PV Board of Directors Update:

Ad Hoc Sustainable Groundwater Planning Advisory Committee
Groundwater Sustainability Update 2022 (GSU22)

GoToMeeting Teleconference

May 19, 2021

Pajaro Valley Water Management Agency

1

1

AGENDA

- Introduction to GSU22
- Management & Governance
- GSU22 Development Process
- Communication & Engagement
- Next Steps

2

2

Introductions

- GSU22 Purpose & Framework
- DWR's 10 Recommendations

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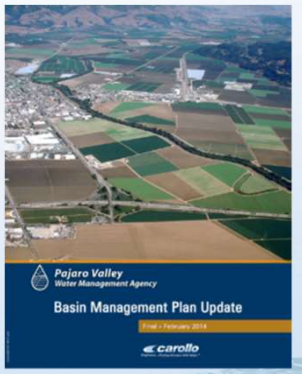
GSU22 Purpose & Framework



Sustainable Groundwater Management Program
Alternative Assessment Summary
Pajaro Valley Subbasin

- State DWR approved PV Water's Basin Management Plan as an Alternative Plan for Sustainable Groundwater Management Act (SGMA)
- GSU22 is Five Year Update for Alternative Plan Required by SGMA
- Scope of GSU22 is to address 10 recommendations by DWR for Five Year Update
- GSU22 focus is on meeting SGMA requirements

4

4

GSU22 Will Address DWR's 10 recommendations

Sustainable Groundwater Management Program
Alternative Assessment Summary
Pajaro Valley Subbasin

DWR Recommendation	Description
1	Non-jurisdictional assessment
2	Quantify depletions of inter-connected surface waters
3	Groundwater dependent ecosystem identification
4	Water budget update
5	Sustainable management criteria for chronic lowering of groundwater levels and interconnected surface water
6 & 7	Sustainable management criteria for seawater intrusion
8	Finalize monitoring network and develop monitoring plan
9	Subsidence analysis
10	Drought resiliency actions

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5

GSU22 Management & Governance

- Ad Hoc Sustainable Groundwater Committee (GSU22 Committee)
- Decision Making Process

6

6

GSU22 Committee: Equal Voice and Equal Vote

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

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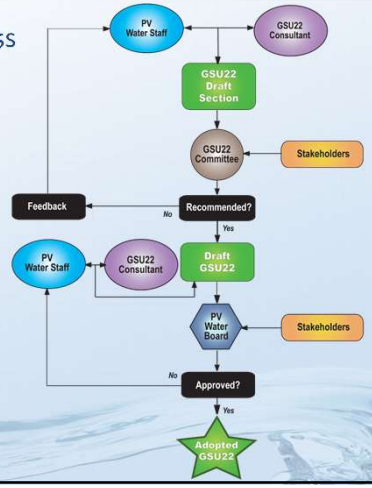
GSU22 Decision Making Process



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GSU22 Development Process

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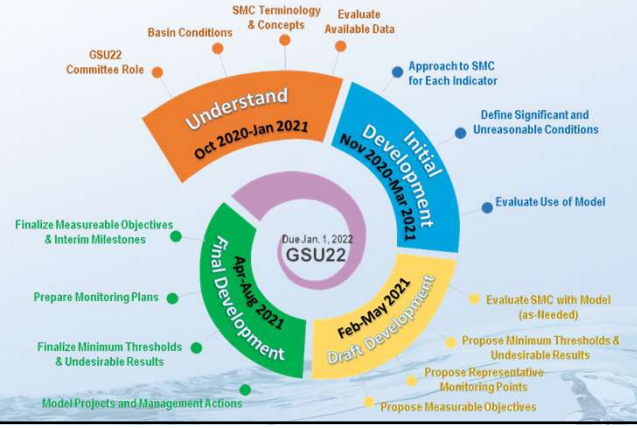
GSU22 Process Meet SGMA Requirements



