

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

DRAFT AGENDA

**Wednesday, October 2, 2024–2:00pm
City Hall, City of Sand City
1 Pendergrass Way, Sand City, CA 93955 and**

To access the meeting virtually, please click on the Zoom link or copy/paste it into your browser:
<https://us02web.zoom.us/j/82630738438?pwd=NtQZSCFaoLphGL2xWBAaCS82UujAktf.1>

Meeting ID: 826 3073 8438 Passcode: 842615

**If your computer does not have audio, you can join the meeting via phone. To participate via phone, please call:
408 638 0968 US (San Jose) • 669 444 9171 US • 669 900 6833 US (San Jose)**

If you would like to comment on any item on the Agenda or any item not on the Agenda, please submit those in writing to our office or via email at watermasterseaside@sbcglobal.net by 10 a.m. on the day before the Board meeting. All submitted written comments will be provided to the Board and you may also comment during the meeting.

Watermaster Board

Coastal Subarea Landowner – Director Paul Bruno

City of Seaside – Mayor Ian Oglesby - Chair

California American Water (CAW) – Director Tim O'Halloran

City of Sand City – Mayor Mary Ann Carbone – Vice Chair

Monterey Peninsula Water Management District (MPWMD) – Director George Riley

Laguna Seca Subarea Landowner – Director John Gaglioti

City of Monterey – Council Member Kim Barber

City of Del Rey Oaks – Council Member Kim Shirley

Monterey County/Monterey County Water Resources Agency – Supervisor Wendy Root Askew, District 4

I. CALL TO ORDER

II. ROLL CALL

III. PUBLIC COMMUNICATIONS

Oral communications are 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 state their names.

IV. REVIEW OF AGENDA AND ANNOUNCEMENTS

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. ORAL PRESENTATION

- A. Salinas Valley Groundwater Sustainability Agency Coordination with Seaside Groundwater Basin on Issues of Mutual Interest – Sarah Hardgrave, Deputy General Manager..... 3
- B. Marina Coast Water District Groundwater Sustainability Agency – Coordination with Seaside Groundwater Basin on Issues of Mutual Interest – Remlah Sherzinger, General Manager 15

VI.	CONSENT CALENDAR	
	A. Minutes of Regular Board meeting held August 7, 2024	33
	(Access the SIRP Presentation on the Watermaster website.)	
	B. Summary of Payments made in September, 2024.....	41
	C. Fiscal Year 2024 Financial Reports through August 31, 2024	43
VII.	NEW BUSINESS	
	A. Consider approve adjustments to the 2024 Administrative Fund Budget	49
	B. Consider Approving Fiscal Year 2025 Annual Budgets:	
	1. Proposed Fiscal Year 2025 (January–December) Administrative Budget	51
	2. Approve the FY 2025 Monitoring and Management Program (M&MP) and the FY 2025 M&MP Operations and Capital Budgets, a 2024 Budget Transfer to Evaluate Options for Updating the Groundwater Model in 2025, and Montgomery & Associates RSF No.2024-03 to Evaluate Options for Updating The Groundwater Model	53
	3. Proposed 2025 Replenishment Assessment Fund Budget –No Action Required.....	75
	4. Consider Approving the Proposed 2025 Replenishment Assessment Unit Costs for Natural Safe Yield and Operating Yield Overproduction.....	79
VIII.	OLD BUSINESS	
	A. Consider Replenishment Water Quantity Needed	81
IX.	INFORMATIONAL REPORTS (No Action Required)	
	A. Watermaster report of Water Year 2024 Quarter 3 Production of the Seaside Basin (April 1 – June 30, 2024).....	103
	B. Sustainable Groundwater Management Act Monthly Update for August, 2024	105
X.	DIRECTOR REPORTS	
XI.	STAFF COMMENTS	
	A. Membership on the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) Monterey Subbasin Groundwater Sustainability Plan (GSP) Implementation Committee	109
XII.	CLOSED SESSION	
	Conference with Legal Counsel pursuant to: Government Code, section 54956.9(d)(4): one matter	
XIII.	The Watermaster will consider a motion to adjourn to the next regular Watermaster Board meeting to be held on Wednesday, November 6, 2024 at 2:00 P.M.	

This agenda was forwarded via email 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 California American Water Company for posting on or before September 27, 2024, per the Ralph M. Brown Act, Government Code Section 54954.2 (a).



Salinas Valley Basin GSA

October 2, 2024

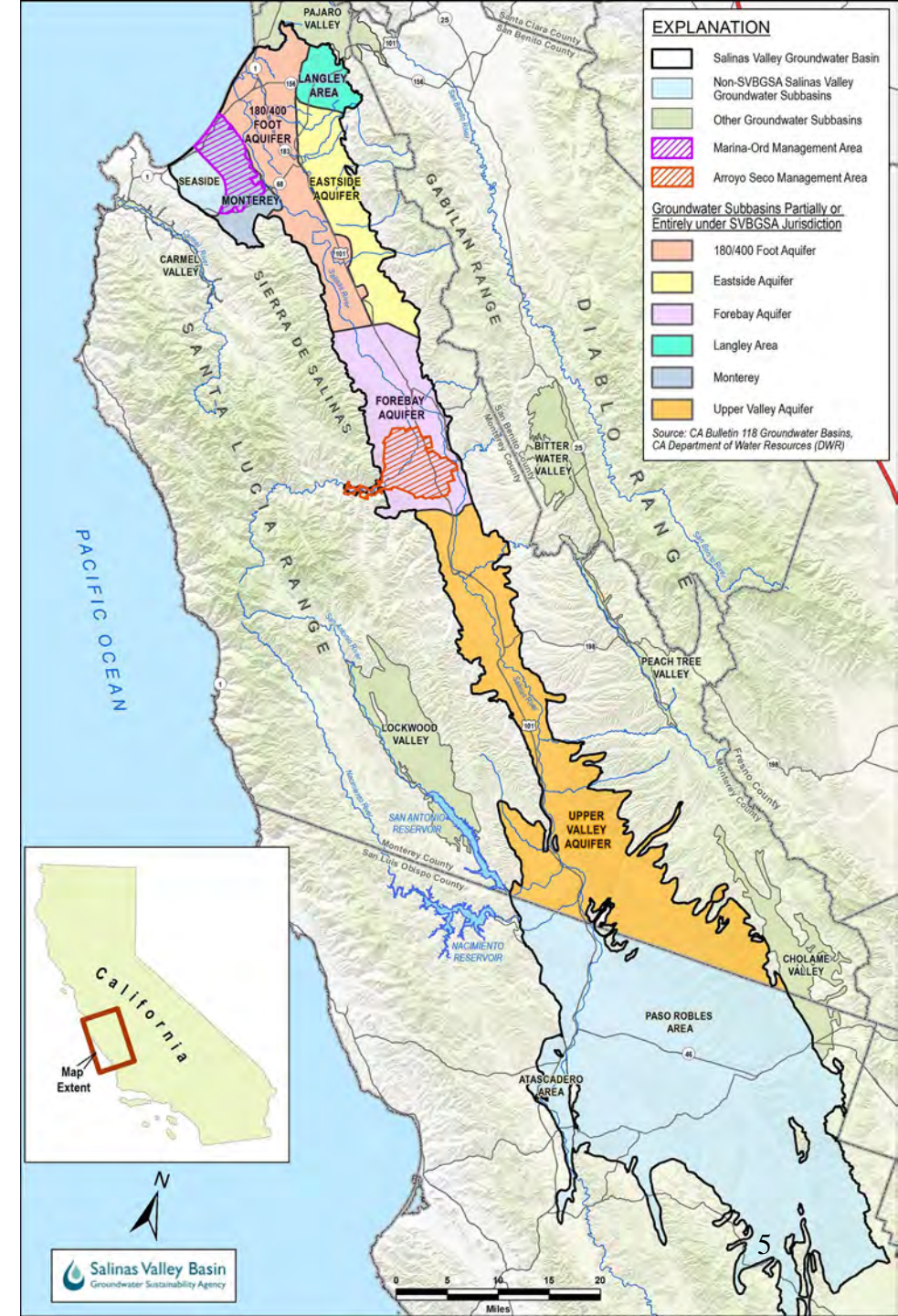
Seaside Watermaster Board of Directors Meeting

SVBGSA Role and Goals

- Sustainably manage groundwater in the 6 subbasins that comprise Salinas Valley Groundwater Basin
 - Partner with other agencies responsible for water resources in region
 - Engage stakeholders and build strong alliances
- Groundwater Sustainability Plans submitted and approved by DWR
 - 180/400 Ft Aquifer Subbasin – 2020
 - Other 5 subbasins - 2022
- Main focus on GSP implementation
 - Plan evaluations and updates every 5 years
 - Reach sustainability in 20 years (2040 and 2042)
 - Consider 6 sustainability indicators

SVBGSA Jurisdiction

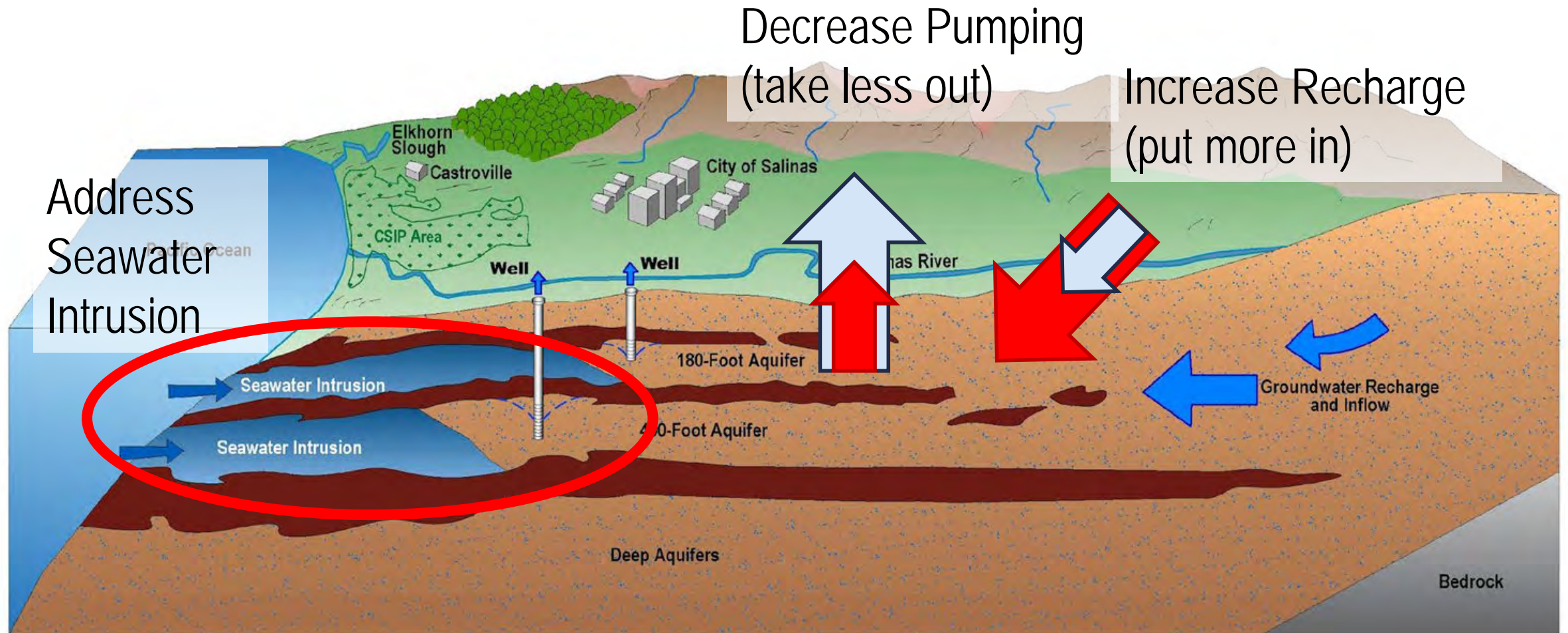
- Subbasins defined by DWR
 - 180/400
 - Monterey
 - Langley
 - Eastside
 - Forebay
 - Upper Valley
- Partner GSAs:
 - Marina Coast Water District GSA
 - Arroyo Seco GSA
 - County of Monterey GSA



Current Grant Funding from DWR

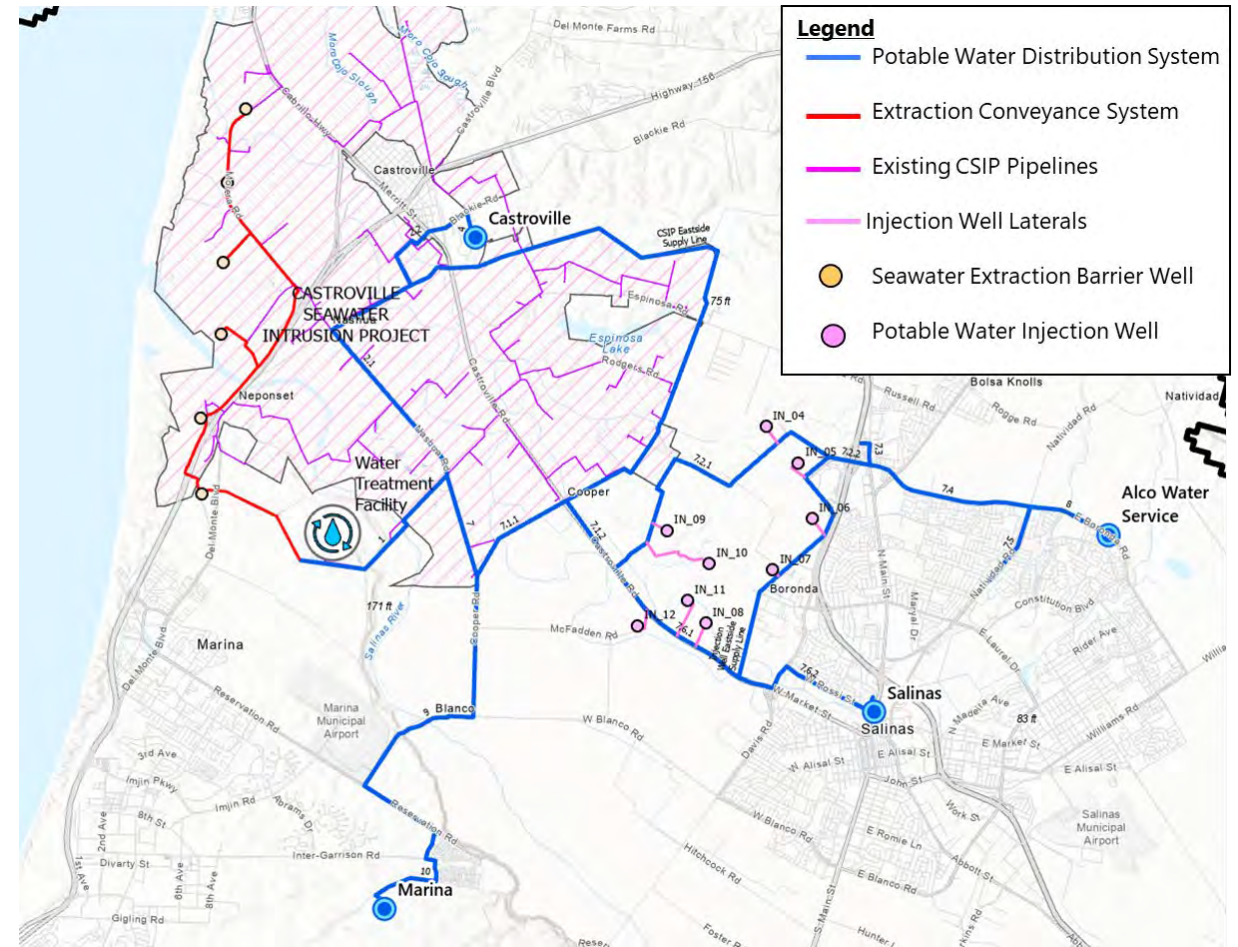
- Sustainable Groundwater Management Implementation Round 1 Grant
 - \$7.6 million
 - Focus 180/400 Subbasin
 - To be completed by Spring 2025
- Sustainable Groundwater Management Implementation Round 2 Grant – Monterey
 - \$3.9 million for SVBGSA (subgrantee to MCWDGSA)
 - Focus Monterey Subbasin, Corral de Tierra Management Area
 - To be completed by Spring 2026
- Sustainable Groundwater Management Implementation Round 2 Grant – Salinas
 - \$10.3 million
 - Focus Langley, Eastside, Forebay, Upper Valley Subbasins
 - To be completed by Spring 2026

Achieving Groundwater Sustainability



Addressing Seawater Intrusion

- Rate of seawater intrusion has slowed but not stopped with existing projects
- Recent impacts to Castroville wells
- Deep aquifers at risk
- 3 feasibility studies underway
 - Brackish Groundwater Restoration Project (*aka Seawater Intrusion Extraction Barrier and Regional Water Supply*)
 - Aquifer Storage and Recovery
 - Demand Management



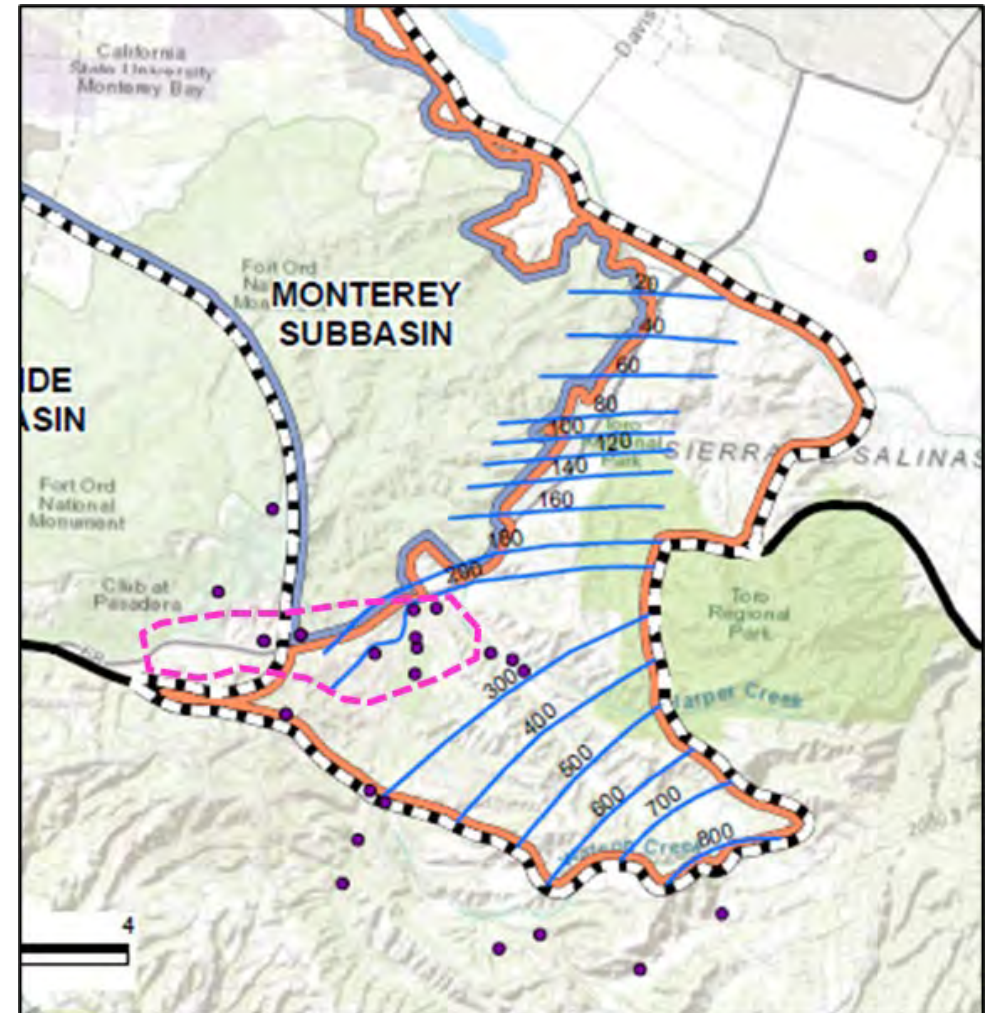
Brackish Groundwater Restoration Project Concept

Coordination with Seaside Watermaster

- Boundary of Corral de Tierra and Seaside Laguna Seca subarea
- Seawater intrusion model and groundwater flow
- Deep Aquifers in the Seaside region: study findings and next steps

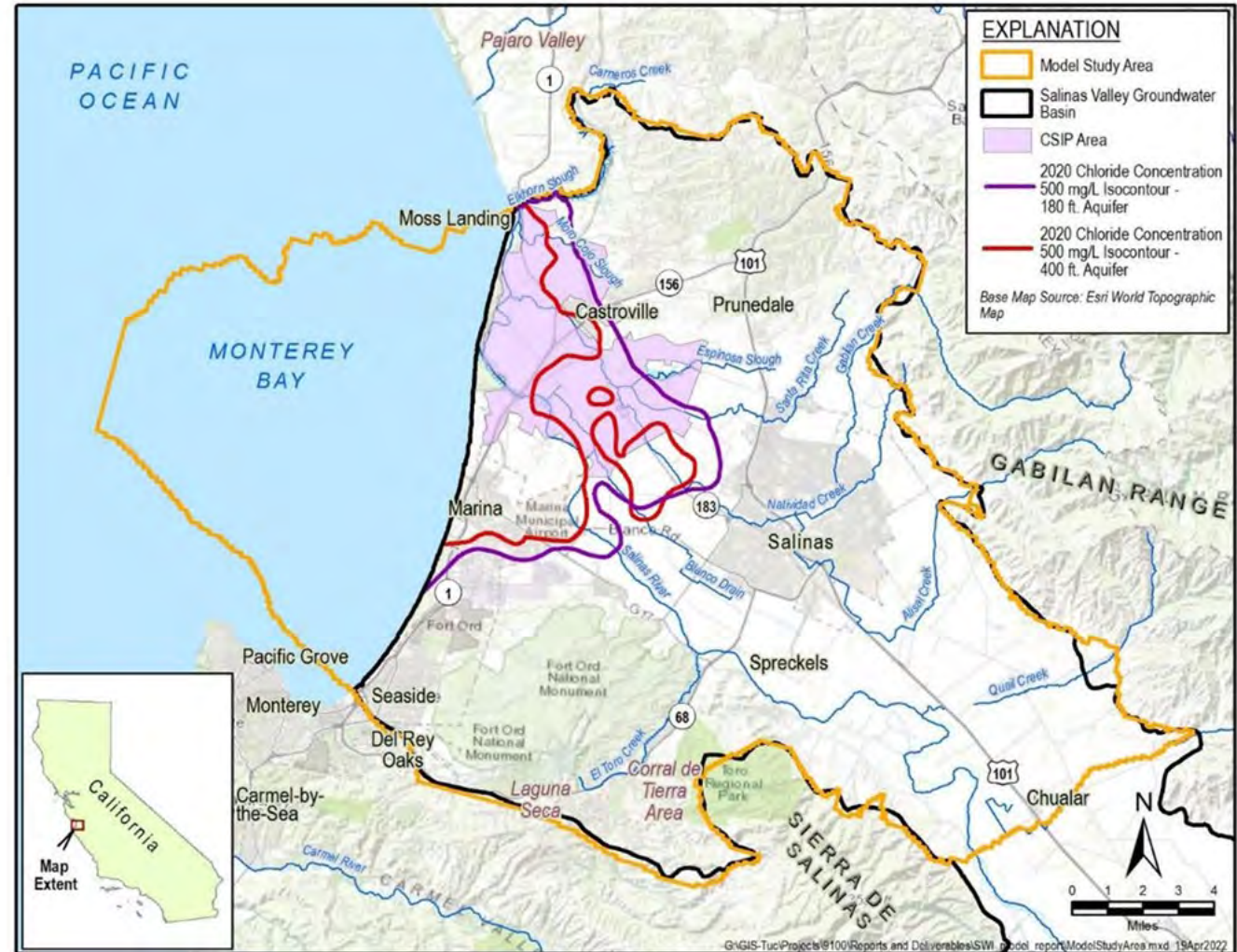
Corral de Tierra/Laguna Seca Boundary

- Laguna Seca Corner – related geology/bedrock bowl
- Water flows across boundary, but uncertainty on how pumping and groundwater levels affect groundwater flow
- Collect more water level data, aquifer test data, possibly monitor together
- Management actions to improve water use efficiency



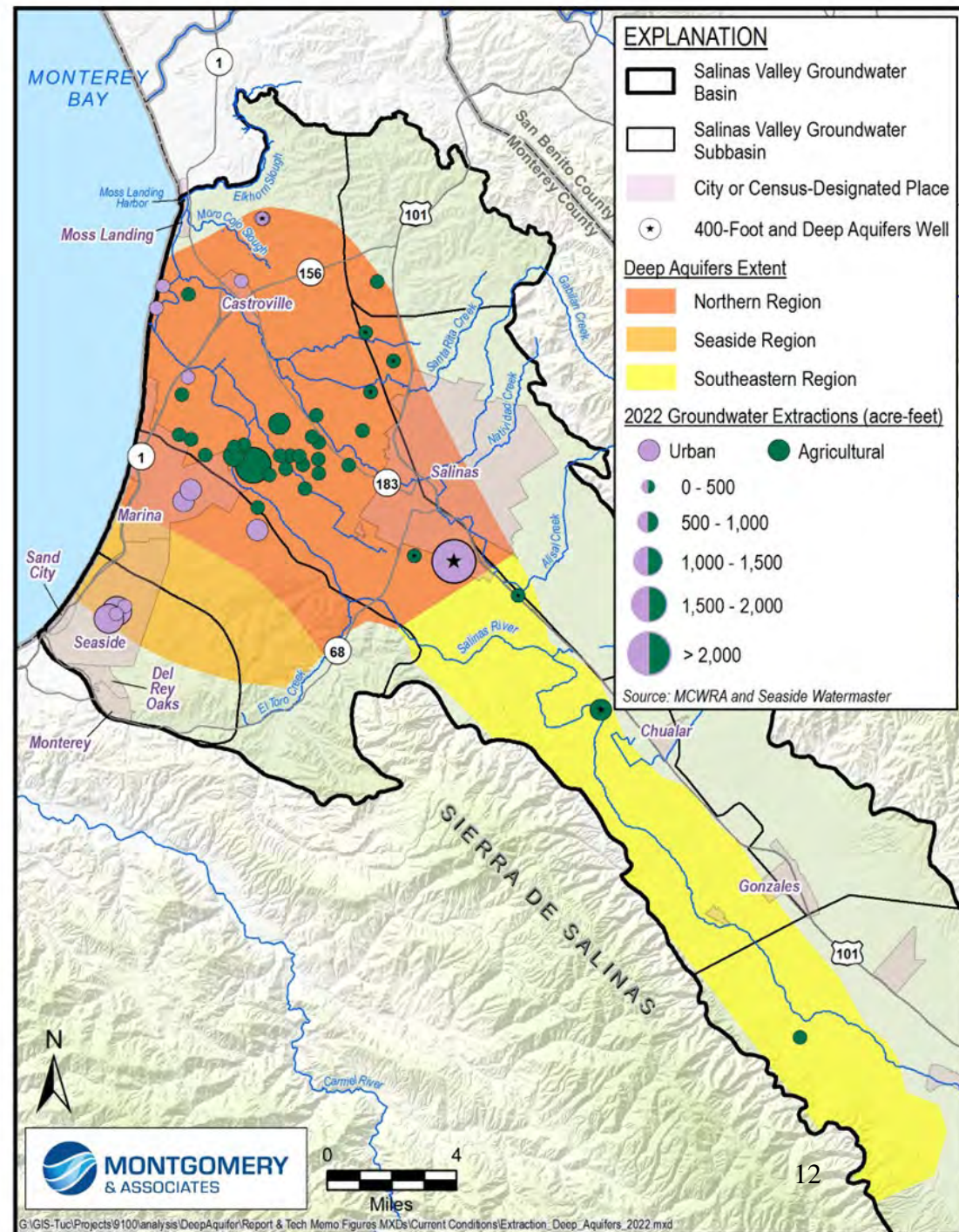
Seawater Intrusion Model

- Developed to evaluate projects
- Simulates groundwater flow across coast and chloride concentrations
- Recent model updates focused on updating model layering with new data, including near Marina and in Seaside Subbasin
- Tool that could be used by Seaside Watermaster



