Ad Hoc Sustainable Groundwater Planning Advisory Committee

Meeting No. 10

GoToMeeting Teleconference

July 8, 2021

Pajaro Valley Water Management Agency

Introductions

- Welcome
- Review Meeting Guidelines
- Roll Call
- Review Meeting Objectives
- Review Meeting Schedule
- Received Correspondence
- Comments for Items Not on Agenda

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Review Meeting Protocols

1) Permit the Facilitator / Host to lead.
2) Respond to roll call of Committee Members /Public/Identify Phone numbers.
3) Follow the Agenda to ensure meeting objectives are met.
4) Empower facilitator to queue and prioritize speakers.
5) Minimize disruption by allowing speakers to own the mic.
6) Alert the Facilitator through “requesting the mic” via the “chat bubble” are “raising hand” through the messaging function.
7) Try to be brief in communications in order for others to participate.
8) Be patient with technology and each other as we adapt to remote communication.

GoToMeeting Technical Guidelines

1) Use the phone icon to mute via the computer and sign on with a muted phone
2) Use *6 to mute and unmute on phone
3) When not speaking, mute your computer to eliminate and reduce feedback.
4) Use the “chat bubble” to message and alert Facilitator when you want to speak.
5) If on phone and logged in online, please enter PIN on phone.
6) This meeting is being recorded.

Roll Call

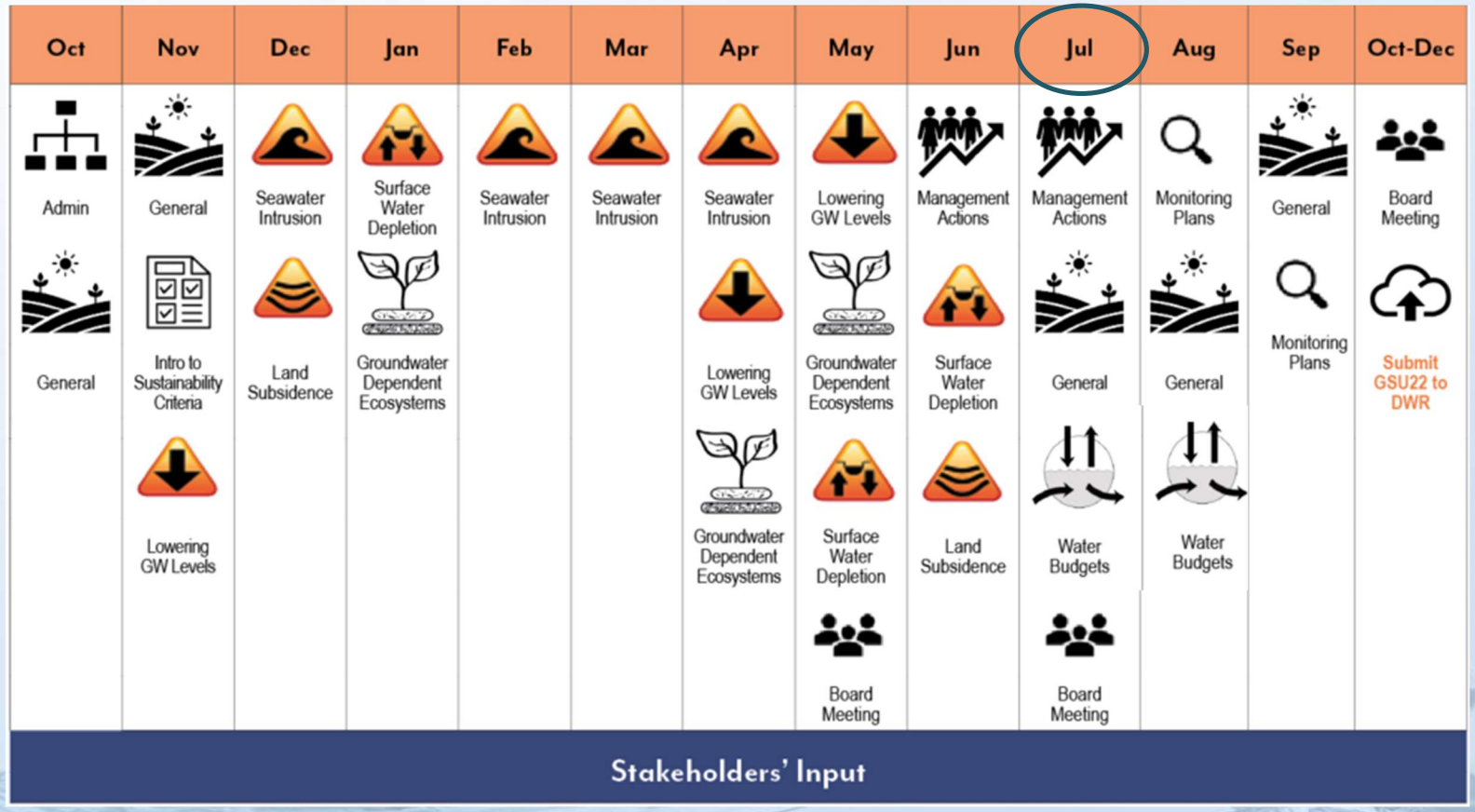
AFFILIATION	COMMITTEE MEMBER
Santa Cruz County Farm Bureau	Chair Kirk Schmidt
PV Water Board	Vice-Chair Bob Culbertson
PV Water Board	Mary Bannister Alternate: Tom Broz
PV Water Board	Amy Newell
Santa Cruz County	Sierra Ryan
Monterey County	Unfilled
San Benito County	Unfilled
Monterey County Farm Bureau	Robert Rodoni
City of Watsonville	Beau Kayser
Pajaro Sunny Mesa Community Services District	Sandy Coplin
Aromas Water District	Robert Johnson
California Water Service Company	Gary Vincelet

AFFILIATION	COMMITTEE MEMBER
Rural Residential Well Owner Representative	Marla Anderson, Residential Well Owner Alternate: Mayra Hernandez, Community Water Center
Environmental Representative	Jonathan Pilch, Watsonville Wetlands Watch
Mutual Water Company Representative	Sandra Hoppe, San Andreas Mutual Water Company
Disadvantaged Community Group Representative	Christi Suchil, City of Watsonville Resident
Agriculture Representative	Tannis Thorlakson, Driscoll's Inc. Alternate: Kyle Monper

Review Meeting Objectives

- Discussions and priorities on GSU22 development
  - Management / Governance
  - GSU22 Development
  - Communication & Engagement (C&E)
  - Next Steps/Actions/Information Needed

Meeting Schedule 2020-21



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Received Correspondence

- Community Water Center Letter
- Email from Mr. Castillo regarding Rural Residents

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Comment for Items not on Agenda

- Community Water Center Presentation on Well Impact Mitigation Framework
- Opportunity for Rural Residents to Comment

Management/Governance

- Consider Corrections of GSU22 June 10th Meeting Summary
- Receive Report on PV Water Board Meeting

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PV Water Board Meeting Update

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GSU22 Development

- Preview Projected Water Budget
- Preview Non-Jurisdictional Assessment
- Review and Consider Sustainability Status of BMP Projects

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Preview Non-Jurisdictional Assessment and Projected Water Budget

- Use of Pajaro Valley Hydrologic Model (PVHM)

