Paso Basin Cooperative Committee
Notice of Meeting

Agenda
April 27, 2022

NOTICE IS HEREBY GIVEN that the Paso Bason Cooperative Committee will hold a Regular Meeting at **5:00 p.m.** on **Wednesday, April 27, 2022,** at the Paso Robles Council Chambers, 1000 Spring Street, Paso Robles, CA 93446.

Call-in: (669) 900-6833, Webinar ID: 978 9258 7877, Passcode: 277130
Zoom Link: https://zoom.us/j/97892587877?pwd=ZVJGSldpNDNtdkpuZ3U3aC9UdjVhUT09

Teleconference Locations:

1000 Spring Street Paso Robles, CA 93446	5031 Hana Hwy, Hana, HI 96713

NOTE: The Paso Bason Cooperative Committee (PBCC) reserves the right to limit each speaker to three (3) minutes per subject or topic. In compliance with the Americans with Disabilities Act, all possible accommodations will be made for individuals with disabilities, so they may participate in the meeting. Persons who require accommodation for any audio, visual or other disability in order to participate in the meeting of the PBCC are encouraged to request such accommodation 48 hours in advance of the meeting from Taylor Blakslee at (661) 477-3385.

John Hamon, Treasurer, City of Paso Robles
Rob Roberson, Secretary, San Miguel CSD
Debbie Arnold, Chair, County of SLO
Matt Turrentine, Vice Chair, Shandon-San Juan WD

Steve Martin, Alternate, City of Paso Robles
Dustin Pittman, Alternate, San Miguel CSD
John Peschong, Alternate, County of SLO
Steve Sinton, Alternate, Shandon-San Juan WD

Agenda
April 27, 2022

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1. **Call to Order** (Arnold) (1 min)
2. **Pledge of Allegiance** (Arnold) (1 min)
3. **Roll Call** (Blakslee) (1 min)
4. **Meeting Protocols** (Blakslee) (2 min)
5. **Public Comment – Items not on Agenda** (Arnold) (3 min/speaker)
6. **Approval of Meeting Minutes**
   a. **March 4, 2022, Regular Meeting** (Reely) (2 min)
   b. **March 17, 2022, Special Meeting** (Reely) (2 min)
7. **Response to Previous Public Comments** (Reely) **–** *Nothing to report*
8. **Review of Groundwater Sustainability Plan Amended Sections** (Reely) (20 min)
9. **Update on Governor's Executive Order** (Reely) (15 min)
10. **Update on SGMA GSP Implementation Grant Agreement** (Reely) (5 min) – *Verbal*
11. **Letter of Support for Salinas Dam Feasibility Study** (Reely) (10 min)
12. **Update from Member GSAs** (10 min) – *Verbal*
    a. City of Paso Robles
    b. County of San Luis Obispo
    c. San Miguel Community Services District

d. Shandon-San Juan Water District

13. **Committee Member Comments –** Committee members may make brief comments, provide status updates, or communicate with other members, staff, or the public regarding non-agenda topics

14. **Upcoming meeting(s)** (Reely) (2 min)

    a. Next Regular PBCC Meeting (July 27, 2022)

15. **Future Items** (2 min)

16. **Adjourn** (6:10 p.m.)

6a

Paso Basin Cooperative Committee
Minutes
March 4, 2022

The following members or alternates were present:

Debbie Arnold, Chair, County of San Luis Obispo
Matt Turrentine, Vice Chair, Shandon-San Juan Water District
John Hamon, Treasurer, City of Paso Robles
Rob Roberson, Member, San Miguel Community Services District

1. Call to Order

Chair Arnold: calls the meeting to order at 4:00 p.m.

2. Pledge of Allegiance

Chair Arnold: leads the Pledge of Allegiance.

3. Roll call

Project Manager, Taylor Blakslee: calls roll.

4. Meeting Protocols

Meeting Audio: Item start ~ 00:00:01
Project Manager Blakslee: Reviews meeting protocols.

5. Consider Adopting Resolution to Continue Meeting Virtually

Meeting Audio: Item start ~ 00:00:23
County Groundwater Sustainability Director (GSD), Blaine Reely: Recommends the board continues with virtual meetings.

Chair Arnold: Opens the floor for public comment. No comments.

Motion by: Vice Chair Turrentine
Second by: Treasurer Hamon
Motion: Committee moves to adopt resolution to continue meeting virtually.

Members	Ayes	Noes	Abstain	Recuse
Debbie Arnold (Chair)	X			
Matt Turrentine (Vice Chair)	X			
John Hamon (Treasurer)	X			
Rob Roberson (Member)	X			

6. Public Comment Items not on Agenda

Meeting Audio: Item start ~ 00:03:35

Chair Arnold: Opens floor for public comment.

Greg Grewal: In the 30-35 years we have used Paul, regardless of which company he worked for on anything that has to do with this basin. As far as I can see there was never a conclusion. This is so he can have a permanent job for the rest of his life with no one coming stating what he does. At what given time is there going to be a conclusion to questions answered or him available to answer questions. One example, the Thunder Bird Well Fields stating in his report that the water is not coming from the Paso Robles formation. Yet the documentation from 1969 and the resolution that was set forward in 1969 signed by Barney Swortz states otherwise and has not been refuted with any other documentation.
It is unacceptable to work for multiple agencies that are part of the GSA, since the whole concept is to do what you need to get things done and not to kick the can down the road for another few years. This needs to change and this needs to be agenized and looked at. Also there needs to be a process put in for the unused water that is available and not being put to beneficial use. There needs to be a structure for the people who have access to those waters, and it not being used in lieu of pumping which is the opposite of what management is all about in the basin. When

	you have other water that is accessible to utilize prior to using basin water. Chair Arnold: Asks for additional public comments, there are none.
7. Approval of January 26, 2022, Regular Meeting Minutes	*Meeting Audio: Item start ~ 00:07:56* Audio from the January 26, 2022, Paso Basin Cooperative Committee Meeting is available at: www.slocounty.ca.gov/pasobasin Chair Arnold: Opens discussion for Agenda Item 6 – Approval of January 26, 2022, Cooperative Committee Meeting Minutes; asks for comments from the Committee; there are no comments. Chair Arnold: Asks for comments from the public; there are none. **Motion by:** Treasurer Hamon **Second by:** Member Roberson **Motion:** Committee moves to approve January 26, 2022, Meeting Minutes

Members	Ayes	Noes	Abstain	Recuse
Debbie Arnold (Chair)	X			
Matt Turrentine (Vice Chair)	X			
John Hamon (Treasurer)	X			
Rob Roberson (Member)	X			

8. Approval of Water Year 2021 Annual Report	*Meeting Audio: Item start ~ 00:09:20* Director Reely: Opens the floor to Nate Page with GSI Water Solutions, Inc. GSI Water Solutions, Nate Page: Presents DWR regulations and process. Explains the Groundwater Elevations and how GSI keeps track of season high and low which are measurements in the Spring and Fall. They report in both Contour Maps and Hydrographs. Need to report all Groundwater extractions in the basin including metered municipal well production, estimated agricultural extraction, as well as public water system extraction, and rural domestic. For Surface water use we need to report what is available and actual use. Total surface water available in 2021 was 6,588 (AF) and total surface water use is 4,861 (AF). Total annual water use by source is shown with a total of 87,000 (AF). Change in groundwater storage is the last numerical component that is in the report. In these annual reports we do not invoke the ground water models. The method we do this is by looking at changes in groundwater elevation from one year to the next. The annual change for water year 2021 is -62,300 (AF). The last component of the annual report is to report on the progress toward meeting basin sustainability. Current subbasin conditions are declining groundwater elevations and decline of groundwater in storage. However, the goals states in the GSP remain which is to, reduce groundwater pumping, and achieve groundwater sustainability by 2040. The Paso Basin Land Use Management Planting Ordinance is an ongoing effort and in environmental review. There have been two different efforts to acquire ariel geophysical mapping of the

	basin. The Paso Basin Aerial Groundwater Mapping and DWR Airborne Electromagnetic (AEM) Geophysical survey of the Salinas Valley are both complete. These data sets have been put into a 3D model of the basin, which is an ongoing effort to be used to identify areas in the basin that may be optimal for a recharge. Chair Arnold: asks for comments from the committee. There are none. asks for comments from the public. Greg Grewal: Speaks Jorge Tracy: Speaks Tom Burg: Speaks Patricia Wilmar: Speaks GSI Water Solutions, Nate Page: Addresses Jorge Tracy's question. Treasurer Hamon: States rainfall should be accounted for in the annual report. GSI Water Solutions, Nate Page: States this information is in the annual report. Vice Chair Turrentine: Asks Nate to further explain why ET is a great tool because it considers all the conditions in a year that in a dry time crops would require more water than they otherwise would. GSI Water Solutions, Nate Page: Explains the tool is better than just looking at acreage in a water dd factor. It is a soil water balance model so when the soil is dry that is when you need to irrigate, and that ET (evapotranspiration) data collected from many different stations in the basin really inform that. When precipitation cannot keep up with ET you have a dry and effect and you must irrigate. Chair Arnold: Addresses Patricia's public comment regarding the planting ordinance that is being worked on in the county side. Planting original urgency ordinance set to expire in a few months. We are trying to get a planning ordinance before it expires to replace it. We are trying to make water distribution more fair for everyone while we strive for sustainability. Director Blaine: Addresses Tom Burg's public comment regarding the progress toward sustainability. Explains we are in the beginning of the implementation phase and on our path toward sustainability with substantial changes coming soon. There are different options, one is to offset groundwater pumping by bringing in supplemental water supply. That will be done several ways, both the City of Paso Robles and San Miguel Community Services District have wastewater treatment plants that are currently producing or will soon produce high quality recycled water that can be used and will be used for irrigation in lieu of groundwater pumping. Another supplemental outside water source is the supply of Nacimiento water which is currently unavailable due to provisions that are in the original agreement,

but the County is working hard to resolve those issues. There are other supplemental water supplies that are also being looked at. There are management actions we are in the process of developing in the implementation phase. Those will really lead to an intelligent and equitable mechanism for curtailment of existing groundwater pumping. Going to implement a basin wide metering program to let us know where water is being pumped, when, and how much water is being pumped. Right now, we have not made a big leap forward, but we are now crossing the starting line.