Deep Aquifers in the Seaside Region

- Portion of Seaside Subbasin and adjacent Monterey Subbasin southern area
- Groundwater divide separates flows to Seaside from flows to the north
- Divide can migrate based on changes in pumping



Questions and Comments

Piret Harmon and Sarah Hardgrave
Salinas Valley Basin Groundwater Sustainability Agency

harmonp@svbgsa.org

hardgraves@svbgsa.org

Marina Coast Water District & Groundwater Sustainability Agency



Remleh Scherzinger MBA, CSDM, PE
General Manager

Overview

- MCWD & GSA
- The Basins
- Funding & Projects

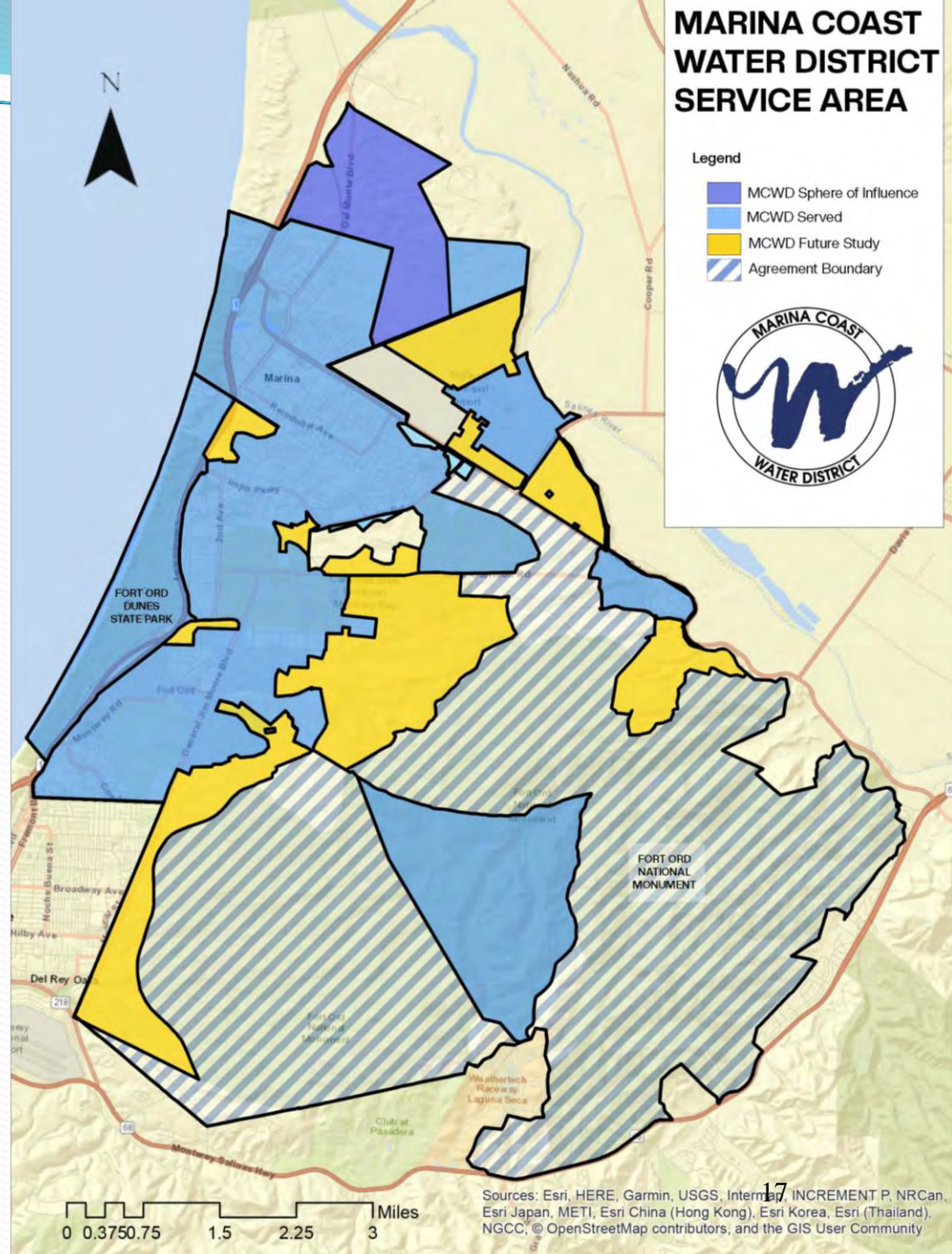


MCWD

MARINA COAST WATER DISTRICT SERVICE AREA

Legend

- MCWD Sphere of Influence
- MCWD Served
- MCWD Future Study
- Agreement Boundary



0 0.375 0.75 1.5 2.25 3 Miles

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

- Independent Special District
- 2 legal entities
 - Div 12 County Water District
 - Water, Wastewater collection, Recycled water
 - SGMA Groundwater Sustainability Agency
 - Monterey Subbasin
 - 180/400 Subbasin
- Serve 10 land use jurisdictions
 - City of Marina
 - City of Seaside
 - City of Del Rey Oaks
 - City of Monterey
 - US Department of Defense
 - US Department of the Interior
 - State of California
 - Monterey County
 - UC Santa Cruz
 - CSU Monterey Bay

Organization

- MCWD

- Approximate \$71M O&M budget
- \$400M 10yr CIP
- 41,000 Customers
 - 10,533 Water connections
 - 10,051 Sewer connections
 - 1 Recycled water connection
- Water Rights
 - Groundwater 11,040AFY
 - Recycled Water 3,667AFY
 - Desal 300AFY

- MCWDGSA

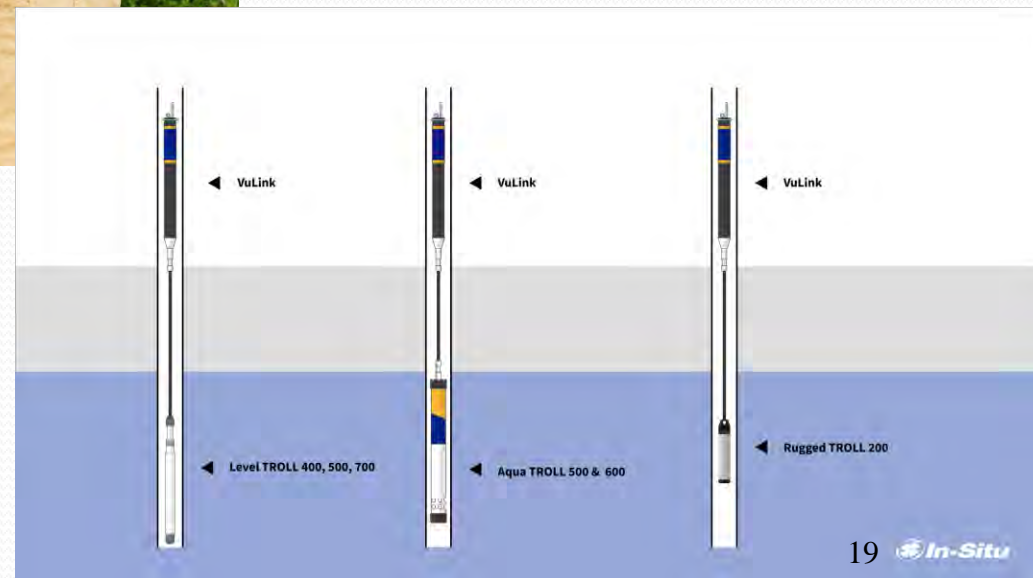
- Approx. \$1.33M O&M budget
- '25 CIP \$600K
- \$25M 5yr CIP
- Grant Funded \$1.26M



MCWDGSA

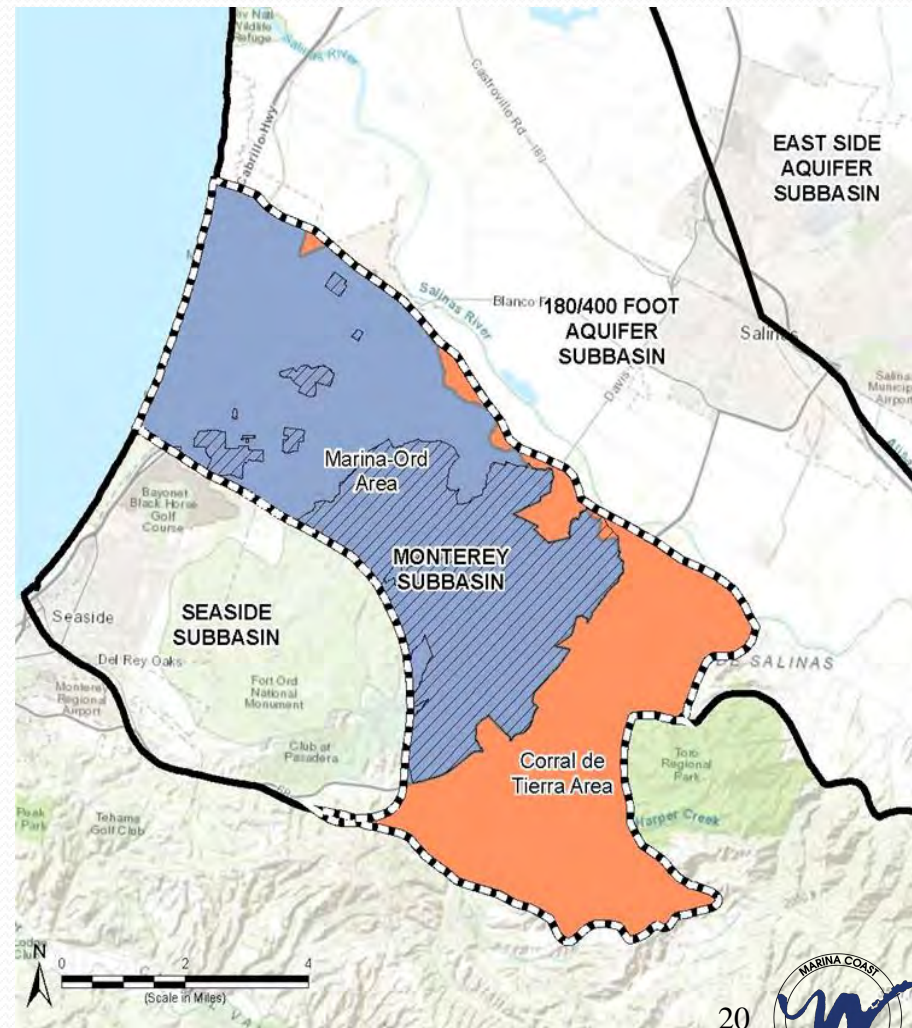


- Formed 2017
- GSPs Approved 2021 & 2023
- Modeling ongoing



Groundwater Sustainability Agency

- Marina Coast Water District Groundwater Sustainability Agency (MCWDGSA) covers 48.2 square miles
- The Salinas Valley Groundwater Sustainability Agency (SVBGSA) borders the northern and eastern edges of the District
- The SVBGSA developed and manages the 180/400 Subbasin in coordination with the MCWDGSA
- The MCWDGSA developed and manages the Monterey Subbasin in coordination with the SVBGSA
- The Monterey Subbasin is divided into two management areas the “Marina/Ord” area (managed by MCWDGSA) and the “Corral de Tierra” area (managed by Agreement with the SVBGSA)

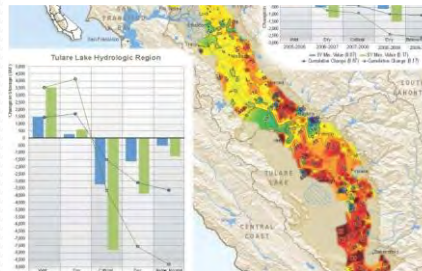


Undesirable Results

Pursuant to SGMA GSP evaluates six potential undesirable results



Lowering of Groundwater Levels



GSA's and Interaction

- 2 Controlling Agreements
- GSA's Steering Committee
- Active in inter-basin committees
- Providing collaborative data management and modeling with EKI and Montgomery



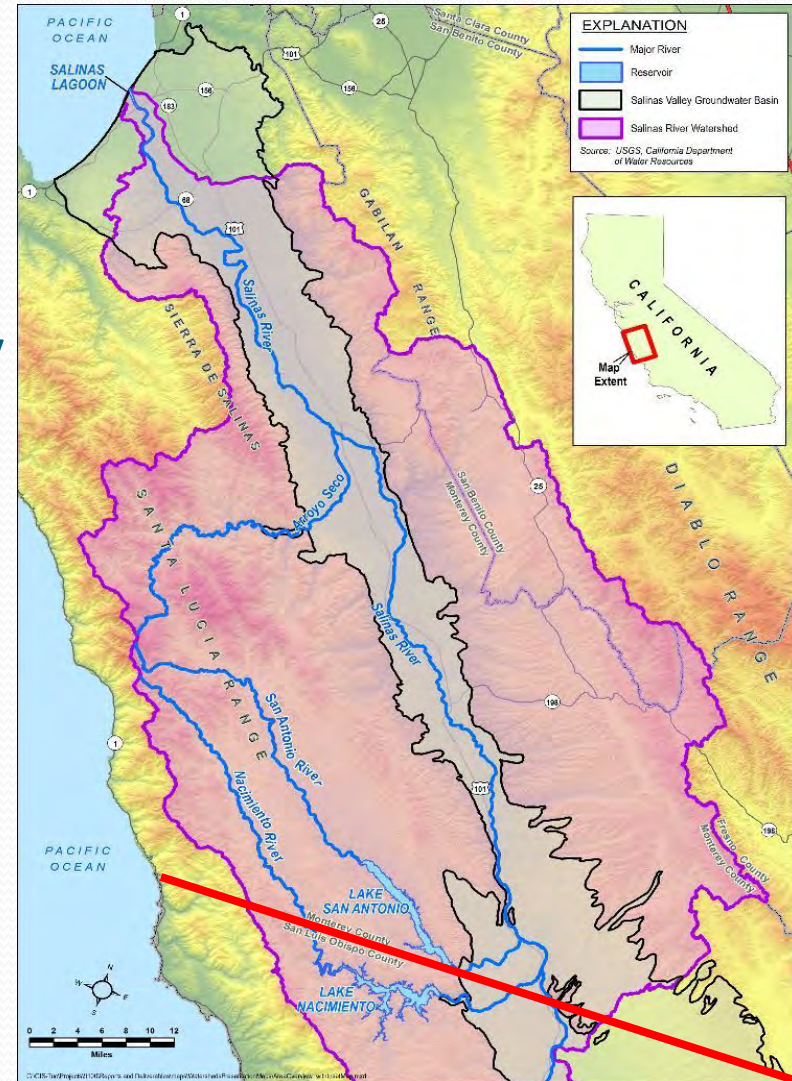
DWR Prop 68 SGMA Round 2 Implementation Grant

- Monterey Subbasin Data Expansion and SGMA Compliance \$4,949,000
- Engagement of Interested Parties and Domestic Well Owners \$450,000
- Project Update Report \$786,300
- Grant Administration \$648,200

- Total \$6,447,910

Groundwater & Surface Water are Interrelated: Salinas Valley Watershed & Groundwater Basin

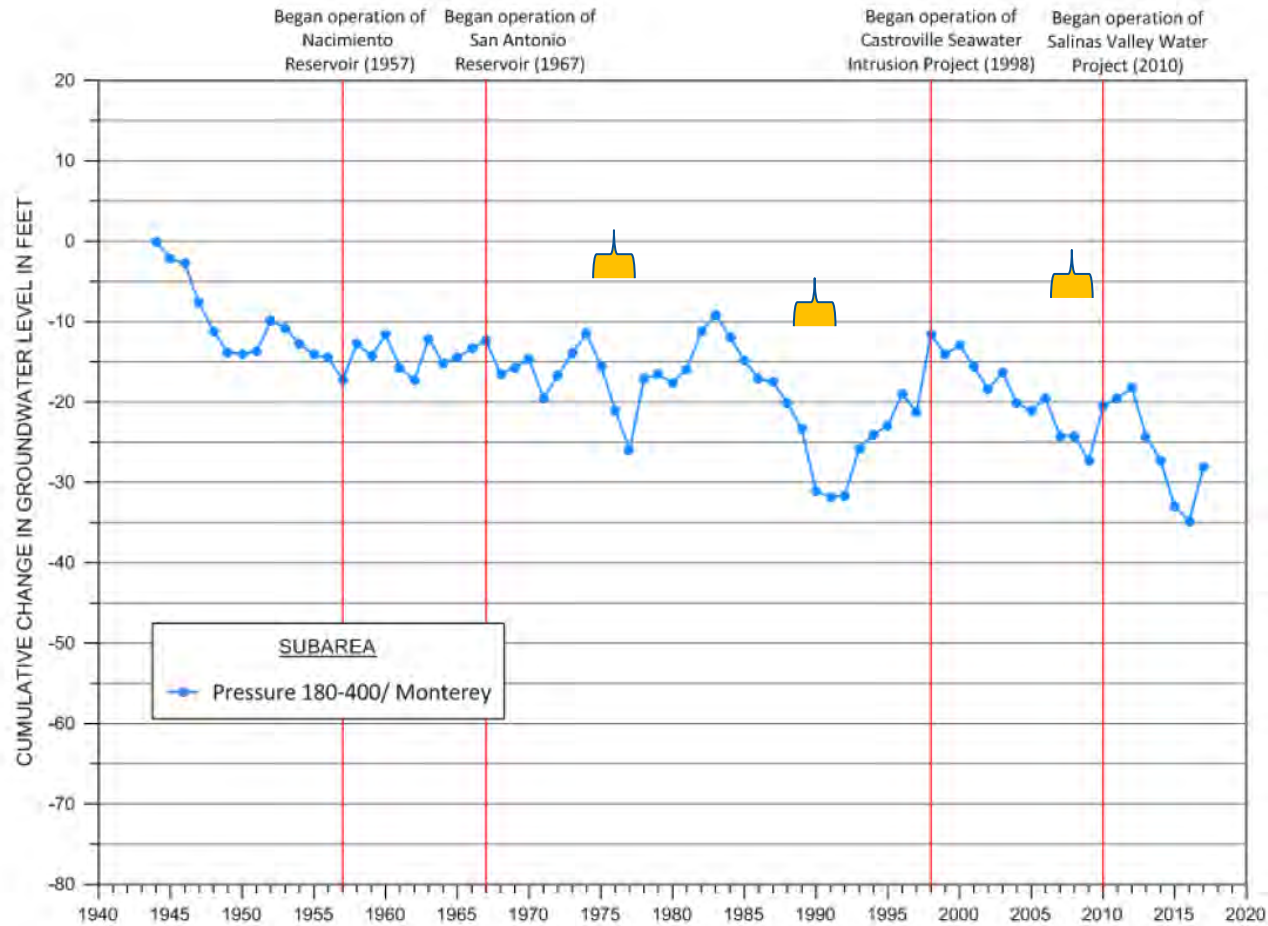
- Valley does not import water from outside the Basin
- All water comes from rainfall
- Valley relies on both surface water and groundwater storage sources
- Releases from Reservoirs Nacimiento and San Antonio regulate river flow, provide flood protection, and supply summer surface water to CSIP
- Continued pumping of groundwater has direct impacts on basin sustainability

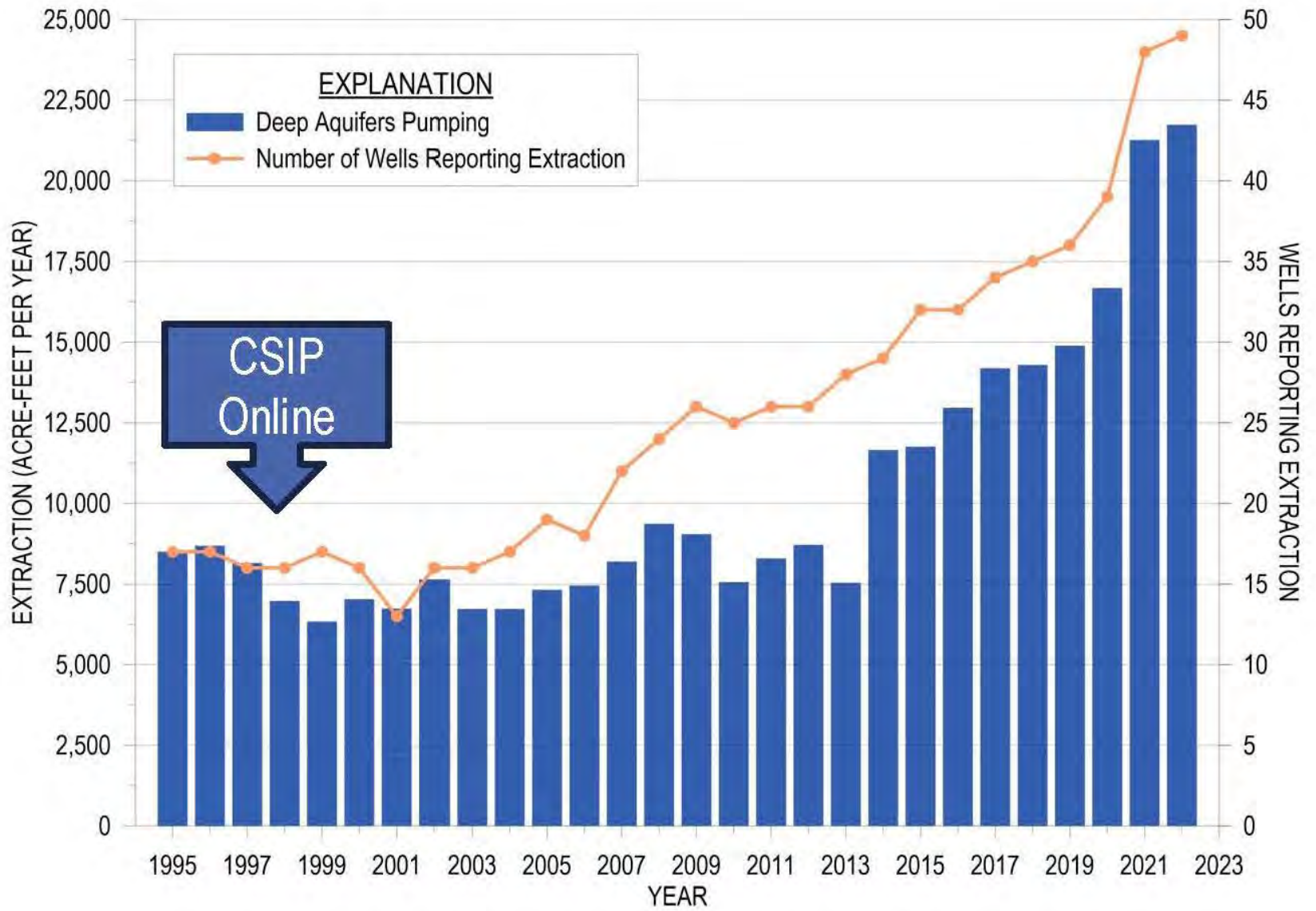


Primary Undesirable Result: *Declining Water Levels*

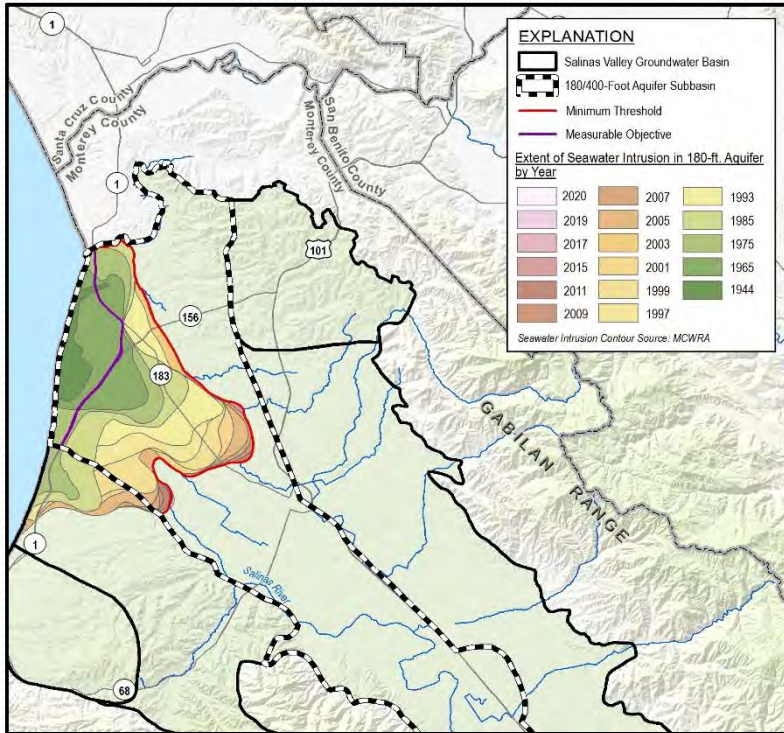
Cumulative Groundwater Change Graph for the 180/400

Source: (MCWRA 2018)

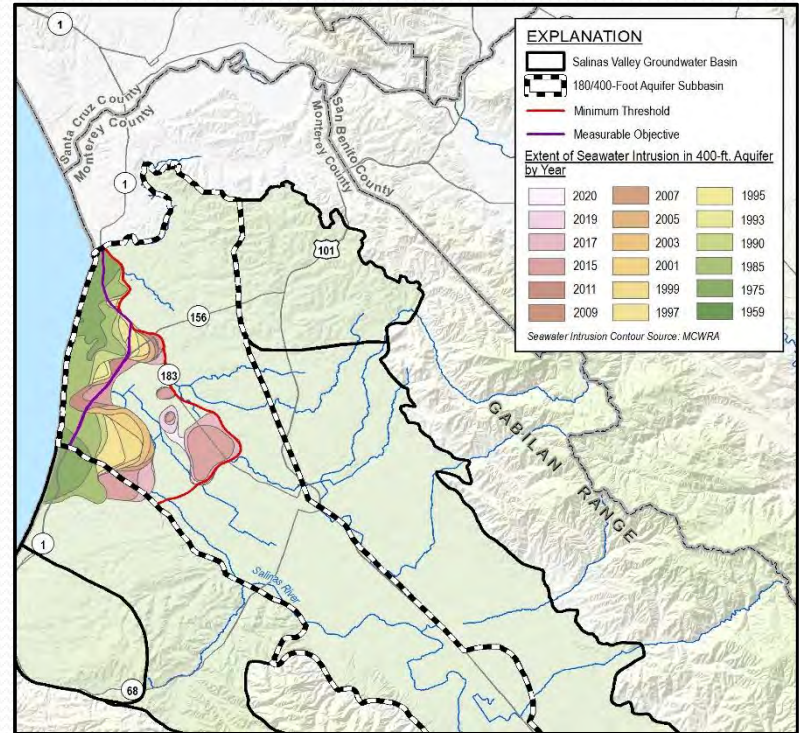




Seawater Intrusion



180ft Aquifer



400ft Aquifer

Primary Undesirable Result:
Seawater Intrusion caused by inland gradients



Total Water Use in AF/yr.

Water Year 2020 in Monterey, 180/400, Langley, and Eastside Subbasins

Water Use Sector	Groundwater Extraction	Surface Water Use	Recycled Water
Rural Domestic*	1,144	0	0
Urban	29,307	0	0
Agricultural**	172,567	14,506	11,155
SUBTOTALS	203,018	14,506	11,155
TOTAL	228,679		

*Estimated based on initial water use factor will be 0.4 AF/yr./dwelling unit.

