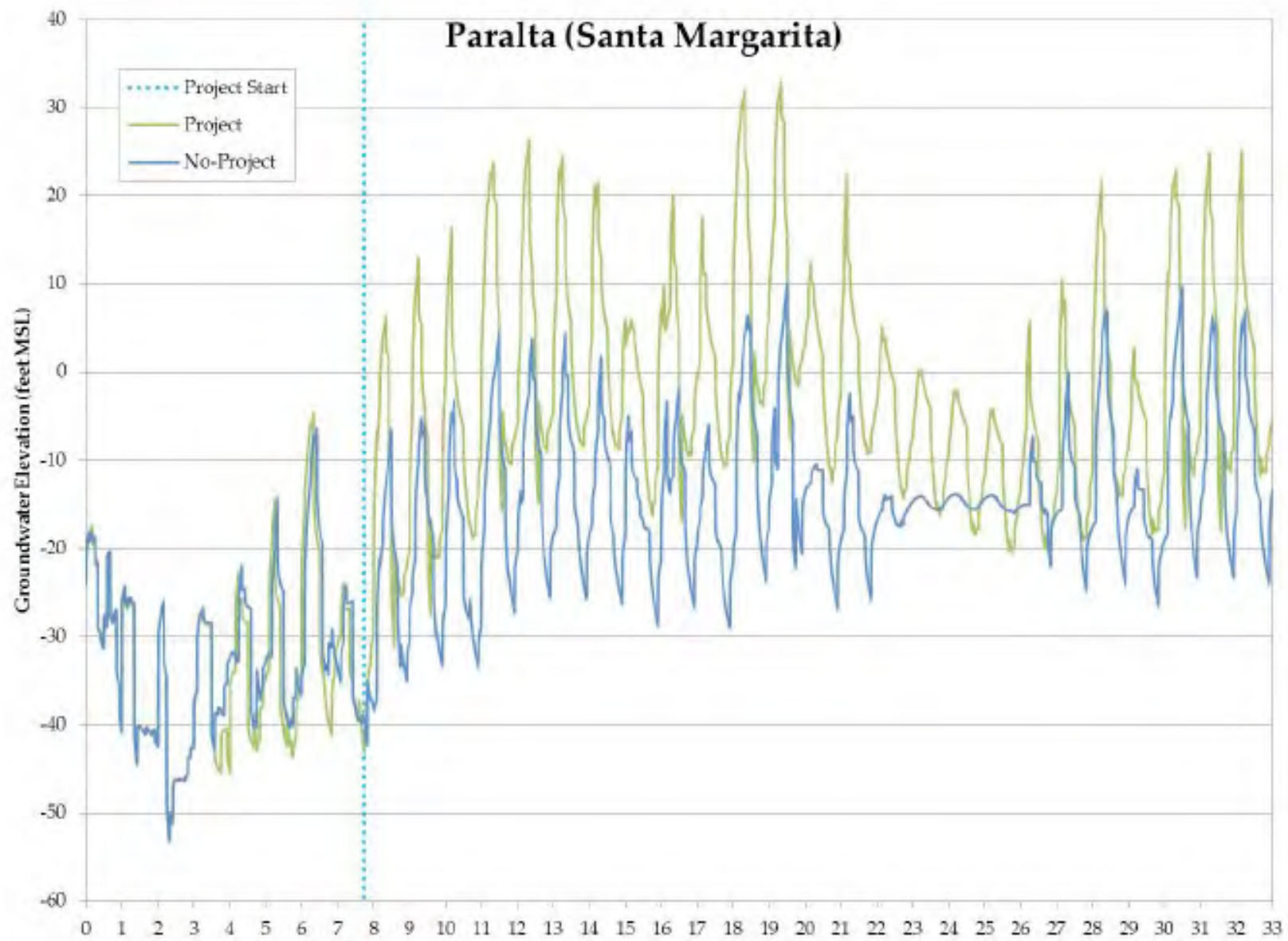


Figure 15. Predicted Static Groundwater Elevations at Paralta Well

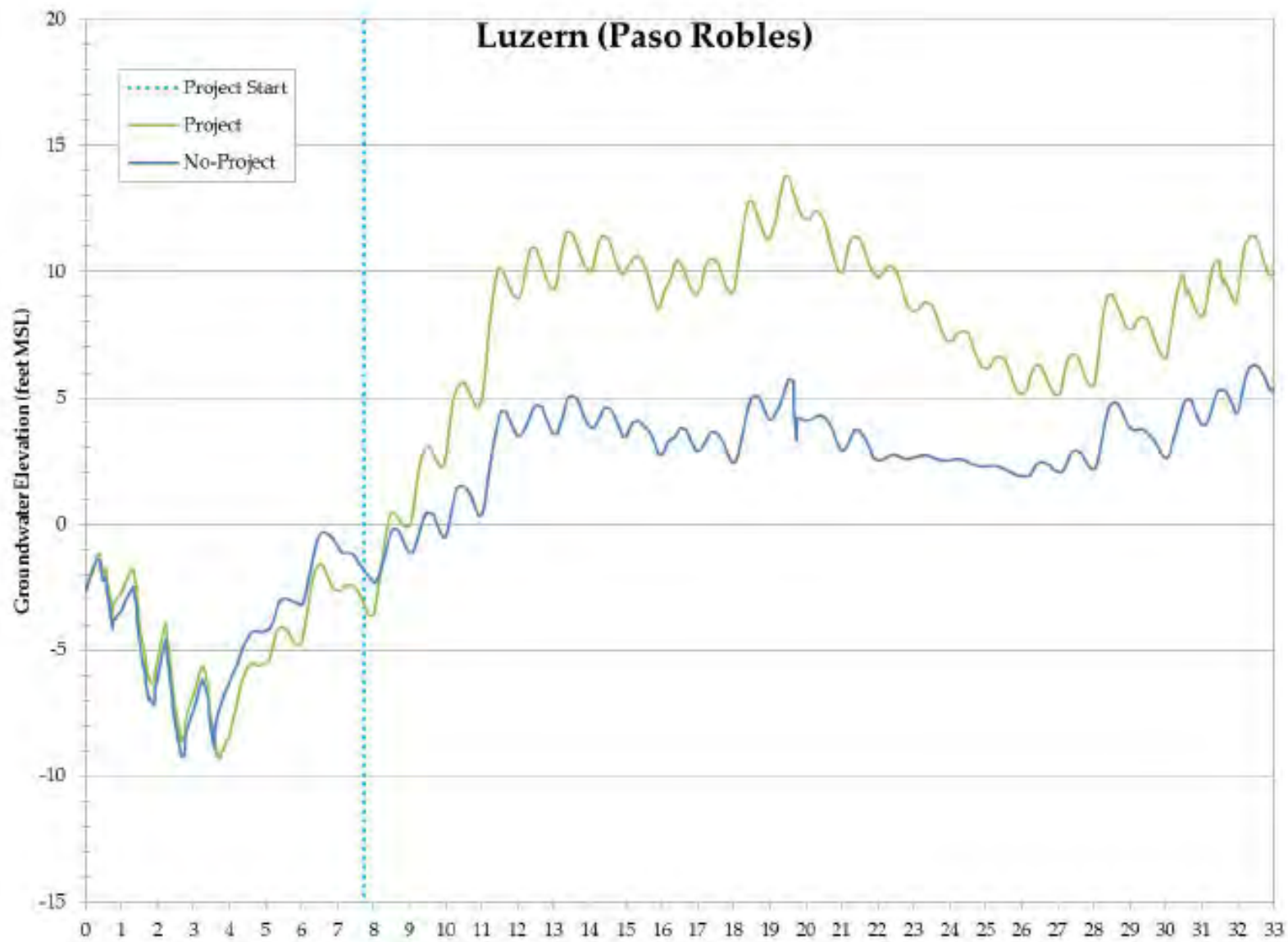


Figure 16. Predicted Static Groundwater Elevations at Luzern Well

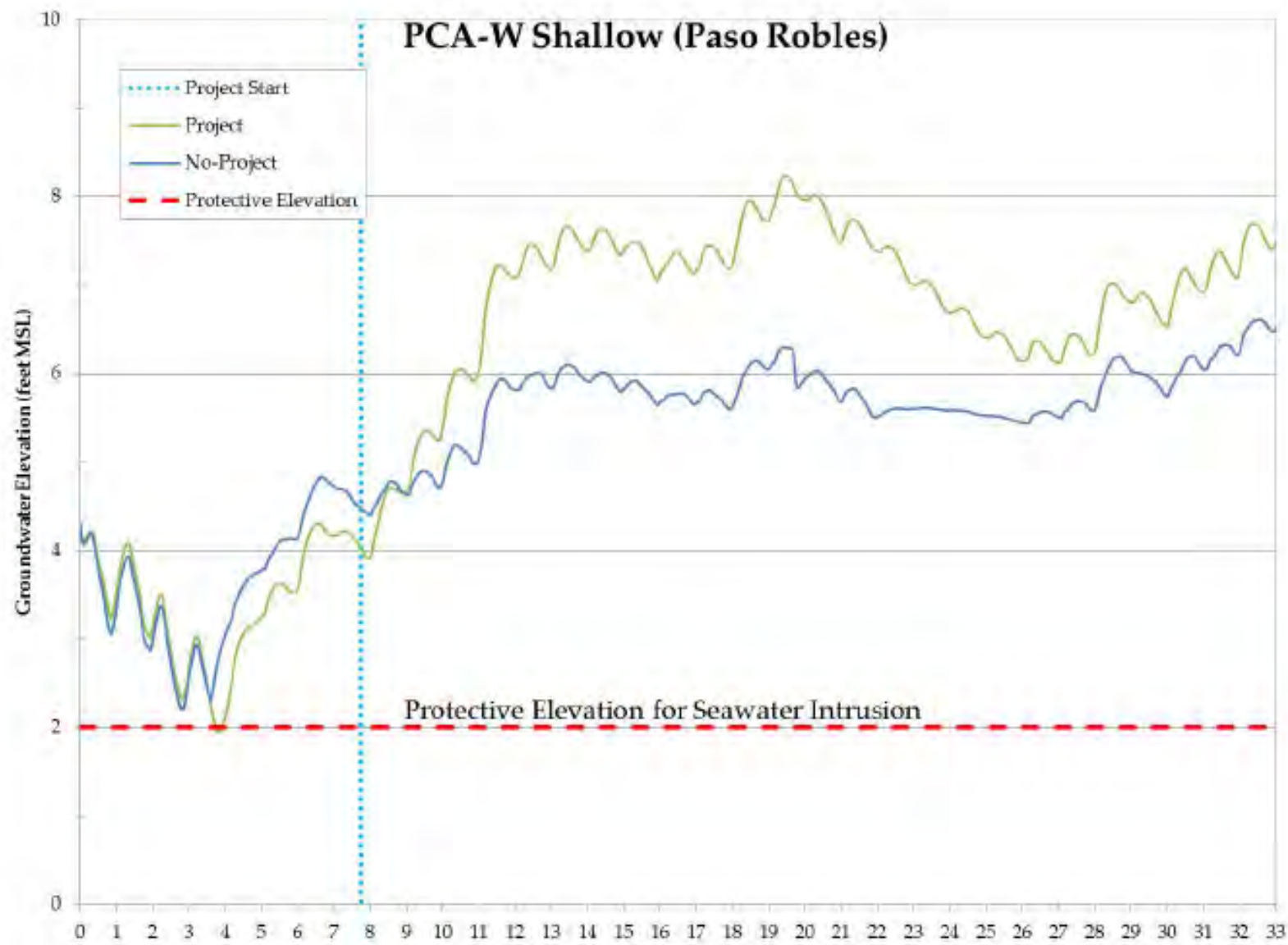


Figure 17. Predicted Static Groundwater Elevations at PCA-West Shallow Well

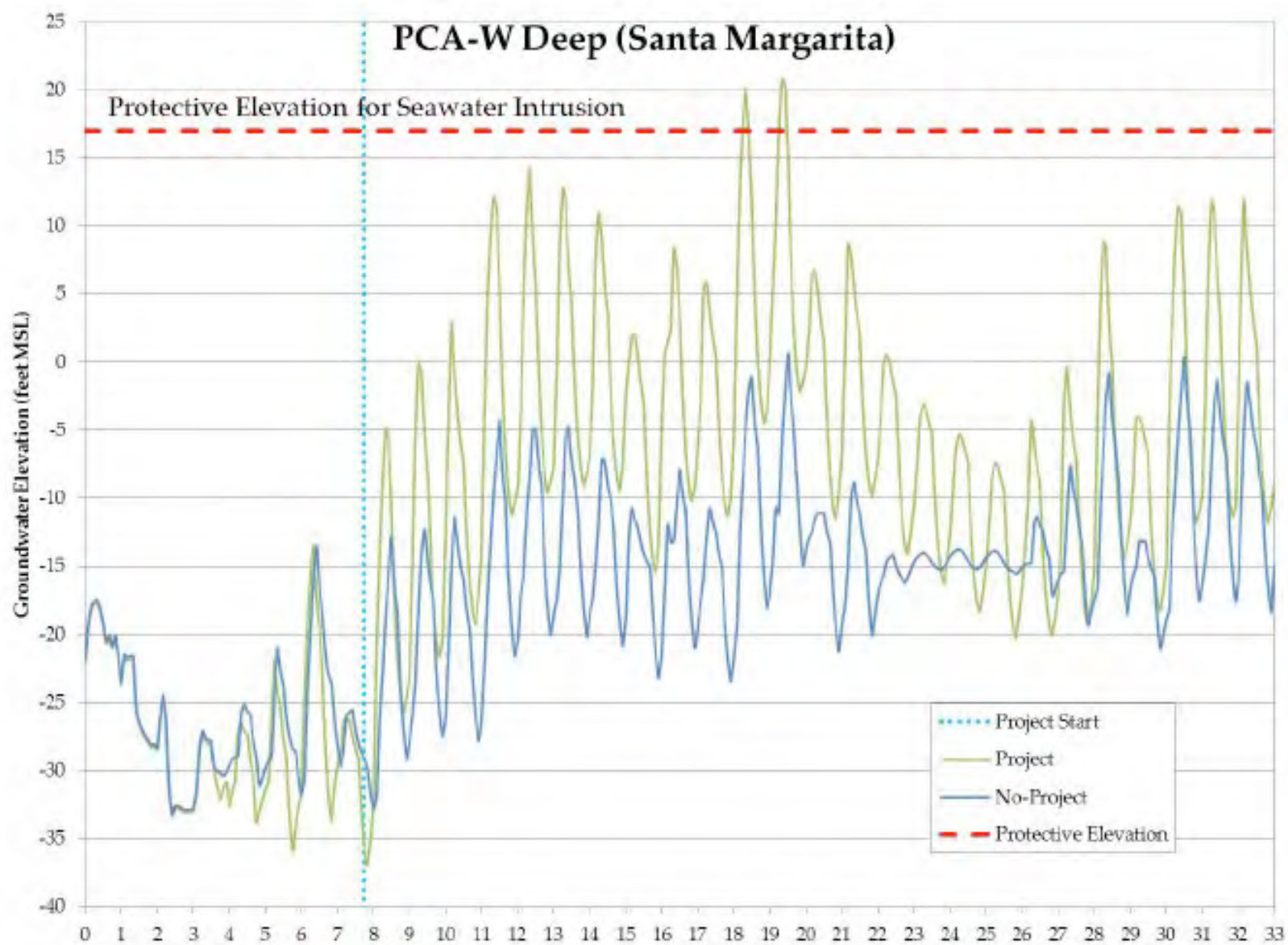


Figure 18. Predicted Static Groundwater Elevations at PCA-West Deep Well

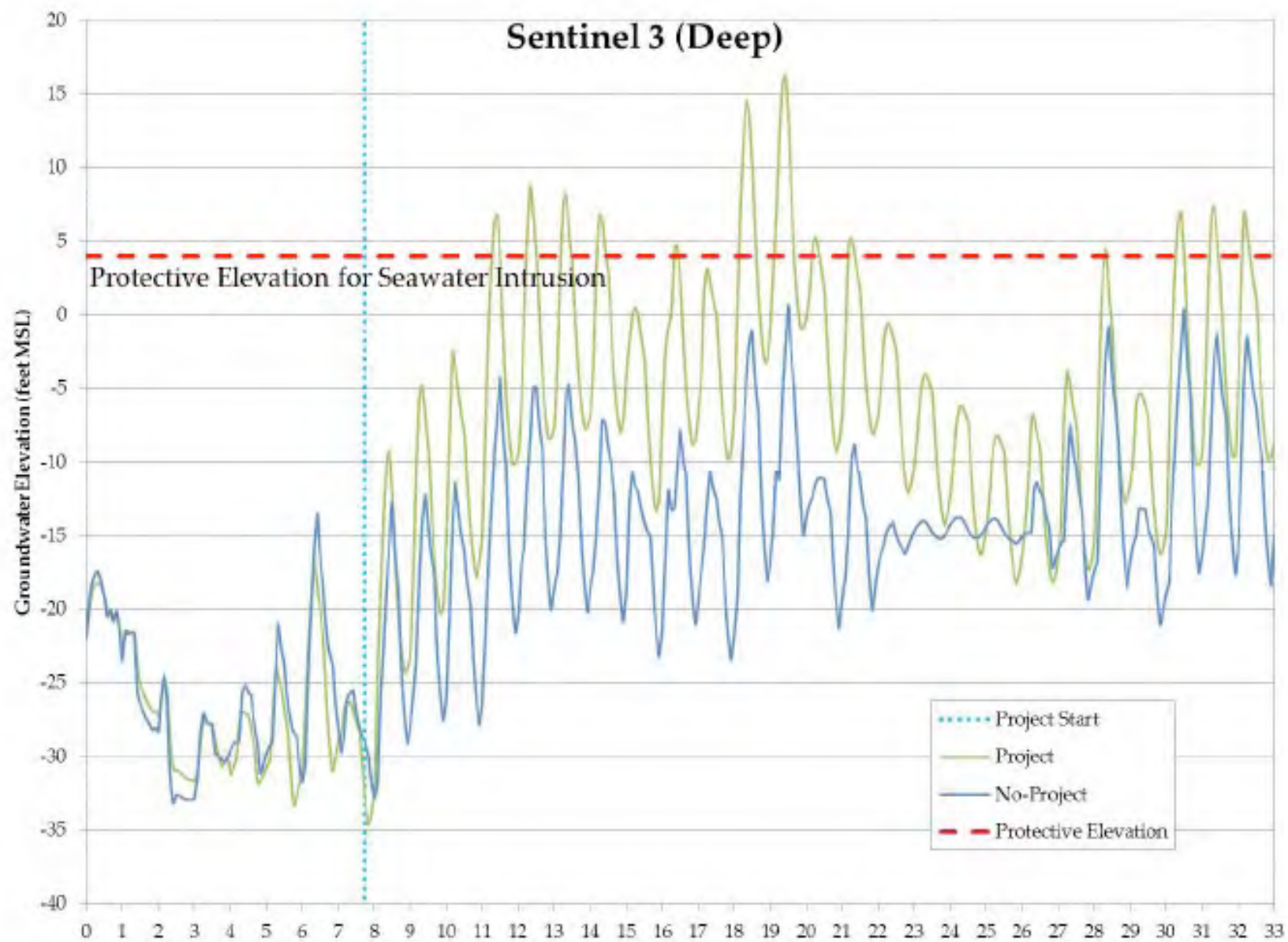


Figure 19. Predicted Static Groundwater Elevations at Sentinel 3 Well

Attachment 2

Summary of Pertinent Information from Previous Groundwater Modeling Work

The summary below are excerpts from Attachment 3 of the Technical Program Manager's May 23, 2019 Board Agenda Transmittal with the Subject title *Discussion of the Pros and Cons of Using the Sustainable Yield Approach in Place of the Natural Safe Yield Approach for Basin Management*. These excerpts pertain to the need to recharge the Basin to raise groundwater levels to protective elevations.

The information provided below comes from modeling reports prepared for the Watermaster by HydroMetrics.

Report Title: *Seaside Groundwater Basin Modeling and Protective Groundwater Elevations*

Report Date: November 2009

Pertinent Findings/Conclusions:

1. The Decision-required triennial pumping reductions will result in a gradual rise in most groundwater elevations. The pumping reductions will decrease, but not eliminate, inflow into the Basin from the ocean.
2. The "Physical Solution" required in the Decision, consisting of triennial pumping reductions until pumping has been reduced to a Natural Safe Yield of 3,000 AFY, by itself will not achieve protective groundwater level elevations.
3. Significant injection of water that is left in storage and not taken out through pumping will be the most successful means of raising groundwater elevations to protective water level elevations.

Report Title: *Groundwater Modeling Results of Replenishment Repayment in the Seaside Basin*

Report Date: April 2013

Pertinent Findings/Conclusions:

1. California American Water's 25-year, 700 AFY replenishment payback plan raises shallow aquifer groundwater levels by about 1 to 1.5 feet, and deep aquifer groundwater levels by about 3 feet, but does not achieve protective water level elevations in any of the six protective water level wells, except PCA-West-Shallow, which is already above its protective water level elevation.
2. Assuming the 25-year, 700 AFY repayment plan began in 2017, and 1,000 AFY of water was injected at the four ASR wells near General Jim Moore Boulevard and left stored in the Basin and not pumped back out, protective water levels would be achieved in all six of the protective water level wells by 2041.