Tom Burg: Replies this does help answer my question. The reason I ask is in the report I get asked from my regional coordinator and even up from the Sacramento level is, "what is going on in implementation." So, the more you show us the easier those answer. They are more interested in your progress not from looking are you doing enough. It is just how are we moving forward or is there something you need help with to move forward.

Chair Arnold: Thanks Tom for his input and creating the position at the county specific to getting the GSP's done and being able to implement is going to help us move forward quite a bit faster.

Motion by: Treasurer Hamon
Second by: Member Roberson
Motion: Committee moves to approve the Water Year 2021 Annual Report

Members	Ayes	Noes	Abstain	Recuse
Debbie Arnold (Chair)	X			
Matt Turrentine (Vice Chair)	X			
John Hamon (Treasurer)	X			
Rob Roberson (Member)	X			

9. Response to Previous Public Comments

9a. Planned Action Addressing Wells with Groundwater Levels Below Minimum Threshold

9b. USGS Evaluation of Groundwater Resources in Adelaida Area

Meeting Audio: Item start ~ 00:45:03

9a. Planned Action Addressing Wells with Groundwater Levels Below Minimum Threshold

Director Reely: Says there are two questions to address. The first one is about one of the MRS Wells where the water levels dropped below the minimum threshold. The request from the public member was what will be done in response. The GSP has a provision for what is required in the event this condition exist. "A single monitoring well in exceedance for two consecutive years also represents an undesirable result for the area of the Basin represented by monitoring well. Geographically isolated exceedances will require investigation to determine if local or Basin wide actions are required in response. The hydrograph shows the most recent data points showing three consecutive measurements that are below the minimum threshold, which triggers a response. Last meeting showed an indication the well was in the Creson area, but the location of the well is closer to the Huero junction area and is on a wine vineyard. Next, we will have to initiate an investigation. Based on the information we have seen and evaluated, we feel like this is not indicative of a basin wide condition. We are in the starting phase of the investigation and will also look at the available well data in the area.

Treasurer Hamon: Asks who will pay for the investigation on the well and how to go about the process.

Director Blaine: Replies we have not determined who will pay for the process, but for now we can do an in-house investigation with data that is available and present to the board with options on how to proceed.

Chair Arnold: Opens the floor for public comment; there are none.

9b. USGS Evaluation of Groundwater Resources in Adelaida Area

Director Blaine: Says there is an investigation going on with the County of SLO, United States Geological Survey, and Upper Salinas Las Tablo's Resource Conservation District. The study is to develop a better understanding of the hydrology and hydrogeology of the Adelaida area. The first phase of the project was completed last year, which was to gather all available data and develop an analysis. The next phase is to gather new data.

Treasurer Hamon: Comments this is not part of the Paso Basin

Chair Arnold: Comments this is an effort led by the landowners of Adelaida.

Paso Basin Cooperative Committee
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10. Update from Member GSAs **10a. City of Paso Robles** **10b. County of San Luis Obispo** **10c. San Miguel Community Services District** **10d.Shandon-San Juan Water District**	*Meeting Audio: Item start ~ 00:55:20* **10a. City of Paso Robles** No update **10b. County of San Luis Obispo** No update **10c. San Miguel Community Services District** No update **10d.Shandon-San Juan Water District** Vice Chair Turrentine: Updates on the status of the two water rights applications of the Shandon San Juan Water District file. With the State Water Resource Control Board Applications A033189 and 190. They are both for 14,000 acre-feet. One if for flood flow so these are not volumes that would be there every year but when they are we would like to figure out how we can bring that water here to Paso Robles and use it to recharge the groundwater basin. The hope and intention is, if we are successful with these applications the actual implementation use of that water could be a joint project with all our GSA's. The first step is to see if there is an appropriator of water, and if they can give us a permit to use that water. Chair Arnold: opens the floor for public comment. Ann Myhre: Speaks Greg Grewal: Speaks Chair Arnold: closes the public comment period.

Paso Basin Cooperative Committee
Minutes
March 4, 2022

11. Committee Member Comments	*Meeting Audio: Item start ~ 01:05:16* There are no additional comments.
12. Upcoming meeting(s)	*Meeting Audio: Item start ~ 01:05:30* Director Reely: Asks how the committee the format they would like to proceed with meetings moving forward. It could be either in person or hybrid. Treasurer Hamon: Says hybrid is the best option. The rest of the board agrees with a unanimous vote. Director Reely: Says next regular meeting is April 27th and the amended GSP will be ready for public review. Since the amended GSP must be sent to DWR on July 20th we will have to schedule a special PBCC to Adopt the amended GSP. Chair Arnold: opens the floor for public comments. There are none.
13. Future Items	*Meeting Audio: Item start ~ 01:08:45* There are no additional comments.
14. Adjourn	Chair Arnold moves to adjourn the meeting at 5:10 p.m.

Drafted by: Joshua Montoya, Hallmark Group

Paso Basin Cooperative Committee
Special Meeting Minutes
March 17, 2022

The following members or alternates were present:

Debbie Arnold, Chair, County of San Luis Obispo
Matt Turrentine, Vice Chair, Shandon-San Juan Water District
Dustin Pittman, Alternate
John Hamon, Treasurer, City of Paso Robles

1. Call to Order **2. Pledge of Allegiance** **3. Roll call** **4. Meeting Protocol**	Chair Arnold: calls the meeting to order at 4:00 p.m.Vice Vice Chair Turrentine: leads the Pledge of Allegiance. Project Manager, Taylor Blakslee: calls roll. Project Manager, Taylor Blakslee: states meeting protocol.
5. Public Comment Items not on Agenda	*Meeting Audio: Item start ~ 00:02:* Chair Arnold: opens the floor for public comment. Greg Grewal: comments regarding the annual report not containing a section noting the difference between the difference of available water and water that has been used nor is there an explanation of why the water is not in use. Additionally, asks who the person in charge of the decision is to not use water at Shandon, and who is the person making the decision not to use other sources of water available in the city of Paso Robles. Chair Arnold: asks for additional public comments, seeing none, closes the public comment period.
6. Approval of Revised Water Year 2021 Annual Report	*Meeting Audio: Item start ~ 00:06:16* Chair Arnold: opens discussion for Agenda Item 6 – Approval of Revised Water Year 2021 Annual Report; ask Director Reely to begin the discussion. Director Reely: Explains a grower sent an email from a grower in the basin and distained there was an error in the report which resulted in a change in the annual report. There was a measurement in the well that appeared to be inaccurate. We sent people out to take a look. An agricultural well is instrumented by grower. It is south of canon. The equipment in the well records on a continuous basis. The data indicated there was not a significant change in election. The data that was collected by the county in the biannual measuring program resulted in a significant change. GSI questioned the significant drop in water level from fall to spring. The elevation was correct, but the elevation in 2021 was incorrect. These corrections have been made in the revised report. Chair Arnold: ask the committee if there are any questions. There are none. Asks if there are any public comments. Greg Grewal: speaks. **Motion by:** Vice Chair Turrentine **Second by:** Chair Arnold **Motion:** Committee moves to adopt resolution to continue meeting virtually.

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<tr><th>Members</th><th>Ayes</th><th>Noes</th><th>Abstain</th><th>Recuse</th></tr>
<tr><td>Debbie Arnold (Chair)</td><td>X</td><td></td><td></td><td></td></tr>
<tr><td>Matt Turrentine (Vice Chair)</td><td>X</td><td></td><td></td><td></td></tr>
<tr><td>Dustin Pittman</td><td>X</td><td></td><td></td><td></td></tr>
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</td></tr>
<tr><td>7. Committee Member Comments</td><td>There are no additional comments.</td></tr>
<tr><td>8. Upcoming Meetings</td><td>Chair Arnold: opens discussion for Agenda Item 8 – Upcoming Meetings

Director Blaine: Asks the committee is they would like to have future meetings in person, or continue with the hybrid meetings.

Vice Chair Turrentine: Believes hybrid is ideal for easier participation from public.

Chair Arnold: Agrees with Vice Chair Turrentine.

Chair Arnold: Ask for public comments.

Greg Grewal: speaks.
Ann Mayra: speaks.

Director Blaine: States next Regular PBCC meeting is April 27th, 2022. There the board will review amended GSP.

Treasurer Hamon joins 24:00</td></tr>
<tr><td>9. Future Items</td><td>No additional items to discuss.</td></tr>
<tr><td>10. Adjourn</td><td>Chair Arnold moves to adjourn the meeting at 3:00 p.m.</td></tr>
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I, Rob Roberson, Secretary to the Paso Basin Cooperative Committee, do hereby certify that the foregoing is a fair statement of the proceedings of the meeting held on January 26, 2022 by the Paso Basin Cooperative Committee.

Rob Roberson, Secretary of the Paso Basin Cooperative Committee
Drafted by: Joshua Montoya, Hallmark Group

PASO BASIN COOPERATIVE COMMITTEE
April 27, 2022

Agenda Item #8 – Review of Groundwater Sustainability Plan Amended Sections

Recommendation
Receive and file, provided feedback as appropriate, and recommended approval to individual GSAs for adoption of the amended GSP, subject to revision based on potential agency and/or public comments.