**3,000 AF of agricultural groundwater pumping is deducted total groundwater extraction to account for the potential double reporting in 180/400-Foot Subbasin.

MCWDGSA projects



Indirect Potable Reuse (3 sites)



PWM phase II



Weather Station Network



Monitoring Wells Network



Armstrong Brine Pilot Facility



Demand Management Activities



Future water supply

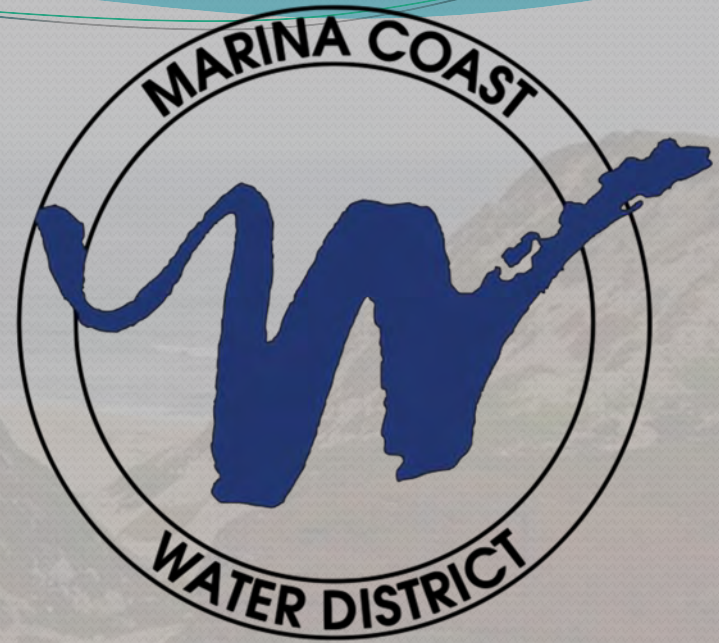
- Conservation & Efficiencies
- Desal, Surface & Recycled Water opportunities
- Demand Management
- Other sources



The work

- Conservation & Efficiencies
 - Changing Habits 2020: 55 gpcd 2025: 47 gpcd 2030: 42 gpcd
MCWD 48 in 2019
- Recycled Water
 - PWM Phase II (>3000AFY)
 - PWMx (2250AFY)
- Demand Management
 - Pumping timing modifications
- Other sources
 - Brackish Water Treatment
 - Surface Water Diversions (Purchased, Permitted and AB122)
 - Groundwater Banking





Questions?



Remleh Scherzinger MBA, CSDM, P.E.
General Manager

**SEASIDE GROUNDWATER BASIN WATERMASTER
REGULAR MEETING MINUTES - DRAFT
Wednesday, August 7, 2024 Hybrid
1 Pendergrass Way, Sand City, CA 93955**

I. **CALL TO ORDER** – Mayor Oglesby called the meeting to order at 2:00p.m.

II. **ROLL CALL**

City of Seaside – Mayor Ian Oglesby
Coastal Subarea Landowner Group – Alternate Director John Gaglioti
California American Water (CAW) – Director Tom O’Halloran* (location noted on agenda)
Monterey Peninsula Water Management District (MPWMD) – Director George Riley
City of Monterey – Council Member Kim Barber
City of Del Rey Oaks – Council Member Kim Shirley
Monterey County/Monterey County Water Resources Agency – Supervisor Wendy Root Askew
Laguna Seca Subarea Landowner Group – Director John Gaglioti

Absent:

City of Sand City – Mayor Mary Ann Carbone

Others Present:

Bob Jaques, Watermaster Technical Program Manager (TPM)
Laura Paxton, Administrative Officer (AO)
Nancy Dayton, Assistant Administrative Officer
Maureen Hamilton, MPWMD*
Aiko Yamakawa, CAW*
Remleh Scherzinger, General Manager, Marina Coast Water District*
Alvin Edwards, MPWMD*
Jon Lear, MPWMD*
David Stoldt, MPWMD*
Alex Dominguez, Legal Counsel*
Patrick Breen, Marina Coast Water District*
Mike McCullough, Monterey One Water*
An asterisk () signifies virtual attendance.*

III. **PUBLIC COMMUNICATIONS** – There were no public communications.

IV. **REVIEW OF AGENDA and ANNOUNCEMENTS** – There were no requested changes to the agenda and no announcements.

V. **ORAL PRESENTATIONS**

- A. Pure Water Monterey Expansion Status—Mike McCullough, Pure Water Monterey presented slides (attached) with highlights of the history of the Pure Water Monterey Project and a project timeline for the Expansion Project estimated as operational in August 2025.
- B. Monterey Peninsula Water Supply Project Desalination Plant – Tim O’Halloran, California American Water presented slides (attached) with a project timeline for the Water Supply Project estimated to be operational second quarter 2028. The NPDES permit projected to be issued for the project in September 2025 is the critical path item for obtaining the Coastal Development Permit to commence construction.

- C. Review of 2009 Seawater Intrusion Response Plan (SIRP) (The plan can be viewed at <https://seasidegroundwaterbasinwatermaster.wordpress.com/wp-content/uploads/2024/02/09-0222-seawater-intrusion-response-plan.pdf>) – TPM Jaques presented slides (attached) and highlighted his transmittal. He clarified that Plan activation occurs only if listed trigger conditions are found at certain production wells, not triggered if found at monitoring wells. Staff will research whether Watermaster is authorized to compel CAW to implement its Urban Water Management Plan rationing protocols if seawater intrusion is determined to be occurring in the Seaside Basin. Director Gaglioti stated that, beyond meeting current and projected demand needs, supplemental water sourcing needs to factor in replenishing historical over production from the Basin. Director Riley inquired whether Watermaster would be responsible for the cost of material injury to parties as a result of an SIRP activation declaration. Director O’Halloran looked forward to an updated SIRP, noting that there is a significantly increased dependency on the Basin from the time the Decision and SIRP were crafted: the injection/retention of treated water from the PWM and PWMX Projects profoundly complicates placement of an alternative well if ordered by Watermaster.

Director Barber requested that the SIRP update include clarification of specific steps and timing of response by parties if Watermaster declares that seawater intrusion has occurred and clarification of Watermaster response to the parties’ actions or inaction. TPM Bob Jaques suggested that the TAC coordinate with legal counsel as it develops an updated SIRP. Director Oglesby requested progress reports be provided to the Board regarding the TAC’s SIRP update, preferring to have a TAC draft come before the Board before it is submitted to Montgomery and Associates for input.

VI. CONSENT CALENDAR

- A. Minutes of Regular Board meeting held July 10, 2024
- B. Summary of Payments made in July 31, 2024
- C. Fiscal Year 2024 Financial Reports through July 31, 2024

It was moved by Director Riley and seconded by Director Shirley to approve Consent Calendar items as presented. Director Gaglioti (Alternate for Coastal Subarea Landowner) – Aye; Director O’Halloran – Aye; Director Riley – Aye; Director Shirley – Aye; Director Barber – Aye; Director Oglesby – Aye; Director Askew – Aye; Director Gaglioti (Laguna Seca Subarea Landowner) – Abstain. Motion carried.

VII. NEW BUSINESS

- A. Membership on the Salinas Valley Basin Groundwater Sustainability Agency (SVBGSA) Monterey Subbasin Groundwater Sustainability Plan (GSP) Implementation Committee.

The Board directed the TPM to submit an application for his membership to the Implementation Committee together with a letter from the Watermaster Board Chair on behalf of the full Board to the SVBGSA Board chair.

VIII. OLD BUSINESS

- A. Consider and Provide Direction Regarding the Development of Method(s) to Obtain Replenishment Water – Legal Counsel Dominguez presented slides and responded to questions.

Director Riley felt Watermaster should pursue presentation option one and two by developing a process for amending the Decision to maximize Watermaster's authority to achieve the flexibility and discretion necessary to levy assessments in an equitable amount to maximize opportunities to secure necessary

supplemental water; and once gained, potentially partner with MPWMD to levy consumers for replenishment water purchase funding. Director O'Halloran agreed with Director Riley, suggesting a Decision amendment could designate an amount of replenishment water each Watermaster Party is responsible to provide and, in CAW's case, build the cost into a PUC rate case. However, he felt clarification was needed first on how much replenishment water is needed to achieve protective groundwater levels and avoid seawater intrusion, what actions are already in place (i.e., CAW replenishment agreement/City of Seaside in-lieu program), what replenishment source is/will be available, and when. Director Askew requested presentations be made to stakeholders/community partners to solicit a coalition of support for Watermaster's development of a funding mechanism. Mr. Jaques requested Board consider that Basin overdraft is a result of consumer demand through time over the entire Monterey Peninsula Water Management District, not just consumers within the Seaside Basin, and thereby establish a District-wide as opposed to a Seaside Basin only assessment zone if that option is pursued. MPWMD General Manager Stoldt supported Mr. Jaques's statement. He noted that results from a report he received on modeling of the boundary conditions between the Monterey and Seaside Basins, a report not yet provided to the Watermaster TAC, indicated very sensitive and complex factors at play, with the results far from determining when replenishment of the Basin would reach urgency, the order of magnitude of need, and what physical solutions there might be: Watermaster would likely encounter a lengthy process in determining these factors for inclusion in a proposal to the court for replenishment funding authority. Further, he felt it more prudent for Watermaster to seek a funding source as opposed to seeking bond funding through MPWMD for special projects.

Director Barber felt the next step would be determining what authority would be asked for in an amendment to the Decision by determining how much water is needed to protect the Basin and what special actions or projects are needed to achieve necessary replenishment. Chair Oglesby requested Counsel Dominguez elaborate on presentation options one and two for further presentation at the next Watermaster board meeting.

IX. INFORMATIONAL REPORTS (No Action Required)

- A. Watermaster Report of Water Year 2024 Quarter 3 Production of The Seaside Basin (April 1, 2023—June 30, 2024)
- B. Sustainable Groundwater Management Act Monthly Updates July 2024
- C. View the latest SVBGSA newsletter for information on the recently completed Deep Aquifer Study at <https://mailchi.mp/svbgsa/2024-summer-13399941?e=b549b04544>

X. DIRECTOR REPORTS—None

XI. STAFF COMMENTS

AO Paxton requested that the September Board meeting be cancelled to allow time for the Budget and Finance Committee to meet before the next Board meeting.

The Board concurred to cancel the September 4, 2024 meeting. The next meeting will be held on October 2, 2024.

XII. CLOSED SESSION

The board convened in closed session at 4:26 p.m. The Board reconvened in open session at 4:35 p.m. Legal Counsel announced that in closed session the Board took up and discussed one item and no reportable action was taken.

- XIII. **ADJOURNMENT** – There being no further business, the meeting was adjourned at 4:37 p.m. to a regular Board meeting to be held Wednesday, October 2, 2024 – 2:00 p.m. in the City of Sand City Council Chambers, in person and remote.

Respectfully submitted by Laura Paxton, Board Secretary



PURE WATER MONTEREY (BASE)

FY 2023-2024 Production

TOTAL PRODUCTION: 3,819 ACRE FEET

INJECTION FOR POTABLE USE:
 3,500 Acre Feet

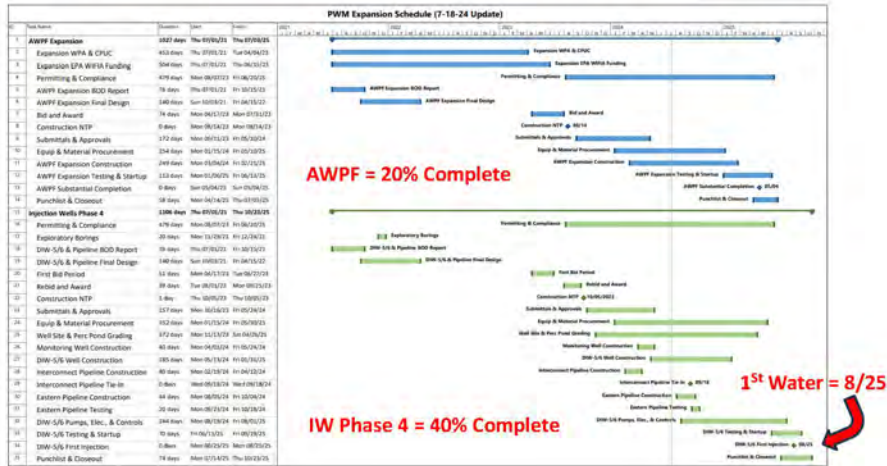
July	327 AF
Aug	327 AF
Sept	218 AF
Oct	254 AF
Nov	304 AF
Dec	406 AF
Jan	434 AF
Feb	341 AF
Mar	390 AF
April	314 AF
May	180 AF

INJECTION FOR OPERATIONAL RESERVE:
 319 Acre Feet

May	86 AF
June	233 AF



Pure Water Monterey Expansion Schedule



Pure Water Monterey Base Project

Fun Facts

- First Water – February 2020
- Met 1,000 AF Operational Reserve – August 2020
- Met 1,750 AF Operational Reserve – June 2023
- Met Company Water Allocation last 3 FY
- Total Year to Date Injection – 15,366 AF
- Total Operational Reserve – 2,189 AF
- \$39M in Grant Funding
- No Significant Outages in 4+ years of Operation



SEASIDE GROUNDWATER BASIN WATERMASTER							ITEM VI. B.
							10/2/2024
TO:	Board of Directors						
FROM:	Laura Paxton, AO						
	October 2, 2024						
SUBJECT:	Summary of Payments Made for Services in September, 2024						
RECOMMENDATIONS:							
Consider approving bill payments submitted and authorized to be paid in September, 2024							
Summary of Payments Made in September 2024							
Robert Jaques (Technical Program Manager)						<u>Hours</u>	<u>Rate</u>
August 1 through August 31, 2024						42.5	@ 175 \$ 7,437.50
<p>Visited SBWM-4 Well site to see dune restoration work that may impact induction logging work; prepared SIRP PPT presentation; rehearsed the SIRP presentation; completed an online test run of SIRP presentation w/ L. Paxton; discussed WM issues w/ L. Paxton; drafted letter to SVBGSA re: membership on Monterey Subbasin Implementation Committee and picked up letter signed by I. Oglesby at Seaside City Hall; submitted online application for same; mailed/resubmitted application for same due to non-receipt of online submission; completed review of Replenishment Water Summary Memo for Oct. Board meeting; sent same to P. Benito for his review; reviewed P. Benito's comments on Replenishment Water Summary Memo and made edits to same; reviewed and provided suggested edits to M&A's proposal for evaluation of groundwater model updating options; downloaded PPT slides from 8/14 presentations to WM TAC on HCM for use in TAC meeting minutes; prepared and distributed Sep. TAC meeting Cancellation Notice; contacted Jill Poudrette of State Parks re: renewal of permit for induction logging; signed and sent in the permit; reviewed Replenishment Assessment Unit Cost calcs, from L. Paxton; reviewed B&F Committee agenda packet and sent comments to L. Paxton</p>							
Total Robert Jaques							\$ 7,437.50
Paxton Associates (Administrative Officer (AO))						<u>Hours</u>	<u>Rate</u>
Invoice No. 1625—July 26, 2024 through August 25, 2024						69.5	@ 125 \$ 8,687.50
<p>Prepared 8/7 Board meeting packet; requested Board meeting presentations from M. McCullough and T. O'Halloran; prepared meeting room, attended, and closed down 8/7 Board meeting; followed up on MMP bees; noticed MMP (Josiah, Tom Barry) of potential over-production and issue w/ bees in well; deposited payments at City of Seaside; reconciled internal QB to Seaside funds; interacted w/ J. Riley by email and phone regarding Watermaster financial records and met with her regarding 8/29 B&F committee mtg.; trouble-shooted SS not receiving WM invoices for payment; prepared/revised/posted/distributed packet for 8/29 B&F Committee meeting including Budgets (Admin, Replenishment) and transmittals; coordinated w/ B. Jaques for same; developed 2024 Admin Budget Revisions and 2025 Admin Budget; requested Unit Cost Calculations from PWM, Cal Am, and MPWMD; emailed TAC packet to W. Askew; responded to telephone inquiries, e-mails, and other correspondence as needed regarding the Seaside Basin; routinely picked up mail from PO Box; processed invoices/payments (incl. OPS assessments) and sent to Seaside; noticed/collected/posted production; prepared financial reports; established weekly website back up process; reviewed and posted items to website</p>							
Total Paxton Associates							\$ 8,687.50

Seaside Groundwater Basin Watermaster
Budget vs. Actual Administrative Fund
 Fiscal Year (January 1 - December 31, 2024)
 Balance through August 31, 2024

	2024 Adopted Budget	Contract Amount	Year to Date Revenue / Expenses
Available Balances & Assessments			
Other Assessments	-		
FY (Rollover)	23,500.00		50,000.00
Admin Assessments	70,000.00		68,000.00
Replenishment Assessment:	20,000.00		-
Available	113,500.00		118,000.00
Expenses			
Contract Staff	63,500.00	63,500.00	51,668.41
Legal Counsel		25,000.00 *	
General	10,000.00		13,116.96
Replenishment	15,000.00		2,850.00
			15,966.96
Filing fees and postage			-
Total Expenses	88,500.00	88,500.00	67,635.37
Total Available	25,000.00		
Dedicated Reserve	25,000.00		-
Net Available	-		50,364.63

* \$15,000 of the contracted amount is an approximation of expenditures related to the Replenishment Fund

Seaside Groundwater Basin Watermaster
Budget vs. Actual Monitoring & Management - Operations Fund
Fiscal Year (January 1 - December 31, 2024)
Balance through August 31, 2024

	<u>2024 Adopted Budget</u>	<u>Contract Encumbrance</u>	<u>Year to Date Revenue/Expenses</u>
Available Balances & Assessments			
Operations Fund Assessment	\$ 160,500.00	\$ -	\$ 160,500.00
Pass Through		-	2,804.00
FY 2022 Rollover (estimated)	133,281.00	-	133,281.00
Total Available	\$ 293,781.00	\$ -	\$ 296,585.00
Appropriations & Expenses			
GENERAL			
Technical Project Manager*	\$ 75,000.00	\$ 75,000.00	\$ 51,975.00
Contingency @ 10% (not including TPM)	28,537.00	-	
Total General	\$ 103,537.00	\$ 75,000.00	\$ 51,975.00
CONSULTANTS (Montgomery; Web Site Database)			
Program Administration	\$ 18,070.00	\$ 21,670.00	
Production/Lvl/Qlty Monitoring	3,600.00		\$ 9,899.50
Basin Management	46,000.00		
Seawater Intrusion Analysis Report	28,020.00	28,020.00	-
Total Consultants	\$ 95,690.00	\$ 49,690.00	\$ 9,899.50
MPWMD			
Production/Lvl/Qlty Monitoring	\$ 65,426.00	77,525.00	-
Pass Through 2024	21,128.00	-	-
Basin Management	-	-	-
Seawater Intrusion	-	-	-
Direct Costs	-	-	-
Total MPWMD	\$ 86,554.00	\$ 77,525.00	\$ -
CONTRACTOR (Martin Feeney)			
Hydrogeologic Consulting Services	\$ 4,000.00	4,000.00	-
Production/Lvl/Qlty Monitoring		-	-
	\$ 4,000.00	\$ 4,000.00	\$ -
CONTRACTOR (Todd Groundwater)			
Hydrogeologic Consulting Services	\$ 4,000.00	\$ 4,000.00	1,810.00
Total Appropriations & Expenses	\$ 293,781.00	\$ 210,215.00	\$ 63,684.50
Total Available	-		232,900.50

**Seaside Groundwater Basin Watermaster
Budget vs. Actual Monitoring and Management - Capital Fund
Fiscal Year (January 1 - December 31, 2024)
Balance through August 31, 2024**

	2023 Adopted Budget December 7, 2022	Contract Encumbranc e	Year to Date Revenue / Expense
Available Balances and Assessments:			
Monitoring & Management Fund - Capital	\$ 240,000.00		\$ 48,902.08
FY 2022 carryover	66,666.99		66,666.99
Cost share from MPWMD & MCWD	-		130,938.12
Subtotal	<u>306,666.99</u>		<u>246,507.19</u>
Appropriations & Expenses:			
Professional Services			
Project Management	-	\$ 23,600.00 *	14,612.27
Subtotal	<u>-</u>	<u>23,600.00</u>	<u>14,612.27</u>
Direct Costs			
Well Drilling -	240,000.00 **	258,197.00	213,106.20
Subtotal	<u>240,000.00</u>	<u>258,197.00</u>	<u>213,106.20</u>
Total Appropriations and Expenses	<u>240,000.00</u>	<u>\$ 281,797.00</u>	<u>227,718.47</u>
Total Available	<u><u>\$ 66,666.99</u></u>		<u><u>\$ 18,788.72</u></u>

* RFS 2022-05 for \$23,600 covers design and planning for the new well and is funded by the 2022 \$66,667 carryover amount
RFS 2023-03 for \$258,197 is for actual construction of the well. Costs increased between adoption of the budget and letting of the RFS with Montgomery and Associates. Watermaster will share the \$258,197 well construction expenses with MCWD & MPWMD - agreement executed September 2023. Capital Fund Assessments were levied on Watermaster Standard Producers, payment due to Watermaster December 15, 2023.

Seaside Groundwater Basin Watermaster											VII.C	
Replenishment Fund											10/2/2024	
Water Year 2024 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2024)											Page 1	
Balance through August 31, 2024												
Replenishment Fund	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	
Assessment Water Year	WY 05/06	WY 06/07	WY 07/08	WY 08/09	WY 09/10	WY 10/11	WY 11/12	WY 12/13	WY 13/14	WY 14/15	WY 15/16	
Unit Cost:	\$1,132 / \$283	\$1,132 / \$283	\$2,485 / 621.25	\$3,040 / \$760	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,702/\$675.50	\$2,702/\$675.50	\$2,702/\$675.50	
Cal-Am Water Balance Forward	a	\$ -	\$ 1,641,004	\$ 4,226,710	\$ (2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (6,173,771)	\$ (3,102,221)	\$ (676,704)
Cal-Am Water Production (AF)	b	3,710.00	4,059.90	3,862.90	2,966.02	3,713.52	3,416.04	3,070.90	3,076.61	3,232.10	2,764.73	1,879.21
Cal-Am Water NSY Over-Production (AF)	c	1,862.69	2,266.32	2,092.16	1,241.27	1,479.47	1,146.71	820.48	856.42	1,032.77	782.17	-
Exceeding Natural Safe Yield Considering Alternative Producers	d	\$ 2,106,652	\$ 2,565,471	\$ 5,199,014	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,280,943	\$ 2,380,842	\$ 2,790,539	\$ 2,113,414	-
Operating Yield Overproduction Replenishment	e	\$ -	\$ 20,235	\$ 8,511	\$ -	\$ -	\$ -	\$ 154,963	\$ 181,057	\$ 281,012	\$ 312,103	-
Total California American	f	\$ 2,106,652	\$ 2,585,706	\$ 5,207,525	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,435,907	\$ 2,561,899	\$ 3,071,550	\$ 2,425,516	\$ -
CAW Credit Against Assessment	g	\$ (465,648)		\$ (12,305,924)	\$ (3,741,714)	\$ (5,095,213)	\$ (5,425,799)	\$ (5,111,413)				
CAW Unpaid Balance	h	\$ 1,641,004	\$ 4,226,710	\$ (2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (3,102,221)	\$ (676,704)	\$ (676,704)	
City of Seaside Balance Forward	i	\$ -	\$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)
City of Seaside Municipal Production (AF)	j	332.00	287.70	294.20	293.44	282.87	240.68	233.72	257.73	223.64	185.01	195.16
City of Seaside NSY Over-Production (AF)	k	194.07	153.78	161.99	153.06	113.21	50.84	58.82	85.17	52.71	25.77	37.87
Exceeding Natural Safe Yield Considering Alternative Producers	l	\$ 219,689	\$ 174,082	\$ 402,540	\$ 465,300	\$ 314,721	\$ 141,335	\$ 163,509	\$ 236,782	\$ 142,410	\$ 69,630	\$ 102,330
Operating Yield Overproduction Replenishment	m	\$ 12,622	\$ 85	\$ 4,225	\$ 16,522	\$ 20,690	\$ -	\$ 1,689	\$ 27,007	\$ 3,222	\$ 38	\$ 11,959
Total Municipal	n	\$ 232,310	\$ 174,167	\$ 406,764	\$ 481,823	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside - Golf Courses (APA - 540 AFY)	o											
Exceeding Natural Safe Yield - Alternative Producer	p	-	-	\$ 131,705	\$ 69,701	-	-	-	-	-	-	-
Operating Yield Overproduction Replenishment	q	-	-	\$ 32,926	\$ 17,427	-	-	-	-	-	-	-
Total Golf Courses	r	\$ -	\$ -	\$ 164,631	\$ 87,128	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total City of Seaside*	s	\$ 232,310	\$ 174,167	\$ 571,395	\$ 568,951	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside Late Payment 5%	t	\$ 10,984	\$ 8,704	\$ 26,712	\$ 26,750	\$ 15,737						
In-lieu Credit Against Assessment	u					\$ (1,079,613)	\$ (1,142,858)	\$ (828,996)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)
City of Seaside Unpaid Balance	v	\$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)	\$ (3,232,420)
Mission Memorial Park	w			20.80	26.40	12.80	22.40	27.00	24.95	24.89	17.97	13.67
Mission Memorial Park Production (AF)	x	-	-	-	-	-	-	-	-	-	-	-
Mission Memorial Park NSY Over-Production (AF)	y	-	-	-	-	-	-	-	-	-	-	-
Exceeding Natural Safe Yield - Alternative Producer	z	-	-	-	-	-	-	-	-	-	-	-
Operating Yield Overproduction Replenishment	aa	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Mission Memorial Park	ab	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Replenishment Fund Balance	bb	\$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
Replenishment Fund Balance Forward	cc	\$ -	\$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	
Total Replenishment Assessments	dd	\$ 2,349,946	\$ 2,768,576	\$ 5,805,632	\$ 4,369,165	\$ 4,464,082	\$ 3,329,189	\$ 2,601,104	\$ 2,825,688	\$ 3,217,182	\$ 2,495,183	\$ 114,290
Total Paid and/or Credited	ee	\$ (465,648)	\$ -	\$ (12,305,924)	\$ (3,741,714)	\$ (6,174,826)	\$ (6,568,657)	\$ (5,940,409)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)
Grand Total Fund Balance	ff	\$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
* 2010 = 319.55 AF golf course in-lieu replenishment and 68.8 AF 4-party agmt in-lieu replenishment												
2011 = 411.1 AF golf course in-lieu replenishment												
2012 = 298.2 AF golf course in-lieu replenishment												
2013 = 383.4 AF golf course in-lieu replenishment												
2014 = 552.4 AF golf course in-lieu capped at 540 AF												
2015 = 195.0 AF golf course in-lieu												
2016 = 00.06 AF golf course in-lieu												
2017 = 00.00 AF golf course in-lieu												