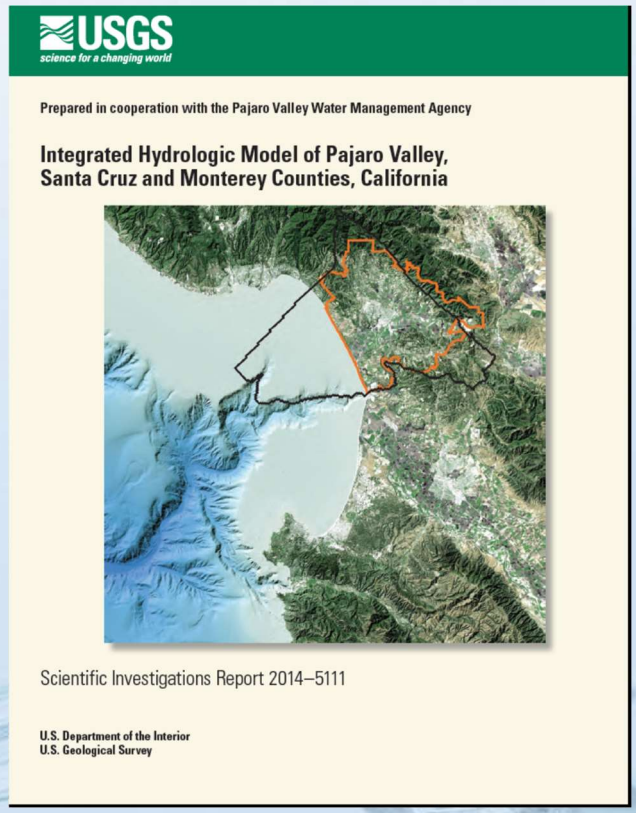
DWR Recommended Actions

Sustainable Groundwater Management Program
Alternative Assessment Summary
Pajaro Valley Subbasin

- *<u>Recommended Action 1:</u> ... the Agency define how it will assess, on an ongoing basis, the non-jurisdictional portion of the Subbasin and demonstrate that activities in that area are not adversely impacting successful implementation of the Plan within the Agency's jurisdictional area, or adversely affected by implementation of the Plan or by groundwater use in the area not subject to that Plan….*
- *<u>Recommended Action 4:</u> ... the Agency update the Basin Management Plan to include a projected water budget that demonstrates the anticipated response to Plan implementation…*

Pajaro Valley Hydrologic Model (PVHM) to be used for both recommended actions

- Developed by US Geological Survey (USGS, 2014)
- Used to evaluate Basin Management Plan Update projects (HydroMetrics WRI, 2013)
- Updated by USGS (2018)
  - Latest version of MODFLOW One Water Hydrologic Model software (v2)
  - Implementation of Recharge Net Metering, improved simulation of CDS, and multi-aquifer wells
- Additional modifications for GSU22 (2021)
  - Including additional sea level rise scenario



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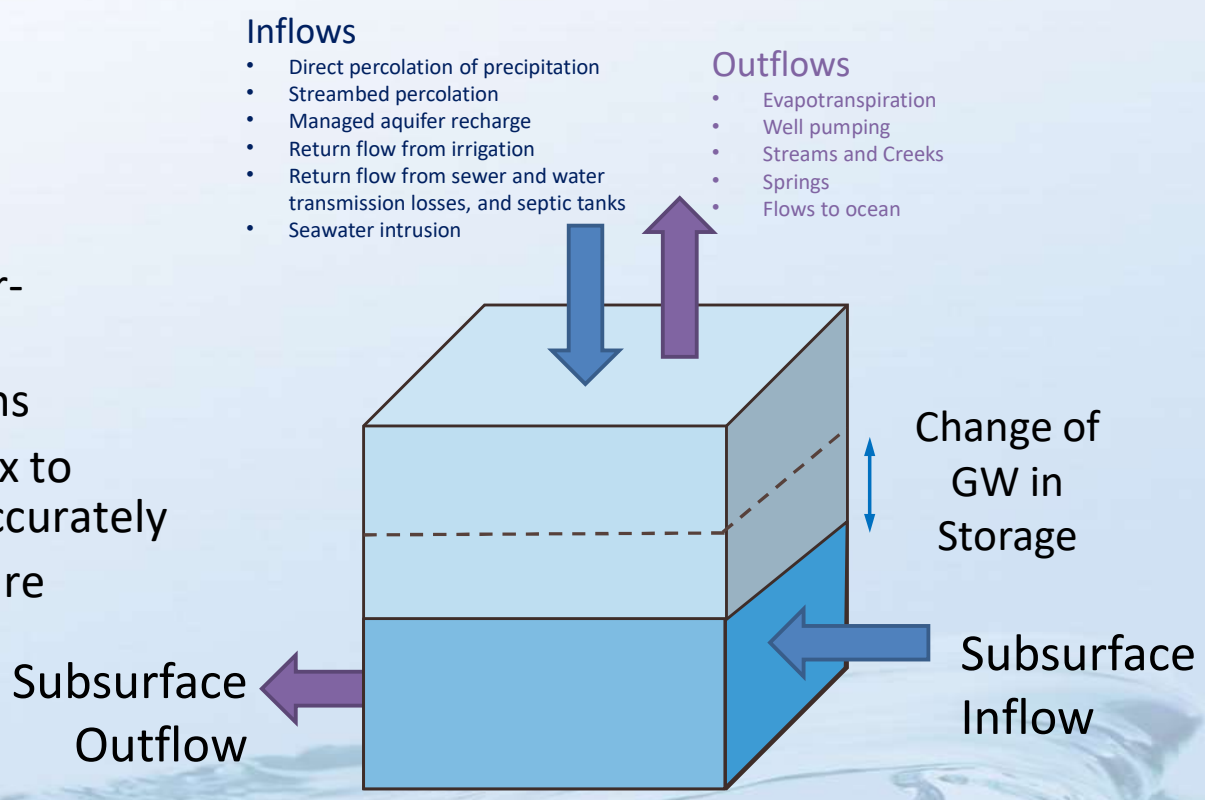
Why use a Numeric Groundwater Model

- Many flows to track
- Some flows are inter-dependent
- Solves flow equations
- Difficult and complex to estimate all items accurately
- Need to project future conditions