Prepared By
Blaine Reely, County of San Luis Obispo Groundwater Sustainability Director

Discussion
In response to the California Department of Water Resources' (DWR) Groundwater Sustainability Plan (GSP) determination of incomplete, the Paso Basin Cooperative Committee has been developing an amended GSP to address DWR's-identified deficiencies and proposed corrective actions. The draft amended GSP sections are provided as Attachment 2 for review and comment.

The draft schedule for finalizing the amended GSP, including public hearings to adopt the amended GSP by Paso Basin Cooperative Committee GSA members is provided as Attachment 1.

Attached
1. GSP submittal schedule
2. Amended Sections of Groundwater Sustainability Plan

* * *

Attachment 1

Paso Basin Cooperative Committee

Draft GSP Submittal Schedule

2022 | Mar | Apr | May | Jun | Jul | 2022

Today

- **Email GSP Submittal Plan to Stakeholders** — Apr 8
- **Amended GSP Draft Sections (redline)** — Apr 15
- **PBCC Staff Review of Amended GSP Draft Sections (redline)** — Apr 18
- **PBCC Mailout** — Apr 21
- **DWR Consultation Meeting** — Apr 25
- **PBCC Regular Meeting** — Apr 27
- **Revised/Compiled GSP (redline & clean)** — Jun 1
- **City of Paso Robles GSA Public Hearing** — Jun 21
- **Shandon-San Juan GSA Public Hearing** — Jun 22
- **San Miguel CSD GSA Public Hearing** — Jun 23
- **County Public Hearing** — Jul 12
- **Amended GSP (clean) Submitted to DWR** — Jul 20

County 90-Day Notice	Mar 25 - Jun 23
SSJGSA 90-Day Notice	Mar 18 - Jun 16
City of Paso Robles 90-Day Notice	Mar 21 - Jun 19
SMCSDGSA 90-Day Notice	Mar 25 - Jun 23
Revise GSP Sections (redline)	Apr 4 - Apr 15
Revise/Compile GSP (redline & clean)	Apr 28 - Jun 1

4.0 HYDROGEOLOGIC CONCEPTUAL MODEL

4.7 Groundwater Recharge and Discharge Areas

4.7.2 Groundwater Discharge Areas Inside the Subbasin

Areas that have been identified in previous studies as potential historic natural groundwater discharge areas within the Plan area are shown on Figure 4-17. The springs and seeps shown in the figure are a subset of the locations identified in the National Hydrology Dataset (NHD). Each of the NHD locations was examined on recent high-resolution (Google Earth©) aerial photographs to assess whether topography, soil color and vegetation at the site were consistent with the presence of groundwater discharge. In many cases they were not, and those locations were removed from the spring and seep data set[1]. Off-channel springs and seeps are almost all located in the foothills of the Santa Lucia and Temblor mountain ranges. Based on their elevations high above the main part of the Subbasin, the springs and seeps may represent discharge of groundwater from perched strata that is forced to the surface locally by subsurface stratigraphy or faults. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas.

Groundwater discharge to streams – primarily, the Salinas River and Estrella River – has not been confirmed to date. Instead, areas of potential groundwater discharge to streams were tentatively identified using the conceptual groundwater flow model. Highlighted purple areas along streams on Figure 4-17 represent stream cells in the model where simulated average groundwater discharge to the stream reach is at least 10 AFY. In locations where groundwater discharge may be periodically occurring to streams, the available data indicates that the source of the discharge is derived from the Alluvial Aquifer. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas.

Phreatophytic vegetation along stream channels also functions as a discharge point for groundwater by removing water directly from the water table. Phreatophytes are plants with roots that tap into groundwater. The locations of this type of riparian vegetation are described in Section 5.5.

[1] Methodology for Identifying Groundwater Dependent Ecosystems (Reference Document)

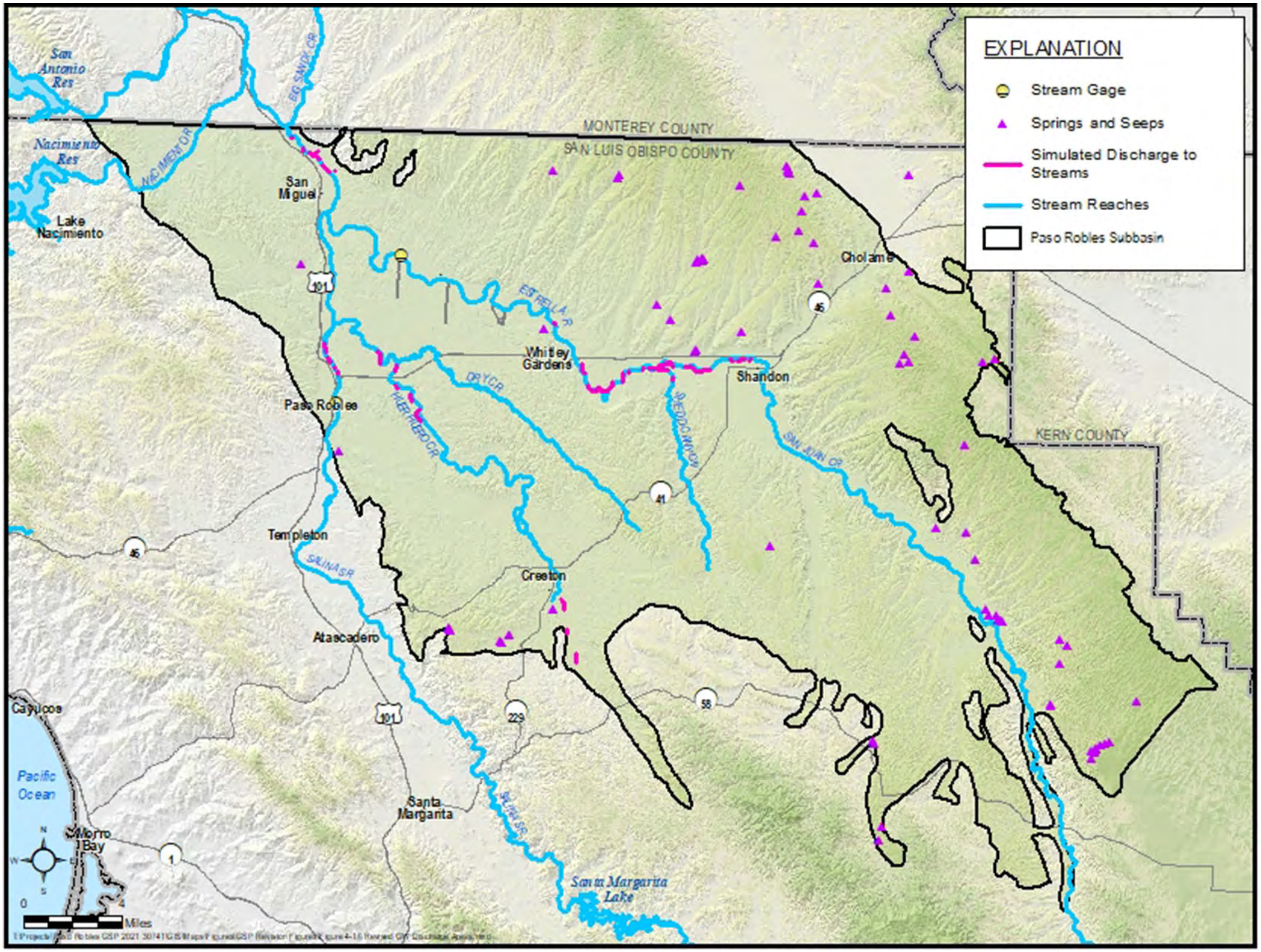

Figure 4-17. Potential Groundwater Discharge Areas

5 GROUNDWATER CONDITIONS

5.5 Interconnected Surface Water

SGMA regulations define interconnected surface water as “surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer and the overlying surface water is not completely depleted” (§351 (o)). SGMA requires that GSPs evaluate “impacts on groundwater dependent ecosystems.” (Water Code §10727.4(l)). Groundwater dependent ecosystems (GDEs) are defined in the GSP regulations as “ecological communities or species that depend on groundwater emerging from aquifers or on groundwater occurring near the ground surface” (CCR § 351 (mm)). GDEs can be divided into two groups: plants and animals that depend on surface flow in streams (for example, fish, invertebrates, amphibians) and plants and animals that depend on a shallow water table accessible by plant roots (phreatophytic riparian vegetation and bird or other animal species that inhabit riparian vegetation). In this GSP, GDEs are discussed in the general category of interconnected surface water even though organisms in the second group strictly speaking rely only on a shallow water table, not surface flow in a stream.

Interconnection with stream flow occurs when the water table is near the stream bed elevation, and interconnection with riparian vegetation occurs when the water table is within the root zone, which generally extends to about 25 feet below the ground surface. These two elevation thresholds have different frequencies and durations of occurrence. Along some stream reaches, the water table might reach the stream bed elevation only when there is surface inflow and associated percolation. This connection might be present only during storm runoff events or seasonally in winter. In contrast, the water table may remain within the root zone for months even while water levels are seasonally declining. If the reach is in an area of regional groundwater discharge, the water table can be in the root zone most or all of the time. Thus, the duration of interconnection of groundwater with the riparian root zone is much greater than the duration of interconnection with surface flow in the stream.

In the Paso Robles Subbasin, major streams all overlie alluvial deposits, and interconnection is with alluvial groundwater. The alluvial deposits are relatively thin, and in some parts of the Basin there are extensive clay layers between the alluvium and the deeper aquifers of the Paso Robles Formation, where most pumping occurs. Accordingly, potential effects of pumping on interconnected surface water are evaluated in two steps: the effects of Paso Robles Formation pumping on alluvial groundwater levels, and the effects of alluvial groundwater levels on vegetation and stream flow. Pumping from the Alluvial Aquifer in the Basin is rare and generally occurs to meet domestic and limited livestock water demands. Large scale irrigation pumping from the Alluvial Aquifer does not typically occur in the Basin.