Excerpts and Recommendation from the 2019 BMAP Update

These excerpts pertain to the need to recharge the Basin to raise groundwater levels to protective elevations.

- The persistence of groundwater levels below most coastal protective groundwater elevations implies that seawater will likely eventually intrude into the Basin. Although intrusion may take many years or decades to occur, groundwater levels need to rise above protective elevations to ensure protection of the aquifers.

- To recover the Basin to protective elevations within a reasonable period of time, recharge by direct injection of water into the deep aquifer is the most effective. In this option, injected water is not used for storage and recovery as a supplemental supply, but rather to stay in the Basin as a management measure to protect against seawater intrusion.
- Since the last triennial reduction will go into effect in the upcoming Water Year, the Watermaster should focus on establishing a path forward to meet coastal protective elevations.

Recommendation 4: Develop Long-Term Financing Plan for Replenishment Water

The Decision identifies three separate budgets that the Watermaster oversees: (1) the Monitoring and Management Plan budget, (2) an annual Administrative budget, and (3) a Replenishment budget. These budgets are set every year by the Watermaster.

The replenishment assessments are only intended to offset overproduction that has occurred after the Decision was issued. The current replenishment assessments are not sufficient to buy water that offsets over-pumping that occurred prior to the Decision. The over-pumping prior to the Decision added to the Basin's deficit. Offsetting only the over-production that occurred after the Decision may not be sufficient to raise groundwater levels in the Basin sufficiently to prevent seawater intrusion. The Watermaster should develop a plan to address this issue.

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D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
March 11, 2020**

Attendees: TAC Members

City of Seaside – Scott Ottmar (via telephone)
California American Water – Tim O’Halloran
City of Monterey – Tom Harty (via telephone)
Laguna Seca Property Owners – Wes Leith
MPWMD – Jon Lear
MCWRA – Nicole Koerth
City of Del Rey Oaks – John Gaglioti
City of Sand City – Leon Gomez (via telephone)
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques

Consultants

None

Others

MCWD – Patrick Breen

The meeting was convened at 1:30 p.m.

1. Public Comments

There were no public comments.

2. Administrative Matters:

A.Approve Minutes from the January 8, 2020 Meeting

Ms. Koerth commented that she was filling in for Ms. Voss, and had not been in attendance at that meeting. On a motion by Mr. O’Halloran, seconded by Mr. Leith, the minutes were unanimously approved as presented.