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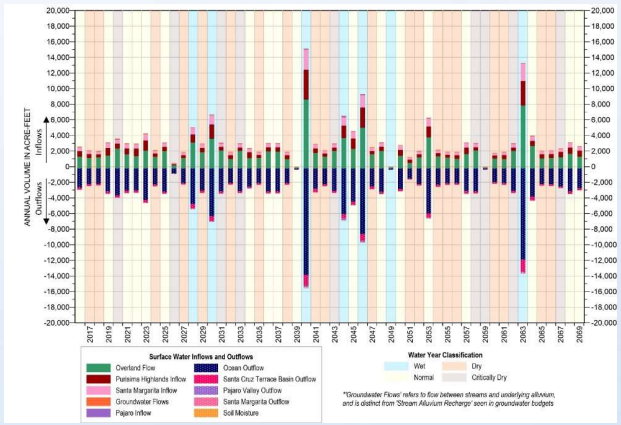
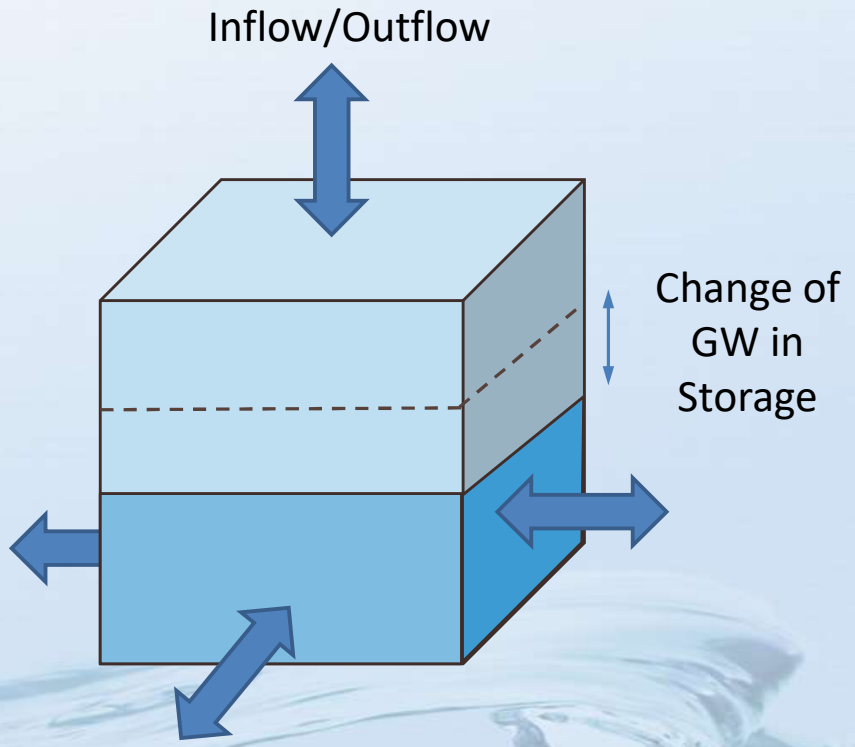
Model Outputs will be used to Address DWR Recommended Actions

- Models Calculate Groundwater Levels and <u>Water Budgets</u>



- Inflow – Outflow = <u>Change of Groundwater in Storage</u>
- Change of Storage ~ Change in Groundwater Level



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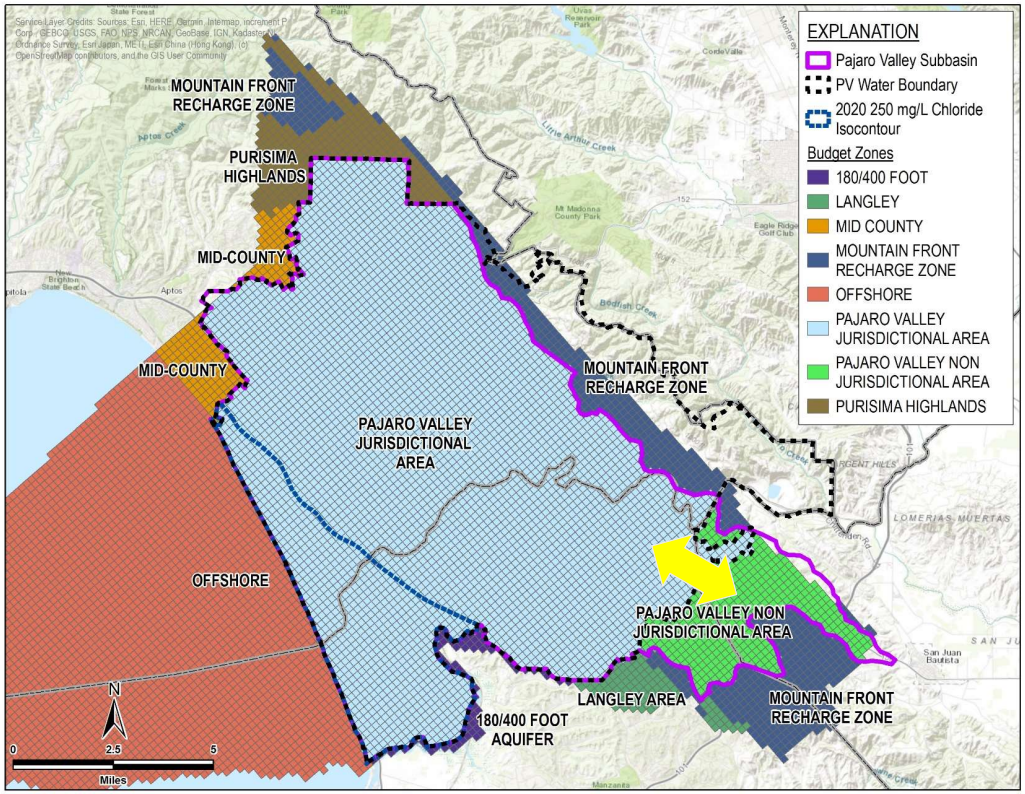
Use PVHM to evaluate effect of BMP on flows with non-jurisdictional area

Compare simulation of historical conditions vs. BMP with climate change and sea level rise



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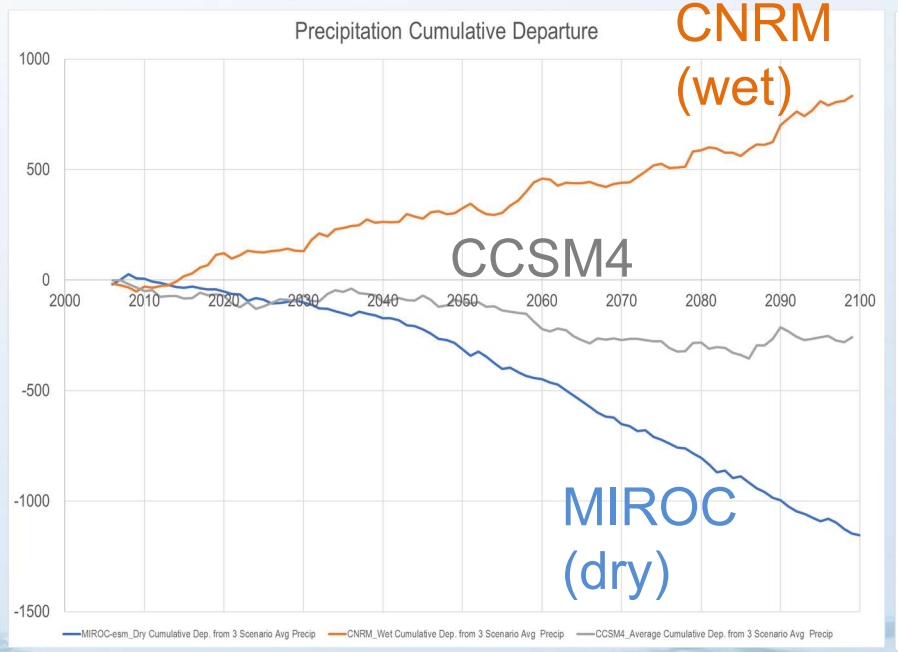
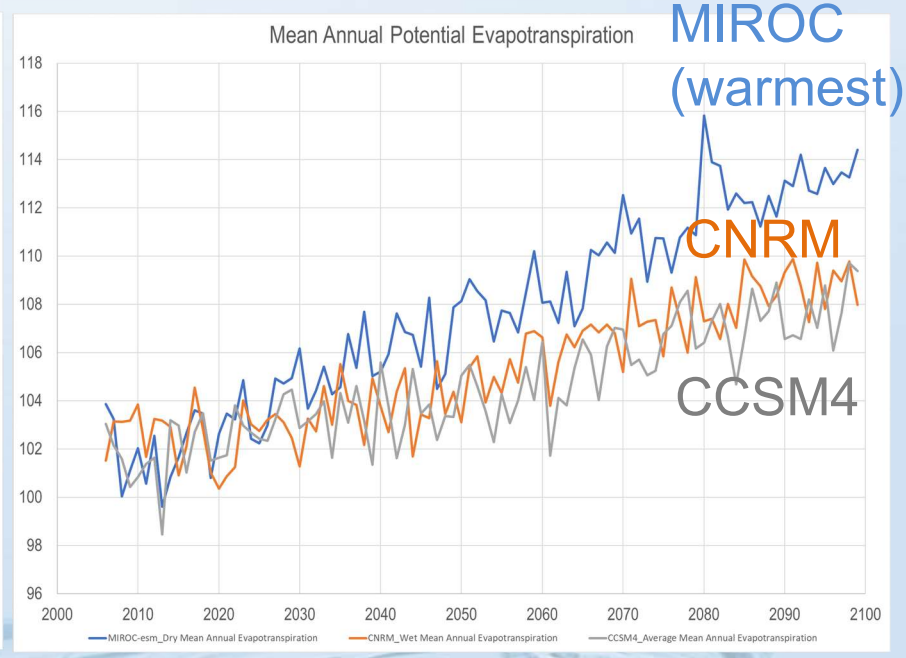
Projected water budget based on simulations of 3 climate change scenarios using high emissions assumptions (RCP 8.5)