A generalized conceptual model of interconnection between surface water and groundwater in the Paso Robles Subbasin was articulated in SWRCB Decision 1585, issued in 1982 (SWRCB, 1982). The decision regarded a group of applications for surface diversions from tributaries to the Salinas River between Salinas Dam and the Nacimiento River. By that date, the SWRCB had already determined that groundwater in alluvial deposits along the Salinas River was classified as underflow subject to the rules of surface water appropriation. The Decision described hydrogeologic conditions and recharge processes in the Paso Robles Groundwater Basin, stating that there are “silty clays of low permeability existing within the upper portion of the Paso Robles Formation beneath and adjacent to the Salinas River alluvium… [that] appear to be sufficiently thick and extensive to act as a barrier separating underflow in the river alluvium from groundwater that occurs in the underlying older water-bearing formations.” The clays were noted to extend eastward to about the community of Estrella along the Estrella River and the community of Creston along Huer Huero Creek. Upstream of the clays, some percolation from the Estrella River and Huer Huero Creek may directly recharge the Paso Robles Formation.

This hydrogeological conceptual model suggests that groundwater pumping—the preponderance of which is from the Paso Robles Formation—could potentially lower alluvial groundwater levels and deplete stream flows upstream of the clay layers but have only a negligible effect on alluvial water levels and stream flows overlying the clay layers. An additional geographic variation in regional hydrology is that the western part of the watershed surrounding the Subbasin is much wetter than the eastern part. Average annual precipitation over the Coast Ranges along the western side of the watershed is about four times greater than precipitation along the eastern edge of the watershed. As a result, surface runoff into the Salinas River is substantially greater than surface runoff into the Estrella River. The combined effect of greater surface inflow and confining layers beneath the alluvium is to enable the Salinas River to maintain relatively steady groundwater levels in the Alluvial Aquifer that support the establishment and growth of riparian vegetation. Except during major droughts, river recharge has been able to outpace leakage across the confining layers, even after water levels in deep wells have declined. In contrast, some stream reaches in the eastern half of the Subbasin do not appear to be buffered from the effects of pumping. Over several decades, pumping has lowered groundwater levels in localized areas within the Paso Robles Formation Aquifer, which may have potentially depleted stream flow in the past and may have decreased the extent and health of riparian vegetation. Throughout the majority of the Basin, these conditions occurred prior to 2015, and subsequent pumping has not resulted in the depletion of stream flow. SGMA does not require that GDEs be restored to any condition that occurred prior to 2015.

The identification of interconnected stream reaches was based on a joint evaluation of multiple data sets related to interconnected surface water and GDEs, including precipitation, stream flow, groundwater levels, stream bed elevation, vegetation maps, aerial photographs of vegetation, satellite mapping of vegetation health, and results of groundwater modeling. A preponderance of evidence approach was used in delineating potentially interconnected stream reaches, including subjective assessment of whether the frequency and duration of shallow water table conditions were sufficient to classify a reach as mostly or sometimes interconnected.

Many of the data used in the analysis pre-date 2015, which was the start of the SGMA management period. SGMA does not require that GDEs be restored to any condition that occurred prior to 2015. However, long-term data sets provide greater opportunity for differentiating the separate effects of variables that are often correlated. For example, precipitation, stream flow and groundwater levels are all potential sources of water for riparian vegetation, and all three are low during droughts. The extensive use of pre-2015 data in the analysis does not mean that this GSP intends to restore any conditions to a pre-2015 level.

Evaluation of the multiple data sets is summarized in subsections 5.5.1 through 5.5.4 below[1]. Subsection 5.5.5 presents the delineated interconnected stream reaches while Subsection 5.5.6 addresses groundwater dependent animals.

5.5.1 Groundwater Levels

Historical measurements of groundwater levels in wells can be used to identify where and to what extent Alluvial Aquifer water levels are different from Paso Robles Formation Aquifer water levels. The approach used to identify Alluvial Aquifer wells for this interconnected surface water analysis is not the same as the well-log based approach used for the groundwater elevation analysis in Section 5.1.1. The water-level database compiled for the GSP was screened to select wells with long periods of record located near streams. Thirty-one wells met these criteria. For the interconnected surface water analysis, the wells were classified as Alluvial Aquifer or Paso Robles Formation Aquifer based on the historical water level patterns. In Alluvial Aquifer wells, water levels remain relatively steady year after year at an elevation close to that of the nearby stream, and seasonal fluctuations are small. In wells completed in the Paso Robles Formation Aquifer, water levels exhibit seasonal fluctuations, have multiple-year trends in some areas of the Basin and are commonly substantially lower (rarely higher) than the nearby stream. **Figure 5-14** shows sample hydrographs illustrating the two characteristic patterns.

Three of the five wells with an alluvial water table pattern are along the Salinas River, which is consistent with the conceptual model for interconnected surface water with the associated Alluvial Aquifer. One is near the Estrella River near the town of Estrella (Jardine Road), which the conceptual model suggests is still within the region of extensive clay layers beneath the alluvium. The final well is next to San Juan Creek about 7 miles upstream of Shandon. Its hydrograph is not as strongly alluvial, but the water levels are close to the creek bed elevation

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[1] Methodology for Identifying Groundwater Dependent Ecosystems (Reference Document)

and fairly steady. In either case, there is no evidence of surface water depletion as a consequence of pumping from the Paso Robles Formation Aquifer.

Two new pairs of monitoring wells installed in 2021 provided additional confirmation of the conceptual model (Cleath-Harris Geologists, 2021). One shallow-deep pair is next to the Salinas River at the 13th Street bridge. Water levels in both wells were within 3 feet of the riverbed elevation, indicating interconnection with surface water with the Alluvial Aquifer and a local absence of drawdown in the Paso Robles Formation Aquifer. The other pair was next to the Estrella River at Airport Road. These wells were constructed in 2021 as part of a Supplemental Environmental Project (SEP) which was implemented by the City of Paso Robles. This site is within the region where extensive shallow clay layers are thought to be present, and the water levels appear to confirm this. The shallower well was screened down to 40 feet below the ground surface and had a depth to water of 29.5 feet. The top of the screen in the second well was 160 feet deeper and its water level was 158 feet lower. This represents a vertical water-level gradient close to unity, which means the shallow aquifer is perched above the clay layers and there is an unsaturated zone between the shallow and deep aquifers.

It is recommended that pairs of shallow and deep monitoring wells be installed along the Estrella River upstream of Estrella and along San Juan Creek to provide a better understanding of the relationship between the Alluvial Aquifer and the underlying Paso Robles Formation Aquifer in these areas. Installation of additional monitoring wells is described in the monitoring discussion in Section 7.6.