B.Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion.

C.Continued Discussion Regarding Seeking Grant Assistance for Projects

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Lear reported that Maureen Hamilton is MPWMD’s contact for the Integrated Regional Water Management Program. He went on to say that MPWMD would offer to act as the applicant if there

was a State funding opportunity, but would not be willing to undertake management of any grant or loan that might be offered.

Since the State has reported that no grant or loan programs exist that could provide funding for the purchase of water to recharge the basin, there is no need to pursue an application.

D.Seaside Basin Change in Groundwater Storage Between Water Years 2018 and 2019

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Lear said that he concurred with Ms. King's conclusion that the increase in storage for Water Year 2019 over Water Year 2018 was likely due to 2019 being a wetter year than 2018, and that not all of the water injected in 2019 had been recovered in 2019.

E.MCWD Well Data

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Gaglioti asked Mr. Breen if there had been any recent increases in chloride in MCWD's wells. Mr. Breen responded that they have not seen any appreciable increase in chloride south of Reservation Road. He also commented that he felt the location of the chloride contour line for the 400-foot aquifer may not be correctly located in some portions of MCWD's service area.

3. Schedule

Mr. Jaques commented that there did not appear to be any activities that would require having TAC meetings in the next couple of months, and that the next TAC meeting could be held in June, with no April or May TAC meetings.

Mr. Gaglioti said he was interested in getting further information about the chloride concentrations to the north of the Seaside Basin. Mr. Jaques and Mr. Breen described the coordination that will occur between the Marina Coast Water District GSA and the Salinas Valley Basin GSA during the development of the GSP for the Monterey Subbasin. During that process the chloride information will be evaluated and reported upon.

Mr. Breen said that the USGS model will be used to prepare the GSP for this Subbasin. He commented that the aerial electromagnetic data that had been obtained by Marina Coast Water District's consultant will be considered in the development of the GSP.

Mr. Lear said he felt it would be good to have a review of the Laguna Seca Subarea modeling work that was performed several years ago, to refresh the memory of long-term TAC members and to provide information to newer TAC members. Mr. Jaques said he would pursue this with Montgomery and Associates for presentation at a near-future TAC meeting.