Seaside Groundwater Basin Watermaster Replenishment Fund										
Water Year 2023 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2023)										
Balance through August 31, 2024										
	2017	2018	2019	2020	WY 2021	WY 2022	WY 2023	Totals WY 2006 Through 2023	Budget WY 2024	Projected Totals Through WY 2024
Replenishment Fund										
Assessment Water Year	WY 16/17	WY 17/18	WY 18/19	WY 19/20	WY 20/21	WY 21/22	WY 22/23		WY 23/24	
Unit Cost:	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,947 / \$737	\$3,260 / \$815	\$3,461 / \$865		\$4,529 / \$1,132	
Cal-Am Water Balance Forward	\$ (676,704)	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)		\$ (46,855,121)	
Cal-Am Water Production (AF)	2,029.51	2,229.45	2,120.22	2,245.88	1,664.04	1,648.71	1,569.60	49,259.34		
Cal-Am Water NSY Over-Production (AF)	64.40	374.65	284.85	334.21	-	-	-	14,638.57		
Exceeding Natural Safe Yield Considering Alternative Producers	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 959,859	-	-	-	\$ 33,550,034	-	\$ 33,550,034
Operating Yield Overproduction										
Replenishment				164,872	-	-	-	\$ 1,122,753	-	\$ 1,122,753
Total California American	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 1,124,731	\$ -	\$ -	\$ -	\$ 34,672,786	-	\$ 34,672,786
CAW Credit Against Assessment		\$ (49,382,196)	-	-	-	-	-	\$ (81,527,907)	-	\$ (81,527,907)
CAW Unpaid Balance	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)
City of Seaside Balance Forward (120.28 AF)	\$ (3,232,420)	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)	\$ (2,708,829)	\$ (2,661,184)		\$ (2,661,184)	
City of Seaside Municipal Production (AF)	188.31	184.63	178.40	181.65	174.69	155.12	158.46	4,047.41		
City of Seaside NSY Over-Production (AF)	30.47	32.46	27.82	32.06	25.52	11.69	-	1,247.31		
Exceeding Natural Safe Yield Considering Alternative Producers	\$ 87,512	\$ 93,225	\$ 79,893	\$ 92,089	\$ 75,197	\$ 38,116	-	\$ 2,898,358	0.00	\$ 2,898,358
Operating Yield Overproduction										
Replenishment	2,409	27,026	22,550	24,886	18,806	9,529	-	\$ 203,263	0.00	\$ 203,263
Total Municipal	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,002	\$ 47,645	\$ -	\$ 3,101,621	0.00	\$ 3,101,621
City of Seaside - Golf Courses (APA - 540 AFY)										
Exceeding Natural Safe Yield - Alternative Producer	-	-	-	-	-	-	-	\$ 201,406		\$ 201,406
Operating Yield Overproduction										
Replenishment	-	-	-	-	-	-	-	\$ 50,353		\$ 50,353
Total Golf Courses	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 251,759		\$ 251,759
Total City of Seaside*	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,002	\$ 47,645	\$ -	\$ 3,353,380	0.00	\$ 3,353,380
City of Seaside Late Payment 5%								\$ 88,887		\$ 88,887
In-lieu Credit Against Assessment								\$ (6,103,451)		\$ (6,103,451)
City of Seaside Unpaid Balance	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)	\$ (2,708,829)	\$ (2,661,184)	\$ (2,661,184)	\$ (2,661,184)	\$ (2,661,184)	\$ (2,661,184)
Mission Memorial Park (APA - 31 AFY)										
Mission Memorial Park Production (AF)	13.74	14.43	16.07	20.00	46.77	33.95		335.84		
Mission Memorial Park NSY Over-Production (AF)	-	-	-	-	15.77	2.95		18.72		
Exceeding Natural Safe Yield - Alternative Producer	-	-	-	-	\$ 46,488	\$ 9,608		\$ 56,096		\$ 56,096
Operating Yield Overproduction										
Replenishment	-	-	-	-	11,626.00	2,401.97		\$ 14,028		\$ 14,028
Board Approved (5/4/22) Credit Against Assessment					(33,114.00)	-		\$ (33,114)		\$ (33,114)
\$8,500 Applied to Admin Fund to cover expenses					(8,500.00)	-		\$ -		\$ -
Mission Memorial Park Unpaid Balance	\$ -	\$ -	\$ -	\$ -	\$ 16,500	\$ 12,010	\$ -	\$ 28,510	\$ -	\$ 28,510
Balance of Available Funds								\$ 22,461	\$ 16,521	
Total Replenishment Fund Balance	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,563,950)	\$ (49,516,305)	\$ (49,522,353)	\$ (49,487,795)	\$ (49,516,305)	\$ (49,516,305)
Replenishment Fund Balance Forward	\$ (3,909,125)	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,563,950)	\$ (49,516,305)	\$ (49,522,353)	\$ (49,522,353)	\$ (49,522,353)
Total Replenishment Assessments	\$ 274,877	\$ 1,196,246	\$ 920,540	\$ 1,241,706	\$ 110,502	\$ 59,655	\$ -	\$ 38,143,563	\$ -	\$ 38,143,563
Total Paid and/or Credited		\$ (49,382,196)			\$ (16,500)	\$ (12,010)		(87,659,868)		(87,659,868)
Total Paid for Replenishment Legal Services							\$ (6,049)	(6,049)	(11,989)	(18,038)
Grand Total Fund Balance	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,563,950)	\$ (49,516,305)	\$ (49,522,353)	\$ (49,522,353)	\$ (49,522,353)	\$ (49,534,342)

SEASIDE GROUNDWATER BASIN WATERMASTER

**ITEM VII.A.
10/2/2024**

TO: Watermaster Board of Directors
FROM: Laura Paxton, Administrative Officer (AO)
DATE: October 2, 2024
SUBJECT: 2024 Administrative Budget Revisions

RECOMMENDATION:

Consider/approve adjustments to the 2024 Administrative Fund Budget.

DISCUSSION:

Staff has been discussing succession planning for its positions. I felt it prudent to bring on board administrative colleagues to train over an extended period, one in Watermaster accounting aspects, and one in all the other aspects such as Decision requirements, board and committee support, production accounting, legal liaison, and numerous other tasks I currently handle (independent of the technical program manager). Nancy Dayton began subcontracting for me April of this year as Administrative Officer Assistant. Kelli Catey will begin subcontracting for me this month to calculate/invoice and process assessment revenues, and process and reconcile expenditures in cooperation with the City of Seaside.

The 2024 Administrative Contractual Services anticipated total of expenditures at year end is \$78,000. This is \$14,500 over the 2024 budgeted amount of \$63,500 due to the redundancy of me and Nancy and, likewise, Kelli and I performing the same tasks in training mode. There has also been fifteen hours of unanticipated cost for CAW v MCWD deposition preparation and attendance.

The Legal budget is anticipated to be \$12,500 at year end, \$7,500 over the 2024 budgeted amount primarily due to the CAW v MCWD deposition preparation and attendance and forthcoming litigation involving Security National Guarantee.

The Budget and Finance Committee approved these adjustments at its meeting on August 29, 2024.

FISCAL IMPACT:

The City of Seaside is the Watermaster fiscal agent that maintains the official Watermaster books, processing accounts receivable and issuing accounts payable. It was determined after examination of the City of Seaside recorded Administrative Fund balance as of December 31, 2023, that there was revenue forward from 2023 to 2024 in the amount of \$47,500 instead of the \$23,500 rollover estimated in mid-2023. The \$47,500 together with the \$68,000 collected in 2024 Administrative assessments results in an Administrative Fund balance large enough to cover the increase in estimated 2024 expenses as proposed.

ATTACHMENTS

- 1) Proposed Administrative Fund Budget adjustments for FY (Calendar Year) 2024

**Seaside Groundwater Basin Watermaster
Administrative Fund Budget
Proposed Budget Adjustments
Administrative Year 2024
October 2, 2024**

	<u>2024 Adopted Budget</u>	<u>2024 Proposed Budget Adjustments</u>
Assessment Income		
Reserve/Rollover	\$ 23,500	\$ 47,500
Administrative Assessment	70,000	68,000
Replenishment Related Legal Costs**	<u>20,000</u>	<u>10,474</u>
Totals	<u>113,500</u>	<u>125,974</u>
Expenditures		
Contractual Services - Administrative	63,500	78,000
Legal Services - Administrative	5,000	12,500
Legal Services - Replenishment	<u>20,000</u>	<u>10,474</u>
Total Expenses	<u>88,500</u>	<u>100,974</u>
Total Available	25,000	25,000
Less Reserve	<u>25,000</u>	<u>25,000</u>
Net Available	<u>\$ -</u>	<u>\$ -</u>

** Note: The reserve/rollover balance of \$23,500 was based on actual expenditures through June 30, 2023 and estimations through the remainder of the 2023 year. The reserve/rollover balance of \$47,500 was based on a detailed reconciliation of actual expenses from 2006 through December 31, 2023 of the Administrative Fund financial records held at the Watermaster office.*

*** Replenishment related legal and administrative costs will be covered by funds transferred into the Administrative Fund from the Replenishment Assessment Fund*

TO: Watermaster Budget and Finance Committee
FROM: Laura Paxton, Administrative Officer (AO)
DATE: October 2, 2024
SUBJECT: Proposed Fiscal Year (Calendar Year) 2025 Annual Administrative Fund Budget

RECOMMENDATION:

Consider/approve the proposed 2025 Administrative Fund Budget.

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 tentative budgets to be circulated to each adjudication Party “no earlier than November 1 and no later than November 15th each fiscal year.

The proposed 2025 Contractual Services budget amount of \$78,000 is a \$14,500 from the current year, reflecting redundancy of me and Nancy, and me and Kelli performing the same tasks in training mode. The costs are front-loaded and are anticipated to taper off in 2026 as Nancy and Kelli become trained and redundancy declines.

Joe Hughes and Alex Dominguez, new legal counsel, contracted with Watermaster and began assisting the board in 2023. They are currently tasked with researching the Decision regarding aspects of Basin replenishment and it is anticipated this task will continue into 2025. Replenishment related services will be funded in 2025 by the estimated \$10,474 remaining balance in the Replenishment Assessment Fund after 2024 expenditures. Estimated costs for the SNG matter, filing the Annual Report, and unforeseen services (such as the CAW v MCWD deposition that occurred in 2024) are proposed at \$12,500 for 2025 non-replenishment related legal services.

The Budget and Finance Committee approved this 2025 Administrative Budget at its meeting on August 29, 2024.

FISCAL IMPACT:

An Administrative Fund Assessment of \$113,000 is proposed: \$78,000 (AO) + \$22,974 (Legal) + \$25,000 (Reserve) = \$125,974 - \$10,474 (RA Fund) - \$2,500 (Carryover) = \$113,000

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

California American Water 83.0%	\$ 93,790
City of Seaside 14.4%	16,272
City of Sand City 2.6%	<u>2,938</u>
	\$113,000

ATTACHMENTS

- 1) Proposed Administrative Fund Budget for FY (Calendar Year) 2025

**Seaside Groundwater Basin Watermaster
Administrative Fund Budget
Proposed Budget October 2, 2024
Administrative Year 2025**

	<u>2024</u> <u>Adopted</u> <u>Budget</u>	<u>2024</u> <u>Estimated</u> <u>Actual</u>	<u>2025</u> <u>Proposed</u> <u>Budget</u>
Assessment Income			
Reserve/Rollover	\$ 23,500	\$ 47,500	\$ 2,500
Administrative Assessment	70,000	68,000	113,000
Replenishment Related Legal Costs**	<u>20,000</u>	<u>11,500</u>	<u>10,474</u>
Totals	<u>113,500</u>	<u>127,000</u>	<u>125,974</u>
Expenditures			
Contractual Services - Administrative	63,500	78,000	78,000
Legal Services - Administrative	5,000	12,500	12,500
Legal Services - Replenishment	<u>20,000</u>	<u>11,500</u>	<u>10,474</u>
Total Expenses	<u>88,500</u>	<u>102,000</u>	<u>100,974</u>
Total Available	25,000	25,000	25,000
Less Reserve	<u>25,000</u>	<u>25,000</u>	<u>25,000</u>
Net Available	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>

** Note: The reserve/rollover balance of \$23,500 was based on actual expenditures through June 30, 2023 and estimations through the remainder of the 2023 year. The reserve/rollover balance of \$47,500 was based on a detailed reconciliation of actual expenses from 2006 through December 31, 2023 of the Administrative Fund financial records held at the Watermaster office.*

*** Replenishment related legal and administrative costs will be covered by funds transferred into the Administrative Fund from the Replenishment Assessment Fund*

10/2/24

**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: October 2, 2024

SUBJECT: Consider Approval of:

1. The FY 2025 Monitoring and Management Program (M&MP)
2. The FY 2025 M&MP Operations and Capital Budgets
3. A 2024 Budget Transfer to Evaluate Options for Updating the Groundwater Model, and
4. Montgomery & Associates RFS No. 2024-03 to Evaluate Options for Updating the Groundwater Model.

RECOMMENDATIONS: Approve the attached 2025 Monitoring and Management Program (M&MP), the FY 2025 M&MP Operations and Capital Budgets, the requested budget transfer to Task I.3.a.1 in the 2024 M&MP Operations Budget to evaluate the most cost-effective approach for updating the Groundwater Model, and Montgomery & Associates RFS No. 2024-03 to perform this evaluation.

SUMMARY: The Watermaster Budget and Finance Committee at its August 29, 2024 meeting recommended the Board approve the attached 2025 Monitoring and Management Program (M&MP) and the FY 2025 M&MP Operations and Capital Budgets. The Committee was also notified that if the Board approves updating the Groundwater Model in 2025, a budget transfer in the 2024 M&MP Operations Budget would be requested to evaluate the most cost-effective approach for updating the Groundwater Model. The Committee supported approving this budget transfer request.

Attached are the proposed M&MP Operations and Capital Budgets for 2025 and 2026. 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. Only the 2025 budgets are before the Board for approval. The 2026 budgets are for information only. The following are comments and/or principal revisions from the 2024 M&MP Budget:

Technical Program Manager: Although the Groundwater Sustainability Plan for the adjacent Monterey Subbasin has been completed and was submitted in early 2022 by the Salinas Valley Basin and the Marina Coast Water District Groundwater Sustainability Agencies, there will continue to be regular meetings of their GSP-related committees that I serve on representing the Watermaster. Also, there will likely be further work related to obtaining replenishment water for the Basin. Therefore, I anticipate that the 2025 workload will be similar to that of 2024, so the proposed line-item budget amount has been maintained at \$75,000 in 2025.

Tasks Involving MPWMD and Montgomery & Associates: The scopes-of-work for both MPWMD and Montgomery & Associates are essentially unchanged from 2024. However, both will have hourly-rate increases in 2025, so the costs of the Tasks in which they are involved reflect somewhat higher dollar amounts in 2025 compared to 2024.

Task I.2.b.8: This Task has been added to perform a pilot test of subsurface electromagnetic imaging in the vicinity of Sentinel Well No. 4. Induction logging of that well shows what appears to be increasing conductivity in some of the subsurface strata that could be an indication that seawater is beginning to intrude inland in this location. Subsurface electromagnetic imaging has the potential to aid in this determination. This Task adds \$15,500 to the Budget.

Task I.3.a.1: This is to update the groundwater modeling of the Seaside Basin. Significant changes in the understanding of the hydrogeology of the Monterey Subbasin, which abuts the Seaside Basin, have been identified through work being conducted by the Salinas Valley Basin and Marina Coast Water District Groundwater Sustainability Agencies. They project having an updated model of the Monterey Subbasin in late 2024. In order for the Watermaster to have a model to incorporate that new information and to more closely coordinate with the updated Monterey Subbasin model, it may be desirable to update the Watermaster's modeling work in 2025. The existing Seaside Basin Model was last updated in 2018 at a cost of approximately \$55K. However, that update only consisted of inputting more recent groundwater measurements (water level, production, etc.) but no changes to the actual model itself were made. The proposed updating work would be a much more complex and vigorous undertaking, with a commensurate significantly higher cost. The consultant (Montgomery & Associates) has provided a ballpark cost range of \$100K to \$150K to update the existing Seaside Basin Model. However, discussions with Montgomery and Associates and the TAC may lead to the conclusion that rather than simply updating the existing Seaside Basin Model, there may be a more useful and cost-effective way to prepare a model that incorporates the newer information and data and better integrates with the modeling being done in the other subbasins of the Salinas Valley Basin. The Budget includes \$125K for this Task (midpoint of ballpark cost range).

In order to determine the most cost-effective approach to update the Model, in 2024 Montgomery & Associates will be asked under the attached RFS No. 2024-03 to evaluate the options available for doing this. The 2024 M&MP Operations Budget included *Task I.3. e. - Seaside Basin Geochemical Model* to perform geochemical analyses of injecting desalinated water from the Monterey Peninsula Water Supply Project's desalination plant, if that plant was going to be constructed in 2024. Construction of that plant is not scheduled to occur in 2024, so the \$10,000 included for that Task will not be utilized in 2024. A budget transfer of this \$10,000 to *Task I.3.a.1- Update the Existing Model*, which had a zero budget in 2024, will be made to provide funding to perform this evaluation, the cost of which will not exceed \$10,000. There will be no increase in the total amount of the 2024 M&MP Operations Budget as a result of making this budget transfer.

In the 2018 Model update, the cost was shared between the Watermaster, MPWMD, and M1W. The Watermaster paid 50% of the cost and the two other agencies collectively paid the other 50%. If this model updating work is undertaken in 2025, efforts will be made to cost-share as was done with the 2018 update.

Task I.4.e: This is to update the Seawater Intrusion Response Plan (SIRP) which was prepared in 2009 and has not been updated since then. The update would include incorporating more

recent groundwater data, updating implementation triggers, updating the Contingency Actions currently described in the SIRP in an effort to make them more practical and straightforward, and establishing an approach to incorporate geophysical data as a seawater intrusion indicator and/or trigger. This work will add \$25,481 to the Budget.

As a result of the changes described above, as indicated by the right-hand column titled “Comparative Costs from 2024 Budget” in Attachment 1, the proposed 2025 Budget is \$185,192 higher (\$478,973 -\$293,781) than the 2024 Budget.

FISCAL IMPACT:

For the Monitoring & Maintenance – Operations Fund:
 An estimated \$121,973 in unspent 2024 funds are expected to be carried over to 2025. The \$22,000 in unspent 2023 Capital Fund assessments related to the installation of Well FO-09 will be transferred to the Operations Fund. An Operations Fund Assessment of \$335,000 is proposed (\$478,973 Ops Budget - \$121,973 carryover - \$22,000 from Capital Fund = \$335,000). The FY 2025 Monitoring and Management Program and its associated budgets were reviewed and approved by the TAC at its August 14, 2024 meeting.

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

California American Water 91.0%	\$304,850
City of Seaside 7.0%	23,450
D.B.O. 0.9%	3,015
Granite Rock 0.9%	3,015
Cypress Pacific	<u>670</u>
	\$335,000

No Capital projects are anticipated to be undertaken in 2025, so this budget is \$0.

ATTACHMENTS:

1. 2025 Monitoring & Management Program
2. 2025 and 2026 M&MP Operations Budgets
3. 2025 and 2026 M&MP Capital Budgets
4. Montgomery & Associates RFS No. 2024-03

Monitoring and Management Program Operations Budget For Tasks to be Undertaken in 2025							Comparative Costs from 2024 Budget				
Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS ⁽⁹⁾					Total		
				MPWMD	Montgomery & Associates	Todd Groundwater		Martin Feeney		Contractors or Other Consultants	
Labor											
			Technical Project Manager	N/A	N/A	N/A	N/A	N/A	\$75,000	\$75,000	
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	\$12,570	\$4,000	\$4,000	\$0	\$20,570	\$19,530	
	M.1.f		QA/QC	\$0				\$0	\$0	\$0	
	M.1.g		SGMA Documentation Preparation	\$0	\$3,124	\$0	\$0	\$0	\$3,124	\$2,540	
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 and Respond to Data Requests ⁽¹⁵⁾	\$14,838				\$0	\$14,838	\$22,700	
		I.2.a.2	Verify Accuracy of Production Well Meters	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	I.2.b		Data Collection Program								
		I.2.b.1	Site Representation and Selection ⁽¹⁴⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		I.2.b.2	Collect Water Levels ⁽⁵⁾⁽⁶⁾	\$23,174	\$0	\$0	\$0	\$0	\$23,174	\$21,128	
		I.2.b.3	Collect Water Quality Samples and Perform Sentinel Well Induction Logging ⁽¹⁾⁽⁵⁾	\$36,392	\$0	\$0	\$0	\$0	\$36,392	\$38,446	
		I.2.b.4	Update Program Schedule and Standard Operating Procedures.	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		I.2.b.5	Monitor Well Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		I.2.b.6	Reports	\$4,080	\$0	\$0	\$0	\$0	\$4,080	\$3,680	
		I.2.b.7	CASGEM Data Submittal for Watermaster's Voluntary Wells	\$3,072	\$0	\$0	\$0	\$0	\$3,072	\$4,200	
		I.2.b.8	Perform Subsurface Electromagnetic Imaging	\$0	\$0	\$0	\$0	\$15,500	\$15,500	\$0	
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	\$125,000	\$0	\$0	\$0	\$125,000	\$0	
		I.3.a.2	Develop Protective Water Levels ⁽¹²⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
		I.3.a.3	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions ⁽¹⁰⁾	\$0	\$40,000			\$0	\$40,000	\$40,000	
	I.3.b		Complete Preparation of Basin Management Action Plan	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	I.3.c		Refine and/or Update the Basin Management Action Plan ⁽⁷⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	I.3.d		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	I.3.e		Seaside Basin Geochemical Model ⁽¹³⁾	\$0	\$10,000	\$0	\$0	\$0	\$10,000	\$10,000	
I.4 Seawater Intrusion Contingency Plan											
	I.4.a		Oversight of Seawater Intrusion Detection and Tracking ⁽¹⁷⁾	\$0	\$0	\$0	\$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 ⁽¹⁶⁾	\$0	\$30,050	\$0	\$0	\$0	\$30,050	\$28,020	
	I.4.e		Refine and/or Update the Seawater Intrusion Response Plan ⁽⁵⁾	\$0	\$25,481	\$0	\$0	\$0	\$25,481	\$0	
	I.4.f		If Seawater Intrusion is Determined to be Occurring, Implement the Seawater Intrusion Response Plan ⁽⁹⁾	(No Costs are Included for This Task, as This Task May Not be Necessary During 2025. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)							
TOTALS CONSULTANTS & CONTRACTORS				\$81,556	\$246,225	\$4,000	\$4,000	\$15,500	\$351,281		
				SUBTOTAL not including Technical Program Manager =					\$351,281	\$190,244	
				Contingency (not including Technical Program Manager) @ 15% ⁽⁴⁾ =					\$52,692	\$28,537	
				Technical Program Manager =					\$75,000	\$75,000	
				TOTAL =					\$478,973	\$293,781	

Footnotes:
(1) Under this Subtask the Watermaster will contract with MPWMD to perform the Sentinel Well induction logging work and to perform the other portions of the work of this Subtask. The Sentinel Wells will be induction logged once per year (in September).
(2) The response plan is expected to be updated in 2025.
(3) Within the context of this document the term "Consultant" refers to a private consultant providing professional engineering or other types of technical services. The term "Contractor" refers to a firm providing construction or field services such as well drilling 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 15% be included in the Budget.
(5) The MPWMD portion of these Tasks includes: For Task I.2.b.2: (1) \$570 for vehicle mileage costs for both this Task and Task I.2.b.3 and (2) \$850 to purchase a replacement datalogger (if necessary). For Task I.2.b.3: (1) \$7,448 for laboratory analytical costs, (2) \$250 for CO2 bottles to run the sample pumps, (3) \$950 to purchase a replacement low flow sampling pump (if necessary) and (4) \$760 of administrative support costs for preparing billings and processing invoices from the water quality laboratory.
(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) The BMAP was updated in 2018, and no further work on this Task is anticipated in 2024.
(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/if requested to do so by the Technical Program Manager. This work may include, but not be limited to, participation in conference calls and reviewing documents prepared by others.
(9) If work under this Task is found to be necessary, it will need to be funded through the Contingency line item or by a Budget transfer.
(10) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions that the Board may wish to perform in 2025.
(11) The Model was last updated and recalibrated in 2018, but that work did not include any change to the Model itself, only inputting more recent groundwater data and then recalibrating it for a best match with field measured well data. The proposed 2025 model updating work will incorporate new hydrogeologic data from multiple sources, along with more recent groundwater data, in order to more closely match the data being used in the models for adjacent Monterey Subbasin of the greater Salinas Valley Basin. This work will likely consist of either updating the existing Seaside Basin Model, modifying it, or replacing it with an adapted version of another model being developed by the MCWD or SVGB GSAs.
(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 2025.
(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 2025 would only be used if geochemical modeling is performed in 2025 for the MPWSP desalination plant water, and if that modeling 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) No additional monitoring well is expected to be constructed in 2025.
(15) Watermaster staff will maintain the Watermaster's website and post documents on it. This Task includes \$2,550 for MPWMD to respond to requests from consultants and others for data from the database (that would only be expended if needed).
(16) MPWMD's costs to assist in this Task are included in its costs under Task I.2.b.6.
(17) MPWMD's and Montgomery & Associates' costs to provide oversight in this Task are included under their other Tasks.

Monitoring and Management Program Preliminary Estimated Operations Budget									Comparative Costs from 2025 Budget	
For Tasks to be Undertaken in 2026										
Task	Subtask	Sub-Subtask	Cost Description	CONSULTANTS & CONTRACTORS ⁽⁸⁾						Total
				MPWMD	Montgomery	Todd	Martin	Contractors		
Labor										
			Technical Project Manager	N/A	N/A	N/A	N/A	N/A	\$75,000	
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. &		Preparation for and Attendance at Meetings and Peer Review of Documents and	\$0	\$12,947	\$4,000	\$4,000	\$0	\$20,947	\$20,570
	M.1.f		QA/QC	\$0				\$0	\$0	\$0
	M.1.g		SGMA Documentation Preparation	\$0	\$3,218	\$0	\$0	\$0	\$3,218	\$3,124
I.1 Initial Phase 1 Monitoring Well Construction (Task Completed)										
I.2 Production, Water Level and Quality Monitoring										
	I.2.a.		Database Management							
		I.2.a.1.	Conduct Ongoing Data Entry/ Database Maintenance and Respond to Data Requests ⁽¹⁵⁾	\$20,240				\$0	\$20,240	\$14,838
		I.2.a.2.	Verify Accuracy of Production Well Meters	\$0	\$0	\$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	\$0	\$0
		I.2.b.2.	Collect Water Levels ⁽⁵⁾⁽⁶⁾	\$22,293	\$0	\$0	\$0	\$0	\$22,293	\$23,174
		I.2.b.3.	Collect Water Quality Samples and Perform Sentinel Well Induction Logging ⁽¹⁾⁽⁶⁾	\$33,353	\$0	\$0	\$0	\$0	\$33,353	\$36,392
		I.2.b.4.	Update Program Schedule and Standard Operating Procedures.	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		I.2.b.5.	Monitor Well Construction	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		I.2.b.6.	Reports	\$3,906	\$0	\$0	\$0	\$0	\$3,906	\$4,080
		I.2.b.7.	CASGEM Data Submittal for Watermaster's Voluntary Wells	\$4,450	\$0	\$0	\$0	\$0	\$4,450	\$3,072
		I.2.b.8.	Perform Subsurface Electromagnetic Imaging	\$0	\$0	\$0	\$0	\$0	\$0	\$15,500
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	\$0	\$125,000
		I.3.a.2.	Develop Protective Water Levels	\$0	\$0	\$0	\$0	\$0	\$0	\$0
		I.3.a.3.	Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions ⁽¹⁰⁾	\$0	\$40,000			\$0	\$40,000	\$40,000
	I.3.b.		Complete Preparation of Basin Management Action Plan	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	I.3.c.		Refine and/or Update the Basin Management Action Plan ⁽¹⁴⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	I.3.d.		Evaluate Coastal Wells for Cross-Aquifer Contamination Potential	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	I.3.e.		Seaside Basin Geochemical Model ⁽¹³⁾	\$0	\$10,000	\$0	\$0	\$0	\$10,000	\$10,000
I.4 Seawater Intrusion Contingency Plan										
	I.4.a.		Oversight of Seawater Intrusion Detection and Tracking ⁽¹⁷⁾	\$0	\$0	\$0	\$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	\$0	\$30,952	\$0	\$0	\$0	\$30,952	\$30,050
	I.4.e.		Refine and/or Update the Seawater Intrusion Response Plan ⁽²⁾	\$0	\$0	\$0	\$0	\$0	\$0	\$25,481
	I.4.f.		If Seawater Intrusion is Determined to be Occurring, Implement the Seawater Intrusion Response Plan ⁽⁹⁾	(No Costs are Included for This Task, as This Task May Not be Necessary During 2025. If it Does Become Necessary, Use of Contingency Funds or a Budget Modification Will Likely be Necessary)						
TOTALS CONSULTANTS & CONTRACTORS⁽¹²⁾				\$84,242	\$97,116	\$4,000	\$4,000	\$0	\$189,358	
SUBTOTAL not including Technical Program Manager =									\$189,358	\$351,281
Contingency (not including Technical Program Manager) @ 15% ⁽⁴⁾ =									\$28,404	\$52,692
Technical Program Manager =									\$75,000	\$75,000
TOTAL=									\$292,762	\$478,973

Footnotes:

- (1) Under this Subtask the Watermaster will contract with MPWMD to perform the Sentinel Well induction logging work and to perform the other portions of the work of this Subtask. The Sentinel Wells will be induction logged once per year (in September).
- (2) The response plan is not expected to be updated in 2026.
- (3) Within the context of this document the term "Consultant" refers to a private consultant providing professional engineering or other types of technical services. The term "Contractor" refers to a firm providing construction or field services such as well drilling 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 15% 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 2026.
- (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 need to be funded through the Contingency line item or by a Budget transfer.