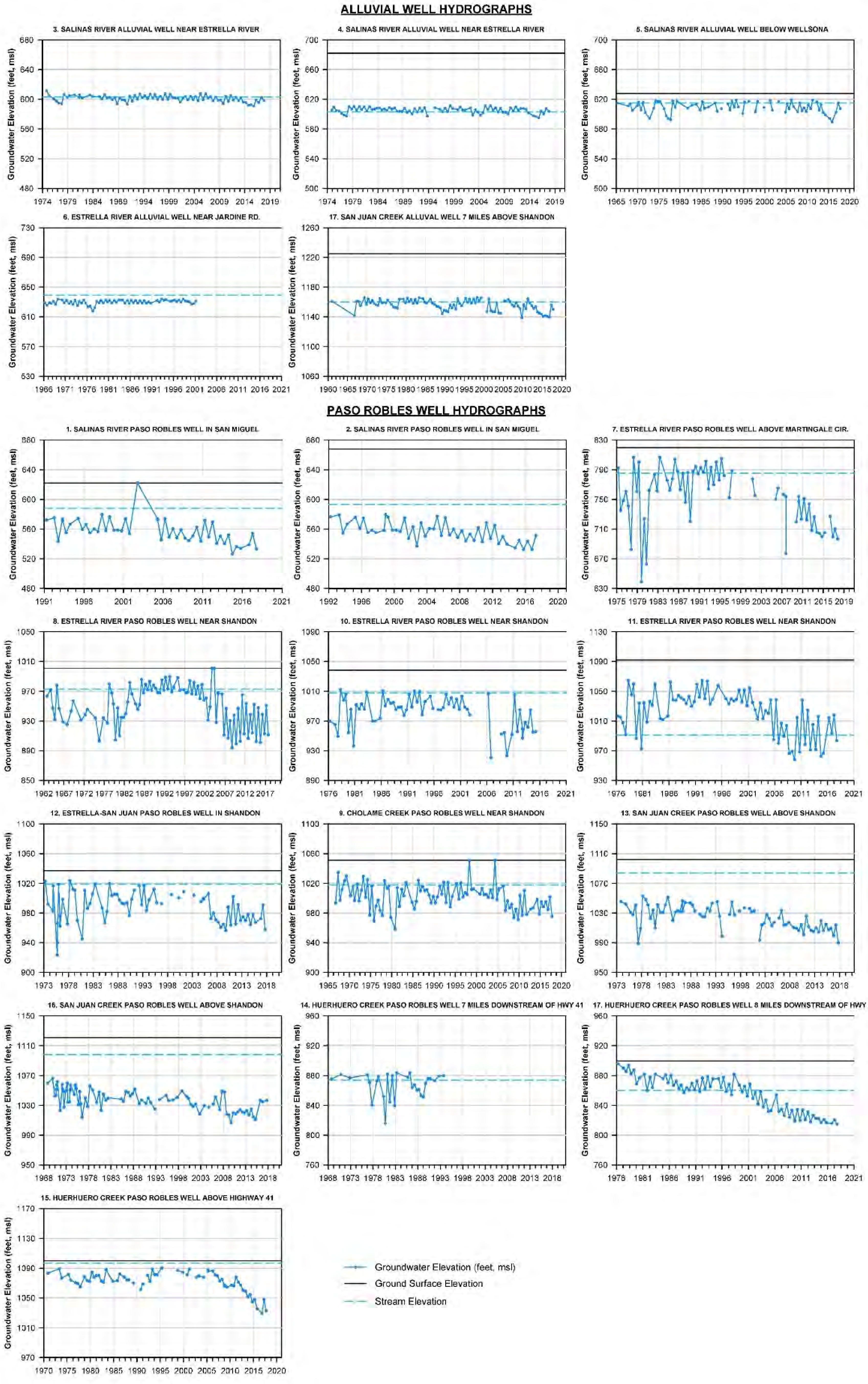
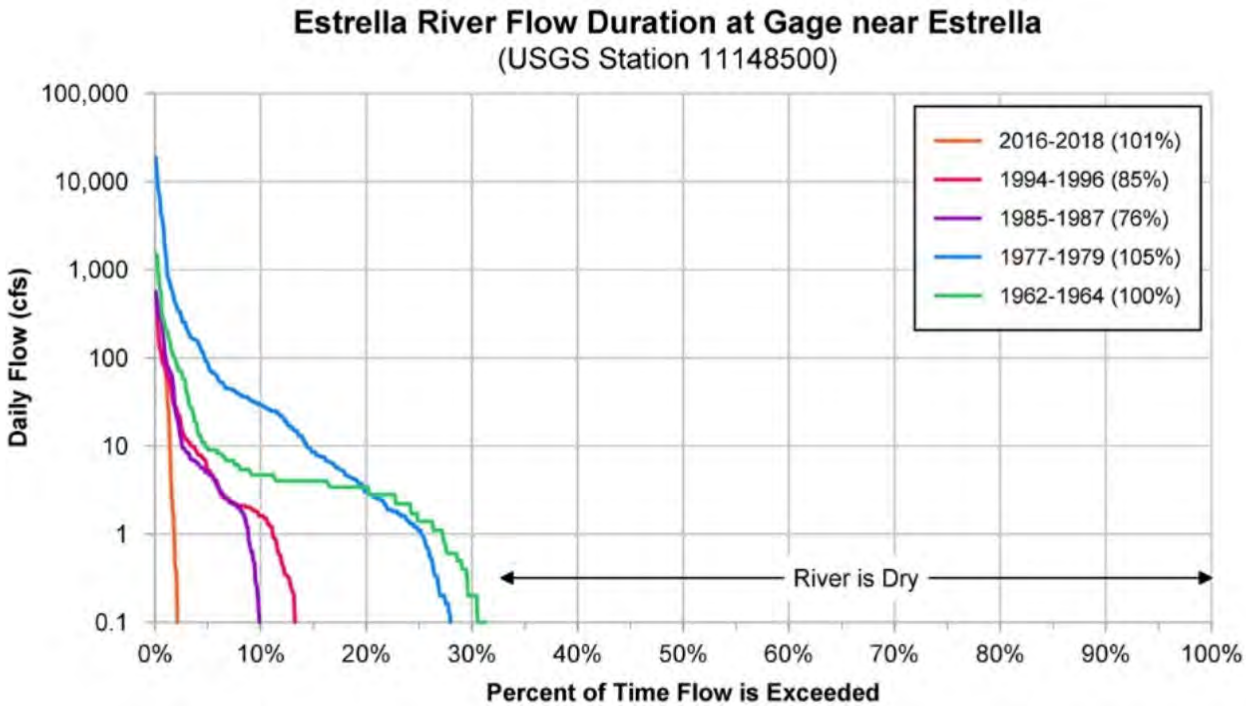


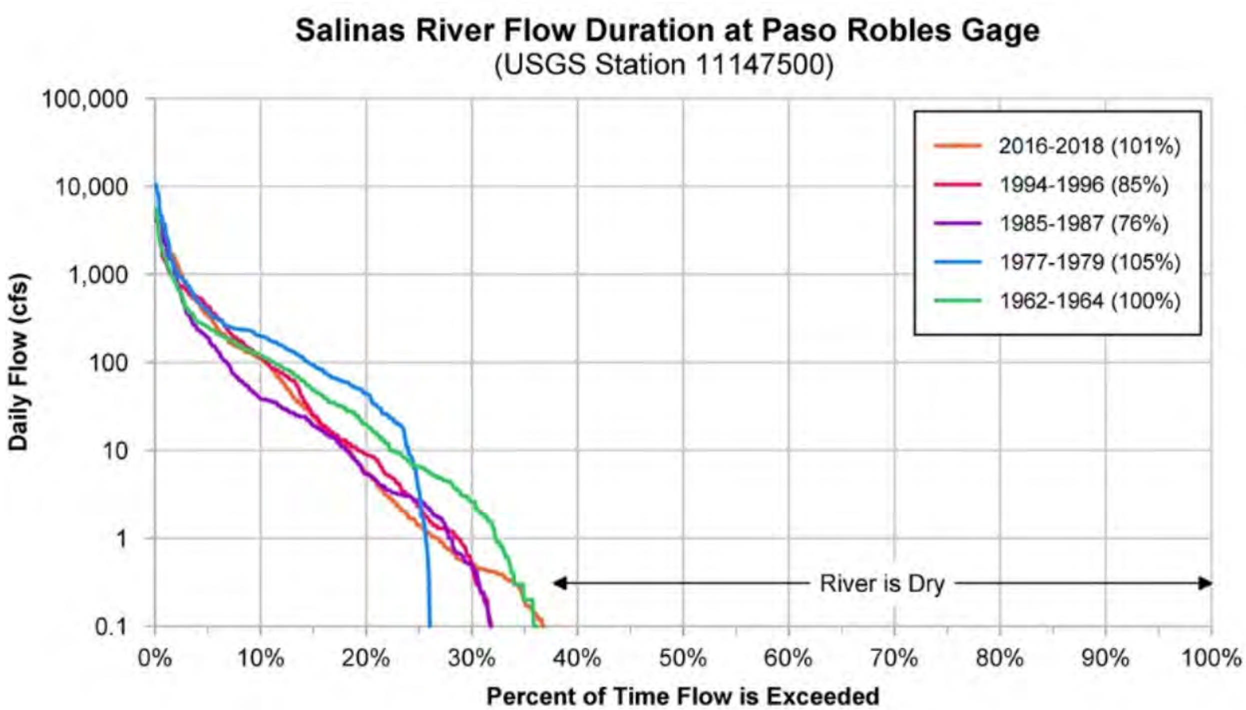
Figure 5-14. Alluvial and Paso Robles Well Hydrographs

5.5.2 Stream Flow

Differences between the low-flow regimes in the Salinas and Estrella Rivers are generally consistent with the hydrologic conceptual model and provide some evidence of flow depletion historically due to pumping along the Estrella River, although the flow record indicates that flow in the Estrella River are infrequent and typically only occur in response to seasonal wet weather conditions. Based on a review of the available stream flow records, any depletion of surface flow within the Estrella River occurred prior to 2015, and subsequent pumping has not resulted in the depletion of stream flow. SGMA does not require that GDEs be restored to any condition that occurred prior to 2015. The Salinas River gage is at Paso Robles, at the upstream edge of the Subbasin. Flows at that location do not reflect percolation or pumping effects within the Subbasin. The Estrella River gage is at Airport Road, and downstream of the reaches that may be potentially subject to impact by pumping. The gage was out of service from 1997-2015, but low-flow data for 2016-2018 was compared with data for 1955-1996.

Figure 5-15 shows flow-duration curves for both rivers for four three-year time intervals, roughly a decade apart from the 1960s to 2010s. Each curve displays all daily flows during a three-year period sorted from largest to smallest. The horizontal X axis shows the percentage of time each flow magnitude is exceeded. For perennial streams, the curves would extend across the entire width of the graph because flow exceeds zero 100 percent of the time. For seasonally intermittent streams, the curve bends down and crosses the X axis indicating the percentage of time flow is greater than zero. By plotting the vertical Y axis on a logarithmic scale, changes in low flows are visually expanded. If stream flow depletion is occurring, the effect is to curtail the duration of low flows (bend the curve downward) and shift the X axis intercept to the left.





Note: Percentages in legend indicate precipitation at Paso Robles as percent of 1910-2021 average

Figure 5-1. Flow-Duration Curves for Estrella and Salinas Rivers

As documented in **Figure 5-15**, low flows in the Estrella River have become progressively shorter in duration over the past five decades, indicated by the curves shifting progressively to the left. In contrast, the curves for the Salinas River have remained in a cluster, with no trend to the right or left. These curves suggest that flows upstream of the Estrella gage may have historically been interconnected with groundwater and subject to depletion by groundwater pumping and lowered groundwater levels. Based on a review of the available stream flow records, any depletion of surface flow within the Estrella River occurred prior to 2015, and subsequent pumping has not resulted in the depletion of stream flow. SGMA does not require that GDEs be restored to any condition that occurred prior to 2015.

Low flows and/or damp channel sediments visible in historical aerial photographs provide additional evidence of interconnection between surface water and groundwater. Along the Salinas River, flows as low as 5-8 cfs at the Paso Robles gage produced continuous surface flow all the way to the Nacimiento River, indicating negligible percolation due to a high water table. At other times, flow became discontinuous even when flow at the gage was considerably higher, probably indicating refilling of the Alluvial Aquifer after a period without surface flow.