Mr. Gaglioti said he would like to know what the impacts would be to the Seaside Basin if the desalination plant is not built. Mr. Lear said he envisioned at least two scenarios that would be good to evaluate: (1) what the impacts would be if the desalination plant was not constructed and there was no expansion of the Pure Water Monterey Project, and (2) what would happen if the desalination plant was not built but the Pure Water Monterey expansion is built.

Mr. Lear went on to say that there is modeling information about the Pure Water Monterey Expansion project's impacts in the Environmental Impact Report for that expansion project.

Mr. Gaglioti said he felt it would be good for the Watermaster Board to weigh-in on these issues.

There was further discussion of various issues pertaining to MPWMD's supply/demand forecast and impacts on the Seaside Basin.

4. Other Business

Mr. Lear reported that Chris Cook had asked for an update on the Pure Water Monterey project. Mr. Lear reported that:

- The advanced water treatment (AWT) plant's water had been tested and okayed by the State Division of Drinking Water.
- Water is now being injected into the vadose zone.
- They are currently running the deep injection wells in hand mode, and will be transitioning to SCADA control in the near future.
- Once that occurs, they will begin to condition the deep wells with low rates of injection, and ramp up to full injection rates.
- At this point more than 100 acre-feet of AWT water has been injected.
- Particle-tracking modeling is already being done.
- MPWMD has adopted an ordinance to prohibit wells from pumping out of the area of the injection plume within which the required detention time prior to extraction is being achieved.
- Tracer testing has started, but only in the Paso Robles aquifer. Tracer testing will start in the Santa Margarita aquifer when injection into that aquifer begins.
- Monthly and quarterly sampling has begun for all of the contaminants required by the AWT plant's permit.
- The draft tracer testing plan is not likely to change significantly, it will mainly be changed to describe how the Pure Water Monterey project was started up.
- Mr. Lear explained that the Division of Drinking Water "accepts", but does not have to approve, the tracer testing plan before injection begins.
- Mr. Lear also noted that water travels slowly in the Paso Robles aquifer, but at a much faster rate in the Santa Margarita aquifer.

Ms. Koerth reported that MCWRA has redrawn some of its 500 mg/L chloride contour maps based on updated information. She will send those to Mr. Jaques for distribution to the TAC.

The meeting adjourned at 2:19 p.m.

D-R-A-F-T
MINUTES

**Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
June 10, 2020
(Meeting Held Using Zoom Conferencing)**

Attendees: TAC Members

City of Seaside – Scott Ottmar
California American Water – Tim O’Halloran
City of Monterey – Tom Harty
Laguna Seca Property Owners – Wes Leith
MPWMD – Jon Lear
MCWRA – Tamara Voss
City of Del Rey Oaks – John Gaglioti
City of Sand City – Leon Gomez
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques; Administrative Officer – Laura Paxton

Consultants

Montgomery & Associates – Georgina King and Derrik Williams (for Agenda items 3 and 4)

Others

California American Water – Chris Cook

The meeting was convened at 1:40 p.m. after resolving Zoom log-in problems

1. Public Comments

There were no public comments.

2. Administrative Matters:

A. Approve Minutes from the March 11, 2020 Meeting

On a motion by Mr. O’Halloran, seconded by Mr. Gomez, the minutes were unanimously approved as presented, with Ms. Voss abstaining because she had not participated in that meeting.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion.

C. Groundwater Modeling Done for the Pure Water Monterey Expansion Supplemental EIR

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Gaglioti asked if any further questions about the SEIR modeling work could be raised. Mr. Jaques responded that they could be raised, but that he was not sure of the status of certification of the SEIR.

There were multiple questions raised and responses provided regarding the groundwater modeling work done for the Pure Water Monterey Expansion Project.

Mr. Lear commented that, with regard to the current problem with the existing shallow (vadose zone) injection well, in areas further to the north of the present injection well location the Paso Robles aquifer has hydrogeologic properties better suited for injection. Investigation work is in progress to determine what needs to be done to correct the current vadose well injection problem.

3. Review of Previously Performed Laguna Seca Subarea Modeling Work

Mr. Jaques and Mr. Lear introduced this topic with a brief overview of the previously performed Laguna Seca Subarea (LSSA) modeling work.

Georgina King of Montgomery and Associates provided a comprehensive PowerPoint presentation describing that work. Copies of the PowerPoint slides are attached to these meeting minutes.

Ms. King noted that the greatest benefit of reducing pumping in the LSSA is raised groundwater levels in the central portion of the LSSA where the majority of the production wells are located.

Ms. King also noted that much more pumping is occurring outside and adjacent to the LSSA than is pumped within the LSSA itself.

In response to a question from Mr. Leith, Ms. King said that increases in groundwater levels in the last 10 years of the modeling scenario is due at least in part to the projected hydrologic cycle having more rainfall during that timeframe.

Mr. Lear went on to point out that when this modeling work was done, future hydrologic cycles were “best guesses” based on historical hydrologic patterns. In the most recent years actual rainfall data, which showed that more rainfall occurred than was predicted, could be used to more accurately predict groundwater levels in the early years of the modeling scenario.

Mr. Gaglioti asked if the Corral de Tierra wells were drawing water from the Paso Robles aquifer. Ms. King said she believed at least some of them were, but there was limited production well data available to her for that subarea.

Mr. Gaglioti asked if some of the LS SA wells were also pumping from the Paso Robles aquifer, and Ms. King responded that they were.

Mr. Gaglioti asked if increasing LSSA pumping from the Paso Robles aquifer would reduce or prevent loss of water to the Corral de Tierra subarea. Ms. King responded yes, but that increasing pumping might exceed the Decision-mandated allowances for groundwater pumping by producers in the LSSA and that groundwater levels would drop due to the increased pumping.

Mr. Jaques noted that the lowered groundwater levels resulting from increased pumping in the LSSA would cause higher pumping lifts which would be an additional operational expense for well owners. Further, since the well owners are already pumping the quantities of water that they need to meet their demands, there would have to be some way of using the additional water that was pumped. Also, if groundwater levels fell deep enough, they might reach the bottom of the Paso Robles aquifer. Mr. Lear added that the Decision requires that “material injury” be prevented, and a determination would need to be made as to whether or not increased pumping would lead to “material injury.”

Ms. Voss commented that the solution to the falling groundwater levels in the LSSA will require having measures included in the Corral de Tierra subarea Groundwater Sustainability Plan to help mitigate the problem.

4. Discussion of Possibly Modeling Certain Scenarios Related to the Monterey Peninsula Water

Supply Project and an Expansion of the Pure Water Monterey Project

Mr. Jaques summarized the agenda packet materials for this item. In his comments, Mr. Jaques said that he felt the proposal should include making a presentation of the findings of that work to the Board, and not just to the TAC, and that there would be some additional expense for that additional presentation.

Mr. Gaglioti said he had not expected this work to cost as much as was being proposed, because he thought that existing reports and data could be used for this purpose. He also noted that the supply and demand assumptions in the proposal were different from those that were used in the previous Pure Water Monterey Project EIR. He commented that as far as he knew, only the Monterey Peninsula Water Management District had adopted the revised supply/demand assumptions from Mr. Stoldt's memo. He said he would rather have the Watermaster Board decide if it wants to spend this level of money to perform this work, and if it wants to use Monterey Peninsula Water Management District's supply/demand forecast rather than the previously used supply/demand forecast. Ms. Voss reported that Monterey County Water Resources Agency was also hesitant to use the Monterey Peninsula Water Management District's supply/demand figures.

Mr. Lear asked Mr. Gaglioti what information he was hoping to gain from performing this work. Mr. Gaglioti said he was interested in learning how much additional groundwater recharge would be needed to reach protective levels within the Seaside basin, and whether that amount of recharge water could be obtained.

Mr. Williams said that with regard to the supply/demand estimates, the model simulations include not having the desalination plant. He said that if the previous supply/demand values were used, and the desalination plant was not built, groundwater levels would be lower, and that if the Pure Water Monterey Expansion Project was also not built, then the problem would be even worse.

Mr. Jaques said it was his recollection that previous modeling work had predicted what groundwater levels would be without the desalination plant.

Mr. Williams and Mr. Lear said it would be necessary to see if Cal Am could meet their Cease-And-Desist Order requirements under either of the proposed scenarios. They went on to say that without some additional water source for recharge, the only way to stabilize groundwater levels would be to further reduce pumping.

Mr. Jaques offered to review the previous modeling work and to discuss these issues with Ms. King and Mr. Williams and provide to the TAC at its next meeting a summary of what information that work provides on this topic. There was consensus in support of Mr. Jaques' proposal.