- (10) This Task is included to provide funds for the Watermaster to perform modeling and other investigative work to aid in making Basin management decisions that the Board may wish to perform in 2026.
- (11) The Model is not expected to be updated in 2026.
- (12) Includes a 3% inflation factor on most annually recurring costs in the 2025 Budget, except the Technical Program Manager cost which has no inflation factor applied to it.
- (13) Work on this Task may not be performed in 2025, so work on this Task may need to be rebudgeted in 2026.
- (14) The BMAP is not expected to be updated in 2026.

**Monitoring and Management Program Capital Budget
For Tasks to be Undertaken in 2025**

No Capital projects are anticipated to be undertaken in 2025, so this budget is \$0.

**Monitoring and Management Program Capital Budget
For Tasks to be Undertaken in 2026**

No Capital projects are anticipated to be undertaken in 2026, so this budget is \$0.

FINAL DRAFT
Seaside Groundwater Basin
2025 Monitoring and Management Program

The tasks outlined below are those that are anticipated to be performed during 2025. Some Tasks listed below are specific to 2025, 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 (\$20,570)	<p>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:</p> <ul style="list-style-type: none"> • Those associated with attendance at TAC meetings (either in person or by videoconference 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 videoconference 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 (\$3,124)	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.

I. 2 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 (\$14,838)	<p>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 are encountered.</p> <p>Under this Task, when requested MPWMD will also respond to requests from consultants and others for data from the database.</p> <p>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.</p> <p>No enhancements to the database are anticipated during 2025.</p> <p>Watermaster staff will maintain the Watermaster's website.</p>
I. 2. a. 2 Verify Accuracy of Production Well Meters (\$0)	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 2025.
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 2025.

I. 2. b. 2 Collect Water Levels (\$23,174)	<p>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.</p> <p>This Task includes the purchase of one datalogger and parts for the datalogger to keep in inventory as a spare if needed.</p>
I. 2. b. 3 Collect Water Quality Samples. (\$36,392)	<p>As discussed in the 2018 Annual Report, water quality data will be collected quarterly from certain of the monitoring wells, but is no longer being collected from the four coastal Sentinel Wells. Because many years of data have shown essentially no change in aquifer water quality, beginning in WY2023 the frequency of induction logging of the Sentinel Wells was reduced to once per year.</p> <p>As discussed in the 2012 Annual Report, water quality analyses were expanded to include barium and iodide ions. Since these analyses have created more than 10 years of data, as discussed in the 2022 Annual Report the analyses were no longer being performed starting in WY 2023. They will only be resumed if the other water quality parameters are indicative of seawater intrusion.</p> <p>As discussed in the 2021 Annual Report, the frequency of sampling of SBWM-5 (the Camp Huffman well) has been reduced over the years. It is being sampled once every five years beginning in WY 2022.</p> <p>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.</p> <p>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 fails or is found to be no longer adequate due to declining groundwater levels, an allowance of \$945 to purchase a replacement sampling pump has been included in this Task.</p>
I. 2. b. 4 Update Program Schedule and Standard Operating Procedures. (\$0)	<p>All recommendations from prior reviews of the data collection program have been implemented. No additional work of this type is anticipated in 2025.</p>
I. 2. b. 5 Monitor Well Construction (\$0)	<p>A well to replace Monitoring Well FO-9 Shallow, which in 2021 was found to have a leaking casing, was installed in 2023. No other monitoring wells are expected to be constructed in 2025.</p>

I. 2. b. 6 Reports (\$4,080)	<p>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 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.</p>
	<p>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.</p>
I.2.b.7 CASGEM Data Submittal (\$3,072)	<p>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.</p>
I.2.b.8 Perform Subsurface Electromagnetic Imaging (\$15,500)	<p>The 2023 induction logging revealed gradually increasing conductivity in some of the shallower formations near the coastline. In 2025 the potential benefit of performing subsurface electromagnetic imaging in the vicinity of Sentinel Well No. 4 will be evaluated to see if it can help determine if seawater intrusion is beginning to occur in that part of the Seaside Basin.</p>
<i>I. 3 Basin Management</i>	
I. 3. a. Enhanced Seaside Basin Groundwater Model (Costs listed in subtasks below)	<p>The Watermaster and its consultants use a Groundwater Model for basin management purposes.</p>
I.3.a.1 Update the Existing Model (\$125,000)	<p>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.</p>
	<p>In 2018 the Model was recalibrated and updated. Work is being performed by the Salinas Valley Basin and Marina Coast Groundwater Sustainability Agencies on the hydrogeologic modeling of the Monterey Subbasin. Significant changes in the understanding of the hydrogeology of that subbasin are being identified, and an updated model of that subbasin is expected to be completed in late 2024. In order for the Watermaster’s Model to incorporate that new information and to more closely coordinate with the updated Monterey Subbasin model, it may be desirable to update, modify, or replace the Watermaster’s Model in 2025.</p>

<p>I. 3. a. 2 Develop Protective Water Levels (\$0)</p>	<p>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' November 2009 report titled "<i>Seaside Groundwater Basin Modeling and Protective Groundwater Elevations</i>," and is posted on the Watermaster's website. As discussed in Attachment 10 of the 2013 Annual Report, further work was started in 2013 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. or I.4.e.</p>
<p>I. 3. a. 3 Evaluate Replenishment Scenarios and Develop Answers to Basin Management Questions (\$40,000)</p>	<p>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 replenishment water.</p> <p>Two projects are planned that have the potential to provide additional water for Basin replenishment. The first is the Pure Water Monterey Expansion (PVMX) Project for which construction bids were solicited in 2023 and is projected to become operational in 2025. The PVMX Project will increase the capacity of the existing 3,500 AFY PWM Project by 2,250 AFY. The second is the Monterey Peninsula Water Supply Project's (MPWSP) desalination plant which is still in the design and permitting stage. The proponent of the MPWSP, California American Water, anticipates starting construction of the desalination plant in October 2025 and the plant becoming operational in late 2027 or early 2028. Growth is built into each of these projects' plant capacity, and the full capacity of these plants will likely not all be needed for some years into the future. During the time period that these projects would have excess capacity, they could potentially provide water for Basin replenishment.</p> <p>Montgomery & Associates agrees that injection is the quickest way to bring groundwater levels up in the Seaside Basin. Modeling performed in 2022 and 2023 found that between 1,000 and 4,600 AFY of replenishment water will need to be needed, depending on future water demands and rainfall.</p> <p>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. The Groundwater Sustainability Plan for the Corral de Tierra subarea of the Monterey Subbasin includes projects to help to alleviate this problem, but they will be insufficient to completely alleviate it.</p> <p>This Task includes a \$40,000 allowance to perform further modeling or analyses pertaining to Basin management issues if so directed by the Watermaster Board.</p>

I. 3. b. Complete Preparation of Basin Management Action Plan (\$0)	<p>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:</p> <p>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</p>
I. 3. c. Refine and/or Update the Basin Management Action Plan (\$0)	<p>In 2019 the BMAP was updated based on new data and knowledge that has been gained since it was prepared in 2009.</p> <p>No further work of this type is anticipated in 2025. However, although no funds are budgeted for this Task in 2025, since the Groundwater Sustainability Plan (GSP) for the adjacent Monterey Subbasin of the Salinas Valley Groundwater Basin was completed in early 2022, at some point it may be appropriate to further update the BMAP to reflect the impacts of implementing that GSP.</p>
I. 3. d. Evaluate Coastal Wells for Cross-Aquifer Contamination Potential (\$0)	<p>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 led to casing leakage, it would be possible for the intrusion to flow from one aquifer to another.</p> <p>An evaluation of this was performed in 2012 and is described in Attachment 10 of the 2012 Annual Report.</p> <p>In 2021 the Watermaster TAC examined the feasibility of performing conductivity profiling of certain of the near-coastal wells that were evaluated in the 2012 Memorandum, as a method of determining if any of those wells was allowing downward migration of intruded water from the shallow dunes aquifer to enter the Paso Robles aquifer. However, it was concluded that conditions in those wells would make it infeasible to perform such work.</p> <p>No further work of this type is anticipated in 2025.</p>

**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 used geochemical modeling to predict the effects of injecting Carmel River water into the Seaside Groundwater Basin under the ASR program.

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 the geochemical evaluation of injecting desalinated water indicates 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 and/or California American Water for this project, 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 desalinated 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 (\$30,050)	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 by another Consultant (MPWMD) 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. If possible, 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 induction 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 (\$25,481)	Due to the observation of increasing conductivity in the 2023 induction logging in some of the shallower formations near the coastline, it was determined that in 2025 it would be appropriate to update the 2009 SIRP. The update would include incorporating data that has been obtained since 2009 and examining technology and techniques that could potentially be used to make the SIRP more practical and useful.
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 SIRP, is determined by the Watermaster to be occurring.

SEASIDE BASIN WATERMASTER
REQUEST FOR SERVICE

DATE: 10/3/2024

RFS NO. 2024-03

(To be filled in by WATERMASTER)

TO: Cameron Tana
PROFESSIONAL

FROM: Robert Jaques
WATERMASTER

Services Needed and Purpose: Evaluate options for updating the Seaside Basin Groundwater Model. See Scope of Work in Attachment 1.

Completion Date: All work of this RFS shall be completed not later than January 31, 2025, 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: \$ Not-to-Exceed 10,000.00 (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

The Scope of Work for this RFS No. 2024-03 is described in the letter below dated August 15, 2024 from Montgomery & Associates.



August 15, 2024

Mr. Bob Jaques
Seaside Watermaster Technical Program Manager
83 Via Encanto
Monterey, CA 93940

SUBJECT: EVALUATE OPTIONS FOR SEASIDE MODEL UPDATE

Dear Mr. Jaques:

Per your request, Montgomery & Associates (M&A) is pleased to provide you with this scope and cost estimate to evaluate options for updating the Seaside Basin model (Model). Since the Model was developed 16 years ago, there is new science and improved understanding of the hydrogeological conceptual model of the Seaside Subbasin that should be incorporated into a model update. The Model has been a critical tool over the years to evaluate the movement of water within the basin, both native groundwater and injected water. There is an increasing need to understand the impacts of projects and management actions in the Seaside subbasin and nearby Monterey and 180-400 Ft Aquifer subbasins on groundwater levels, inter-basin flows, and seawater intrusion.

The last Model update took place in 2018. That update included updating model input data from 2014 to 2017, changing boundary heads based on 1997 Salinas Valley Integrated Ground Water and Surface Model (SVIGSM) results, and recalibrating the Model. No structural changes were made to model layers or other boundary conditions.

Advantages of updating the model now include:

- Incorporating groundwater level data collected since 2017
- Updating boundary conditions based on more recent data collected by neighboring Groundwater Sustainability Agencies (GSA)
- Incorporating work being done by neighboring GSAs in support of the GSP development in the Salinas Valley subbasins. This includes a refined hydrogeologic conceptual model.

There are several different options available to the Watermaster for updating the Model:

1. Update the existing Seaside model with updated data and the revised hydrogeological conceptual models developed by the GSAs, or
2. Adopt and/or adapt one of the other new models. The available models are:
 - Monterey Subbasin Groundwater Flow Model (MBGWFM, aka the EKI model)
 - Salinas Valley Seawater Intrusion Model (SWI Model)
 - United States Geological Survey (USGS) Salinas Valley Integrated Hydrologic Model (SVIHM)

This scope covers an evaluation of different modeling options through a comparison of:

- Model purpose and application
- Model domain extent and coverage of the Seaside subbasin
- Hydrogeologic conceptualization of the Seaside subbasin aquifers in each of the other models
- Model layering and the horizontal and vertical grid discretization
- Whether the models incorporate latest AEM and geological data
- Core model software functionalities (e.g., can the model simulate density dependent sea water intrusion and model software supports local grid refinement)
- Representation of offshore flows
- Relative level of effort needed to update or adapt each model for Watermaster needs
- Model data needs, and ease of future model updates and maintenance
- Other considerations: (such as cost implications for the Watermaster; long-term plans for the EKI model - is it going to be maintained regularly or will it be replaced by the SWI model; whether the new model will be used in place of the existing Seaside Basin model or whether the existing model will continue to be maintained and available to MPWMD to use it in conjunction with the Pure Water Monterey Project; improving the understanding of cross-boundary groundwater flows between the Seaside and Monterey Subbasins.)

Through a comparison of the different models and options, we will prepare a brief technical memorandum (TM) summarizing the pros and cons of each option. We will conclude the TM with recommendations on the path forward for the Watermaster's model update. We will make a



Zoom meeting presentation to the Watermaster's TAC once the TM has been completed to respond to the TAC's questions and comments.

The evaluation will be conducted by Pascual Benito with oversight by Georgina King. The estimated cost of this work is not-to-exceed \$10,000 and the TM will be completed by the end of December 2024.

Sincerely,
MONTGOMERY & ASSOCIATES

A handwritten signature in black ink that reads "Pascual U. Benito".

Pascual Benito, Ph.D.
Senior Hydrogeologist

A handwritten signature in black ink that reads "Georgina King".

Georgina King, P.G., C. Hg.
Principal Hydrogeologist

ATTACHMENT 2

Montgomery & Associates RFS No. 2024-03 Work Schedule							
ID	Task Name	2024				2025	
		Sep	Oct	Nov	Dec	Jan	Feb
1	Evaluate Options for Updating the Seaside Basin Groundwater Model						
2	Watermaster Issues RFS No. 2024-03 to Montgomery & Associates		◆ 10/3				
3	Montgomery & Associates Provides Draft Technical Memor to Watermaster				◆ 12/20		
4	Montgomery & Associates Makes Presentation on the Technical Memo to the Watermaster TAC					◆ 1/15	
Montgomery RFS No 2024-03 Schedule 9-20-24							Page 1

**Seaside Groundwater Basin Watermaster
Replenishment Fund Proposed Budget October 2, 2024
Fiscal (Calendar) Year 2025**

	<u>2024</u> <u>Budget</u>	<u>2024</u> <u>Estimated Total</u>	<u>2025</u> <u>Proposed</u> <u>Budget</u>
Assessment Income			
Mission Memorial Park*	\$ 21,974	\$ 21,974	\$ 10,474
Totals	<u>21,974</u>	<u>21,974</u>	<u>10,474</u>
Expenditures			
Legal Services - Replenishment	<u>20,000</u>	<u>11,500</u>	<u>10,474</u>
Total Expenses	<u>20,000</u>	<u>11,500</u>	<u>10,474</u>
Total Available	<u>1,974</u>	<u>10,474</u>	<u>-</u>
	<u><u> </u></u>	<u><u> </u></u>	<u><u> </u></u>

** Mission Memorial Park overproduced in Water Years 2021 and 2022 for a total assessment of \$28,510; \$12,475 has been expended to-date for Legal replenishment related services (Funding Mechanism), \$6,536 in 2023*

Seaside Groundwater Basin Watermaster											Item VII.B.3
Replenishment Fund											10/2/24
Water Year 2024 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2024)											Page 1
Balance through June 30, 2024											
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Assessment Water Year	WY 05/06	WY 06/07	WY 07/08	WY 08/09	WY 09/10	WY 10/11	WY 11/12	WY 12/13	WY 13/14	WY 14/15	WY 15/16
Unit Cost:	a \$1,132 / \$283	\$1,132 / \$283	\$2,485 / 621.25	\$3,040 / \$760	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,780 / \$695	\$2,702/\$675.50	\$2,702/\$675.50	\$2,702/\$675.50
Cal-Am Water Balance Forward	b \$ -	\$ 1,641,004	\$ 4,226,710	\$ (2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (6,173,771)	\$ (3,102,221)	\$ (676,704)
Cal-Am Water Production (AF)	c 3,710.00	4,059.90	3,862.90	2,966.02	3,713.52	3,416.04	3,070.90	3,076.61	3,232.10	2,764.73	1,879.21
Cal-Am Water NSY Over-Production (AF)	d 1,862.69	2,266.32	2,092.16	1,241.27	1,479.47	1,146.71	820.48	856.42	1,032.77	782.17	-
Exceeding Natural Safe Yield Considering Alternative Producers	e \$ 2,106,652	\$ 2,565,471	\$ 5,199,014	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,280,943	\$ 2,380,842	\$ 2,790,539	\$ 2,113,414	-
Operating Yield Overproduction Replenishment	f \$ -	\$ 20,235	\$ 8,511	\$ -	\$ -	\$ -	\$ 154,963	\$ 181,057	\$ 281,012	\$ 312,103	-
Total California American	g \$ 2,106,652	\$ 2,585,706	\$ 5,207,525	\$ 3,773,464	\$ 4,112,933	\$ 3,187,854	\$ 2,435,907	\$ 2,561,899	\$ 3,071,550	\$ 2,425,516	\$ -
CAW Credit Against Assessment	h \$ (465,648)		\$ (12,305,924)	\$ (3,741,714)	\$ (5,095,213)	\$ (5,425,799)	\$ (5,111,413)				
CAW Unpaid Balance	i \$ 1,641,004	\$ 4,226,710	(2,871,690)	\$ (2,839,939)	\$ (3,822,219)	\$ (6,060,164)	\$ (8,735,671)	\$ (6,173,771)	\$ (3,102,221)	\$ (676,704)	\$ (676,704)
City of Seaside Balance Forward	j \$ -	\$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)
City of Seaside Municipal Production (AF)	k 332.00	287.70	294.20	293.44	282.87	240.68	233.72	257.73	223.64	185.01	195.16
City of Seaside NSY Over-Production (AF)	l 194.07	153.78	161.99	153.06	113.21	50.84	58.82	85.17	52.71	25.77	37.87
Exceeding Natural Safe Yield Considering Alternative Producers	m \$ 219,689	\$ 174,082	\$ 402,540	\$ 465,300	\$ 314,721	\$ 141,335	\$ 163,509	\$ 236,782	\$ 142,410	\$ 69,630	\$ 102,330
Operating Yield Overproduction Replenishment	n \$ 12,622	\$ 85	\$ 4,225	\$ 16,522	\$ 20,690	\$ -	\$ 1,689	\$ 27,007	\$ 3,222	\$ 38	\$ 11,959
Total Municipal	o \$ 232,310	\$ 174,167	\$ 406,764	\$ 481,823	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside - Golf Courses (APA - 540 AFY)											
Exceeding Natural Safe Yield - Alternative Producer	p -	-	\$ 131,705	\$ 69,701	-	-	-	-	-	-	-
Operating Yield Overproduction Replenishment	q -	-	\$ 32,926	\$ 17,427	-	-	-	-	-	-	-
Total Golf Courses	r \$ -	\$ -	\$ 164,631	\$ 87,128	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total City of Seaside*	s \$ 232,310	\$ 174,167	\$ 571,395	\$ 568,951	\$ 335,412	\$ 141,335	\$ 165,198	\$ 263,788	\$ 145,631	\$ 69,667	\$ 114,290
City of Seaside Late Payment 5%	t \$ 10,984	\$ 8,704	\$ 26,712	\$ 26,750	\$ 15,737						
In-lieu Credit Against Assessment	u \$ -	\$ -	\$ -	\$ -	\$ (1,079,613)	\$ (1,142,858)	\$ (828,996)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)
City of Seaside Unpaid Balance	v \$ 243,294	\$ 426,165	\$ 1,024,272	\$ 1,619,973	\$ 891,509	\$ (110,014)	\$ (773,813)	\$ (1,575,876)	\$ (2,889,325)	\$ (3,346,548)	\$ (3,232,420)
Mission Memorial Park											
Mission Memorial Park Production (AF)	w		20.80	26.40	12.80	22.40	27.00	24.95	24.89	17.97	13.67
Mission Memorial Park NSY Over-Production (AF)	x	-	-	-	-	-	-	-	-	-	-
Exceeding Natural Safe Yield - Alternative Producer	y	-	-	-	-	-	-	-	-	-	-
Operating Yield Overproduction Replenishment	z	-	-	-	-	-	-	-	-	-	-
Total Mission Memorial Park	aa \$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Total Replenishment Fund Balance	bb \$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
Replenishment Fund Balance Forward	cc \$ -	\$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)
Total Replenishment Assessments	dd \$ 2,349,946	\$ 2,768,576	\$ 5,805,632	\$ 4,369,165	\$ 4,464,082	\$ 3,329,189	\$ 2,601,104	\$ 2,825,688	\$ 3,217,182	\$ 2,495,183	\$ 114,290
Total Paid and/or Credited	ee \$ (465,648)	\$ -	\$ (12,305,924)	\$ (3,741,714)	\$ (6,174,826)	\$ (6,568,657)	\$ (5,940,409)	\$ (1,065,852)	\$ (1,459,080)	\$ (526,890)	\$ (162)
Grand Total Fund Balance	ff \$ 1,884,298	\$ 4,652,874	\$ (1,847,417)	\$ (1,219,966)	\$ (2,930,710)	\$ (6,170,178)	\$ (9,509,483)	\$ (7,749,648)	\$ (5,991,546)	\$ (4,023,252)	\$ (3,909,125)
* 2010 = 319.55 AF golf course in-lieu replenishment and 68.8 AF 4-party agmt in-lieu replenishment											
2011 = 411.1 AF golf course in-lieu replenishment											
2012 = 298.2 AF golf course in-lieu replenishment											
2013 = 383.4 AF golf course in-lieu replenishment											
2014 = 552.4 AF golf course in-lieu capped at 540 AF											
2015 = 195.0 AF golf course in-lieu											
2016 = 00.06 AF golf course in-lieu											
2017 = 00.00 AF golf course in-lieu											

Seaside Groundwater Basin Watermaster Replenishment Fund Water Year 2023 (October 1 - September 30) / Fiscal Year (January 1 - December 31, 2023) Balance through June 30, 2024										
	2017	2018	2019	2020	WY 2021	WY 2022	WY 2023	Totals WY 2006 Through 2023	Budget WY 2024	Projected Totals Through WY 2024
Replenishment Fund										
Assessment Water Year	WY 16/17	WY 17/18	WY 18/19	WY 19/20	WY 20/21	WY 21/22	WY 22/23		WY 23/24	
Unit Cost:	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,872 / \$718	\$2,947 / \$737	\$3,260 / \$815	\$3,461 / \$865		\$4,529 / \$1,132	
Cal-Am Water Balance Forward	b	\$ (676,704)	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)	\$ (46,855,121)		\$ (46,855,121)	
Cal-Am Water Production (AF)	c	2,029.51	2,229.45	2,120.22	2,245.88	1,664.04	1,648.71	49,259.34		
Cal-Am Water NSY Over-Production (AF)	d	64.40	374.65	284.85	334.21	-	1,569.60	14,638.57		
Exceeding Natural Safe Yield Considering Alternative Producers	e	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 959,859	-	-	\$ 33,550,034	-	\$ 33,550,034
Operating Yield Overproduction Replenishment	f				164,872	-	-	\$ 1,122,753	-	\$ 1,122,753
Total California American	g	\$ 184,957	\$ 1,075,995	\$ 818,097	\$ 1,124,731	\$ -	\$ -	\$ 34,672,786	\$ -	\$ 34,672,786
CAW Credit Against Assessment	h		\$ (49,382,196)	-	-	-	-	\$ (81,527,907)	-	\$ (81,527,907)
CAW Unpaid Balance	i	\$ (491,747)	\$ (48,797,949)	\$ (47,979,852)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)	\$ (46,855,121)
City of Seaside Balance Forward (120.28 AF)	j	\$ (3,232,420)	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)	\$ (2,708,829)	\$ (2,661,184)	\$ (2,661,184)	
City of Seaside Municipal Production (AF)	k	188.31	184.63	178.40	181.65	174.69	155.12	4,047.41		
City of Seaside NSY Over-Production (AF)	l	30.47	32.46	27.82	32.06	25.52	11.69	1,247.31		
Exceeding Natural Safe Yield Considering Alternative Producers	m	\$ 87,512	\$ 93,225	\$ 79,893	\$ 92,089	\$ 75,197	\$ 38,116	\$ 2,898,358	0.00	\$ 2,898,358
Operating Yield Overproduction Replenishment	n	2,409	27,026	22,550	24,886	18,806	9,529	\$ 203,263	0.00	\$ 203,263
Total Municipal	o	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,002	\$ 47,645	\$ 3,101,621	0.00	\$ 3,101,621
City of Seaside - Golf Courses (APA - 540 AFY)										
Exceeding Natural Safe Yield - Alternative Producer	p	-	-	-	-	-	-	\$ 201,406		\$ 201,406
Operating Yield Overproduction Replenishment	q	-	-	-	-	-	-	\$ 50,353		\$ 50,353
Total Golf Courses	r	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 251,759		\$ 251,759
Total City of Seaside*	s	\$ 89,920	\$ 120,251	\$ 102,443	\$ 116,975	\$ 94,002	\$ 47,645	\$ 3,353,380	0.00	\$ 3,353,380
City of Seaside Late Payment 5%	t							\$ 88,887		\$ 88,887
In-lieu Credit Against Assessment	u							\$ (6,103,451)		\$ (6,103,451)
City of Seaside Unpaid Balance	v	\$ (3,142,500)	\$ (3,022,249)	\$ (2,919,806)	\$ (2,802,831)	\$ (2,708,829)	\$ (2,661,184)	\$ (2,661,184)	\$ (2,661,184)	\$ (2,661,184)
Mission Memorial Park (APA - 31 AFY)										
Mission Memorial Park Production (AF)	w	13.74	14.43	16.07	20.00	46.77	33.95	335.84		
Mission Memorial Park NSY Over-Production (AF)	x	-	-	-	-	15.77	2.95	18.72		
Exceeding Natural Safe Yield - Alternative Producer	y	-	-	-	-	\$ 46,488	\$ 9,608	\$ 56,096		\$ 56,096
Operating Yield Overproduction Replenishment	z	-	-	-	-	11,626.00	2,401.97	\$ 14,028		\$ 14,028
Board Approved (5/4/22) Credit Against Assessment						(33,114.00)	-	\$ (33,114)		\$ (33,114)
\$8,500 Applied to Admin Fund to cover expenses						(8,500.00)	-			
Mission Memorial Park Unpaid Balance	aa	-	-	-	-	-	-	\$ -	-	\$ -
Total	o	\$ -	\$ -	\$ -	\$ -	\$ 16,500	\$ 12,010	\$ 28,510	\$ -	\$ 28,510
Balance of Available Funds								\$ 21,974	\$ 16,034	
Total Replenishment Fund Balance	bb	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,563,950)	\$ (49,516,305)	\$ (49,487,795)	\$ (49,516,305)	\$ (49,516,305)
Replenishment Fund Balance Forward	cc	\$ (3,909,125)	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,516,305)	\$ (49,522,841)	\$ (49,522,841)	
Total Replenishment Assessments	dd	\$ 274,877	\$ 1,196,246	\$ 920,540	\$ 1,241,706	\$ 110,502	\$ 59,655	\$ 38,143,563	\$ -	\$ 38,143,563
Total Paid and/or Credited	ee		\$ (49,382,196)			\$ (16,500)	\$ (12,010)	(87,659,868)		(87,659,868)
Total Paid for Replenishment Legal Services	ff							(6,536)	(12,476)	(19,012)
Grand Total Fund Balance	gg	\$ (3,634,247)	\$ (51,820,198)	\$ (50,899,658)	\$ (49,657,952)	\$ (49,563,950)	\$ (49,516,305)	\$ (49,522,841)	\$ (49,522,841)	\$ (49,535,317)

TO: Watermaster Budget & Finance Committee
 FROM: Laura Paxton, Administrative Officer and Robert Jaques, Technical Program Manager
 DATE: October 2, 2024
 SUBJECT: Water Year 2025 Overproduction Replenishment Assessment Unit Costs for Water

-RECOMMENDATION: Adopt a Replenishment Assessment Unit Cost of \$4,747 and \$1,187/AF for Natural Safe Yield and Operating Yield Overproduction, respectively, for Water Year 2025.