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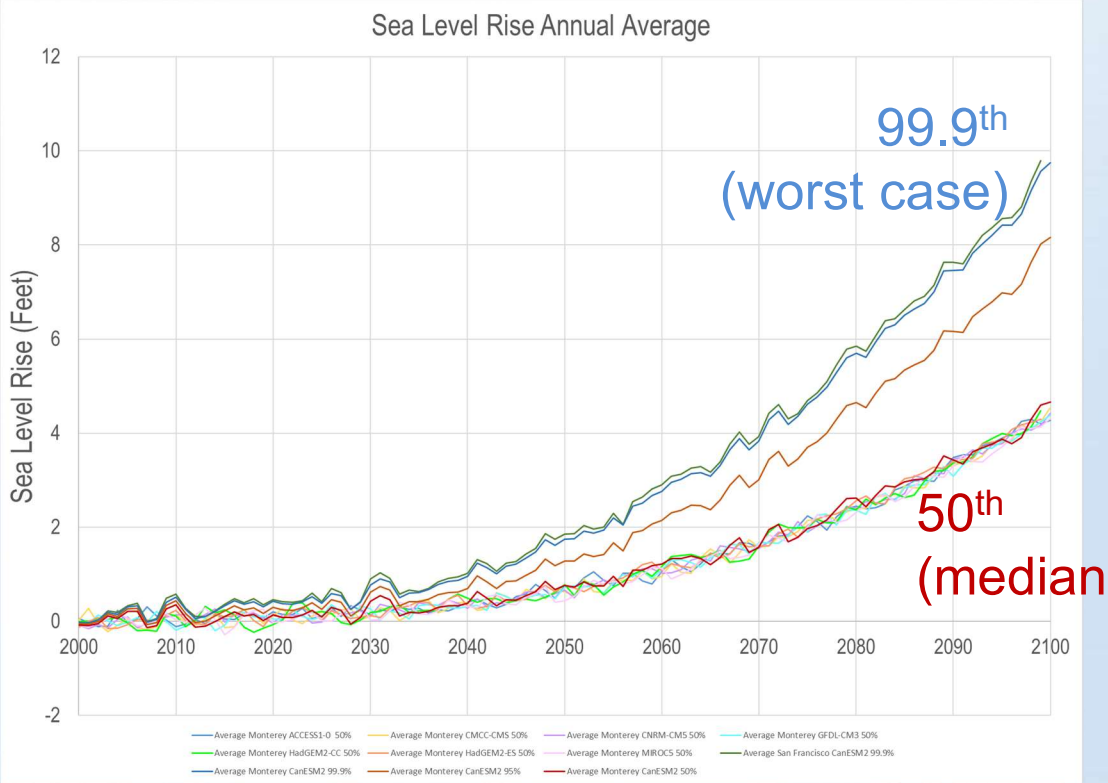
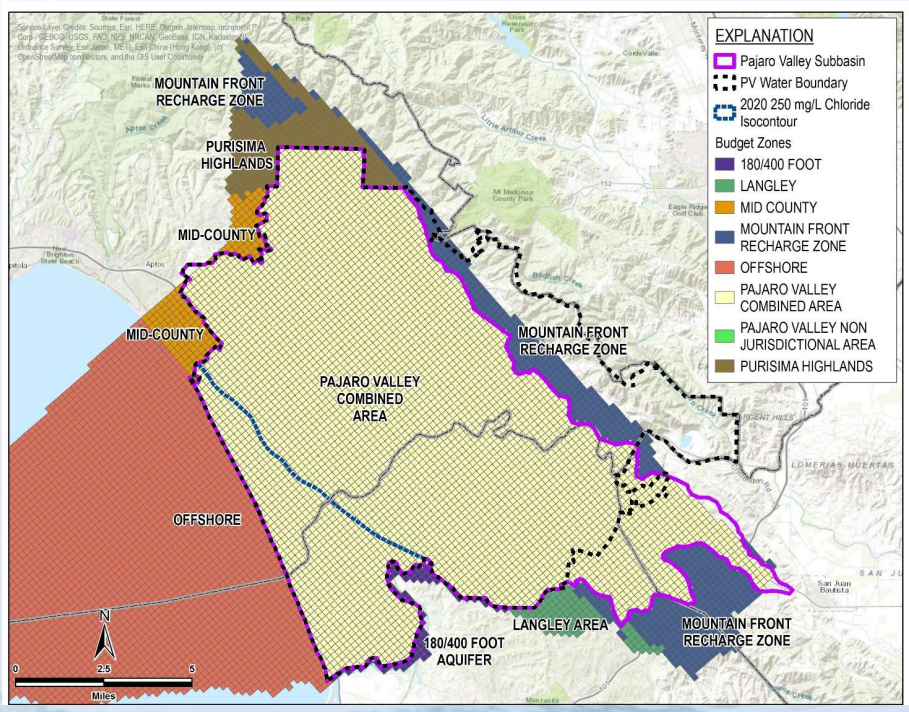
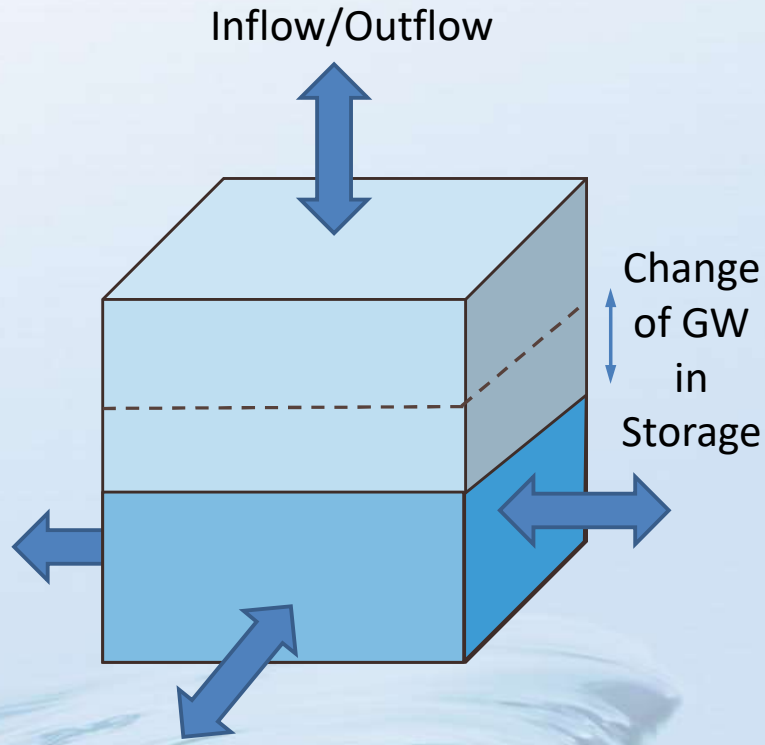
Simulation of Sea Level Rise (SLR)