5. Schedule

Mr. Jaques reported that he anticipated the need for TAC meetings in July, August, and September in order to complete work necessary to prepare the Monitoring and Management Plan, and its associated budgets, for 2021, and to develop the consultant contracts for 2021, so they could be presented to the Budget and Finance Committee and then to the Board. He noted that there would likely not be a need to have a TAC meeting in October or December, but one would be needed in November.

6. Other Business

There was no other business to discuss.

The meeting adjourned at 3:06 p.m.

Summary of Past Groundwater Modeling Work in the Laguna Seca Subarea

Presented to Seaside Basin Technical Advisory Committee
June 10, 2020
Georgina King, PG., C.Hg.



Summary of Groundwater Modeling for the Seaside Basin Watermaster

Year, Modeler	Model Area	Purpose
2013/2014, HydroMetrics	Basin	Estimate Laguna Seca Subarea safe yield
2016, Hydrometrics	Basin	Groundwater flow divides within and east of the Laguna Seca subarea



Difference Between Laguna Seca Subarea Modeling Projects

Safe Yield (2013/2014)

- Determine impacts from potential pumping changes within and outside of the subarea
- Estimate the Natural Safe Yield and Operational Safe Yield

Groundwater Divide (2018)

- Map existing and potential future groundwater divides based on groundwater model simulations
- Show flow directions



Estimate Laguna Seca Subarea Safe Yield (2014)



Safe Yield Background

- The Decision safe yield for the Laguna Seca subarea at 608 AF/year
- Safe yield is generally defined as the amount of water that can be pumped from a basin without causing undesirable impacts
- Safe yield is achieved when all groundwater levels stabilize by the end of the model simulation



Baseline Scenario Establishes Safe Yield

- Cal-Am's 25 Year Replenishment Plan
- Alternative Producers pump at 2011 rates
- Laguna Seca pumping $\approx$ 520 acre-feet/year
- $\text{Safe Yield} = \text{Recharge} + \text{Inflow} - \text{Subsurface Outflow}$
- Annual average natural safe yield = 248 AF/year based on mass balance
- Model scenario with LSSA pumping at 248 AF/year failed to achieve stable groundwater levels because of changing flows into and out of the LSSA



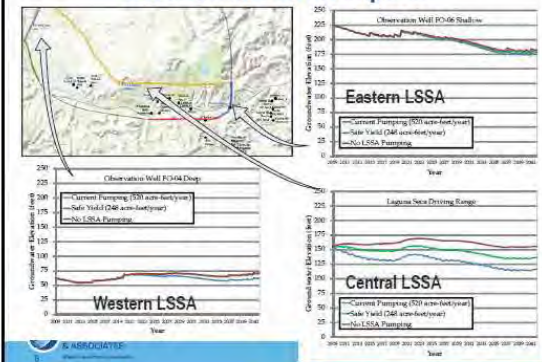
Does reducing or eliminating pumping by Alternative Producers in the LSSA appreciably reduce the rate at which groundwater levels are falling in the LSSA?

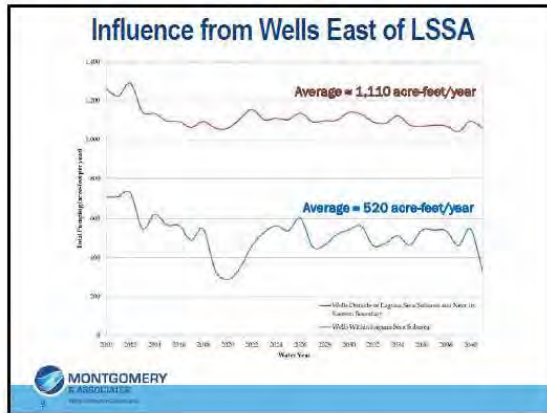
Three Scenarios

- Current Alternative Producer Pumping (520 acre-feet/year)
- "Safe Yield" Pumping (248 acre-feet/year)
- No Alternative Producer Pumping



Groundwater Level Impacts

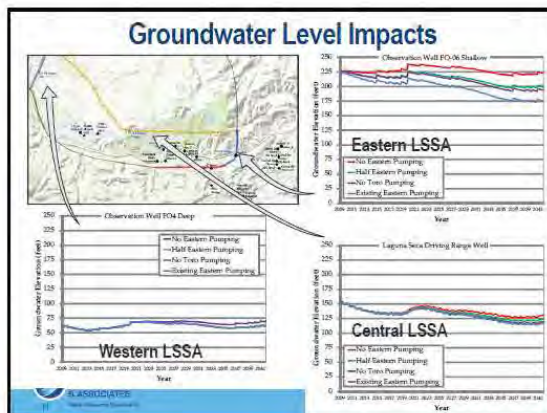




What is the impact on groundwater levels in the LSSA from pumping outside the eastern and southeastern boundaries of the LSSA?

Four Outside Pumping Scenarios

1. No Outside Pumping
2. Half of Existing Pumping
3. No Toro Wells Pumping
4. Existing Pumping



Conclusions

LSSA pumping is concentrated in the central LSSA

- Reducing LSSA pumping significantly reduces the rate of drawdown in the central LSSA
- Reducing LSSA pumping has limited impact on the eastern LSSA

Conclusions cont.

Pumping east of the LSSA has a significant impact on eastern LSSA groundwater elevations.

- Reducing total pumping or eliminating Toro pumping have similar impacts
- Significant reductions are necessary to prevent all groundwater elevation declines to be consistent with a safe yield of 248 acre-feet/year
- LSSA pumping continues to control central LSSA groundwater elevations

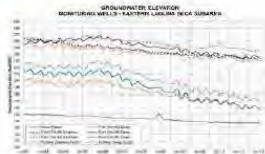


Questions?



Groundwater Flow Divides Within and East of the Laguna Seca Subarea (2016)

- Declining groundwater levels in the LSSA
- Some areas of LSSA cannot be effectively managed by WM as wells outside of the Basin are causing the declines
- Map existing and future groundwater flow divides based on groundwater model



Important Notes

- Flow divides are not static features or hard barriers to flow
- They will move in response to pumping stresses and changes in recharge



General Results

- Regional flow direction is consistent for all months examined
- Laguna Seca Anticline acts as a barrier to flow, splitting flow into two paths: one flowing west through the LSSA to the south of the barrier and one flowing northwest into the Northern Inland Subarea



General Results



Conclusions

- Under simulated future conditions, groundwater levels will continue to decline in east LSSA, but in the western and central portions of the LSSA they will stabilize by the end of the modeling period (2042)
- The divide between LSSA and Corral de Tierra should remain fairly stable
- Under simulated future conditions, groundwater flow in the Paso Robles (shallow) aquifer will switch direction to flow out of the LSSA's eastern boundary towards Corral Tierra
- Because the eastern portion of the LSSA is in greater hydraulic connection with the Corral de Tierra, it will not be possible for WM to implement management strategies to stop declining groundwater levels in the eastern portion of the LSSA



Questions?



D-R-A-F-T MINUTES
Seaside Groundwater Basin Watermaster
Technical Advisory Committee Meeting
July 8, 2020
(Meeting Held Using Zoom Conferencing)

Attendees: TAC Members

City of Seaside – Scott Ottmar
California American Water – Tim O’Halloran
City of Monterey – Tom Harty and Max Reiser
Laguna Seca Property Owners – Wes Leith
MPWMD – Jon Lear (joined at 1:58 p.m.)
MCWRA – Tamara Voss
City of Del Rey Oaks – John Gaglioti (departed at 2:32 p.m.)
City of Sand City – Leon Gomez
Coastal Subarea Landowners – No Representative

Watermaster

Technical Program Manager - Robert Jaques; Administrative Officer – Laura Paxton

Consultants & Others: None

The meeting was convened at 1:39 p.m. after resolving Zoom log-in problems and a quorum was established.

1. Public Comments: There were no public comments.

2. Administrative Matters:

A. Approve Minutes from the June 10, 2020 Meeting

On a motion by Mr. Gaglioti, seconded by Mr. O’Halloran, the minutes were unanimously approved as presented.

B. Sustainable Groundwater Management Act (SGMA) Update

Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion.

C. Formation of Seaside Water Quality and Operations Committee

Mr. Jaques summarized the agenda packet materials for this item. Ms. Voss asked when the first meeting of this committee was scheduled for, and Mr. Jaques responded it was scheduled for 3:00 PM on Wednesday, August 12 to coincide approximately with the end of the Watermaster TAC meeting on that same date. There was no other discussion.

D. Draft EIR for Potential Acquisition of Monterey Water Supply and District Boundary Adjustment Project

Mr. Jaques summarized the agenda packet materials for this item. There was no other discussion.

3. Continued Discussion of Possibly Modeling Certain Scenarios Related to the Monterey Peninsula Water Supply Project and an Expansion of the Pure Water Monterey Project

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Gaglioti noted that water supply and demand figures affect groundwater levels under any of the scenarios. He noted that the basin will either need to reduce its pumping by on the order of 1,000 acre-feet per year, or add approximately 1,000 acre-feet per year of additional recharge water that is left in the basin, in order to achieve protective water levels.