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 2024 will be used to calculate Replenishment Assessments for pumping that occurs during Water Year 2025 (October 1, 2024 through September 30, 2025).

For Water Years 2014, 2015, and 2016 the Board adopted a Replenishment Assessment Unit Cost of \$2,702/AF for Natural Safe Yield Overproduction. 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 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 (MPWSP). The unit cost for Water Year 2017 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. In 2020, a blended unit cost value was 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, resulting in a Water Year 2021 Replenishment Assessment Unit Cost of \$2,947/AF. In 2022, a blended unit cost value was calculated for the MPWSP based on an updated PWM unit cost for 3,500AF of potential volume from the project. The blended unit cost for that combined project was updated from \$4,817/AF to \$4,948/AF. For purposes of the 2022 Replenishment Assess Unit Cost calculation, \$2,808 was used as the RUWAP cost/AF. In 2023, a blended unit cost value was calculated for the MPWSP based on an updated PWM and PWMX unit cost for an increased 5,750AF of potential volume from both projects. The blended unit cost for the combined projects was updated from \$4,948/AF to \$4,872/AF. At the September 9, 2023 Watermaster Board meeting, Director Riley submitted a document requesting that every category of water be flow weighted instead of the current calculation method established in 2017 that blends the Base Unit Cost (\$/AF) value for the MPWSP with the Base Unit Cost for the Pure Water Monterey Project (PWM) based on a reduced size desalination plant offset by water to be provided by PWM. The Committee, and subsequently the Board adopted Director Riley’s method of calculation of the unit costs of \$4,529/AF and \$1,132/AF.

DISCUSSION: The attached 2025 Table of calculations includes updated PWM/PWMX, ASR, and RUWAP actual and estimated project costs. The proposed Replenishment Assessment Unit Costs would therefore be \$4,747/AF and \$1,187/AF for Natural Safe Yield and Operating Yield Overproduction, respectively, for Water Year 2025.

The Budget and Finance Committee approved these Replenishment Assessment Unit Costs at its August 29, 2024 meeting.

ATTACHMENTS: 2025 Unit Cost Data Table

November 1, 2023 Board Transmittal - Unit Cost Calculations importance, purpose, history, and alternative calculation options

<https://seasidegroundwaterbasinwatermaster.wpcomstaging.com/wp-content/uploads/2024/09/Seaside-Groundwater-Basin-History-of-Unit-Cost-Calculations-2024.pdf>

WATER YEAR 2025 (October 1, 2024-September 30, 2025)

**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⁾	2028	6,250	\$6,147	2021
Pure Water Monterey and PWMX	2020 (PWM) 2025 (PWMX)	5,750	\$4,177	2024
Seaside Basin ASR Expansion ⁽³⁾	2021	1,000	\$1,587	2024
Regional Urban Water Augmentation Project ⁽⁴⁾	2021	1,400-1,700	\$4,177	2024

$(6,250 \times \$6,147) + (5,750 \times \$4,177) + (1,000 \times \$1,587) + (1,550 \times \$4,177) / 14,550 = \$4,845.21$ 2024 Natural Safe Yield Overproduction Unit Cost/AF

$\$4,845.21 / 4 = \$1,211.30$ Operating Yield Overproduction Unit Cost/AF

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 PWM and PWMX 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. The unit cost was confirmed in August 2021 by Ian Crooks of Cal Am as being the latest unit cost available for this project. For 2024, Tim O'Halloran requested the \$6,147 continue to be used because plant design and acquisition of construction bids are still underway. No new cost information is available.
- (3) Base unit cost data provided by MPWMD in 2016. 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. For 2024, per David Stoldt, this is the cost for ASR injection of 360 AFY long-term average of replenishment water with ASR expansion of a single new injection well. Because ASR replenishment water does not require extraction and treatment, the cost of customer demand is not factored here.
- (4) Project data updated in 2022. Patrick Breen of MCWD noted that to determine total cost per acre-foot, use the \$4,177/acre-foot cost from Pure Water Monterey (which would be RUWAP as well) and add MCWD O&M and Financing costs which are yet to be determined.

**SEASIDE GROUNDWATER BASIN
WATERMASTER**

TO: Board of Directors

FROM: Robert S. Jaques, Technical Program Manager

DATE: October 2, 2024

SUBJECT: Replenishment Water Quantity Needed

RECOMMENDATIONS:

BACKGROUND:

At its August 7 2024 meeting the Board discussed issues about obtaining water to replenish the Seaside Basin to protect it against seawater intrusion. During those discussions the Board asked Staff to inform them of the quantity of replenishment water that would be needed to accomplish this.

In 2009 the Watermaster’s hydrogeologic consultant, HydroMetrics Water Resources Inc. (now Montgomery & Associates), performed groundwater modeling to establish “protective elevations” at six wells located along the coastline. The term “protective elevation” refers to an elevation that is sufficiently above sea level such that seawater cannot move inland into the well. Achieving protective elevations at these wells will provide intrusion protection to the production wells further inland.

In 2013 HydroMetrics Water Resources prepared an analysis of the amount of replenishment water that would be needed to achieve protective elevations within the Seaside Basin. In 2022 the Watermaster had Montgomery & Associates prepare an update of the 2013 work. The updated analysis took into account new assumptions and information gained since the 2013 work was performed, and incorporated the impacts of projects that had been implemented since the 2013 work was performed, or were expected to be implemented in the next few years.

Presentations on the 2022 update were made to the Board at its June 1, and September 7, 2022 meetings. The attached *Summary of Updated Replenishment Water Analyses* provides a condensed version of the Technical Memorandum from Montgomery & Associates describing the replenishment water modeling update work they performed.

DISCUSSION:

Using the Seaside Basin Groundwater Model, the 2022 analysis examined two scenarios:

1. A Best Case Scenario based on a water supply and demand forecast prepared by the MPWMD.
2. A More Conservative Scenario based on more conservative supply and demand assumptions. The TAC felt this scenario should be evaluated to help provide a better understanding of the amounts of water that will be needed for replenishment over a wider range of possible supply, demand, and climatological conditions. One of the reasons the TAC felt the More Conservative Scenario should be evaluated was because the modeling work performed since the 2013 analysis was prepared showed that groundwater levels in the Basin are very sensitive to multi-year droughts, and even just-below-normal

rainfall periods. These impact the availability of water for ASR and PWM recharge and on the timing of reaching and maintaining protective groundwater elevations. The information that was provided by analyzing the second scenario served to “book end” the likely range of the Basin’s replenishment water needs, i.e. the amounts needed under both best case and potentially more realistic sets of future conditions.

The assumptions used in the two scenarios are described on pages 2 and 3 of the Attachment, and the timeline assumptions for them are described on page 5 of the Attachment.

The 2022 analysis found that under the Best Case Scenario in order to achieve protective elevations in approximately 10 years, 1,000 Acre-feet-per-year (AFY) of replenishment water would need to be injected into the basin and left there (not extracted). Under the More Conservative Scenario the amount needed would average 3,600 AFY during this same time period. Under both scenarios “booster” injections would likely be needed following protracted drought periods in order to maintain groundwater levels at protective elevations.

Unless replenishment water in these quantities is added annually, and left in the basin and not extracted, the Seaside Basin will continue to be at risk of seawater intrusion. That risk will increase each year that groundwater levels continue to fall and remain below sea level. Implementation of the Pure Water Monterey Expansion (PWMX) project alone does not accomplish this, and an additional source of replenishment water will be needed.

To achieve protective elevations in less than 10 years, it appears that under both scenarios each additional 500 AFY of replenishment water added to the basin will reduce the time to achieve protective elevations by approximately one year.

It is important to note that predicted groundwater conditions in the Basin are very sensitive to the assumptions that are made about future water demands, future rainfall patterns, and the availability of water supplied from both within and outside of the subbasin. Outside basin sources include Carmel River ASR diversions, the expanded Pure Water Monterey Project, and the MPWSP Desalination Plant.

ATTACHMENTS:

Summary of Updated Replenishment Water Analyses

SUMMARY OF UPDATED REPLENISHMENT WATER ANALYSES

Prepared by Robert Jaques, P.E., Technical Program Manager, Seaside Basin Watermaster
October 10, 2022
(Updated September 10, 2024)

Executive Summary

Two sets of assumptions were used in these analyses. One was a “best case” scenario based on future water demand projections, Aquifer Storage and Recovery (ASR) injection rates, and Pure Water Monterey Expansion (PWMX) injection rates prepared by the Monterey Peninsula Water Management District (MPWMD). The other was a more “conservative” scenario based on future water demand projections and the timing of start-up of Cal Am’s desalination plant contained in Cal Am’s 2020 Urban Water Management Plan, ASR and PWMX injection rates with a built-in margin of safety, and revised water demands for the City of Seaside’s golf courses proposed by Cal Am and the City of Seaside. The modeling analyses were based on the hypothetical assumption that replenishment water would be added to the Seaside Basin starting in 2022, the year the modeling was performed.

Under the “best case” scenario 1,000 acre-feet-per-year (AFY) of water would need to be injected into the Seaside Basin every year to replenish it and raise groundwater levels high enough to prevent seawater intrusion from occurring. Under the “conservative” scenario the amount needed would be 3,600 AFY every year. Under these scenarios it would take approximately 11 months to achieve Protective Groundwater Elevations in all of the Protective Elevation Wells. In addition to needing to continuously provide these amounts of replenishment water, additional “booster” injections might be necessary following protracted drought periods to make up the lost water.

Based on the historical cycle of climatological data, both scenarios have a multi-year period of above-normal or extremely-wet rainfall shortly after the start of the simulated replenishment injection. If a different rainfall pattern assumption was used that instead had a prolonged drought shortly after the start of the simulated replenishment injection, it would take a longer period of time, or more replenishment water, to reach the same Protective Groundwater Elevations in that same 11 month time period.

The large difference between the amounts of replenishment water needed under the “best case” and “conservative” scenarios highlights the sensitivity of predicted groundwater conditions in the Basin to the assumptions that are made about future water demands, future rainfall patterns, and the availability of water supplied from outside the subbasin, including Carmel River ASR diversions, the expanded Pure Water Monterey Project, and the MPWSP Desalination Plant.

Unless replenishment water in these quantities is added annually, the Seaside Basin will be at risk of seawater intrusion, and that risk will increase each year that groundwater levels continue to fall and remain below sea level. Implementation of the PWMX project does not accomplish this, and an additional source of replenishment water will be needed.

Background

In April 2013, HydroMetrics Water Resources Inc. (now acquired by Montgomery & Associates)

performed groundwater modeling to estimate the amount of replenishment water that would be needed to achieve protective groundwater levels in the Basin. In 2022 the 2013 work was updated to account for new assumptions and information gained since the 2013 work was performed, and to incorporate the impacts of projects that have been implemented since the 2013 work was performed, or are expected to be implemented in the next few years. This Summary provides a condensed version of this updated analysis.

In 2009 HydroMetrics Water Resources Inc. performed groundwater modeling to establish “protective elevations” at six wells located along the coastline. The term “protective elevation” refers to an elevation that is sufficiently above sea level such that seawater cannot move inland into the well.

Updated Analysis

The updated analysis simulated groundwater conditions in the Seaside Basin from 2018 through 2050. It focused on the groundwater conditions in the Northern Coastal Subarea of the Basin, within which are located all of the ASR and PWM injection and extraction wells, and the majority of the water supply production wells. This subarea is the one in which all but one (CDM-MW4) of the six protective elevation monitoring wells are located, is the only subarea that sees notable response to the simulated replenishment operations, and is the subarea at greatest risk from seawater intrusion

In this Summary the term “*Baseline Scenario*” refers to the simulation of future conditions assuming only operation of currently planned projects with no additional replenishment added. The *Baseline Scenario* represents recent conditions from Water Year (WY) 2018 through 2021 based on actual measured pumping, injection, and hydrology. The projected potential future conditions from WY 2022 through WY 2050 are based on pumping to meet the water demands projected by MPWMD, currently operational or planned projects (but not including a desalination plant), and repeating the historical hydrology cycle into the future. That assumes that the same rainfall and drought pattern that has been experienced in recent years (the period 1988 through 2016) will repeat itself beginning in 2022 and up to the end of the analysis period in 2050.

The term “*Baseline Scenario with Replenishment Water Added*” refers to the simulations in which replenishment water in varying amounts was added to the *Baseline Scenario* in order to see how much replenishment water would be needed to achieve protective groundwater elevations in the Basin.

The term “*Alternate Scenario*” refers to the simulation of future conditions with the following different assumptions than those used in the *Baseline Scenario*, as requested by the City of Seaside and Cal Am:

- Revised City of Seaside Golf Course water demand
- Applying a factor of safety on the amount of water that will be supplied by ASR by using a lower daily ASR injection rate of 15 Acre-feet-per-day (AFD) compared to the 20 AFD used in the *Baseline Scenario*
- Use of the water demand figures and the start-up date for the desalination plant in Cal Am’s 2020 Urban Water Management Plan
- Starting Cal Am’s over-pumping repayment program of 700 Acre-feet-per-year (AFY) coinciding with the start-up of the desalination plant
- Applying a factor of safety on the amount of water that will be supplied by the PWM Expansion project by reducing its projected supply from the 5,750 AFY used in the *Baseline Scenario* to 4,600 AFY

The term “Shallow Aquifers” refers collectively to the Aromas Sands & Older Dune Deposits and the Paso Robles Aquifer. The term “Deep Aquifer” refers to the Santa Margarita Aquifer.

All of the Scenarios take into account:

- The City of Seaside’s replacement of groundwater with recycled water for golf course irrigation and the construction of the Security National Guaranty (SNG) and Campus Town developments in the City of Seaside
- The assumption that no proposed Groundwater Sustainability Plan (GSP) projects are implemented in the neighboring Monterey and 180/400 Foot Subbasins, and that groundwater levels along the northern boundary of the Model (located close to the boundary between those two subbasins) remain unchanged as currently represented in the Model boundary conditions
- A projected mean sea level rise of up to 1.3 feet by 2050
- Cal Am’s overpumping repayment program assumed at 700 AFY for an estimated period of 25 years

Comparisons of the events and assumptions under the *Baseline Scenario* and the *Alternate Scenario* are shown in Tables 1 and 2. The hydrologic cycle used in each Scenario is shown in Figure 1.

Figure 2 shows the annual net flows going into and out of the Basin’s shallow and deep aquifers in the Northern Coastal Subarea under the *Baseline Scenario*. There are a number of flow components that are accounted for in determining the net flows each year, including:

- Inflows consisting of percolation from rainfall and PWM and ASR injected water.
- Outflows consisting of pumping from extraction wells (production wells, ASR wells, and PWM wells).
- Flows into and out of the adjacent subareas and the offshore area, and between the Shallow and Deep aquifers. These can be either flows into or out of the aquifers, depending on the hydraulic gradients between the aquifers and the adjacent subareas or aquifers. Changes in those gradients can change the flow directions as groundwater levels change.

In Figure 2 positive values of net flow mean that inflows were greater than outflows in that Water Year. Negative values mean that outflows were greater than inflows in that Water Year. Figure 3 shows the cumulative change in storage in the aquifers over the simulation period. In years when there is a positive net flow, storage increases and groundwater levels rise. In years when there is a negative net flow, storage decreases and groundwater levels fall.

Figure 4 shows the locations of the six protective elevation wells. Figures 5 through 10 compare the groundwater elevations achieved at each of the protective elevation wells under the *Baseline* and *Baseline with Replenishment Water Added Scenarios*. Those Figures show that without replenishment water being added, protective groundwater elevations cannot be achieved and the Seaside Subbasin will be at risk of seawater intrusion.

Figure 11 shows the magnitude of groundwater loss from the Seaside Subbasin to the adjacent Monterey Subbasin under the *Baseline Scenario*. The losses under all of the scenarios in which replenishment water is added to the Subbasin will be greater than the amounts shown in Figure 11.

Figure 12 shows the amount of additional replenishment needed each year under the *Alternate Scenario* to achieve the same water level increases as in the *Baseline Scenario* (green bars), and to

achieve the same level of protective elevations as in the *Baseline Scenario with Replenishment Water Added* (blue line with circle markers). Since the *Baseline Scenario* did not achieve protective elevations, only the amount of water needed under the *Baseline Scenario with Replenishment Water Added* is of significance.

Table 1. Timeline Comparison of the Baseline and Alternate Scenarios

Sim Year	Water Year	Hydrology Source WY	Pumping & Injection	Major Projects Timeline (Does not show the Campus Town and SNG development projects, but the water demands of those projects are accounted for in the analyses)	
				<i>Baseline Scenario</i>	<i>Alternate Scenario</i>
1	2018	Actual	Actual		
2	2019	Actual	Actual		
3	2020	Actual	Actual	PWM Base Project Begins (3,500 AFY)	PWM Base Project Begins (3,500 AFY)
4	2021	Actual	Actual	Cal-Am ceases pumping in Laguna Seca	Cal-Am ceases pumping in Laguna Seca
5	2022	1988	Projected	PWM ramps up to 4,100 AFY	PWM ramps up to 4,100 AFY
6	2023	1989	Projected	Seaside Golf Courses shift to PWM water	Seaside Golf Courses shift to PWM water
7	2024	1990	Projected	PWM Expansion Begins (5,750 AFY) & Cal Am Overpumping Repayment of 700 AFY Begins	PWM Expansion Begins (4,600 AFY)
8	2025	1991	Projected		
9	2026	1992	Projected		
10	2027	1993	Projected		
11	2028	1994	Projected		
12	2029	1995	Projected		
13	2030	1996	Projected		Cal Am Desalination Plant Goes On-line & Overpumping Repayment of 700 AFY Begins
14	2031	1997	Projected		
15	2032	1998	Projected		
16	2033	1999	Projected		
17	2034	2000	Projected		
18	2035	2001	Projected		
19	2036	2002	Projected		
20	2037	2003	Projected		
21	2038	2004	Projected		
22	2039	2005	Projected		
23	2040	2006	Projected		
24	2041	2007	Projected		
25	2042	2008	Projected		
26	2043	2009	Projected		
27	2044	2010	Projected		
28	2045	2011	Projected		
29	2046	2012	Projected		
30	2047	2013	Projected		
31	2048	2014	Projected	Potential Final Year of Cal-Am Repayment Period	
32	2049	2015	Projected		
33	2050	2016	Projected		Cal-Am Repayment Period Does Not End Before the End of the Simulation Period

Table 2. Differences in Golf Course Demand and ASR Injection Rates Between the Baseline and Alternate Scenarios

Supply or Demand Source	<i>Baseline Scenario</i>	<i>Alternate Scenario</i>
City of Seaside Golf Course Water Demand, AFY	301	514
ASR Daily Injection Rate, AFD	20	15

Figure 1. Hydrologic Cycle Used in all of the Scenarios

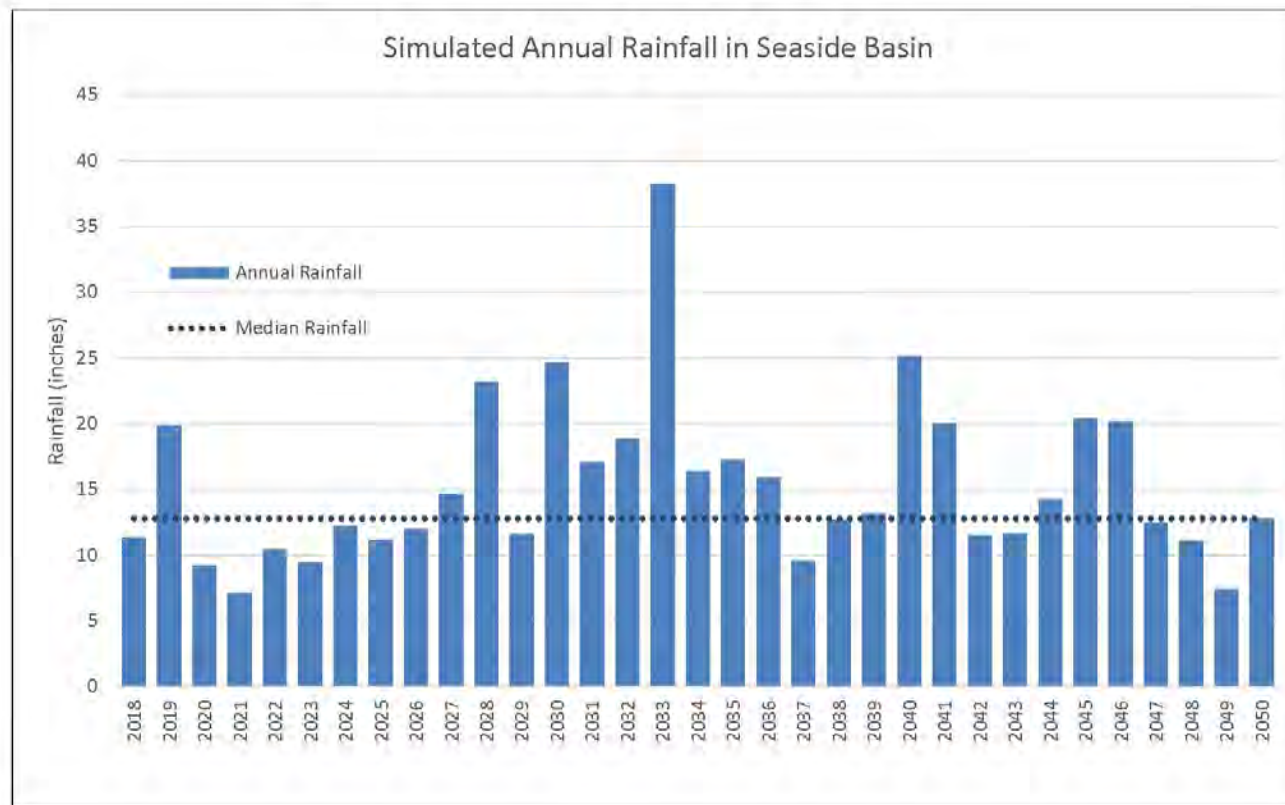


Figure 2. Yearly Flows Into and Out of the Aquifers in the *Baseline Scenario*

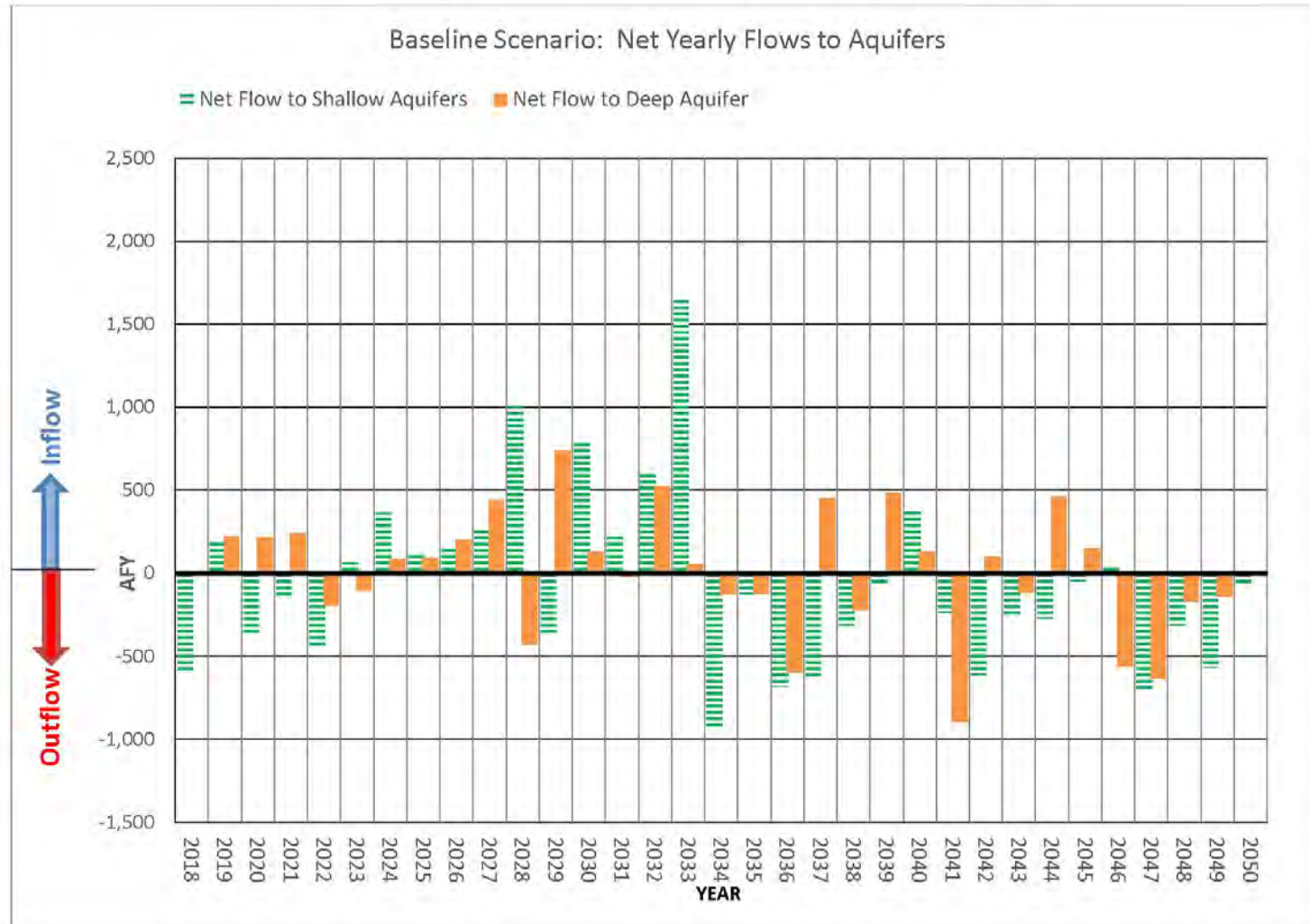


Figure 3. Cumulative Change in Storage in the *Baseline Scenario*

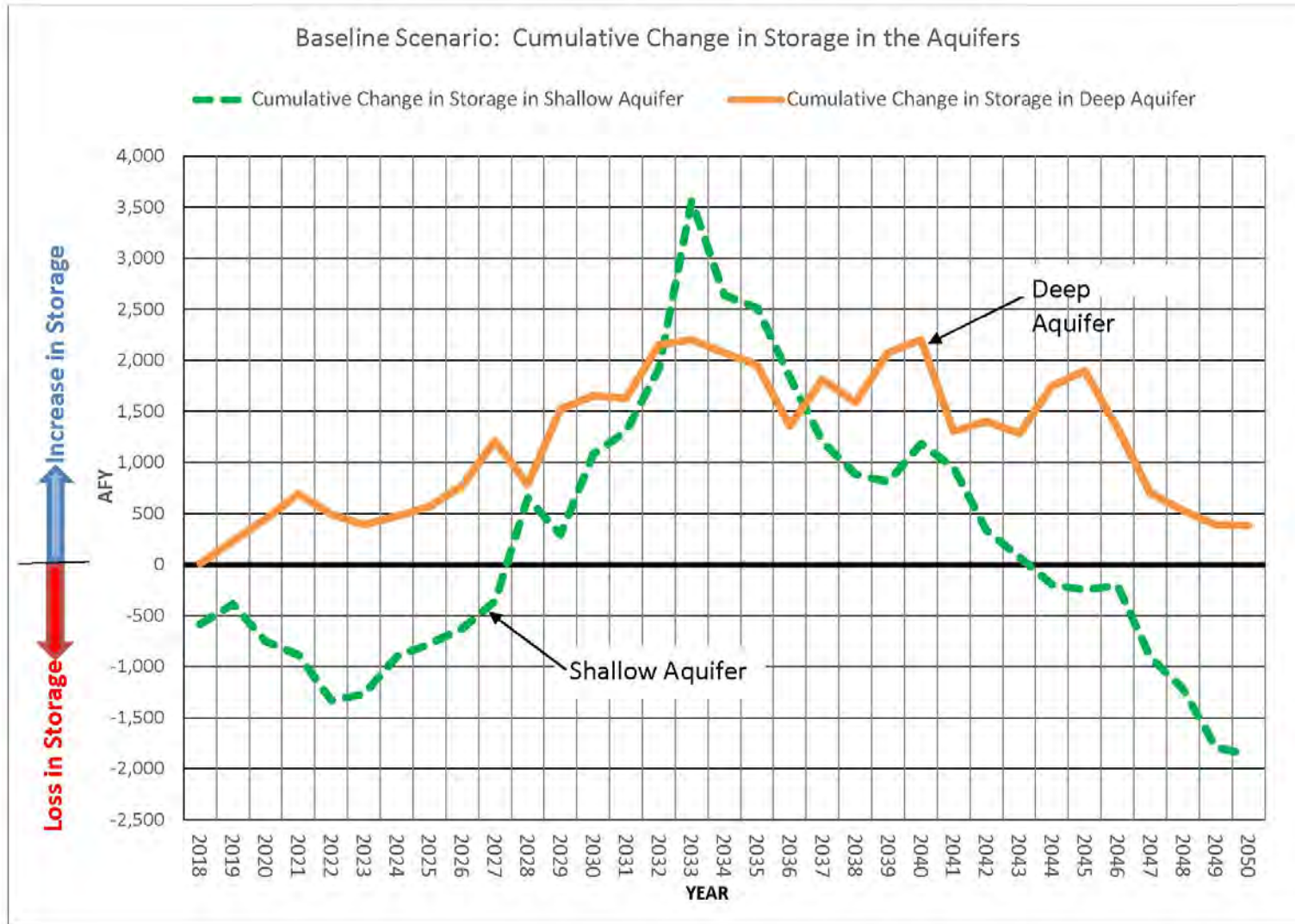


Figure 4. Locations of Protective Elevation Wells



Figure 5. Groundwater Elevations Compared to the Protective Elevation at Sentinel Well #3 Under the *Baseline* and *Replenishment Water Added* Scenarios