- Use 50th Percentile to Prepare Projected Water Budget based on DWR Guidance
- Evaluate Worst-Case Effects using 99.9th Percentile
  - Presented by USGS in 2018
- Sea Level Rise may increase seawater intrusion



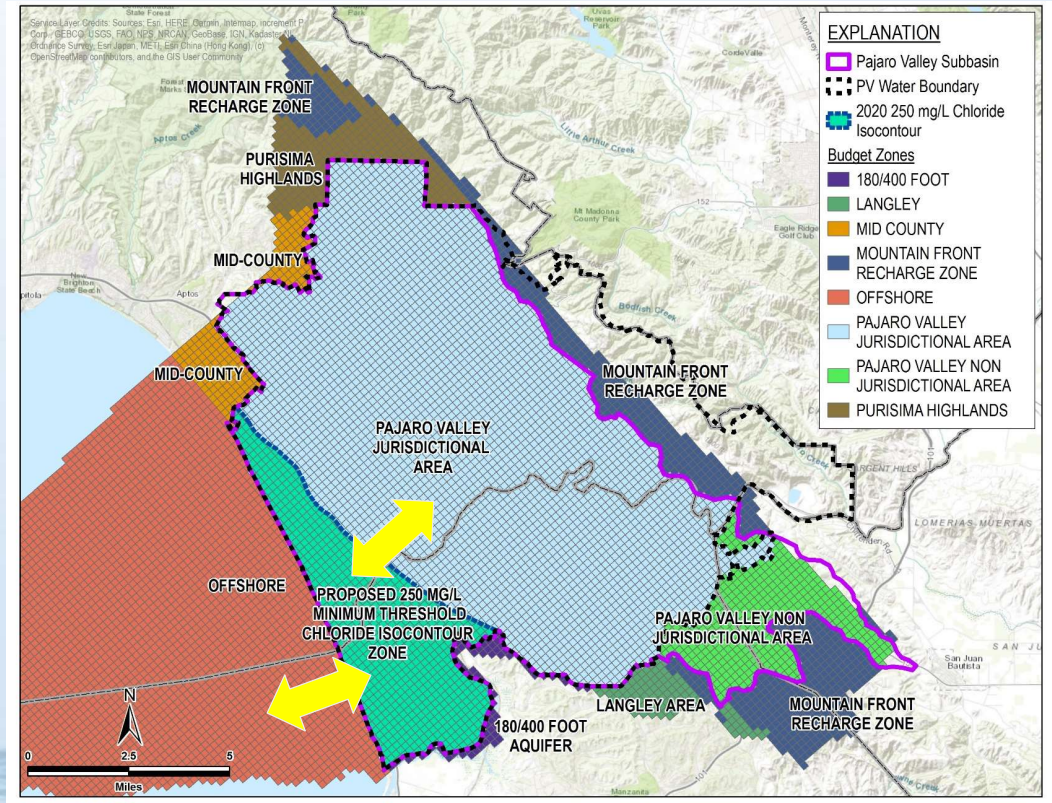
Evaluate Projected Basinwide Water Budget with BMP for Climate Change and SLR Scenarios





Evaluate Seawater Intrusion Flows across Coastline and SMC Isocontour

- BMP Evaluated Based on Flows at Coast
- Recommended SMC is Inland Isocontour



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Questions and Comments

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Sustainability Status

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2014 BMP Update Projects and Management Actions

- Goal of eliminating 12,000 AFY shortfall
- Focus on 2 sustainability indicators
  - Reduction of groundwater in storage (annual overdraft)
  - Seawater intrusion

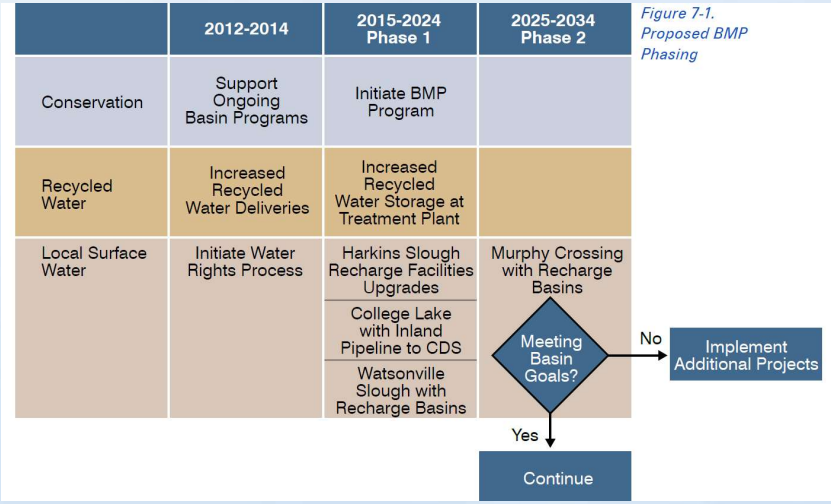

Figure 7-1. Proposed BMP Phasing

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Summary of Project Planned and Current Yields

Project	Planned Average Annual Yield Goal	Updated Average Annual Yield
Conservation Program Based on Agricultural Water Use	5,000	4,580
Recycled Water Facility Optimization and Increased Recycled Water Deliveries*	2,000	1,000
Operational Total	7,000	5,580
College Lake Integrated Resources Management	2,400	1,800 – 2,300
Watsonville Slough System Managed Aquifer Recharge and Recovery	2,200	<1,860
Currently Planned Total	11,600	<9.240-9,740
Murphy Crossing	500	500
BMP Total	12,100	<9,740-10,240
Recharge Net Metering	1,000	118
All Projects and Programs Total	~13,000	<9,890 – 10,390