In response to a question from Mr. Gaglioti, Mr. Jaques said that the vadose zone wells are only expected to inject about 30% of the Pure Water Monterey Project water. There is much less production pumping in the Paso Robles aquifer, which the vadose zone wells are intended to recharge. In order to raise groundwater levels, it would be better to recharge into the Santa Margarita aquifer using the deep injection wells.

Mr. Lear said that injection is more effective in the Northern Coastal Subarea because of the aquifer properties in that area and the proximity to most of the large production wells.

Mr. O'Halloran commented that this information shows how delicate the situation is-it would take 25 years at approximately 1,000 acre-feet per year to protect the basin.

Mr. Lear said that in addition to Cal Am's 700 acre-feet per year of in-lieu recharge, approximately 1,000 acre-feet per year of additional recharge would be necessary to protect the basin. He also noted that after reaching protective levels, ongoing recharge would be needed in perpetuity to maintain groundwater levels at or above protective elevations.

Mr. Gaglioti said that he felt this was good information to present to the Board. He made a motion to present the full TAC agenda packet material on this item to the Board at an upcoming meeting. The motion was seconded by Ms. Voss and unanimously approved.

4. Initial Discussion Regarding Scope of Work for Monitoring and Management Program (M&MP) for FY 2021

Mr. Jaques summarized the agenda packet materials for this item.

Mr. Gaglioti said he concurred with the Draft 2021 Monitoring and Management Program as presented in the agenda packet. Mr. O'Halloran said he too concurred, as did Ms. Voss.

Ms. Voss also said she wanted to make sure that the Watermaster did not lose sight of the BMAP's Recommendation No. 2 with regard to groundwater modeling to determine a combination of management actions and supplemental supply projects that achieve protective groundwater elevations. That work could be done in conjunction with developing the Sustainable Yield of the basin. Mr. Jaques said he would highlight that issue in his agenda transmittal to the Board, when it goes to the Board for approval.

A motion was made by Mr. Gaglioti, seconded by Mr. O'Halloran, to approve all of the proposed revisions contained in the agenda packet, and to present the final version of the 2021 Monitoring and Management Program to the TAC for approval at the August meeting, and to present it to the Board for approval in October.

5. Schedule

Mr. Jaques reported that he would have the final 2021 Monitoring and Management Program on the TAC's August meeting agenda for approval, but would be deferring presenting the proposed budgets in support of the Monitoring and Management Program until the September TAC meeting in order to allow time to get input from the Watermaster's consultants and contractors.

6. Other Business: There was no other business.

The meeting adjourned at 2:35 PM.

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D-R-A-F-T MINUTES
Seaside Groundwater Basin Watermaster
Budget and Finance Committee Meeting
Via Zoom Teleconference
August 18, 2020

Attendees: BFC Members

City of Seaside – Victor Damiani, Chair
California American Water – Chris Cook
City of Sand City – Mayor Mary Ann Carbone
Coastal Subarea Landowners – Paul Bruno

Others:

Director George Riley, Monterey Peninsula Water
Management District (MPWMD)
Vibeke Norgaard – Legal representative, City of Sand City
David Stoldt – General Manager, MPWMD

Watermaster

Administrative Officer – Laura Paxton
Technical Program Manager – Robert Jaques

Chair Damiani called the meeting to order at 10:00 a.m.

1. Consider recommending the board approve the Fiscal Year 2021 Annual Budgets:
 - A. Administrative Fund
 - B. Monitoring and Management Program (M&MP) Fund—Operations
 - C. M&MP Fund—Capital (None)
 - D. Replenishment Fun (No Action Required)

Moved by Mayor Carbone and seconded by Director Bruno to recommend the board approve the 2021 Annual Budgets as presented. Carbone – Aye; Cook – Aye; Bruno – Aye; Damiani -- Aye

2. Consider recommending board approval of Replenishment Assessment Unit Cost of \$2,947 for Natural Safe Yield and \$747 for Operating Yield Overproduction for Water Year October 1, 2020–September 30, 2021.

Moved by Director Bruno and seconded by Mayor Carbone to approve staff and MPWMD determining Aquifer Storage and Recovery costs to include in unit cost calculations, and recommend the board approve the updated Replenishment Assessment Unit Costs for Natural Safe and Operating Yield Overproduction for 2021 Water Year presented at the September 2, 2020 board meeting. Carbone – Aye; Cook – Aye; Bruno – Aye; Damiani – Aye

3. Consider recommending board approval of a transfer of \$5,000 within the 2020 M&MP Operations Fund Budget for additional Montgomery & Associates current year expenses.

Moved by Director Bruno and seconded by Director Cook to recommend the board approve transferring \$5,000 from the Monitoring and Management Program (M&MP) O&M Budget *Develop Replenishment Scenarios* line-item to cover anticipated additional consulting assistance needed from Montgomery & Associates in the remainder of 2020. Carbone – Aye; Cook – Aye; Bruno – Aye; Damiani – Aye

4. Consider recommending board approval of a transfer of \$10,000 within the 2020 M&MP Operations Fund Budget for additional Technical Program Manager current year expenses. Mayor Carbone supported Mr. Jaques representing Watermaster on the various cooperating groundwater sustainability and operational committees as opposed to representation by directors of the Watermaster board.

Moved by Mayor Carbone and seconded by Director Cook to recommend the board approve transferring \$10,000 from the Monitoring and Management Program (M&MP) O&M Budget *Contingency* line-item to cover anticipated additional services needed from Technical Program Manager in the remainder of 2020

5. Basis and tracking of allocation of metered water when a Watermaster Party sets a meter at new construction.

Director Cook asked whether water allocated to a Standard Producer's new development is predicated on a party's base water right, on accrued carryover of unused water right, or a combination; and how to track production at new developments once allocation is established and meters are in place. Mr. Stoldt stated that better methods to track and report water rights and production are indeed needed, including when and how (i.e., rights transfer and wheeling) water is delivered to new meters. Since Section III.K of the Decision Order of Accounting for Production of Groundwater states in part "...*Production shall first be deemed Production of that Producer's Production Allocation up to that Producer's total Production Allocation, and thereafter shall be deemed Production of that Producer's Carryover Credits, if any,...*" the committee discussed whether carryover accrued by Standard Producers (a limited amount and not a recurring allocation) might be considered as more of an operating reserve with service to new meters based on production allocation. It was mentioned that perhaps Watermaster could purchase the accrued carryover to recharge the Basin.

Mr. Cook requested Watermaster legal counsel, once retained, develop with staff assistance a Decision legal determination on this issue. Director Bruno encouraged the determination then be sent to Judge O'Farrell for his decision.

The meeting ended at 10:59 p.m.

SEASIDE GROUNDWATER BASIN WATERMASTER Reported Quarterly and Annual Water Production From the Seaside Groundwater Basin For All Producers Included in the Seaside Basin Adjudication -- Water Year 2020 (All Values in Acre-Feet [AF])