Aerial photographs indicate a potential for variable interconnection along the Estrella River upstream of the gage. Open water or ribbons of very damp soil along the channel were commonly present at various locations from about 4 miles upstream of Whitley Gardens to about 0.5 mile downstream of Whitley Gardens and along about a 1-mile reach near Martingale Circle (about 5 channel miles downstream of Whitley Gardens) prior to 2012. This reach is referred to in this analysis as the "middle reach" of the Estrella River. Since 2012, those apparent gaining conditions along the middle reach have not been visible in dry season air photos, possibly due to the 2012-2016 drought or to long-term declines in groundwater levels. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas, although it is recommended that additional investigations be undertaken to further characterize this area.

5.5.3 Riparian Vegetation

Vegetation patterns along streams can also be used to map potential interconnection of surface water and groundwater because growth is more vigorous where plant roots can reach the water table. There are limitations to this approach, however. First, some plant species are facultative phreatophytes, which means they will establish and grow with or without continuous access to the water table. A second limitation is that riparian vegetation in shallow water table areas is subject to mechanical removal by flood scour In spite of these limitations, broad patches of dense riparian vegetation stand out in aerial photographs and provide an indication of where the water table is shallow and interconnected with the root zone and possibly also the stream channel.

A source of vegetation mapping often used for preparing GSPs is the Natural Communities Commonly Associated with Groundwater (NCCAG) mapping provided in georeferenced digital formats on DWR's SGMA Data Portal. The NCCAG maps of potential riparian and wetland vegetation are statewide compilations of numerous local vegetation mapping studies, mostly from the early 2000s. However, a detailed comparison of vegetation and wetland polygons in the NCCAG maps with aerial photographs revealed that the accuracy of the NCCAG vegetation delineations is poor in the Subbasin[2].

For the purposes of the interconnected surface water analysis for this GSP, a new map of riparian and wetland vegetation was created by digitally outlining areas of visibly dense riparian trees or shrubs more than about 50 feet wide along river and creek channels based on May 2017 aerial photography. The photography represents non-drought conditions in a year close to the start of the SGMA management era (January 2015). For isolated wetlands, mapped polygons in the NCCAG data set were compared with the 2017 aerial photographs and retained as potential groundwater dependent wetlands if they exhibited open water or bright green herbaceous vegetation in the dry season and were natural features (as opposed to constructed stock ponds).

The resulting map of groundwater-dependent vegetation is shown in **Figure 5-16**. In-channel riparian and wetland vegetation is mapped as polygons accurately delineating the perimeter of the vegetation patch. Isolated wetlands are shown using symbols because many of them would otherwise be too small to see on a basin-scale map. The vegetation distribution is generally consistent with the conceptual model for interconnected surface water. Dense riparian vegetation is most abundant along the Salinas River, which has relatively large and persistent surface flows as well as consistently shallow depth to groundwater in the adjacent Alluvial Aquifer. These conditions also result in a relatively high abundance of in-channel wetlands. Riparian vegetation along the Estrella River is generally sparser but is more abundant along the middle reach than the upper and lower reaches. Patches of sparse and dense riparian vegetation and even potential wetlands are present along San Juan Creek at locations more than about 10 miles upstream of Shandon. No efforts were made to ground truth or physically verify the presence of these features and there is no evidence that pumping from the Paso Robles Formation Aquifer is affecting these areas.

[2] Methodology for Identifying Groundwater Dependent Ecosystems (Reference Document)

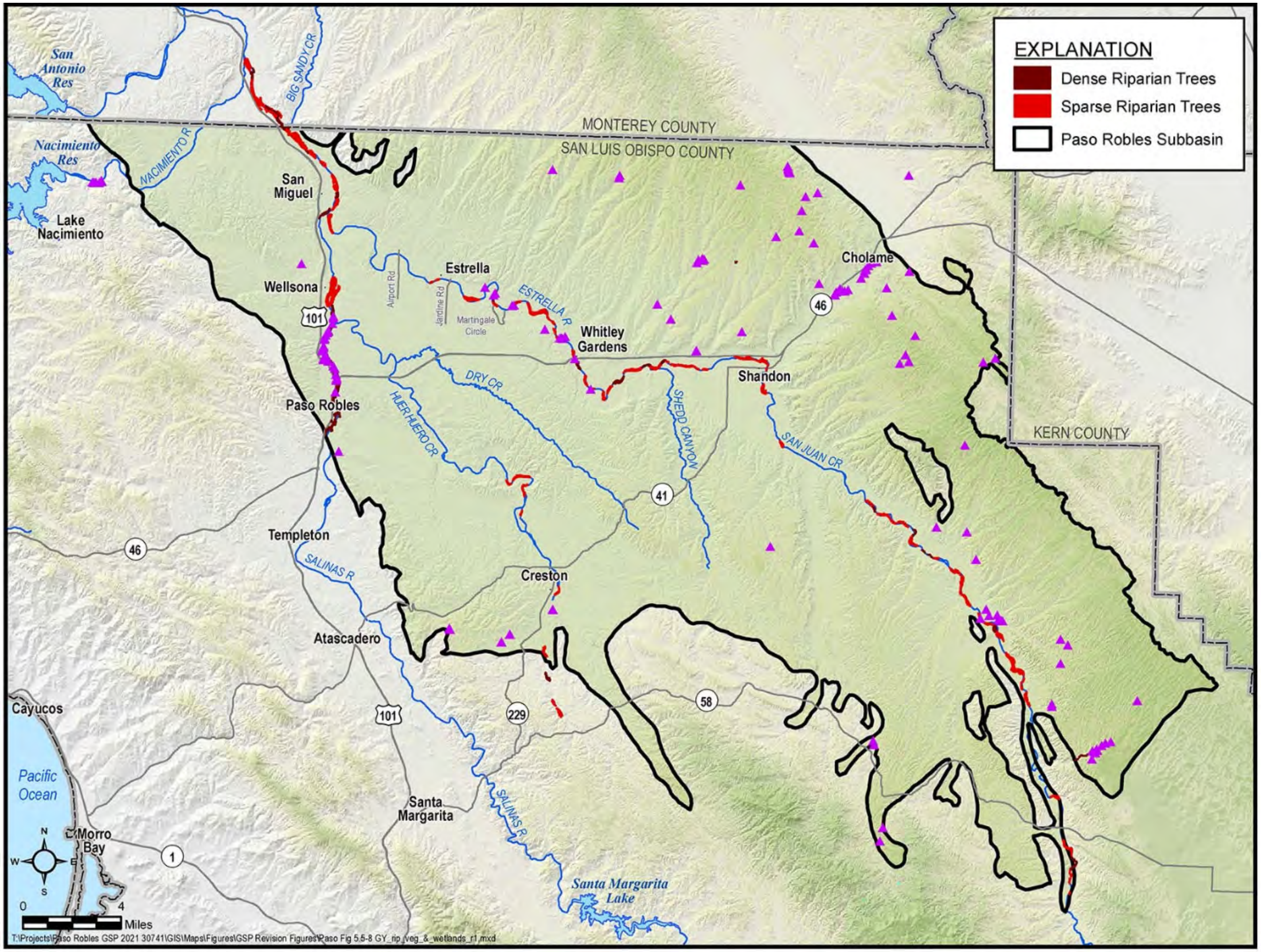


Figure 5-26. Groundwater-Dependent Vegetation in Paso Robles Subbasin

Riparian vegetation conditions in 2018 was compared with conditions in 1994 along the entire lengths of the Salinas River, Estrella River, Huer Huero Creek and San Juan Creek using aerial photographs. Both of those dates were 2-4 years after the end of a major drought, and the droughts were of similar intensity and duration. In other words, precipitation and stream flow conditions during the years immediately preceding the two photographs were similar, but groundwater levels were different. Between those two periods, there were cumulative water-level declines in Paso Robles Formation Aquifer wells of 25-70 feet in the eastern part of the Subbasin. Water levels in Alluvial Aquifer wells along the Salinas River remained stable until 2011, declined 12-18 feet during 2012-2016 and then recovered (see **Figure 5-14**). The density and extent of patches of riparian vegetation along the waterways in 2018 was visually classified as “more”, “the same” or “less” than in 1994.

The results of the vegetation comparison are shown in **Figure 5-17**. Where there were differences along the Salinas River, they were all decreases in vegetation coverage. Review of additional photographs between 1994 and 2018 indicated that the decrease in vegetation occurred almost entirely during 2013-2017. This suggests that the relatively small and temporary declines in alluvial water levels during 2012-2016 were large enough to adversely impact vegetation. Along the Estrella River, vegetation coverage mostly declined near Shandon and along the downstream end toward the Salinas River, and the declines occurred over a longer period. Along the middle reach, however, vegetation coverage unexpectedly increased in a number of locations. This is the same river segment where evidence of gaining flow could be seen in aerial photographs up until 2012, indicating a near-surface water table. Although that river segment is thought to be east of the extensive near-surface clay layers in the Paso Robles Formation Aquifer, some aspect of hydrogeology and recharge appears to be sustaining a high water table in spite of large water-level declines in deeper wells in that region. No efforts were made to ground truth or physically verify the river geology in this area and additional investigations would be required to further characterize this area.