Operational yield lower than planned in BMP

Updated estimates for yields lower than planned in BMP

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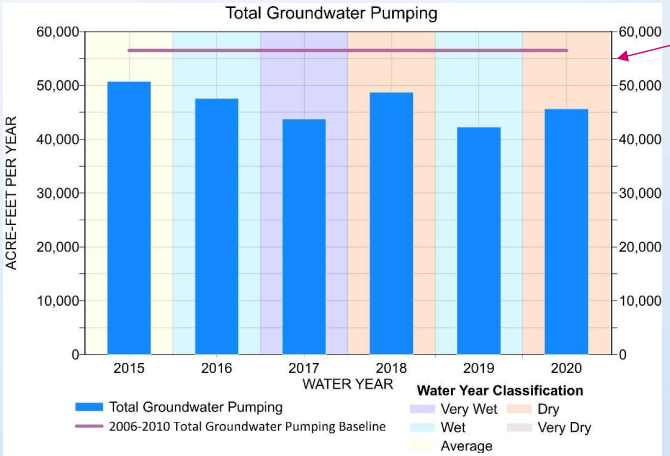
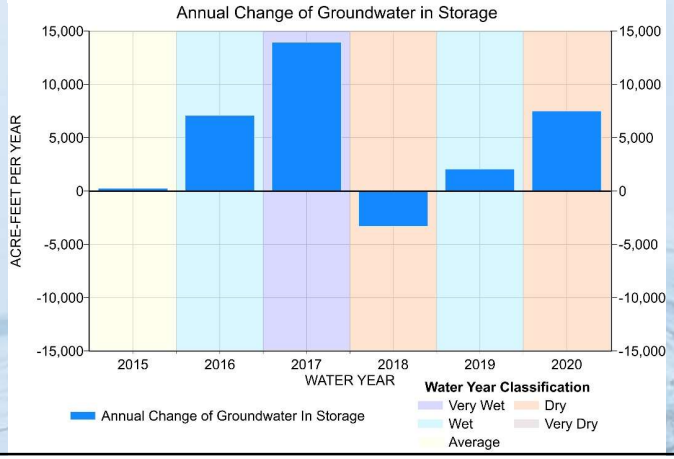
Reduction of Groundwater Pumping Results in Increases of Groundwater in Storage

- DWR Approved GSP Alternative SMC for Groundwater in Storage
  - Minimum Threshold – pre-SGMA Depletion Rate
  - 2025 Interim Milestone – 80% Reduction from Baseline Depletion Rate
  - Measurable Objective – No Depletion of Groundwater in Storage
- Increase of Groundwater in Storage
  - Measurable Objective surpassed in 2016-2020
  - Pumping Reduction Amount Similar to Estimated Shortfall of 12,000 AFY



2006-10 Baseline

GW Pumping



Change GW in Storage

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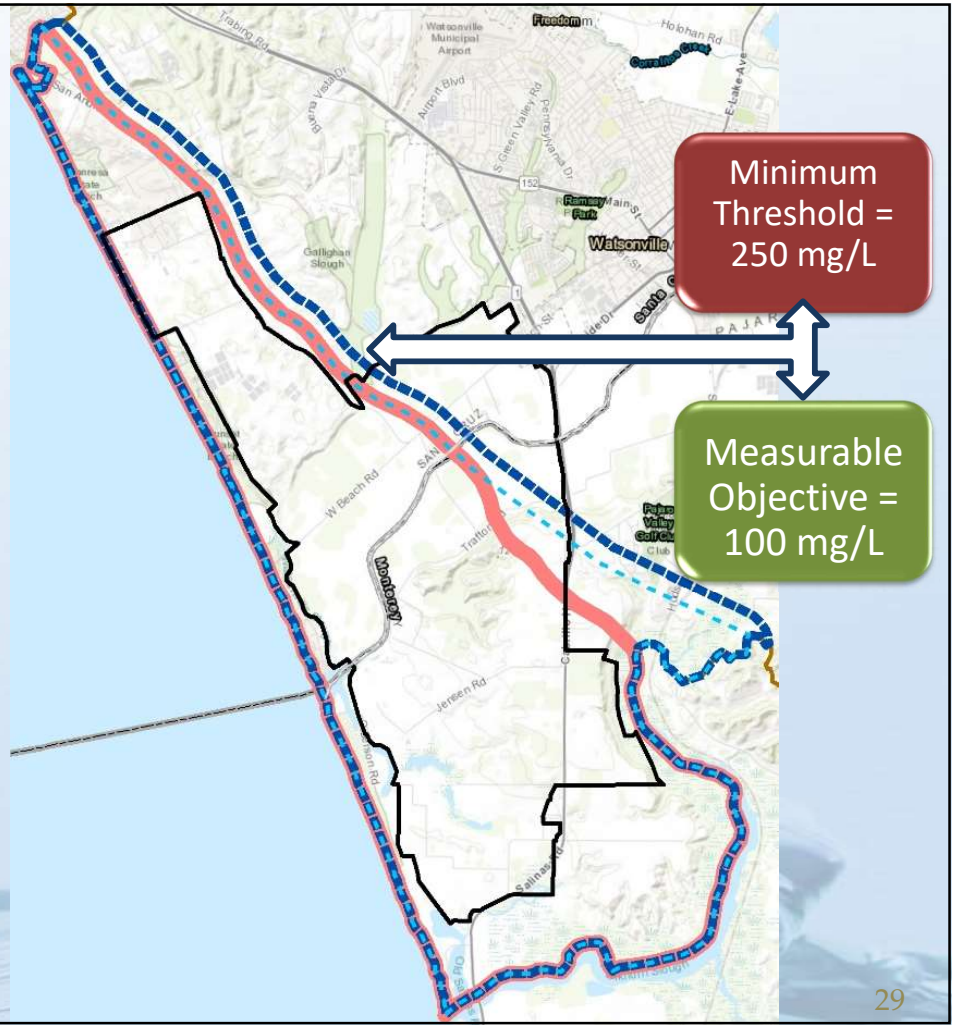
Seawater Intrusion Status Based on Recommended SMC

- Recommended SMC is isocontour 1,000 feet inland of 250 mg/L isocontour as of 2020.
  - By definition, no minimum threshold exceedances as of 2020
- Evaluate whether chloride concentrations are increasing near isocontour



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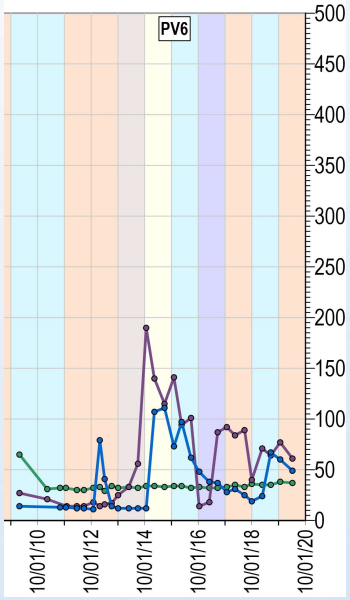
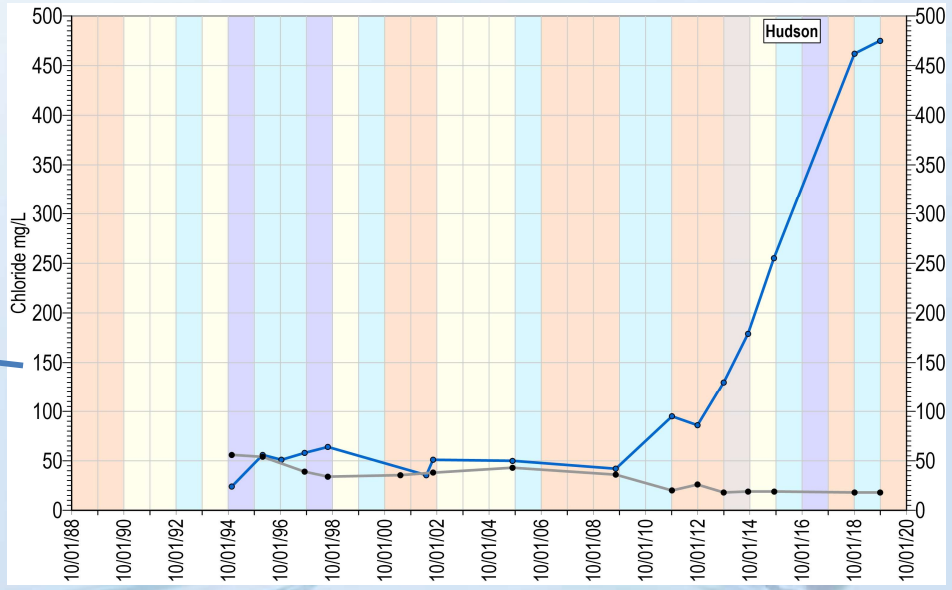
Chloride Concentration Trends Near SMC Isocontour