	Type	Oct	Nov	Dec	Oct-Dec 19	Jan	Feb	Mar	Jan-Mar 20	Apr	May	Jun	Apr-Jun 20	Jul	Aug	Sep	Jul-Sep 20	Reported Total	Yield Allocation	from WY 2019	for WY 2020
<u>Coastal Subareas</u>																					
CAW - Coastal Subareas	SPA	376.33	272.21	148.59	797.13	89.04	0.00	131.05	220.09	204.23	116.71	161.01	481.95	0.00	0.00	0.00	0.00	1,499.17	1,791.62	130.75	1,922.36
Luzern		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	0.00			
Ord Grove		90.22	73.80	75.89	239.91	35.40	0.00	54.56	89.95	75.61	15.28	0.00	90.89				0.00	420.76			
Peralta		139.56	51.43	53.31	244.30	34.15	0.00	76.50	110.64	127.01	101.42	153.41	381.84				0.00	736.79			
Playa		26.68	14.82	14.08	55.59	0.00	0.00	0.00	0.00	0.00	0.00	1.95	1.95				0.00	57.54			
Plumas		18.39	0.00	0.00	18.39	19.50	0.00	0.00	19.50	1.61	0.00	5.65	7.26				0.00	45.15			
Santa Margarita		101.48	132.16	5.31	238.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00				0.00	238.94			
ASR Recovery		0.00																			
City of Seaside (Municipal)	SPA	17.69	14.60	13.85	46.13	12.34	13.68	13.18	39.21	13.34	16.73	16.39	46.46				0.00	131.81	146.99	0.00	146.99
Granite Rock Company	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00				0.00	0.00	13.87	222.00	235.87
DBO Development No. 30	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00				0.00	0.00	25.16	403.96	429.12
Calabrese (Cypress Pacific Inv.)	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00				0.00	0.00	3.37	16.29	19.66
City of Seaside (Golf Courses)	APA	53.68	21.08	0.00	74.77	0.32	27.56	17.62	45.50	29.81	81.15	58.51	169.47				0.00	289.74	540.00		540.00
Sand City	APA	0.16	0.12	0.02	0.31	0.00	0.08	0.08	0.17	0.17	0.13	0.14	0.44				0.00	0.91	9.00		9.00
SNG (Security National Guaranty)	APA	0.05	0.06	0.04	0.15	0.00	0.03	0.03	0.06	0.00	0.01	0.00	0.01	0.00			0.00	0.22	149.00		149.00
Calabrese (Cypress Pacific Inv.)	APA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			0.00	0.00	6.00		6.00
Mission Memorial (Alderwoods)	APA	2.22	1.42	0.00	3.64	0.00	0.13	0.12	0.25	0.37	2.19	3.22	5.78				0.00	9.67	31.00		31.00
Coastal Subareas Totals					922.13				305.28				704.11				0.00	1,931.52	2,716.00	773.00	3,489.00
<u>Laguna Seca Subarea</u>																					
CAW - Laguna Seca Subarea	SPA	34.90	28.14	19.44	82.48	18.79	21.69	22.59	63.07	21.18	27.94	34.65	83.76	0.00	0.00	0.00	0.00	229.31	0.00		0.00
Ryan Ranch Unit		6.35	4.52	3.88	14.75	3.62	4.03	3.84	11.49	2.96	1.30	4.57	8.83				0.00	35.06			
Hidden Hills Unit		13.35	10.82	7.60	31.77	7.47	8.27	8.90	24.64	9.02	12.45	13.73	35.20				0.00	91.61			
Bishop Unit 3		7.58	5.77	3.50	16.86	3.28	4.10	3.61	11.00	4.20	6.05	8.79	19.04				0.00	46.90			
Bishop Unit 1		7.62	7.03	4.45	19.10	4.42	5.28	6.24	15.94	5.01	8.13	7.56	20.70				0.00	55.74			
The Club at Pasadera	APA	19.00	9.00	0.00	28.00	1.00	4.00	6.00	11.00	7.00	31.00	38.00	76.00				0.00	115.00	251.00		251.00
Laguna Seca Golf Resort (Bishop)	APA	24.14	12.06	0.00	36.20	0.00	2.24	2.51	4.75	1.70	24.87	28.85	55.43				0.00	96.37	320.00		320.00
York School	APA	1.69	1.02	0.00	2.71	0.00	0.93	0.62	1.55	0.29	2.00	4.06	6.34				0.00	10.61	32.00		32.00
Laguna Seca County Park	APA	1.54	1.77	0.65	3.97	0.79	0.87	0.75	2.41	0.40	1.52	1.34	3.26				0.00	9.64	41.00		41.00
Laguna Seca Subarea Totals					153.35				82.78				224.80				0.00	460.93	644.00	0.00	644.00
Total Production by WM Producers					1,075.48				388.06				928.91				0.00	2,392.45	3,360.00	773.00	4,133.00
																		Annual Production from APA Producers		532.16	
																		Annual Production from SPA Producers		1,860.29	

<u>City of Seaside Golf Courses In-Lieu (MCWD source water)</u>																					
MCWD delivery		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00			
<u>CAW / MPWMD ASR (Carmel River Basin source water)</u>																					
Injection		256.69	0.00	0.00	256.69	160.76	0.00	166.28	327.04	312.80	19.96	0.00	332.76				0.00	916.49			
(Recovery)		0.00			0.00	0.00			0.00				0.00				0.00	0.00			
Net ASR		256.69			256.69				0.00				0.00				0.00	916.49			

Notes:

1. The Water Year (WY) begins October 1 and ends September 30 of the following calendar year. For example, WY 2020 begins on October 1, 2019, and ends on September 30, 2020.
2. "Type" refers to water right as described in Seaside Basin Adjudication decision as amended, signed February 9, 2007 (Monterey County Superior Court Case No. M66343).
3. Values shown in the table are based on reports to the Watermaster received by July 15, 2020.
4. All values are rounded to the nearest hundredth of an acre-foot. Where required, reported data were converted to acre-feet utilizing the relationships: 325,851 gallons = 43,560 cubic feet = 1 acre-foot.
5. "Base Operating Yield Allocation" values are based on Seaside Basin Adjudication decision. These values are consistent with the Watermaster Producer Allocations Water Year 2020 (see Item VIII.B. in 12/4/2019 Board packet).
6. Any minor discrepancies in totals are attributable to rounding.
7. APA = Alternative Producer Allocation; SPA = Standard Producer Allocation; CAW = California American Water.
8. It should be noted that CAW/MPWMD ASR "Injection" and "Recovery" amounts are not expected to "balance" within each Water Year. This is due to the injection recovery "rules" that are part of SWRCB water rights permits and/or separate agreements with state and federal resources agencies that are associated with the water rights permits.

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Seaside Groundwater Basin Watermaster
P.O. Box 51502, Pacific Grove, CA 93950
watermasterseaside@sbcglobal.net
(831) 641-0113

Paul Bruno, Coastal Subarea Landowners, Chairman

Dan Albert, City of Monterey, Vice Chairman

John Gaglioti, City of Del Rey Oaks, Treasurer

*Mary Adams, Monterey County/Monterey County
Water Resources Agency*

Mary Anne Carbone, City of Sand City

Christopher Cook, California American Water

Wesley Leith, Laguna Seca Subarea Landowners

Ian Oglesby, City of Seaside

*George Riley, Monterey Peninsula Water
Management District*

August 12, 2020

Mr. John Ainsworth, Executive Director
California Coastal Commission
45 Fremont Street, Suite 2000
San Francisco, CA 94105

Re: Monterey Peninsula Water Supply Project – Support

Dear Mr. Ainsworth:

The Seaside Groundwater Basin Watermaster is tasked by the Court to administer the Seaside Basin. Our board is comprised of elected officials and others who each have a role in the protection and management of the basin.

Today I once again write to urge your approval of Coastal Development Permit (CDP) for California American Water Company's (CAW) Monterey Peninsula Water Supply Project (MPWSP). In October of 2019, our board approved a resolution in support of the MPWSP. That resolution was presented to the Coastal Commission at its prior hearing on the project.

As the Coastal Commission is well aware, the MPWSP is necessary to meet the long-term water demands of the Monterey Peninsula. No other project has been identified to reliably meet the communities' water needs sufficiently to get the community out from under the State Water Board's Cease and Desist Order. The MPWSP also will provide much needed protections to one of the Peninsula's other critical water supply sources, the Seaside Groundwater Basin.

- Without the quantities of supplemental supplies from the MPWSP, CAW and other Seaside Basin pumpers may not be able to meet the pumping reductions called for in the Seaside Basin Decision.
- The MPWSP supply is necessary to meet the replenishment obligations required in the Seaside Basin Decision, and to avoid the undesirable consequences of overdraft, and seawater intrusion.
- Without the quantity of supplemental supplies provided by the MPWSP, the Seaside Basin Watermaster cannot achieve the protective water levels (PWL) for the Basin that have been identified as necessary to avoid seawater intrusion and irreversible loss of Basin storage.
- If Seaside Basin storage is lost or reduced as a result of seawater intrusion, other existing water supplies - such as native groundwater, Aquifer Storage and Recovery, and Pure Water Monterey – are in serious jeopardy, as seawater intruded aquifers cannot be used for groundwater storage.
- The MPWSP is necessary to provide the Seaside Basin with the replenishment needed for reliable protection against seawater intrusion.

It is imperative that the Coastal Commission and other stakeholders understand what is truly at stake for the Seaside Basin and the water supplies that are dependent on the health and security of the Basin. The Seaside Basin is perhaps the most critical water supply resource for the Monterey Peninsula. The Basin provides more than 3,000-acre feet of native groundwater annually for

municipal uses in CAW's Monterey and Laguna Seca Districts and to the Cities of Seaside and Sand City, and also is used for other beneficial uses in the Basin. The Basin also provides critical groundwater storage for CAW's Aquifer Storage and Recovery (ASR) diversions from the Carmel River, and provides storage and treatment of recycled water for Monterey One Water's Pure Water Monterey (PWM) Project. The loss of Seaside Basin storage as a result of overdraft and seawater intrusion would have a catastrophic impact on these crucial existing water supplies, not only for CAW's customers on the Monterey Peninsula, but for the other municipal and irrigation users in Monterey County.