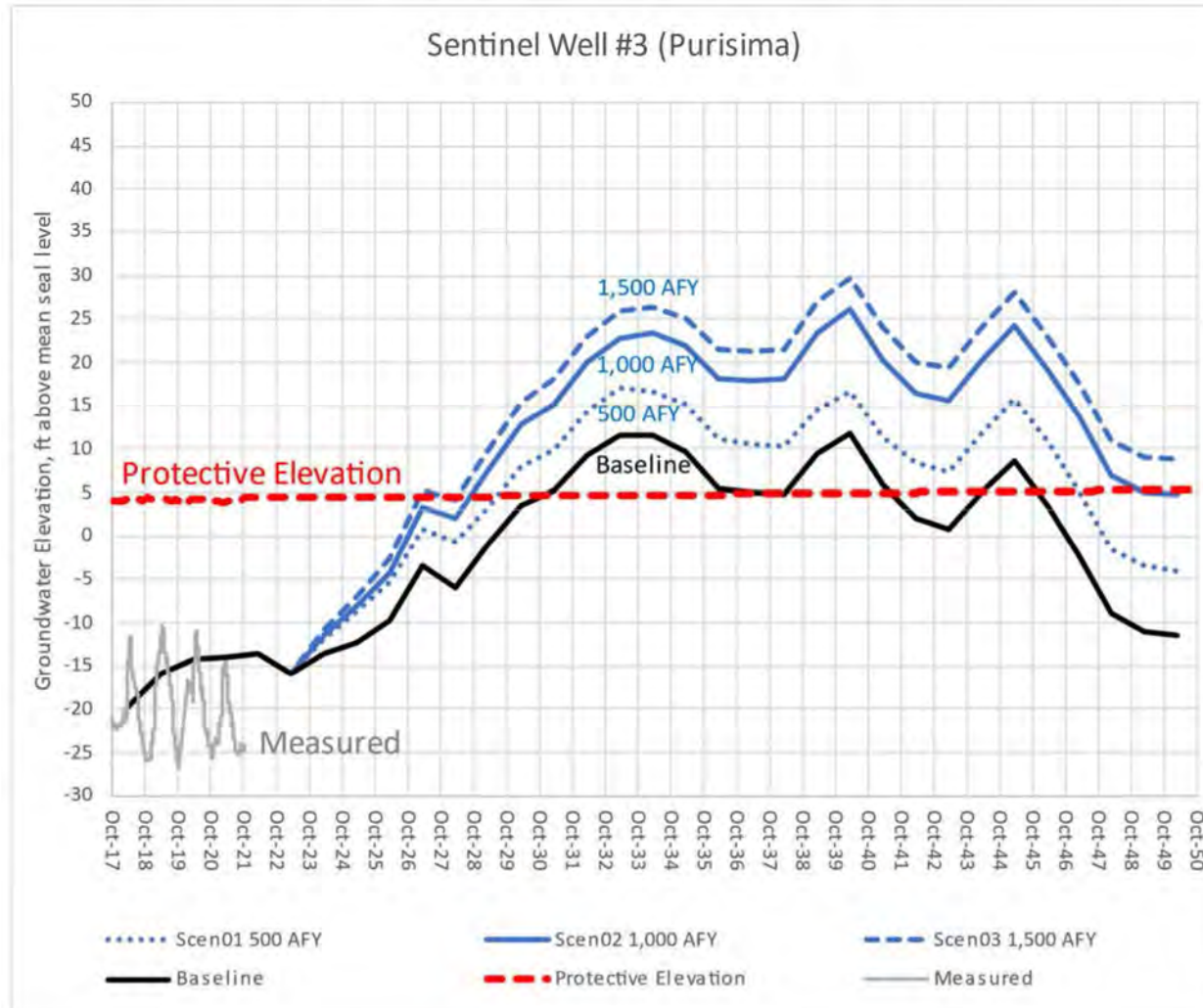


Figure 6. Groundwater Elevations Compared to the Protective Elevation at Well PCA-A West Deep Under the *Baseline and Replenishment Water Added Scenarios*

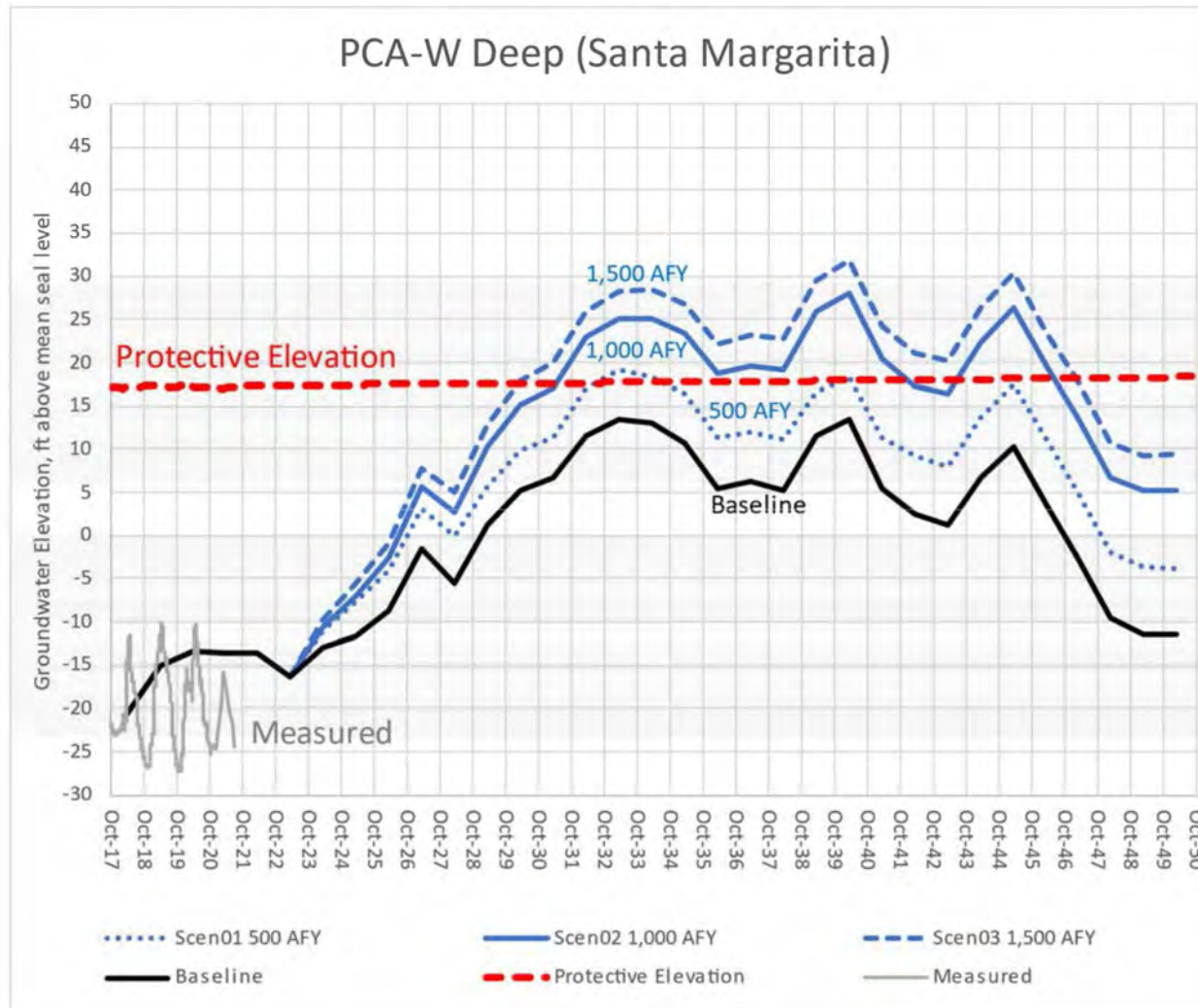


Figure 7. Groundwater Elevations Compared to the Protective Elevation at Well PCA-A West Shallow Under the *Baseline and Replenishment Water Added Scenarios*

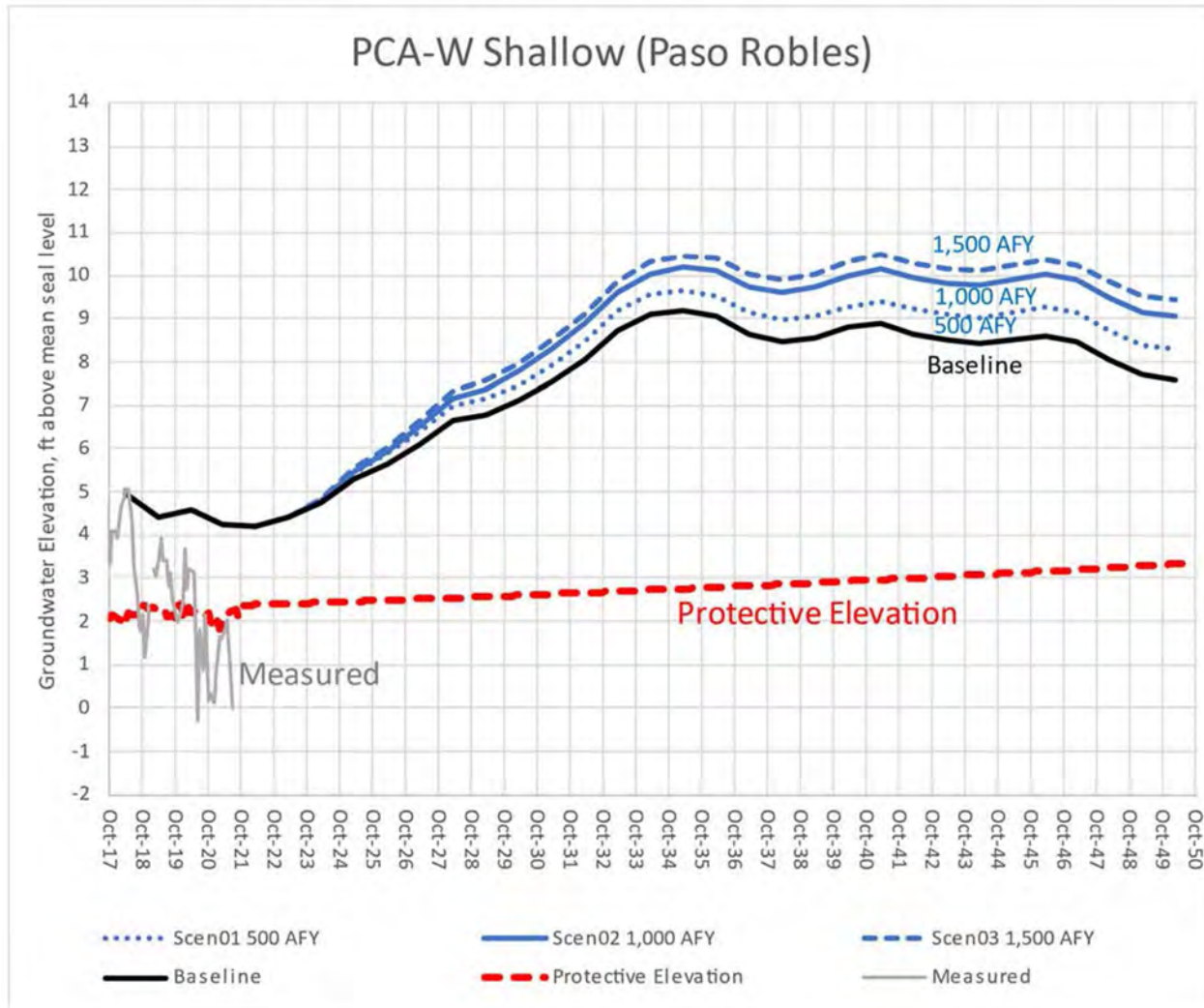


Figure 8. Groundwater Elevations Compared to the Protective Elevation at Well MSC Shallow Under the *Baseline and Replenishment Water Added Scenarios*

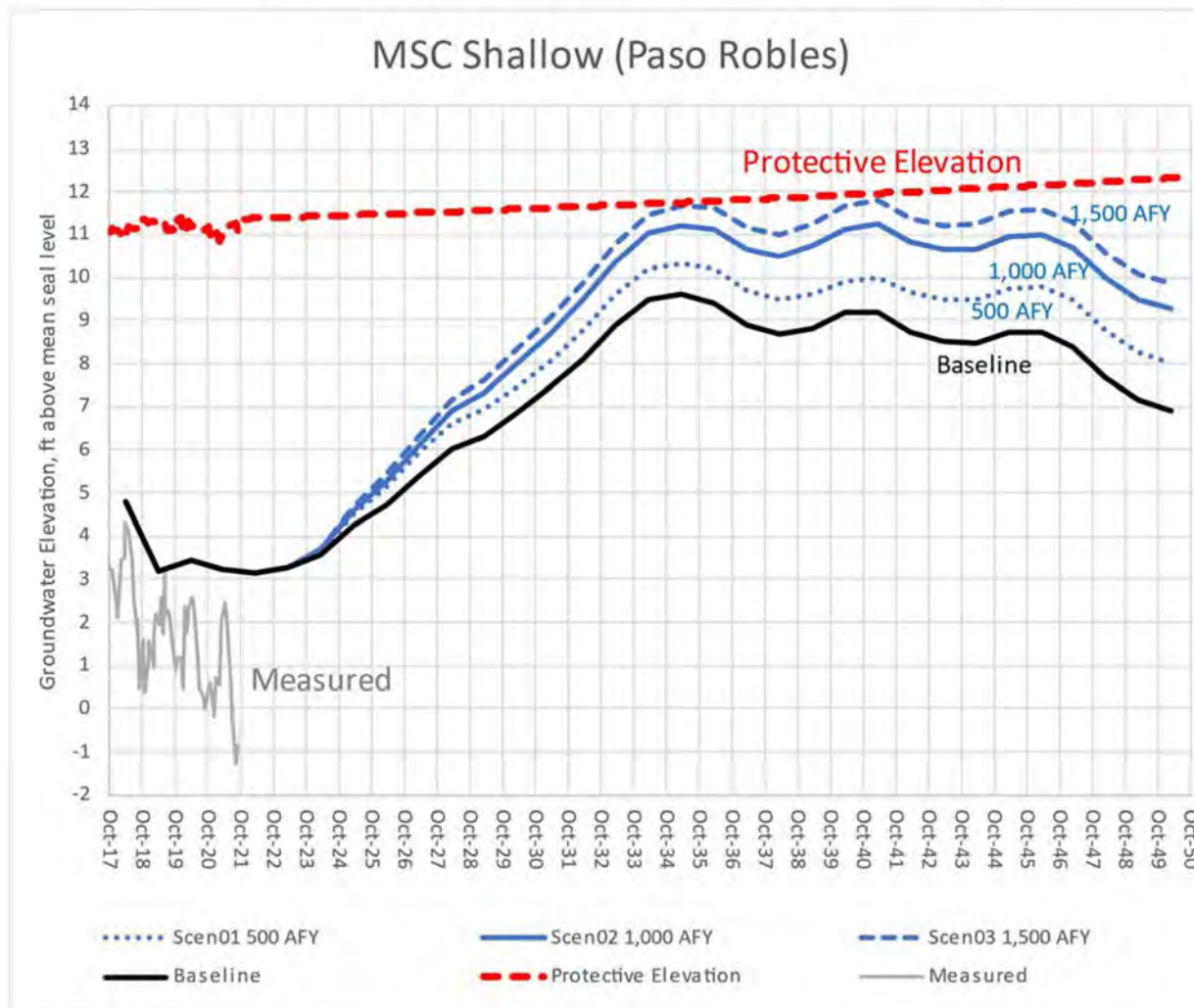


Figure 9. Groundwater Elevations Compared to the Protective Elevation at Well MSC Deep Under the *Baseline and Replenishment Water Added Scenarios*

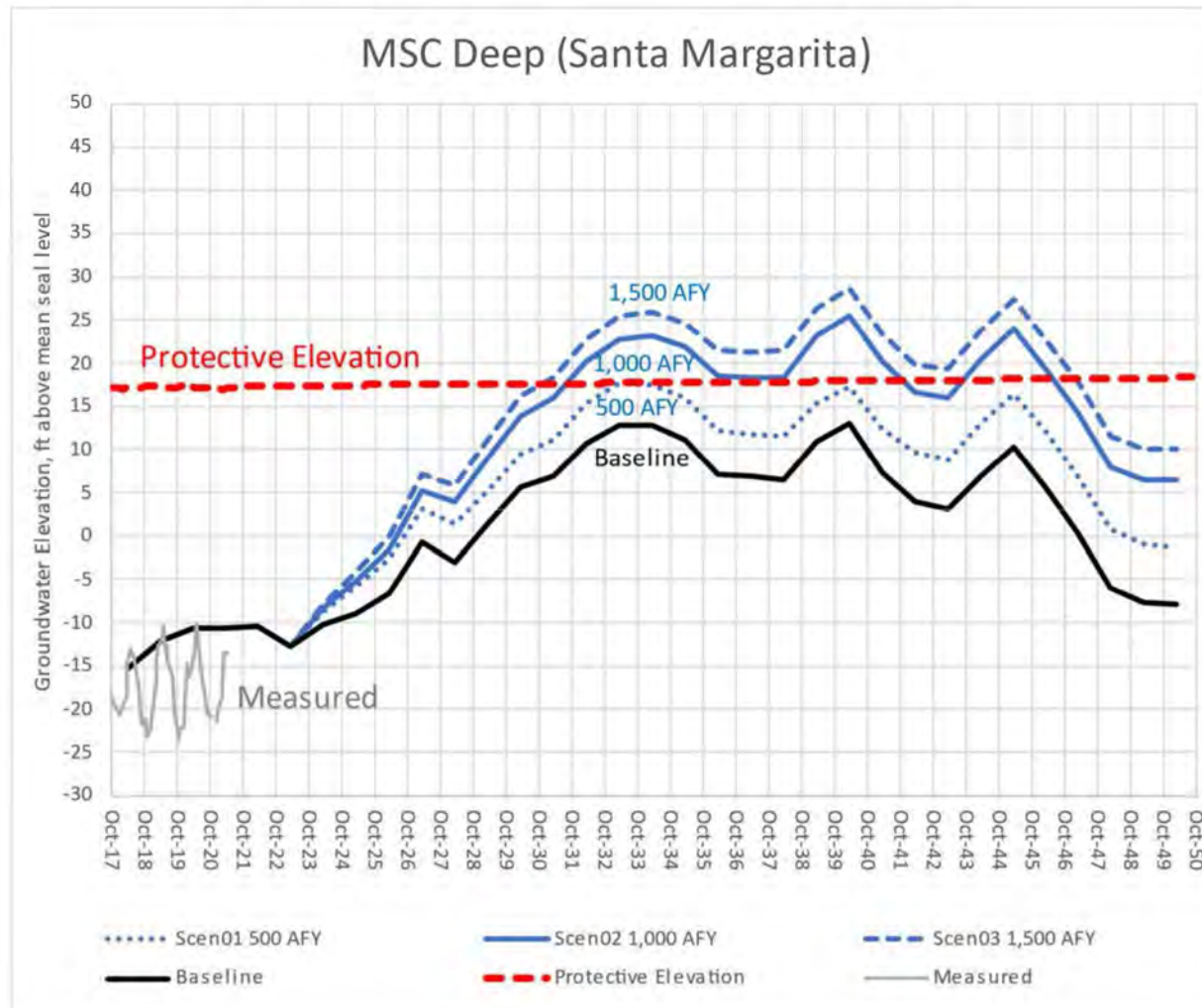


Figure 10. Groundwater Elevations Compared to the Protective Elevation at Well CDM MW-4 Under the *Baseline and Replenishment Water Added Scenarios*

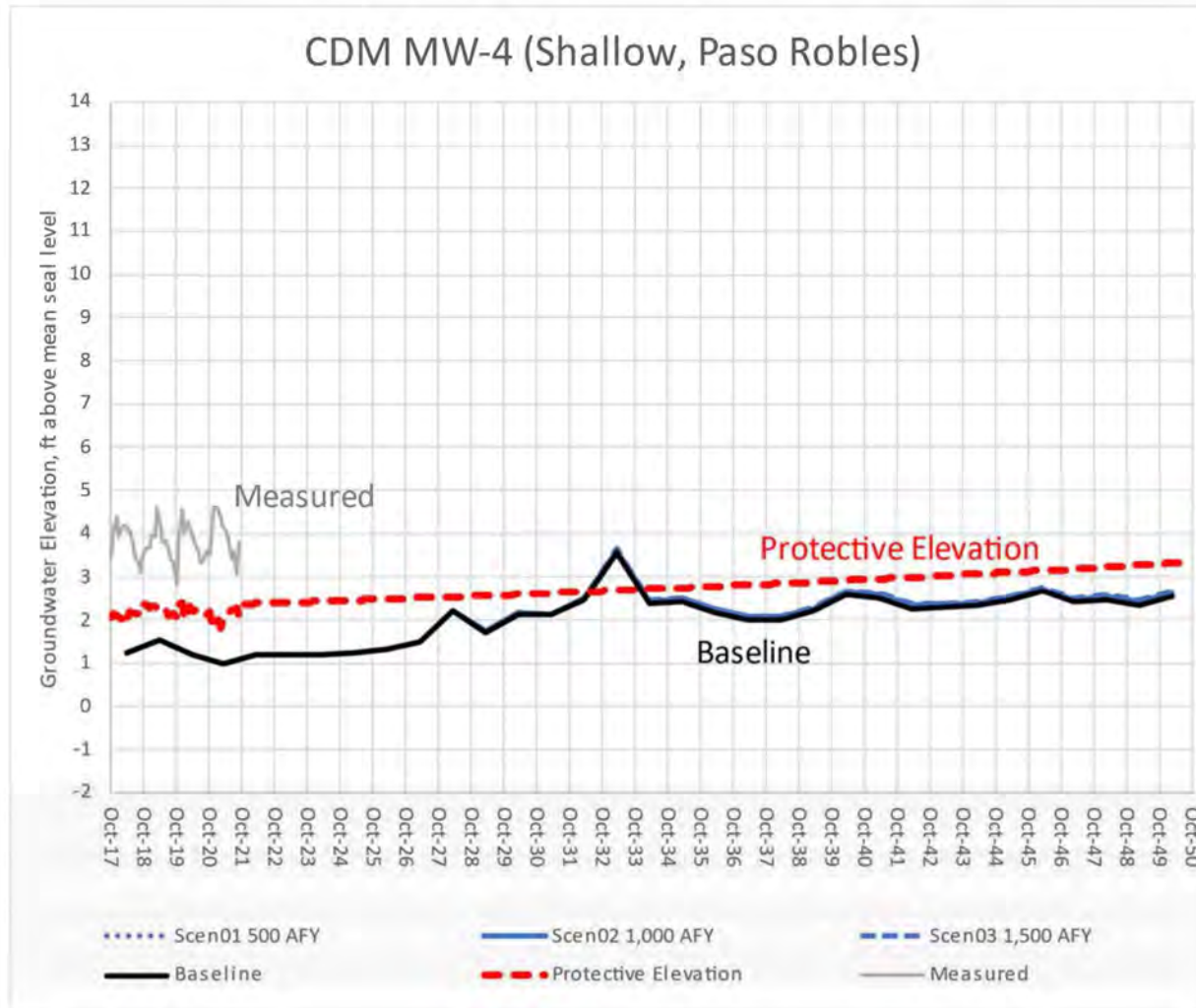


Figure 11 Annual Groundwater Losses from the Seaside Subbasin to the Monterey Subbasin under the *Baseline Scenario*