Inside DWZ-
Stable or decreasing

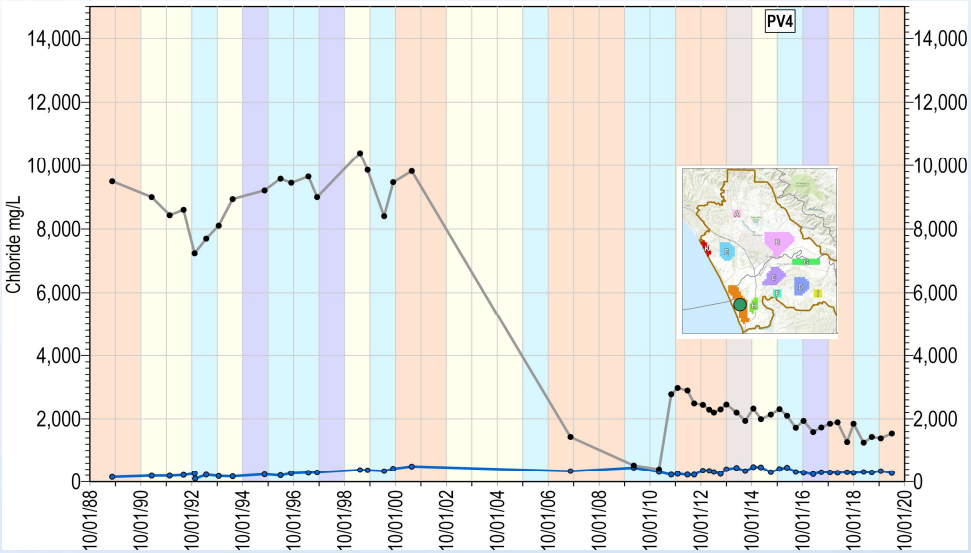
Example outside DWZ-
Increasing near Elkhorn Slough





Delivered Water Zone (DWZ)

Chloride Concentration Trends near Coastline



- BMP evaluated projects and management actions based on modeled seawater intrusion flows across coastline
- Chloride concentrations mostly stable or declining within DWZ
- Indication that rate of seawater intrusion across coastline has been reduced

Sustainability Status Based on Observed Data

- Project and management action yields lower than planned in BMP
- Groundwater pumping for 2016-2020 10,900 AFY lower than 2006-2010
  - Nearly makes up 12,100 AFY shortfall estimated in BMP
- Increase of groundwater in storage surpasses measurable objective
- Apparent reduction of seawater intrusion rates based on chloride concentration trends
- Long-term sustainability of BMP will be evaluated with projected water budget
- Groundwater level, water quality, and interconnected surface water SMC also to be evaluated

Proposed Recommendation for 1st Vote on Sustainability Status

Based on the analysis of observed data, the GSU22 Committee recommends that the PV Water Board accepts the conclusion that while 2014 Basin Management Plan Update (BMP) projects and management actions are not meeting planned yields, BMP implementation has helped increase groundwater in storage and reduce rate of seawater intrusion.

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Questions and Comments

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Proposed Recommendation for 1st Vote on Sustainability Status

Based on the analysis of observed data, the GSU22 Committee recommends that the PV Water Board accepts the conclusion that while 2014 Basin Management Plan Update (BMP) projects and management actions are not meeting planned yields, BMP implementation has helped increase groundwater in storage and reduce rate of seawater intrusion.

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Roll Call Vote on Recommendation for Drought Resiliency Actions

AFFILIATION	COMMITTEE MEMBER
Santa Cruz County Farm Bureau	Chair Kirk Schmidt
PV Water Board	Vice-Chair Bob Culbertson
PV Water Board	Mary Bannister Alternate: Tom Broz
PV Water Board	Amy Newell
Santa Cruz County	Sierra Ryan
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Disadvantaged Community Group Representative	Christi Suchil, City of Watsonville Resident
Agriculture Representative	Tannis Thorlakson, Driscoll's Inc. Alternate: Kyle Monper

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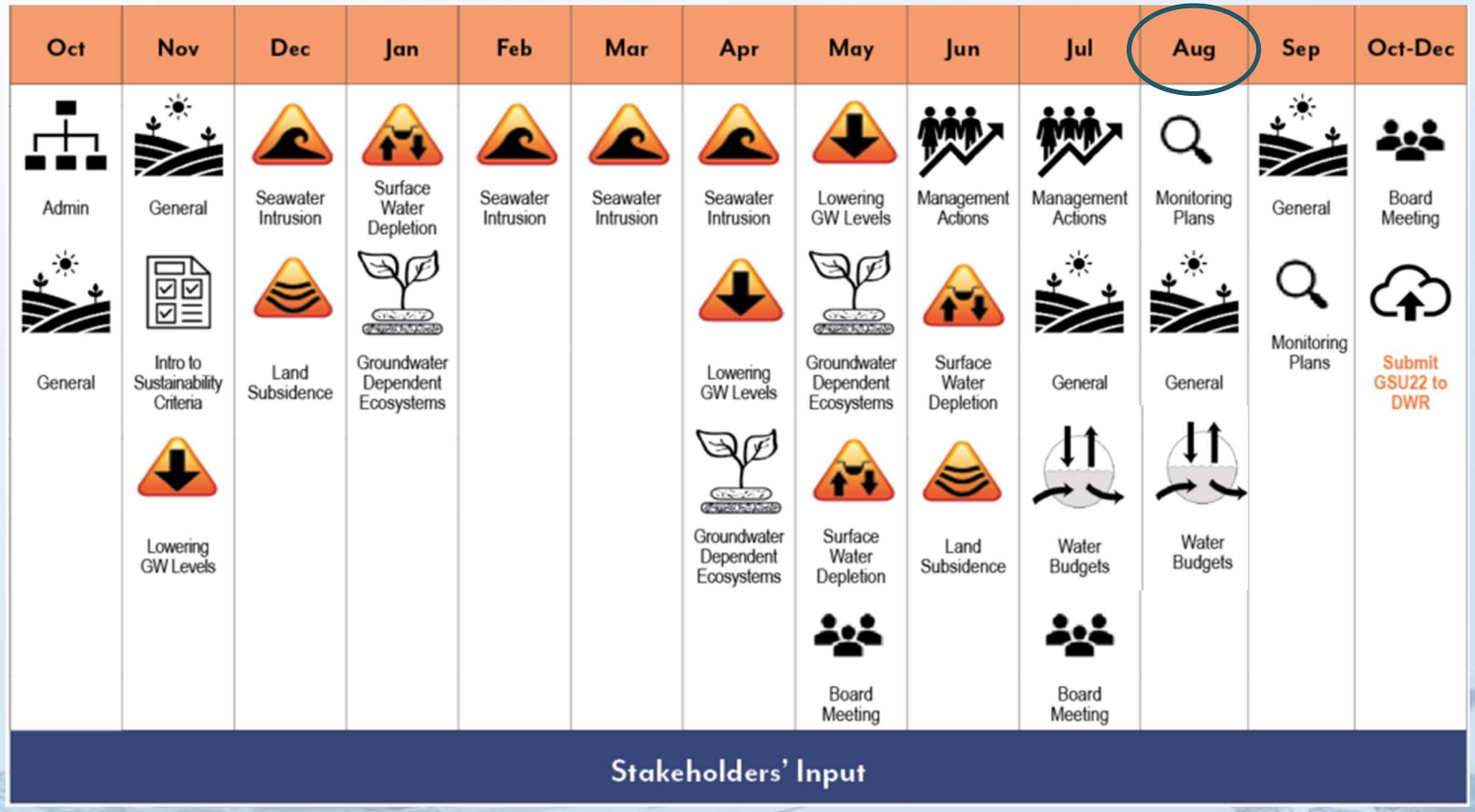
Review Meeting Schedule 2020-21