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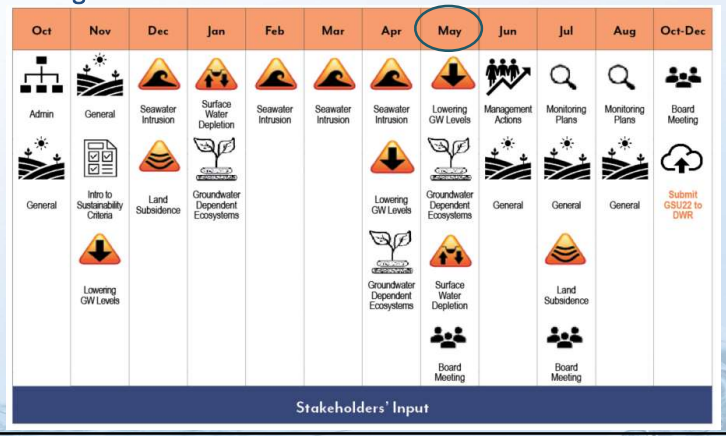
Meeting Schedule 2020-21



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Four of Six Sustainable Management Criteria (SMC) and Relevant Sustainability Indicators For PV Board Recommendation

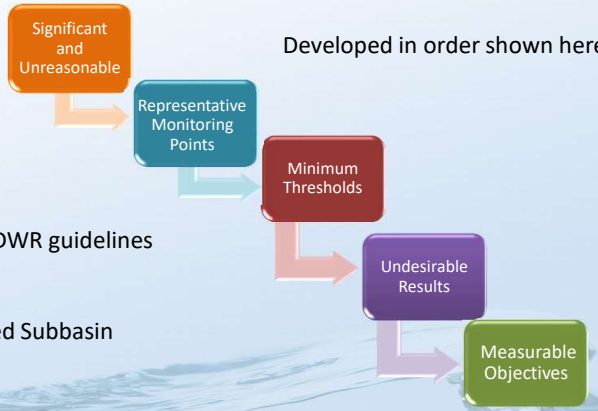
- Significant and Unreasonable — descriptive
- Undesirable Results — descriptive / numeric
- Minimum Threshold
- Measurable Objective
- Interim Milestones

Numeric

12

12

SMC Framework



Developed in order shown here

SMC will be:

- Consistent with DWR guidelines
- Cohesive
- Feasible
- Account for varied Subbasin objectives

13

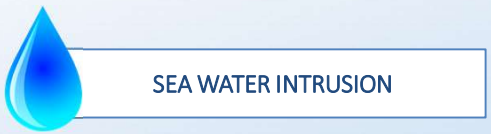
13

GSU22 SMC and Sustainability Indicators Summary

- Preview of SMC and Sustainable Indicators decisions the Board will vote on in July:
  - Sea Water Intrusion (SWI)
  - Lowering Groundwater Levels (GWLs)
    - Groundwater Dependent Ecosystems (GDEs)
  - Interconnected Surface Water Depletion

14

14



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Recommendation for Statement of Significant and Unreasonable Conditions for SWI

- The 2014 Basin Management Plan Update sets a goal of reducing the rate of seawater intrusion by 90% to be achieved with the successful implementation of the Phase I projects by 2025…

Therefore, it would be significant and unreasonable for seawater to intrude into the Aromas aquifer, the principal aquifer of the Basin, beyond 1,000 feet inland of seawater intrusion as of 2020.

16

16

Committee Recommendation for SWI Quantitative SMC

- The minimum threshold for seawater intrusion is defined as the 250 mg/L chloride isocontour located 1,000 feet inland of the 250 mg/L chloride isocontour as of 2020, per the best estimates of all available data.
- Undesirable results for seawater intrusion occurs when the minimum threshold is exceeded in any 3 of 5 years.
- The measurable objective for seawater intrusion is groundwater chloride concentrations less than or equal to 100 mg/L chloride inland of the minimum threshold isocontour