The Seaside Basin Decision, as amended in February 2007, allocates the yield of the Seaside Basin to municipal and overlying groundwater users according a formula and schedule set forth in the Decision. The Decision requires gradual reduction in total Basin production in order to reduce Basin pumping to Natural Safe Yield, which was determined to be approximately 2,900 acre-feet in 2007. Municipal pumpers that exceed their Natural Safe Yield allocations are required to replenish the Basin for such overproduction, even if that overproduction is authorized under the Decision. The Decision also obligates Watermaster to study and manage conditions in the Basin and, to the extent Watermaster finds that pumping may result in Material Injury to the Basin, and to request relief from the Court to avoid or mitigate Material Injury to the Basin and its users. The Decision defines Material Injury to include impacts such as seawater intrusion, water quality degradation and subsidence.

Under the Decision, CAW currently is obligated to replenish approximately 700-acre feet per year (afy) over a 25-year period in order to offset its overproduction. This replenishment will be accomplished by "in lieu recharge" of the Basin, i.e., CAW reducing its authorized pumping by 700 afy and allowing that unpumped groundwater to remain in groundwater storage. For planning purposes, Watermaster has assumed that the MPWSP will deliver approximately 700 afy to satisfy CAW's replenishment obligation, in-lieu of exercising its pumping rights. The Commission's evaluation of water supply and demand cannot merely assume CAW's yield allocation under the Decision (approximately 1,800 afy, reduced to 1,500 afy in 2021), but must also consider an additional 700 afy necessary to satisfy replenishment obligations under the Decision. Water supply and demand analyses that do not consider this replenishment obligation as a water demand (or as a reduction in the available Seaside Basin native groundwater supply) are ignoring potential Material Injury to the Seaside Basin.

In addition to administering the Natural Safe Yield of the Seaside Basin Decision, Watermaster has been carefully studying and evaluating seawater intrusion risks and potential management actions to avoid the disastrous consequences of seawater intrusion into the Seaside Basin. As described in the attached memorandum from Watermaster's Technical Program Manager, Robert Jaques, increasing groundwater elevations in the Seaside Basin aquifers across the coastal front has been identified by Watermaster's technical experts as a prudent and necessary action to prevent seawater intrusion into the Basin's aquifers. Based on our analysis of water elevations in several key coastal wells, Watermaster has found that higher groundwater elevations are needed in both the Paso Robles (shallow) and Santa Margarita (deep) aquifers to reduce the risk of seawater intrusion. To achieve these protective water levels (PWL), Watermaster has found that approximately 1,000 afy of additional replenishment is required over a 25-year period. The MPWSP is the only possible supplemental water project before us that is capable of supplying the additional water needed to allow Watermaster to sustain PWL in the Basin.

Sincerely,



Paul B. Bruno, Chairman

**Seaside Basin Watermaster
P.O. Box 51502
Pacific Grove, CA 93950
(831) 641-0113**

MEMORANDUM

TO: Chairman of the Board of Directors of the Seaside Groundwater Basin Watermaster

FROM: Robert Jaques, Technical Program Manager

DATE: August 11 , 2020

SUBJECT: Recharge Water Is Needed to Protect the Seaside Groundwater Basin
Against Seawater Intrusion

To our Technical Advisory Committee, I recently presented an analysis of groundwater modeling work and other reports pertaining to proposed projects that would supply water to help stabilize groundwater levels in the Basin. The Committee unanimously approved the analysis and recommended that it be presented to the Board of Directors.

Background & Discussion

The Seaside Groundwater Basin Adjudication Decision, which established the Watermaster in 2006, had as its primary purpose reducing pumping from the Basin in order to stabilize groundwater levels to prevent seawater intrusion. The Seaside Basin is a critical source of water supply for the Monterey Peninsula. The management actions in the Decision reflect the fact that the Basin had been over-pumped for many years prior to the issuance of the Decision, but does not contain express requirements for water levels to be raised. It only required that pumping be reduced to keep groundwater levels from continuing to fall. We now know that groundwater levels in the Basin have continued to fall in some areas despite implementation of the Decision-required pumping reductions, and that even if they stabilized at current levels they would be well below sea level in some parts of the Basin.

Protective Water Levels (PWLs) were developed for four wells located near the coast in the Coastal Subarea of the Basin. If the groundwater level is at or above the PWL at a given location, it means that seawater cannot intrude into that area because the groundwater level is sufficiently above sea level to prevent that from happening. Currently, groundwater levels at all of the wells in the deep (Santa Margarita) aquifer are below their respective PWLs, and only one of the groundwater levels is above its PWL in the shallow (Paso Robles) aquifer. Our hydrogeologic consultants have told us with certainty that persistence of groundwater levels below PWLs will lead to seawater intrusion into the Basin. Loss of groundwater storage to seawater intrusion will be very difficult, if not impossible, to reverse. While it is not possible at this time to accurately predict when that could occur, groundwater levels need to rise above PWLs to ensure protection of the aquifers.

The only way to achieve PWLs is to inject more water into the Basin than is taken out, so that the Basin is permanently recharged and not just used as a temporary storage vessel (which is the case with the existing Pure Water Monterey Project and the proposed Pure Water Monterey Expansion Project).

Principle Conclusions from the Analysis

If the Desalination Plant is Not Constructed and There is No Expansion of the Pure Water Monterey Project (Under this scenario the only project constructed is the original 3,500 AFY PWM Project)

- There is negligible net change in groundwater levels because on average the amount of water that is replenished is quickly extracted and not left in the Basin.
- PWLs will not be achieved.
- The Basin will not be protected against seawater intrusion.

If the Desalination Plant is Not Constructed and the Pure Water Monterey Expansion Project is Constructed (Under this scenario both the original PWM Project and the PWM Expansion Project would be in operation)

- The groundwater modeling for the original PWM Project used the same Cal Am water demand figures that were used in the EIR/EIS for the MPWSP. The groundwater modeling performed for the PWM Expansion Project used water demand figures developed by MPWMD that are several thousand AFY lower than the demand figures that were used when the modeling was done for the original PWM Project.
- Even using the lower water demand figures mentioned above, PWLs will not be achieved and the Basin will not be protected against seawater intrusion with the Expanded Pure Water Monterey Project because additional replenishment water will not be available for the Seaside Basin.
- If the higher and more conservative original water demand values were used in the PWM Expansion Project modeling, that modeling would show an even greater threat of seawater intrusion because additional replenishment water will not be available for the Seaside Basin and pumping from the Basin would need to be greater to meet the higher demands.

Additional Replenishment Water Will be Needed to Achieve Protective Elevations

- Previous modeling indicates injecting on the order of 1,000 AFY of additional water into the Seaside Basin for 25 years, along with the existing Cal Am replenishment obligations and the original PWM Project and either the desalination plant or the PWM Expansion Project, may be necessary to achieve protective elevations at all Basin locations within 25 years.
- Groundwater modeling that incorporates the actual projects that are to be constructed, i.e. either the desalination plant or the PWM Expansion Project, would need to be performed to refine the amount of additional injection water that would be needed.
- In its initial years of operation the desalination plant will have unused capacity that could potentially provide some of this replenishment water.
- If the desalination plant is constructed, a smaller PWM Expansion Project could likely provide the additional water needed to achieve protective elevations.

From: Paul Bruno pbbmtry@aol.com
Subject: Seaside Groundwater Basin Watermaster / Cal Am Desal Plant
Date: August 26, 2020 at 8:55 AM
To: tom.luster@coastal.ca.gov
Cc: watermasterseaside@sbcglobal.net

PB

PLEASE CONFIRM RECEIPT

Mr. Luster,

In reviewing the Special Hearing Procedures for the September 17th meeting, I noted that the Seaside Groundwater Basin Watermaster was not listed amongst the entities in Section 5. Section 5 speakers are allowed 10 minutes. As the entity responsible for managing 25% of the community's water supply, this issue is as important, if not more important, to the Watermaster as to the others listed in Section 6.

I respectfully request that the Watermaster be included in Section 5 so that it is given adequate time to present at the meeting.

Your prompt reply to this request is appreciated.

Thank you,

Paul B. Bruno
Chairman

-----Original Message-----

From: Paul Bruno <pbbmtry@aol.com>
To: tom.luster@coastal.ca.gov <tom.luster@coastal.ca.gov>
Cc: kate.huckelbridge@coastal.ca.gov <kate.huckelbridge@coastal.ca.gov>;
Alison.dettmer@coastal.ca.gov <Alison.dettmer@coastal.ca.gov>
Sent: Wed, Aug 12, 2020 4:59 pm
Subject: Seaside Groundwater Basin Watermaster / Cal Am Desal Plant

PLEASE CONFIRM RECEIPT

Attached is a letter from the Seaside Groundwater Basin Watermaster. Please distribute it to the appropriate people.

Thank you,

Paul B. Bruno
Chairman