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Communication & Engagement

- Update on C&E Activities
  - Summer Newsletter
- Communication with Rural Residential and Invitation for Meeting
- Committee/Public Questions & Comments

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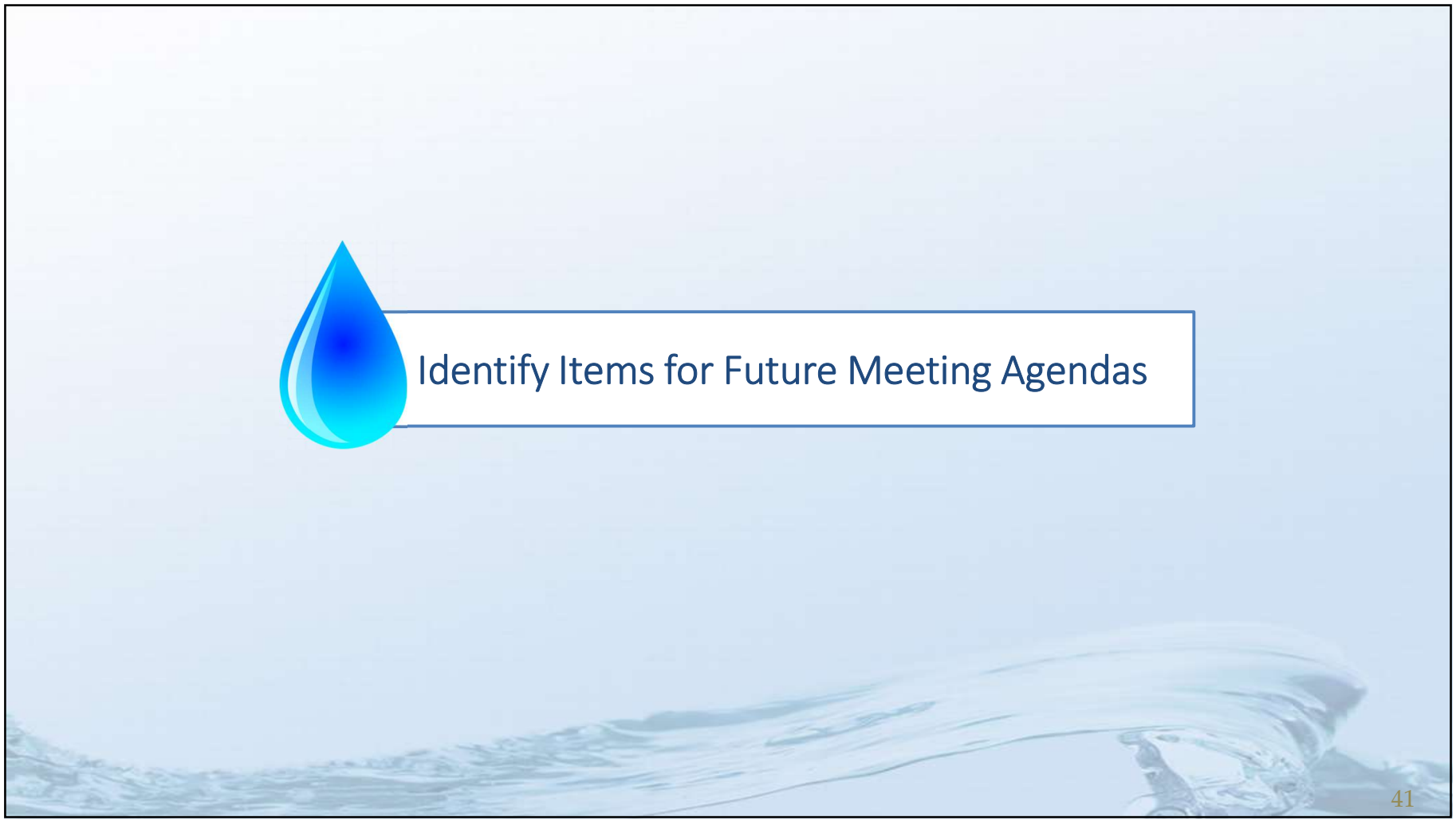
GSU22 Next Steps

- Identify Items for Future Meeting Agendas
- Confirm Meeting Schedule
  - 2nd Thursdays: August 12
  - PV Board Meeting July 21
  - September 9 Meeting to Recommend Complete GSU22 Report & Finalize Monitoring Plan
- Recommend Meeting Feedback Survey
- Identify Actions / Information Needed



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Confirm Meeting Schedule

- Next Meeting: Thursday, August 12-4:30 PM
- 2nd Thursday of Month through September 2021

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PV Water Board Considers Committee Recommendations to Date

- Wednesday, July 21 7 PM via GoToMeeting
- Approval of SMC
- C&E Activities Update

Please complete survey

https://www.pvwater.org/sustainable-gw-committee

Ad Hoc Sustainable Groundwater Committee

Last modified on October 29, 2020.

Purpose

PV Water has formed an Ad Hoc Sustainable Groundwater Committee (Committee) to evaluate technical information presented by staff and consultants related to the existing and projected conditions of the groundwater basin, consider sustainable management criteria that would avoid significant and unreasonable impacts to the groundwater basin, and make recommendations to the PV Water Board.

The Committee is comprised of 17 voting members, 12 appointed, and 5 selected through an open application process. The composition of the Committee is structured to provide a diverse representative cross-section of community stakeholder interests, as well as incorporate water managers within the Pajaro Valley. Attendance and engagement at Committee meetings by the public and other interested parties is highly encouraged to provide input. Voting seats are dedicated to individuals serving as representatives for the Committee members listed below.

Meeting Materials

Meetings will occur at: https://www.gotomeet.me/PVWater/sustainable-groundwater

Or by phone: 1 (866) 899 4679 Access Code: 563-967-333#

After Meeting Survey

Videos Recordings last for a period of one year after the meeting date.

PV Water

PV Water Meeting Survey

Please provide feedback to improve our communication and engagement process.

Name: _____

Contact: _____

Date: _____

Survey Questions

Survey Question	Please Select One
1) Information provided was useful and understandable?	Yes ☐ No ☐
2) Meeting noticing was timely, informative about location, and meeting topic(s)?	Yes ☐ No ☐
3) Opportunity to comment was provided?	Yes ☐ No ☐
4) Can we contact you regarding your survey to follow up?	Yes ☐ No ☐

Other SGMA topics and information of interest to you: _____

Other Suggestions on communication and engagement that would be helpful for the SGMA process:

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Thank you.
Comments / Questions?
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