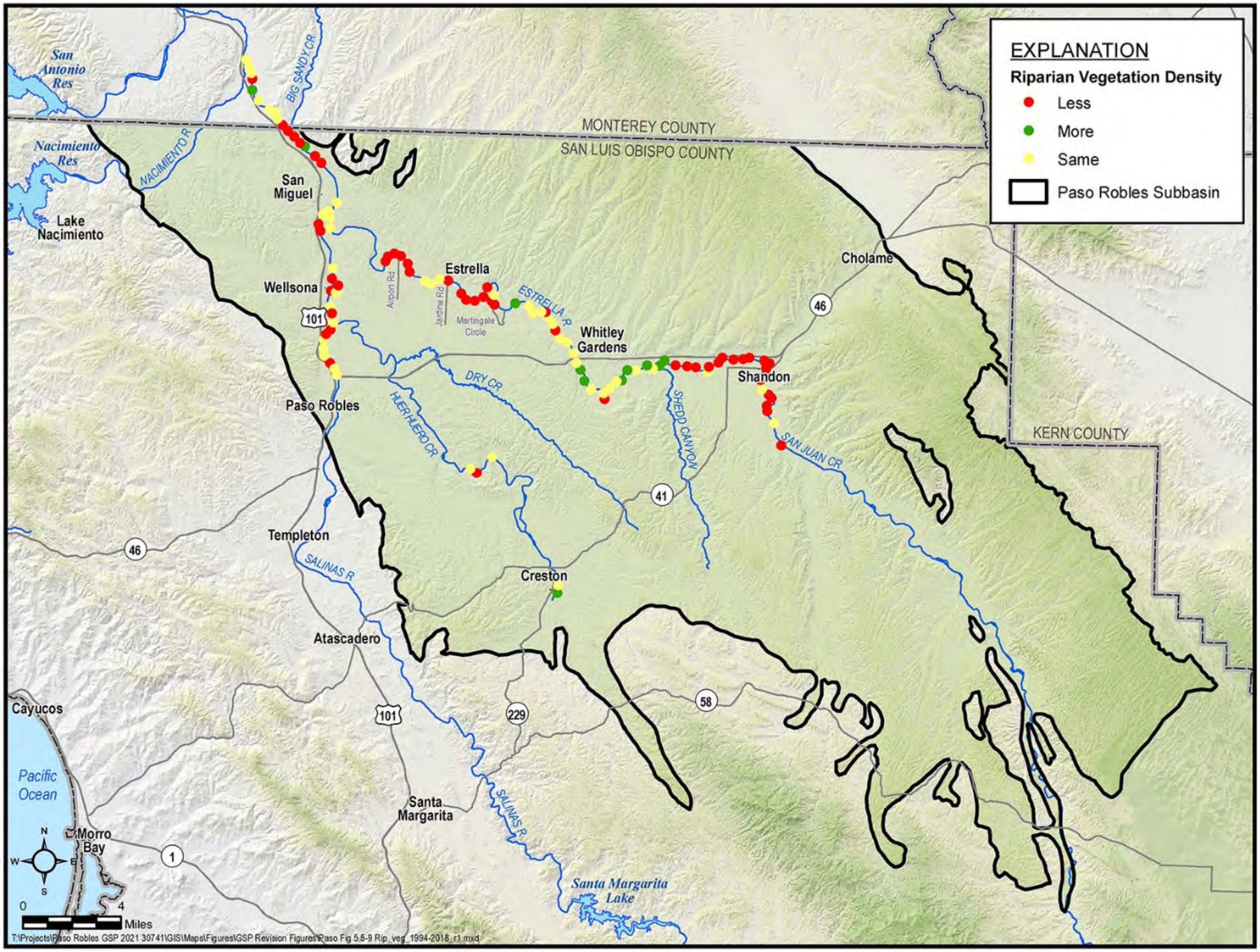


Figure 5-37. Density of Riparian Vegetation, Paso Robles Subbasin

Additional vegetation data were evaluated for indications of changes related to groundwater levels[3]. Briefly, high-resolution aerial photographs for 2013 and 2017 were inspected to identify four limited locations where riparian trees appear to have died during the recent drought. These locations generally occur where Paso Robles Formation Aquifer groundwater levels had been declining for a few decades or where Alluvial Aquifer groundwater levels declined by over 10 feet for a few years between 2013 and 2017.

An Enhanced Vegetation Index (EVI) trend analysis was performed for the sparse and dense riparian vegetation areas presented on Figure 5-16 for the purpose of identifying and evaluating trends in riparian vegetation health as an indicator of potential long-term trends in surface water-groundwater interactions within stream reaches. EVI data provide an indicator of healthy, well-watered vegetation. It is calculated from the proportions of visible and near-infrared sunlight reflected by vegetation. EVI values typically range from zero to over 0.7. Healthy, or well-watered, vegetation absorbs most of the visible light that hits it and reflects a large portion of near-infrared light, resulting in a high EVI value. Unhealthy, dry, or dormant vegetation reflects more visible light and less near-infrared light, leading to a lower EVI value.

The EVI analysis was processed in Climate Engine[4] using Landsat data from January 2009 through present. This analysis period is considered representative of recent hydrologic conditions as it begins and ends with similar hydrologic conditions and includes dry, wet, and average periods. The results of this study indicate that riparian vegetation health has generally remained stable over the analysis period suggesting that Alluvial Aquifer groundwater levels have remained a reliable water source within the rooting zone depth of the established riparian communities. Observed cyclical patterns of increasing and decreasing riparian vegetation health correlate strongly with water year type indicating that water levels in the Alluvial Aquifer operate independently from the long-term declining water levels induced by groundwater pumping in the underlying Paso Robles Formation Aquifer[5].

5.5.4 Simulated Groundwater-Surface Water Interconnection

Results of groundwater modeling provide additional clues regarding the location and timing of interconnected surface water. Stream cells where annual groundwater discharge from the Alluvial Aquifers into the stream averaged 10 AFY or more are shown on **Figure 4-17**. Those locations included the Salinas River above Huer Huero Creek and along a 3-mile reach below San Miguel. They also included the middle reach of the Estrella River. Those locations are

[3] Methodology for Identifying Groundwater Dependent Ecosystems (Reference Document)
[4] Climate Engine (Huntington et al., 2017) is an online tool for cloud computing of climate and remote sensing data powered by Google Earth Engine (Gorelick et al., 2017) (https://app.climateengine.org/climateEngine)
[5] Paso Robles Basin Riparian Health Trend Analysis as an Indicator of SW-GW Interaction, GSI, (Reference Document)

consistent with the water level and vegetation data presented above. However, the model also had gaining stream reaches along Huer Huero Creek and parts of the upper reach of the Estrella River (from Shandon down to Shedd Canyon), where historical vegetation does not indicate the presence of shallow groundwater. This might indicate a bias in modeling results toward slightly high Alluvial Aquifer groundwater levels along those rivers. Conversely, the model did not simulate gaining flow where the San Juan Fault crosses San Juan Creek, where a perennial spring is located in the channel.

The locations of simulated gaining and losing reaches were also compared for 1998 and 2016, representing years with relatively high and low groundwater levels, respectively. The locations of simulated gaining reaches in 1998 closely matched the locations of simulated groundwater inflow shown in **Figure 4-17**. As expected, the lengths of the gaining reaches were much shorter in 2016 but still included part of the middle reach of the Estrella River near Whitley Gardens, where a dense patch of riparian vegetation is present.

5.5.5 Delineation of Interconnected Surface Water

Stream reaches where groundwater may potentially be interconnected with surface flow or the riparian vegetation root zone are shown in **Figure 5-18**. The delineation is based on an interpretation of the data and analyses described in the preceding sections. This involved some subjective assessments such as differentiating "dense" from "sparse" riparian vegetation or estimating how frequent and persistent interconnection may be designated "interconnected". Along stream channels, two categories of interconnection were assigned: interconnection with surface water and interconnection with riparian vegetation. The former requires higher water levels and typically occurs less frequently or for shorter periods of time. The latter includes areas where the water table is less than about 25 feet below the stream bed most of the time. Empirically, this is the root zone depth associated with the presence of dense riparian vegetation. These considerations are discussed by stream reach below. No efforts were made to ground truth or physically verify the presence of actual interconnection and there is no evidence that pumping from the Paso Robles is affecting these areas.

The entire length of the Salinas River from Paso Robles to the confluence with the Nacimiento River was classified as interconnected with surface water and shallow groundwater in the Alluvial Aquifer. The presence of very stable water levels close to the riverbed elevation in all Alluvial Aquifer wells along that reach supports this designation, as does the presence of sparse to dense riparian vegetation along most of the reach. Even small inflows to the upper end of the reach commonly extend along the entire length of the reach, which also indicates that the water table is at or near the riverbed elevation along the entire length of the reach. There is no evidence that pumping from the Paso Robles is affecting these areas.

The Estrella River below Estrella (near Jardine Road) was classified as not interconnected. This classification reflects the very small amount of riparian vegetation along the entire reach throughout the analysis period (1989-2021). Although shallow clay layers are thought to be present in this area and the new shallow monitoring well at Airport Road confirms the presence of a water table 30 feet below the ground surface, this depth to water appears to be too great for vegetation to readily establish given the low frequency and duration of surface flow in the river.

The middle reach of the Estrella River, from Jardine Road up to Shedd Canyon contains alternating segments that appear to be not connected or are potentially connected to the vegetation root zone. These segments were classified primarily on the density of riparian vegetation. The only confirmation of groundwater levels is at a single well near the downstream end of the middle reach, where the depth to water was consistently about 10 feet below the riverbed. Emergent flow appeared to be present in some dry-season aerial photographs along a segment below Shedd Canyon, about 2.5 to 4 miles upstream of Highway 46. Open water or wet channel sediments appear to be present in some aerial photos in winter or spring but not during the dry season since about 2012. Thus, that segment was not classified as interconnected with surface water as of the start of the SGMA management period (2015).

The Estrella River from Shedd Canyon up to Shandon and the lowermost 10 miles of San Juan Creek were classified as not interconnected. Although sparse riparian vegetation is present in places, the depth to groundwater in Paso Robles Formation Aquifer wells has been declining for decades and now exceeds the rooting depth of riparian vegetation. The vegetation that remains probably consists of facultative phreatophytes or is vestigial mature vegetation that has managed to survive declining water levels. In any case, recruitment of new phreatophytic riparian vegetation is very unlikely under current conditions. Many of the data used in the analysis pre-date 2015, which was the start of the SGMA management period. SGMA does not require that GDEs be restored to any condition that occurred prior to 2015.