17

Seawater Intrusion SMC Recommendation

SMC	Recommended	Reasons
Significant and Unreasonable Conditions	It would be significant and unreasonable for seawater to intrude into the Aromas aquifer beyond 1,000 feet inland of seawater intrusion as of 2020	BMP goal for Phase 1 Projects is to Reduce Seawater Intrusion 90% by 2025
Minimum Threshold (MT) Chloride Isocontour Location	1,000 feet inland of Estimated Isocontour based on observations including shallow intrusion along Elkhorn Slough	Accommodates additional intrusion after 2025
MT Chloride Concentration	250 mg/L	Drinking water standard and studies indicate sensitive crops tolerates concentrations up to 250 mg/L
Undesirable Results	MT Exceedances (SWI Inland of MT Chloride Isocontour) in any 3 of 5 Years	Confirms SWI inland of MT isocontour represents long-term trend
Measurable Objective (MO) Chloride Isocontour Location	Same as MT Chloride Isocontour	Accommodates additional intrusion after 2025
MO Chloride Concentration	100 mg/L	Goal of high groundwater quality

18

LOWERING GROUNDWATER LEVELS

19

19

Recommended Statement of Significant and Unreasonable Conditions

Lowering GW Levels

"Significant and unreasonable chronic lowering of groundwater levels occurs when groundwater levels decline such that there is a long-term reduction in groundwater supply for domestic, agricultural, or municipal use"

-Recommended Statement incorporating Survey Response

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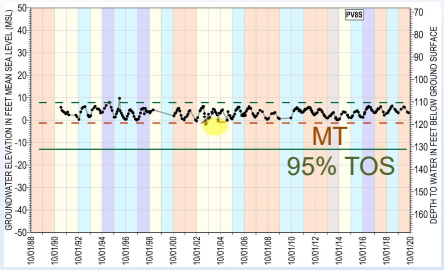
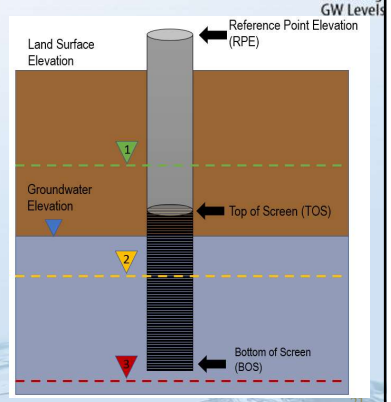
Analysis of Recommended GWL SMC Minimum Thresholds (MT)

Lowering GW Levels





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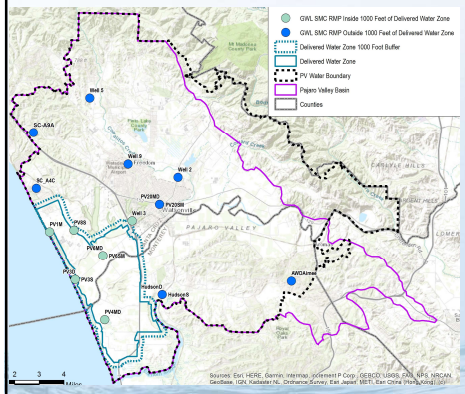
Recommended GWL SMC Undesirable Results

Lowering GW Levels



In either the area within 1,000 feet of the DWZ or the area outside 1,000 feet of the DWZ

>15% of RMPs below MT 4 out of 5 years

>20% of RMPs below MT 3 out of 5 years

>25% of RMPs below MT 2 out of 5 years

Undesirable results are to be avoided so these are conditions to avoid. Undesirable results after 2040 risks state management of the Basin.

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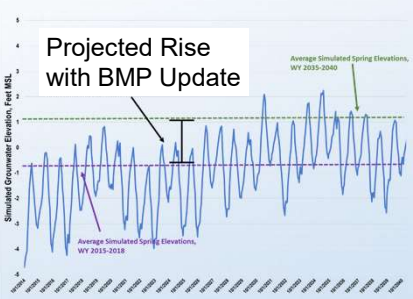
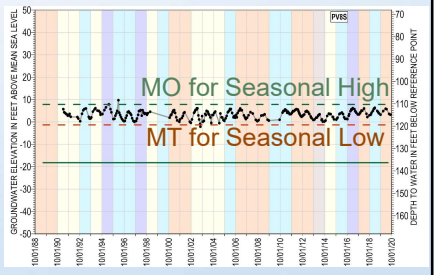
Measurable Objectives and Interim Milestones Based on Model Results with BMP Update Implementation