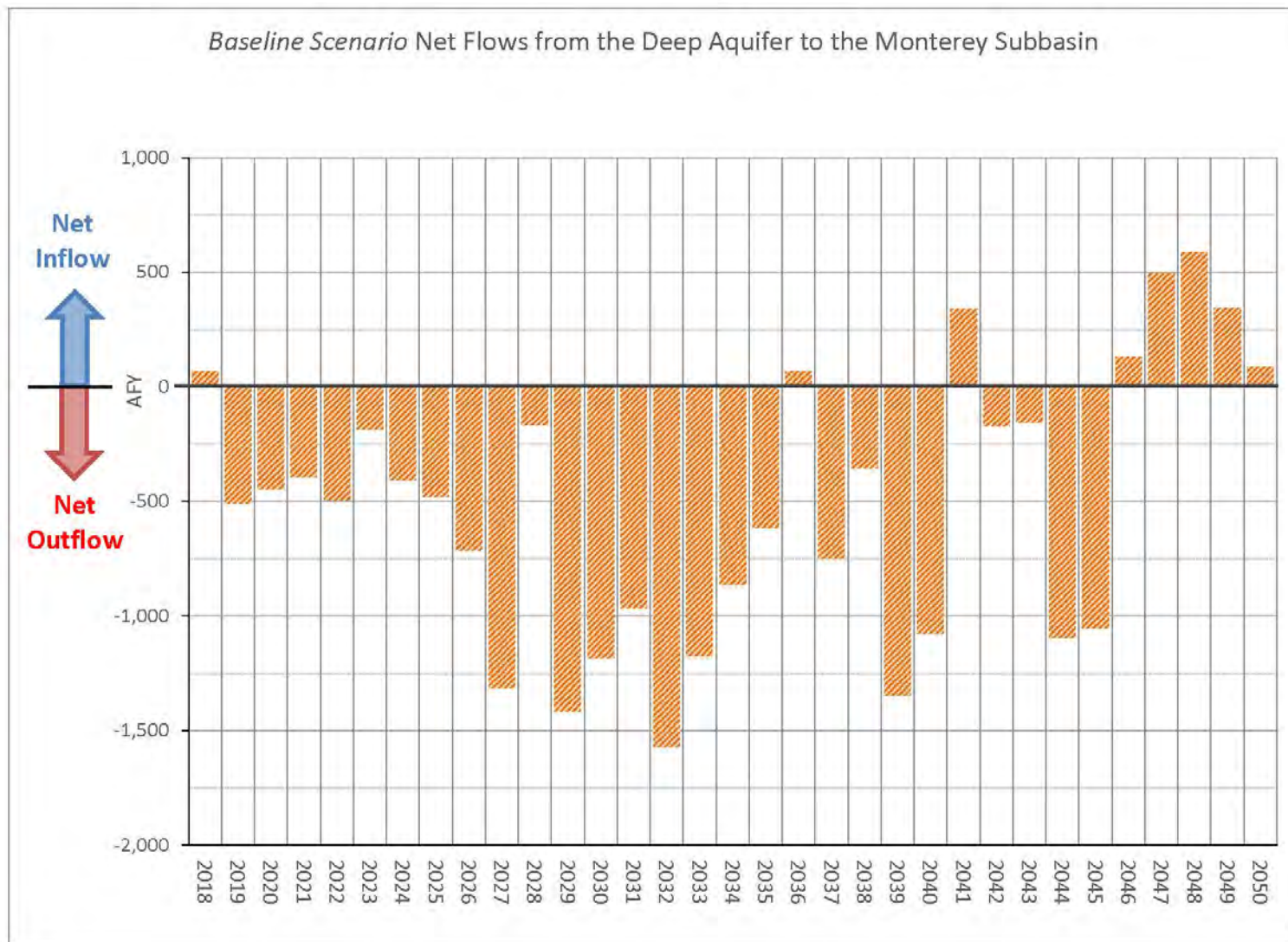
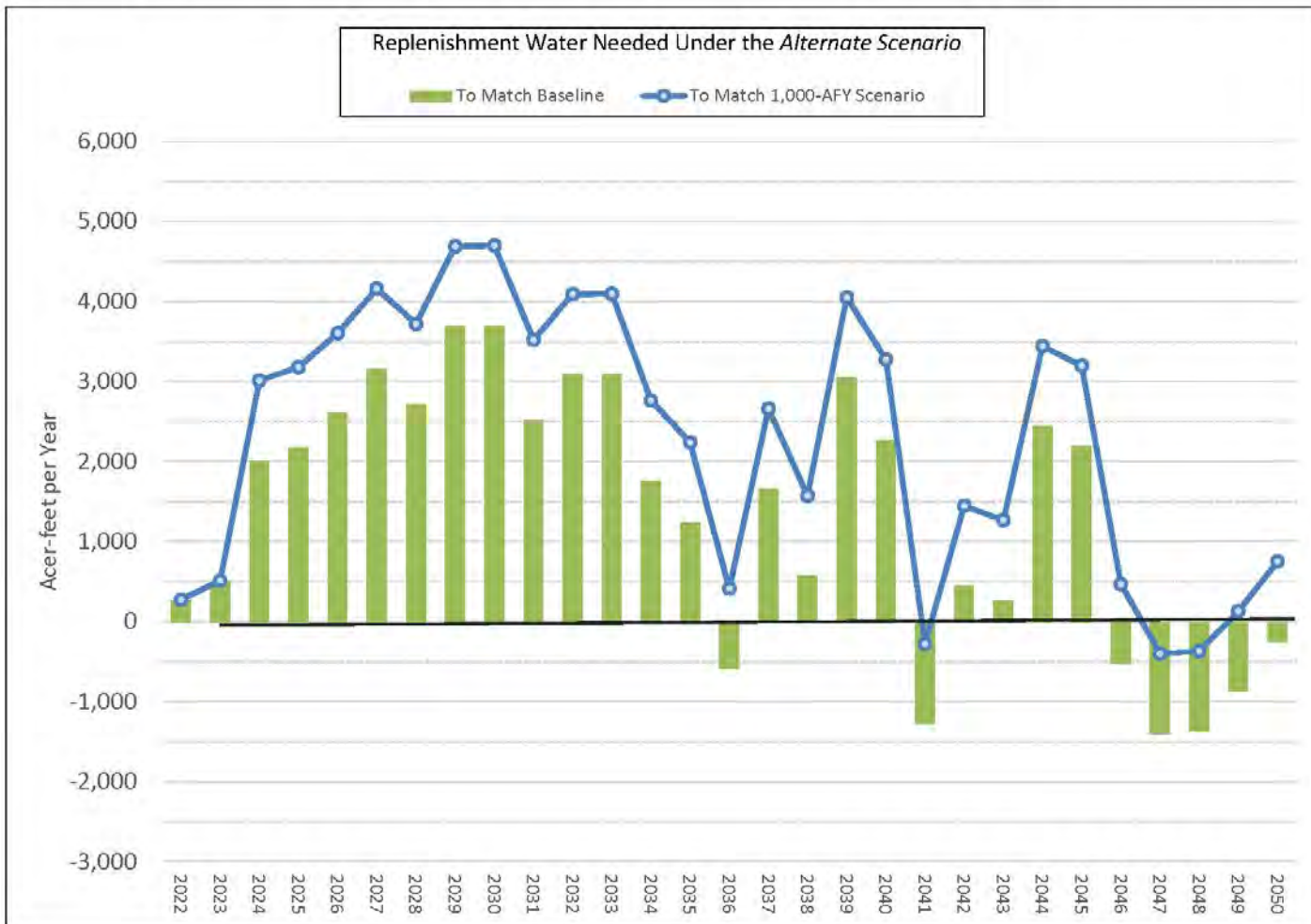


Figure 12. Replenishment Water Needed Annually to Achieve Protective Elevations Under the *Alternate Scenario*



CONCLUSIONS

General:

1. The updated analyses tie ASR and PWM injection and extraction volumes to the hydrologic cycle. These illustrate the significant impact that multi-year droughts, and even periods of just above or just below normal rainfall, can have on the availability of water for ASR and PWM recharge, and on the timing of reaching and maintaining protective elevations.
2. The protective elevations developed in 2009 assumed steady-state conditions that had no time component to them. That modeling work assumed that sufficient time would have passed such that conditions would have equilibrated to a fixed state. That modeling did not consider and did not suggest for how long a period groundwater levels could stay below protective elevations without greatly increasing the risk of sea water intrusion. This is something that would require additional modeling to evaluate, and would also require making an assumption about how far offshore the seawater-fresh water interface is located.
3. Groundwater levels rise quickly in response to replenishment during periods of normal and above-normal water years following the prolonged drought occurring at the start of the simulation period. This suggests that levels would rebound again after the drought that occurs at the end of the simulation period. However, the rapid rebound is also a function of the assumption that Cal-Am will extract ASR water as its last source of supply, after exhausting available water from its native groundwater rights and PWM water. This assumption has the consequence that a very large portion of the injected ASR water is left in storage in the Basin.
4. If groundwater levels in the Monterey Subbasin do not rise, outflows to the Monterey Subbasin will increase in all aquifers as groundwater levels in the Seaside Subbasin rise. An initial net inflow of water from the offshore region into the Seaside Subbasin reverses to a net outflow in all aquifers as groundwater levels increase.
5. Projected sea level rise is not a significant driver of inland flows compared to the changes in water levels associated with changes in injection and extraction in the subbasin.
6. Groundwater conditions in the adjacent Monterey Subbasin have a big effect on the amount of replenishment water needed. For all of the Scenarios in most years outflow from the Seaside Subbasin to the Monterey Subbasin is the single largest net outflow.
7. All of the Scenarios assume that water levels along the boundary between the Monterey Subbasin and the 180-400 Foot Aquifer subbasin stay fixed at recent levels and that no management actions or projects are implemented to increase groundwater levels in these neighboring subbasins during the simulation period.
8. As groundwater levels in the Seaside subbasin begin to rise in response to increased recharge, steeper gradients develop towards the Monterey Subbasin, producing increased outflows to the Monterey Subbasin. This reduces the effectiveness of replenishment activities and necessitates greater volumes of replenishment water to reach protective elevations than would be needed if water levels in the Monterey Subbasin were also increasing over time.
9. Increasing the amount of replenishment water while keeping the injection of this water focused in a narrow strip of the Basin results in localized mounding of groundwater that causes water to be lost to the Monterey Subbasin. It may be that spreading the area of injection of the replenishment water out over a broader area further from the subbasin boundary could reduce the amount of this loss. (Note: Investigating this would best be done after updating the Seaside Basin Groundwater Model to reflect data and information gained since the last update of the Model in 2018.)

Baseline Scenario:

1. Under the *Baseline Scenario*, with no replenishment water added it is not possible for the Basin to achieve protective groundwater elevations. This means the Basin would continue to be vulnerable to seawater intrusion.

Baseline With Replenishment Water Added Scenario:

1. Three amounts of added annual replenishment water were evaluated: 500 AFY, 1,000 AFY, and 1,500 AFY.
2. If only 500 AFY of replenishment water is added protective groundwater elevations are only achieved in some parts of the Basin.
3. If 1,000 AFY of replenishment water is added:
 - Protective groundwater elevations are reached throughout the Basin within 11 years. Average annual groundwater levels remain above protective elevations for over 50% of the water years during Cal Am's 25-year overpumping repayment period, except at one of the protective elevation monitoring wells, at which the protective elevation is reached only once, in WY 2035. After this year, groundwater levels stop increasing and slowly decline due to the impact of drought years in the projected hydrologic cycles. In addition to the constant 1,000 AFY of replenishment water, additional "booster" injections might be necessary following protracted drought periods to make up the lost water.
 - There is a reversal from a net inflow of water from offshore to a net outflow of water to offshore, even when protective elevations are not being met at all protective elevation wells. The additional replenishment water adds an additional buffer to maintain strong net offshore outflows even in drought years.
 - A net annual volume of between 200 to 500 AFY flows out from the Shallow Aquifers to the Monterey Subbasin once water levels in the Shallow Aquifers begin to rise, driven by the increasing relative gradients between the groundwater levels in the Northern Coastal Subarea and the lower groundwater levels in the Monterey Subbasin. A similar magnitude of net outflow occurs to the offshore portions of the Shallow Aquifers.
 - A net annual volume of between 600 to 1,700 AFY flows out from the Deep Aquifer to the Monterey Subbasin as groundwater levels rise. In addition a small amount flows from the Deep Aquifer to the overlying Shallow Aquifer during peak periods when Deep Aquifer groundwater levels rise above the levels in the Shallow Aquifer.
4. Increasing the addition of replenishment water to 1,500 AFY results in only marginal increases in protective elevations. This is particularly true for the Shallow Aquifers. This suggests that there is limited benefit in trying to raise Shallow Aquifer groundwater levels by increasing the amount of replenishment water injected into the Deep Aquifer. Rather, other alternatives could be considered and evaluated such as redistributing pumping from wells screened completely or partially in the Paso Robles aquifer, increased use of recycled water for irrigation purposes such as at Mission Memorial Park, and additional recharge directly to the Paso Robles aquifer. (Note: See note on Item 9 on the preceding page).
5. The simulation period ends just as Cal-Am's 700 AFY for 25-years overpumping repayment program comes to an end. Once Cal Am resumes pumping at its full groundwater allocation of 1,474 AFY it is likely that additional replenishment water would be needed to offset this increased level of extraction.

Alternate Scenario

1. The increases in Deep Aquifer groundwater levels under the *Baseline Scenario* and the *Baseline with Replenishment Water Added Scenario* would not occur under the supply and demand assumptions of the *Alternate Scenario* without very large quantities of replenishment water being added.
2. The amounts of replenishment water needed to achieve protective elevations under the *Alternate Scenario* is significantly greater than under the *Baseline Scenario*. As Figure 12 shows, under the *Alternate Scenario* in some years the amount of replenishment water needed to achieve protective elevations would be more than 4,500 AFY, and an average of 3,600 AFY of replenishment water would be needed annually during the time period of 2024-2035. This compares to the 1,000 AFY of replenishment needed under the *Baseline Scenario*. This highlights the sensitivity of predicted groundwater conditions in the Basin to the assumptions that are made about future water demands, future rainfall patterns, and the availability of water supplied from outside the subbasin, including Carmel River ASR diversion, the expanded Pure Water Monterey Project, and the MPWSP Desalination Plant.

(Note: It appears that under both the Baseline With Replenishment Water Added Scenario and the Alternate Scenario, each additional 500 AFY of replenishment water added to the basin will reduce the time to achieve protective elevations by approximately one year).

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 2024

(All Values in Acre-Feet [AF])

	Type	Oct	Nov	Dec	Oct-Dec	Jan	Feb	Mar	Jan-Mar	Apr	May	Jun	Apr-Jun	Jul	Aug	Sep	Jul-Sep	Reported Total	Yield Allocation	from WY 2023	for WY 2024
Coastal Subareas																					
CAW - Coastal Subareas	SPA	586.52	463.84	422.73	1,473.09				0.00				0.00				0.00	(1,154.13)	1,466.03	759.43	2,225.46
Luzern		46.27	50.24	52.84	149.35	13.56	0.00	0.00	13.56	0.00	55.55	1.87	57.42				0.00	220.33			
Ord Grove		129.21	126.13	127.82	383.16	46.36	126.05	136.00	308.42	131.59	134.68	30.08	296.34				0.00	987.92			
Paralta		173.67	140.09	132.23	445.99	107.38	98.65	104.25	310.28	142.43	175.96	106.12	424.51				0.00	1,180.78			
Playa		42.56	29.37	0.75	72.68	11.29	37.66	10.45	59.40	0.00	5.34	0.00	5.34				0.00	137.42			
Plumas		25.54	13.55	0.00	39.10	6.96	25.98	6.95	39.90	0.00	9.35	0.00	9.35				0.00	88.35			
Santa Margarita		169.27	104.45	109.09	382.81	109.71	125.66	98.68	334.05	95.65	140.91	97.94	334.50				0.00	1,051.36			
ASR Recovery		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			
PWM Recovery		(254.47)	(304.91)	(392.62)	(952.00)	(269.57)	(380.44)	(324.46)	(974.48)	(339.41)	(300.00)	(61.33)	-700.75				0.00	(2,627.22)			
Seaside Municipal	SPA	16.88	12.91	11.01	40.81	11.40	11.67	13.12	36.19	13.96	16.47	15.47	45.90				0.00	122.90	120.28	31.15	151.43
Inlieu Extraction		0.00	0.00	0.00	0.00				0.00				0.00				0.00	0.00			
Granite Rock Company	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	0.00	11.35	267.49	278.84
DBO Development No. 30	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	0.00	20.59	477.26	497.85
Calabrese (Cypress Pacific Inv.)	SPA	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	--	--	--	0.00	0.00	2.76	14.87	17.63
City of Seaside (Golf Courses)	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	540.00		540.00
Sand City	APA	0.07	0.07	0.07	0.21	0.00	0.00	0.03	0.04	0.06	0.09	0.09	0.24				0.00	0.49	9.00		9.00
SNG (Security National Guaranty) / MLDC (Mountain Lake Dev. Corp.)	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	90.00		90.00
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	59.00		59.00
Mission Memorial (Alderwoods)	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	6.00		6.00
Coastal Subareas Totals					571.79				(934.25)				-645.27				0.00	(1,007.73)	2,356.01	1,550.20	3,906.21
Laguna Seca Subarea																					
CAW - Laguna Seca Subarea	SPA	12.84	11.46	9.93	34.23	8.24	7.73	8.65	24.62	8.40	10.97	13.57	32.94				0.00	91.79	0.00		0.00
Ryan Ranch Unit		09/21/21: Ryan Ranch Wells #7, #8, and #11 physically disconnected from the distribution system.																			
Hidden Hills Unit/Bay Ridge		12.84	11.46	9.93	34.23	8.24	7.73	8.65	24.62	8.40	10.97	13.57	32.94				0.00	91.79			0.00
Bishop Unit 3		05/27/21: Bishop Wells #1 and #3 physically disconnected from the distribution system.																			
Bishop Unit 1		The Monterey Main to Ryan Ranch & Bishop Interlie was opened on 12/08/20																			
The Club at Pasadera	APA	6.00	8.00	5.00	19.00	0.00	0.00	0.00	0.00	19.00	30.00	34.00	83.00				0.00	102.00	251.00		251.00
Laguna Seca Golf Resort (Bishop)	APA	20.66	3.29	1.54	25.49	0.00	0.00	0.00	0.00	21.27	26.26	31.30	78.84				0.00	104.32	320.00		320.00
York School	APA	2.25	0.16	0.47	2.88	0.01	0.02	0.41	0.44	0.92	0.93	1.03	2.87				0.00	6.19	32.00		32.00
Laguna Seca County Park	APA	0.70	0.28	45.67	46.65	1.51	0.91	1.23	3.65	1.71	1.69	1.80	5.20				0.00	55.51	41.00		41.00
Laguna Seca Subarea Totals					128.25				28.71				202.85				0.00	359.82	644.00	0.00	644.00
Total Production by WM Producers					700.04				(905.53)				-442.42				0.00	(647.91)	3,000.01	1,550.20	4,550.21
																		291.53			1,379.00
																		-939.45			3,171.21
CAW / MPWMD ASR (Carmel River Basin source water)																					
Injection		0.00	0.00	0.00	0.00	88.49	389.66	319.39	797.54	357.35	363.65	0.00	721.00				0.00	1,518.54			
(Recovery)		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			
Net ASR		0.00	0.00	0.00	0.00	88.49	389.66	319.39	797.54	357.35	363.65	0.00	721.00	0.00	0.00	0.00	0.00	1,518.54			
Pure Water Monterey (PWM) Injection and Cal-Am Recovery																					
Injection Operating Reserve	Forward	1,870.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	86.26	232.81	319.07				0.00	2,189.19			
Injection Drought Reserve		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			
Delivery to Basin (Injection)		254.47	304.91	406.95	966.33	435.09	341.41	390.67	1167.18	314.17	267.78	232.81	814.76				0.00	2,948.26			
CAW		(254.47)	(304.91)	(392.62)	(952.01)	(269.57)	(380.44)	(324.46)	(974.48)	(339.41)	(300.00)	(61.33)	-700.75				0.00	(2,627.23)			
																		321.03			
	Balance Forward																				
City of Seaside Golf Course Recycled Water Use/Municipal Potable Water Recovery 2.361 AF/Max																					
In-lieu Storage/Recycled Water Use		365.03	35.76	12.61	6.55	54.93	2.26	0.38	13.63	16.27	27.00	52.31	57.22	136.54	0.00	0.00	0.00	0.00	572.76		
City of Seaside Municipal Extraction		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	0.00		
Net In-lieu					54.93				16.27				57.22	136.54	0.00	0.00	0.00	0.00	572.76		

- Notes:
- The Water Year (WY) begins October 1 and ends September 30 of the following calendar year. For example, WY 2023 begins on October 1, 2023, and ends on September 30, 2024.
 - "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).
 - Values shown in the table are based on reports to the Watermaster received by July 15, 2024.
 - 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.
 - "Base Operating Yield Allocation" values are based on Seaside Basin Adjudication decision. These values are consistent with the Watermaster Producer Allocations Water Year 2024 (see Item VII.F. in 1/3/2024 Board packet).
 - Any minor discrepancies in totals are attributable to rounding.
 - APA = Alternative Producer Allocation; SPA = Standard Producer Allocation; CAW = California American Water.
 - 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.
 - Cal-Am Toro Well #3 Destroyed 09/30/21

SUMMARY OF
PURE WATER MONTEREY, AND
SALINAS VALLEY AND
MARINA COAST WATER DISTRICT GROUNDWATER
SUSTAINABILITY AGENCY ZOOM MEETINGS
IN AUGUST 2024

Note: This is a synopsis of information from these meetings that may be of interest to the Seaside Basin Watermaster

180/400-Foot Aquifer Subbasin GSP Implementation Committee Meeting, August 1, 2024:

At this meeting there were a number of mostly administrative issues such as the periodic review of the GSP, how to improve/maintain facilities to be able to carry out the GSP management actions and projects, how the CSIP is being operated, etc.

An item of interest to the Watermaster was the presentation by Lydia Holmes of Carollo Engineers regarding the Seawater Intrusion Extraction Barrier and Desalination Project. It was similar to ones in the past, but included some updated information:

- They are updating the feasibility study using groundwater models to refine the conceptual design.
- The desalinated water would go to agricultural and urban users in multiple locations. The Seaside Basin continues to be left out of the distribution of desalinated water. Among other locations, the desalinated water will go to the Corral de Tierra and Toro areas, as well as to MCWD and many other locations.
- They will only provide one level of desalination treatment, they will not produce “designer water qualities” for different types of end use.
- They estimate the total urban demand within the 180/400-foot and Deep aquifer service areas to be 24,893 acre-feet per year. The public water service purveyors to which desalinated water would be provided were Alco Water Service, California Water Service, Castroville Water District, and Marina Coast water District. Cal Am was not listed as a potential recipient of desalinated water.
- The desalination plant is expected to run at a steady-state production rate of 4,275 acre-feet per month. The total amount of desalinated water produced per year will therefore be about 51,300 acre-feet. In winter months when demand is less than the supply, they will inject the excess desalinated water into the aquifers.
- They estimate they will need to extract over 100,000 acre-feet per year to meet the GSP’s SWI objective. That objective is to prevent seawater intrusion from extending further inland than it had been determined to be at a prior point in time (I believe that point in time was 2015).
- They have optimized the extraction well locations. Most of them are along the coast but some are along Highway 1, a little further inland.
- They are evaluating three sizes of extraction well fields:
 - A small one extracting about 40,000 acre-feet per year
 - A medium-size one extracting about 67,000 acre-feet per year, and
 - The large one expected to extract about 100,000 acre-feet per year.

- They pointed out that the smaller projects will provide less extraction and less desalinated water than the large one.

SVBGSA Advisory Committee Meeting, August 15, 2024:

At this meeting there were a number of administrative issues but items of interest to the Watermaster included:

- The ASR and Seawater Extraction Barrier feasibility studies need to be completed earlier than originally expected, since the Department of water resources has directed that they be included in the January 2025 annual report. Therefore, the draft feasibility studies will be completed by November 2024.
- Lisa Horta of Montgomery and Associates provided an overview presentation on the ASR feasibility study:
 - New alternatives have been developed in recent weeks
 - The concept is to store water in the ground in the north end of the 180/400 foot aquifer by extracting and injecting more Salinas River Diversion Facility (SRDF) water than the Castroville Seawater Irrigation Project (CSIP) needs in order to raise groundwater levels by leaving the excess water in the ground.
 - This will require a water treatment plant to meet drinking water quality standards before it can be injected
 - Requires reoperation of reservoir releases and SRDF diversions and adjustments and improvements to the operation of CSIP
 - Feasibility study will evaluate whether the ASR project will enable the 180/400 foot aquifer to meet its Groundwater Sustainability Plan Minimum Threshold of stopping the advance of sea water intrusion.
 - Reservoir reoperation has constraints with regard to water rights, permit issues, operational issues, and infrastructure capacity limitations.
 - May not have enough water to address seawater intrusion in both the 180 foot and 400 foot aquifers
 - New alternative to the original GSP ASR concept: Make ASR a stand-alone project with its own (new) separate SRDF, and inject only (no extraction) with all injected water left in the aquifer
 - Many problems/constraints have been identified from the preliminary analysis
 - Initial conclusion is that there is not enough water available to stop seawater intrusion via an ASR project
 - Continuing to do modeling and will have preliminary feasibility study later this fall.
 - Sarah Hardgrave reported that the feasibility studies focus only on the technical aspects, not the economic (cost) aspects. Those will be evaluated later if the project proves to be technically feasible
 - Participants/attendees felt that willingness to pay for this project, and how costs would be assessed, may show that the project is economically infeasible. Ms. Hardgrave reported that the SVBGSA Board just approved doing some work to assess this.
- Lydia Holmes of Carollo Engineers provided an overview presentation of the Seawater Intrusion Extraction Barrier with Desalination Treatment and delivery for beneficial

urban and agricultural use. It was much like the earlier presentations described in my earlier meeting summaries, but here are some recent updates:

- They have added inland injection wells to store excess production quantities over demand amounts to help raise groundwater levels to help push back the seawater intrusion front
- The total demand for water from the desalination plant is projected to be about 25,000 acre-feet per year for urban users and about 9,000 acre-feet per year for agricultural users
- The desalination plant production capacity is expected to be a steady 4,275 acre-feet per month throughout the year.
- They will need to extract between 40,000 to 100,000 acre-feet per year to meet GSP objectives
- The Measurable Objective is to pull the intruded zone back to Highway 1; the Minimum Threshold is to hold intrusion to 2017 levels. To achieve the Measurable Objective they will need to extract about 100,000 acre-feet per year. The desalination plant is expected to recover about 70% of that amount. To achieve the Minimum Threshold will need to extract about 40,000 acre-feet per year, again with a 70% recovery factor for the desalination plant
- Each extraction well is actually a pair of wells, one of them goes into the 180 foot aquifer and the other goes into the 400 foot aquifer.
- The feasibility study of this project will include cost information and is expected to be available in November 2024.
- Mr. Jaques commented on two items:
 - There may be limitations for Monterey One Water's outfall to accept brine discharges from both this proposed project and the Cal Am desalination plant. He noted that Cal Am is currently in discussions with Monterey One Water about use of the outfall for brine disposal and has reported that there may be some limitations there.
 - The Corral de Tierra and Toro subareas of the Monterey Subbasin will need to get supplemental water in order to achieve sustainability, according to the GSP. The smaller of the projects that the extraction barrier and desalination plant is considering do not provide desalinated water to those areas.
- There was much participants/attendee input with regard to the high costs and how the projects can be paid for. It was wondered if Federal funding could be obtained.
- Ms. Hardgrave said they are in contact with the Coastal Commission staff with regard to permit issues, and are looking into Bureau of Reclamation funding opportunities.
- Norm Groot (one of the participants or attendees) asked how long these projects will take to achieve their goals. He was concerned that they may not achieve their goals before the 2040 compliance deadline occurs.

RE: Monterey Subbasin Implementation Committee

From: bobj83@comcast.net (bobj83@comcast.net)

To: hardgraves@svbgsa.org

Cc: bobj83@comcast.net; watermasterseaside@sbcglobal.net; watermaster.nancyd@gmail.com;
mcadamsj@co.monterey.ca.us

Date: Friday, September 13, 2024 at 01:45 PM PDT

Thanks very much Sarah!

From: Sarah Hardgrave <hardgraves@svbgsa.org>

Sent: Friday, September 13, 2024 1:16 PM

To: bobj83@comcast.net

Cc: Piret Harmon <harmonp@svbgsa.org>; Harrison Tregenza <tregenzah@svbgsa.org>

Subject: Monterey Subbasin Implementation Committee

Hello Bob,

The SVBGSA Board of Directors made its appointments to the Subbasin Committees yesterday. I'm writing to let you know that they set your application aside until next month and have asked staff to come back with a modification to the committee membership requirements to provide an appropriate exception. They will consider your appointment to the Monterey Subbasin at that time. Several Board members expressed support for your serving on the committee.

Please let us know if you have any questions or want to discuss further. We appreciate your patience and interest in participating.

Thanks,

Sarah