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23

Discuss Proposed Groundwater Levels SMC

SMC	Proposal	Reasons
Significant and Unreasonable Conditions…	…chronic lowering of groundwater levels occurs when groundwater levels decline such that there is a long-term reduction in groundwater supply for domestic, agricultural, or municipal use.	Follows DWR Best Management Guidance to focus on groundwater supply
Minimum Threshold (MT)	The average of the 2 lowest annual minimum groundwater elevations from water year (WY) 2000-2020.	Current conditions are not significant and unreasonable for GWL SMC.
Undesirable Results	when any of the following occurs in either the area within 1,000 feet of the Delivered Water Zone or in the area outside 1,000 feet of the Delivered Water Zone : **>15%** of RMPs with MT exceedances during **4 out of 5 consecutive years**, or **>20%** of RMPs wells with MT exceedances during **3 out of 5 consecutive years**, or **>25%** of RMPs with MT exceedances during **2 out of 5 consecutive years**.	Long-term declines over small areas, and shorter term declines over widespread areas are undesirable
Measurable Objective (MO)	The average of 2016-2020 spring (March-May) groundwater measurements, plus the projected rise in average spring elevations between 2015-2018 and 2035-2040 as simulated by the Pajaro Valley Hydrologic Model (PVHM) in simulations of the Basin Management Plan (BMP) Update.	Seasonal highs illustrate operational flexibility, and incorporation of rise from BMP projects represent management goals

24

INTERCONNECTED SURFACE WATER DEPLETION

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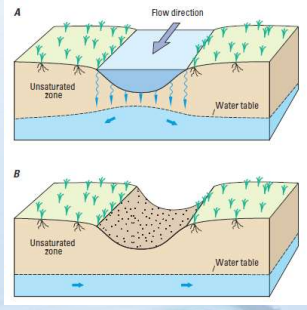
25

No Potential for Significant and Unreasonable Conditions

- Based on the best available information, surface water in the Basin is <u>minimally connected with</u> groundwater in the Aromas aquifer. Thus, there is no potential for significant and unreasonable depletions of ISW from pumping groundwater in the Aromas aquifer.
- Therefore, no need to define:
  - Minimum Thresholds
  - Undesirable Results that could trigger State Intervention



Source: USGS Circular 1376 (2012)

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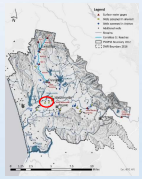
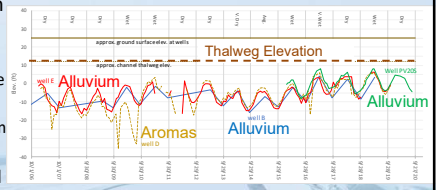
26

Summary of NMFS Comments Received May 12 and Preliminary Response from GSU22 Team

- NMFS: ISW analysis ignores alluvium underlying streams
  - There may be hydraulic connection between streams, alluvium and Aromas
  - Cites DWR and USGS studies describing well extraction from alluvium
- GSU22 Team: ISW analysis evaluated alluvium underlying streams
  - 6 of 8 hydrographs used in analysis shows groundwater levels in alluvium, which also indicate minimal ISW
  - Recognized potential connection between alluvium and Aromas
- Agreement that new monitoring wells are needed
- Additional time needed to fully respond to comments





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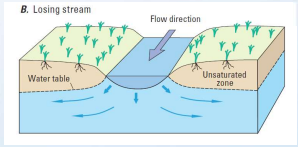
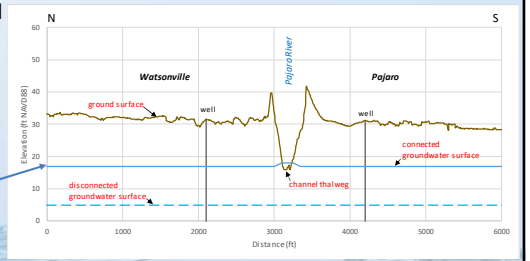
Measurable Objectives Proposed to Increase ISW

Measurable objectives (MO) are equal to the adjacent channel bed elevations to increase the frequency and duration of ISW between the Aromas aquifer and surface water in the Basin where reasonably achievable with implementation of the BMP Update.

Set MO to Achieve Connection





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LAND SUBSIDENCE

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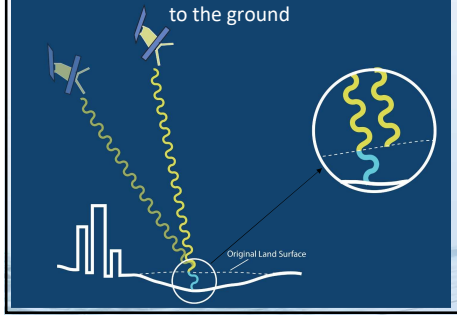
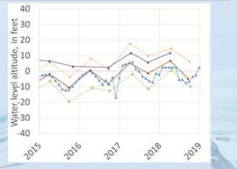
USGS evaluated land subsidence 2015-2018

Analyze InSAR data

InSAR is a technique that uses satellite-based radar to measure the distance from the satellite to the ground



Calibrate with GPS data



Compare to GWL data

From USGS 12/15/2020 presentation to GSU22 Committee

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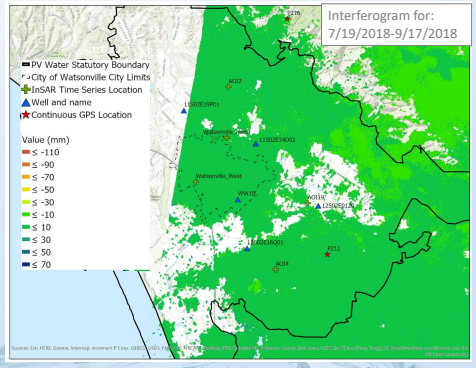
GSU22 will summarize USGS evaluation of land subsidence

- USGS preliminary results:
  - Basin is generally stable with seasonal deformation
  - Efforts to address seawater intrusion have positive implications for subsidence
- Meets DWR Recommendation from Review of Alternative
- Plan to re-affirm no need for subsidence SMC in GSU22



From USGS 12/15/2020 presentation to GSU22 Committee

31

31

Communication & Engagement

32

32

What are PV Water's GSU22 C&E Objectives?

- Educate stakeholders about the importance of the GSU22, what is and is not feasible, what must be accomplished, and how success will be measured.
- Ensure stakeholders and beneficial users of water, are able to contribute meaningful input, which is then considered in the decision-making process.
- Involve a diverse group of stakeholders in the GSU22 process.
- Make public participation accessible and easy.

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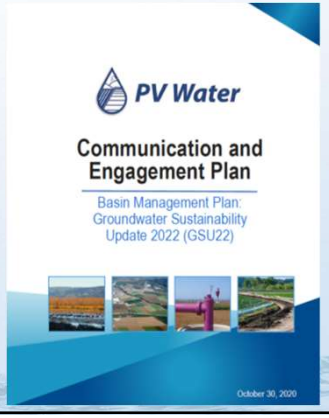
33

GSU22 Communication & Engagement (C&E) Plan



- PV Water's C&E Plan is guided by the 2014 Sustainable Groundwater Management Act (SGMA) Guidelines for Communication & Engagement

34

34

Who Are the GSU22 Stakeholders?

BENEFICIAL USERS + STAKEHOLDERS	
Cities/Counties	General Public
Rural Residential Users	Natural Ecosystems
Agricultural Water Users	Land Use Authorities
Municipal Water Suppliers in Urban Areas	Private Well Owners
Industrial Users	Public Agencies
Commercial Users	Environmental Interests
Remediation Pumpers	Disadvantaged Communities (DACs)
Natural Ecosystems	Native American Tribal Interests

35

35

Disadvantaged Communities (DACs) Outreach

- Community Water Center (Mayra Hernandez)
- City of Watsonville
- Pajaro-Sunny Mesa Community Services District
- California Water Service Company
- Christi Suchil is Committee Member representing DACs

36

36

Tribes

- Muwekma Ohlone Indian Tribe of the San Francisco Bay
- Amah Mutsun Tribal Band
- Amah Mutsun Tribal Band of San Juan Bautista
- Costanoan Ohlone Rumsen-Mutsen Band
- Indian Canyon Mutsun Band of Costanoan

PAJARO VALLEY WATER MANAGEMENT AGENCY

October 7, 2020

Sent Via Email

[redacted]

Subject: PV Water to Prepare a Basin Management Plan: Groundwater Sustainability Update 2022 (GSU22) in the Pajaro Basin

Dear [redacted]

The Pajaro Valley Water Management Agency (PV Water), is preparing to develop a Basin Management Plan: Groundwater Sustainability Update for the Corralitos Groundwater Basin, Pajaro Valley Groundwater Subbasin 3.002.001 (Pajaro Valley Basin) through a stakeholder driven process.

The Sustainable Groundwater Management Act (SGMA) (California Water Code Section 10720 et seq) was signed into law by Governor Jerry Brown in 2014. Water Code section 10723(c)(1)(c) established PV Water as the exclusive local agency within its statutory boundaries to comply with the requirements of SGMA. In August 2015, the PV Water Board (Board) took an additional step of holding a public hearing to consider become a Groundwater Sustainability Agency (GSA) under the SGMA. Following the hearing, the Board approved Resolution 2015-26 electing to become a GSA. In December 2016, the Board approved Resolution 2016-16 "Authorizing the General Manager or Designee to Submit the Basin Management Plan Update and Associated Agency Documents as an Alternative to a Groundwater Sustainability Plan under the Sustainable Groundwater Management Act to the California Department of Water Resources (DWR)." DWR approved PV Water's GSP Alternative submittal in July 2019.

SGMA guidelines require that GSP Alternatives must be updated every 5 years, or in the case of PV Water, by January 2022. PV Water's GSP Alternative update is called the Basin Management Plan: Groundwater Sustainability Update, 2022 (GSU22). The GSU22 will be developed in accordance with SGMA alternative regulations, and in concert with local stakeholders and beneficial users of water in the Pajaro Valley Basin. To facilitate this process, the Board formed an Ad Hoc Sustainable Groundwater Planning Advisory Committee (Committee) in August 2020. The Committee is responsible for working with PV Water staff and consultants to develop the GSU22, providing a recommendation for the GSU22 to the PV Water Board of Directors for consideration of approval.

The first public meeting, to be held via teleconference, will occur on October 14, 2020 from 2:00 p.m. to 4:00 p.m.

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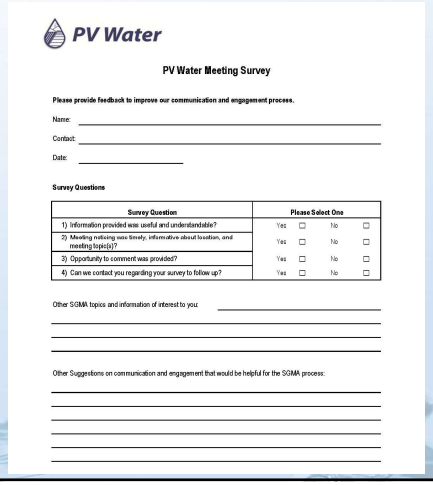
We Want to Hear from You

mendiola@pvwater.org



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 notices 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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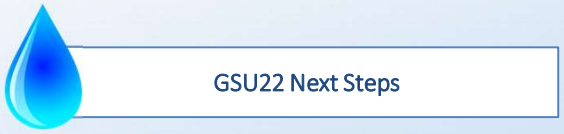
38



GSU22 Next Steps

39

39

GSU22 Next Steps

- Board Approval of the Recommended SMC (July 2021)
  - Lowering GWLs/GDEs
  - SWI
  - Surface Water Depletion
- GSU22 Committee Input (Summer 2021)
  - Summary of Subsidence Analysis
  - Monitoring Plans
  - Projected Water Budget
  - Non-Jurisdictional Analysis
  - Drought Resiliency Actions
  - Measuring Progress of BMP to Achieve SMC

40

40

GSU22 Next Steps (continued)

- C&E
  - Pajaro Valley Unified School District: Virtual Tours (May)
  - Meeting with Rural Residents (Summer)
  - Farmer's Market (Summer)
  - Adjacent Basins (Summer)
  - One More Fact Sheet on GSU22 Outcomes

41

41

Thank you.

Comments / Questions?

42

42