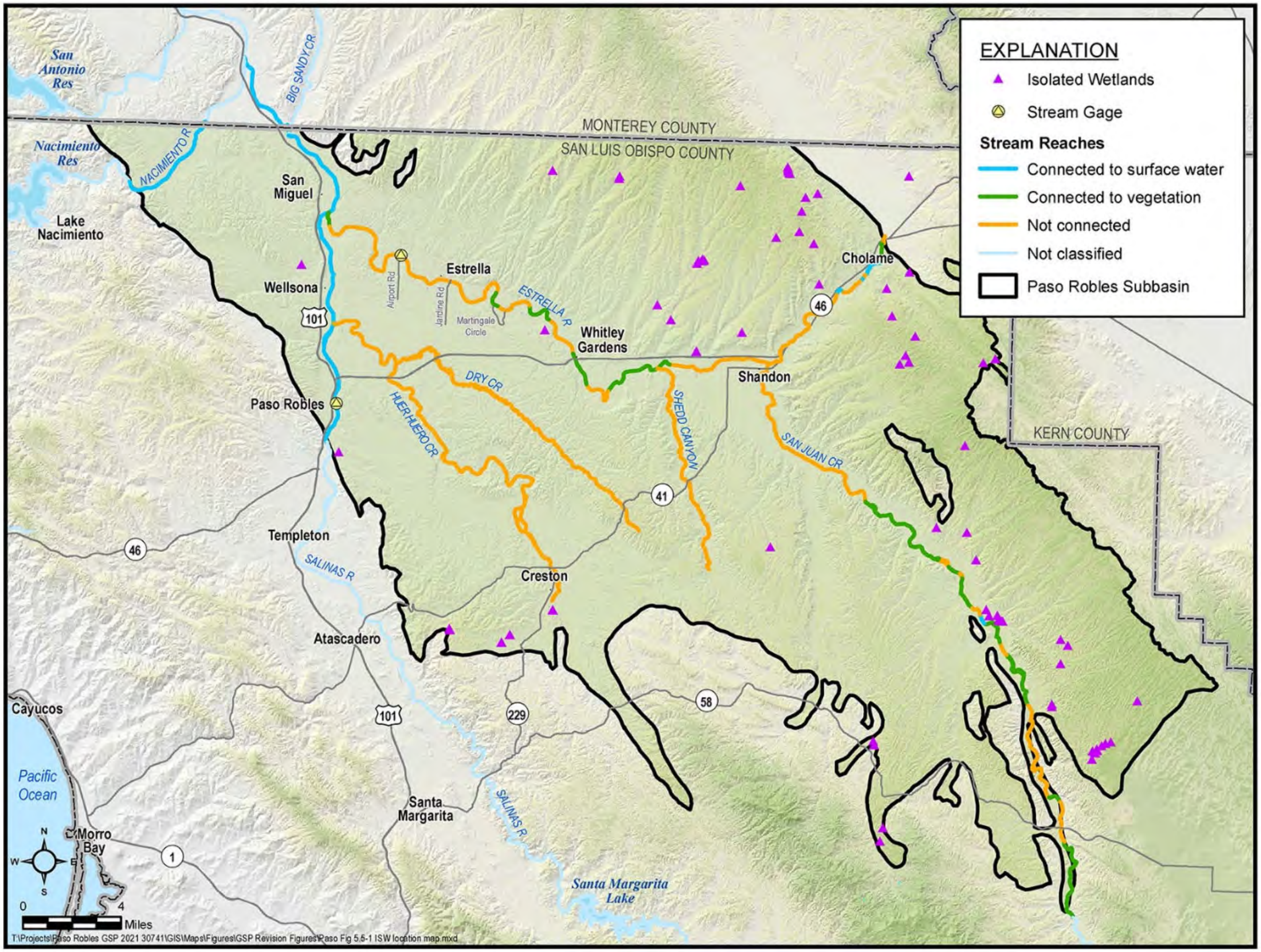


Figure 5-48. Locations of Potential Interconnection Between Groundwater and Surface Water

Much of San Juan Creek more than 10 miles upstream of Shandon appears to be potentially interconnected to riparian vegetation based on the presence of sparse or dense vegetation along most of the reach. One short reach where the San Juan Fault crosses the creek was classified as interconnected to surface water because it usually has emerging groundwater along a low-flow channel bordered by wetland vegetation. The one well with water-level data along this reach has water levels that are usually within 10 feet of the creek bed elevation.

The lowermost 5 miles of Cholame Creek were delineated as not connected based on the absence of significant riparian vegetation and water levels in the sole monitoring well that average about 30 feet below the ground surface. Farther up the creek, however, is a reach several miles long that has open water or wetland vegetation in most historical aerial photographs. Shallow groundwater along that reach could be caused by faults that pass through the area (see Figure 4-4). For unknown reasons, the shallow water table and surface flow conditions have not caused the establishment of dense riparian vegetation.

Riparian vegetation is generally absent along Huer Huero Creek, Dry Creek and Shedd Canyon and is typically sparse where it is present. The depth to water in wells in those parts of the Subbasin is uniformly too deep to support riparian vegetation. Accordingly, those waterways were all classified as not connected to groundwater.

The reach of the Nacimiento River that traverses the northwest corner of the Subbasin was classified as interconnected to surface water because reservoir releases during the dry season are more than sufficient to sustain a high water table adjacent to the river. That reach is far from major pumping centers in the Paso Robles Subbasin and hence unlikely to be significantly depleted by pumping.

Isolated, off-channel wetlands shown on the interconnected surface water map (Figure 5-14) are the subset of the NCCAG wetlands where distinctly green vegetation was visible in dry season aerial photographs and the feature appeared to be a natural depression, not a constructed stockpond. These areas are not considered to be connected to groundwater and are not subject to depletion by pumping.

5.5.6 Groundwater Dependent Animals

Many fish and wildlife species use aquatic and riparian habitats that are supported by groundwater. For the purpose of this GSP, beneficial use for habitat is limited to native species present in the Subbasin as of 2015, when SGMA took effect. The focus was on species that are state or federally listed as threatened, endangered or of special concern. This implicitly assumes that non-listed species will probably also be sustained if hydrologic conditions are suitable for sustaining the rarer species.

The reference document entitled Methodology for Identifying Groundwater Dependent Ecosystems documents a review of several sources of habitat information. Those sources often disagreed regarding which species are present within the Paso Robles Subbasin. For GSP purposes, it was concluded that animals that depend on riparian vegetation will probably be in good condition if the vegetation is in good condition. The one listed aquatic species seasonally present in streams that cross the Subbasin is southern steelhead which migrates up and down the Salinas River in winter and spring. Analysis in the above-mentioned reference document shows that groundwater pumping does not materially impact passage opportunity for steelhead because passage is only possible during relatively high flows and pumping from the Paso Robles Formation Aquifer has little effect on Salinas River flows because of clay layers beneath the alluvium along the Salinas River.

7 MONITORING NETWORKS

7.6 Interconnected Surface Water Monitoring Network

Data presented in Section 5.5 indicate potential groundwater connection to surface water or to the riparian vegetation root zone at least some of the time along certain sections of the Salinas River, along the middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) and along San Juan Creek upstream of Spring Creek. The potential connection along the Salinas River is between the surface water system and the adjacent Alluvial Aquifer. There is no evidence that the Salinas River surface water flows are connected to the underlying Paso Robles Formation Aquifer. The potential connection between the surface water system along the middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) and along San Juan Creek upstream of Spring Creek, and the underlying Paso Robles Formation Aquifer is unknown but sufficient evidence exists that there could potentially be a connection, and therefore further investigation in these areas is recommended.

Seven existing wells already are monitored for water levels within 2,000 feet of those stream reaches and these have water-level patterns consistent with expected shallow water table conditions. Two of these are shown as blue squares in **Figure 7-5**. The locations of the others are not shown due to confidentiality restrictions, but they include three wells along the Salinas River between Wellsona and the Estrella River, one well next to the Estrella River near Jardine Road and one well next to San Juan Creek about 7 miles above Shandon. The City of Paso Robles' Supplemental Environmental Project (SEP) identified ten sites where multi-depth monitoring wells and stream gages would be useful for better characterizing potential interconnection of surface water and groundwater (Cleath-Harris Geologists, 2021). Those sites are shown as orange circles numbered 1 through 10 on the figure. Sites 1 and 9 have existing stream gages, and shallow and intermediate depth monitoring wells were installed nearby in spring 2021.

7.6.1 Interconnected Surface Water Monitoring Data Gaps

The existing shallow monitoring wells do not adequately cover the three stream reaches where interconnection of groundwater with surface water and/or the riparian vegetation root zone appears to potentially occur some of the time. The presence of shallow clay layers and degree of separation between Alluvial Aquifer groundwater levels and Paso Robles Formation Aquifer pumping and water levels is poorly known in the eastern part of the Subbasin. Recommended locations for additional wells to verify and monitor interconnection are listed in **Table 7-6** and shown in **Figure 7-5** as green squares labeled A through H. Shallow and deep monitoring wells are needed at some of the locations to confirm any differences between Alluvial Aquifer and Paso Robles Formation Aquifer water levels. These locations are suggestions that would need to be refined based on practical considerations such as land ownership and adequate road access.

New stream gages have already been installed since the beginning of the GSP development process. This includes SEP sites 2, 4 and 10 on the Salinas River, Huer Huero Creek and Estrella River (see **Figure 7-5**) and a new gage installed by DWR on Cholame Creek at SEP site 8. Of the remaining SEP sites, a gage at site 7 would be the most useful.

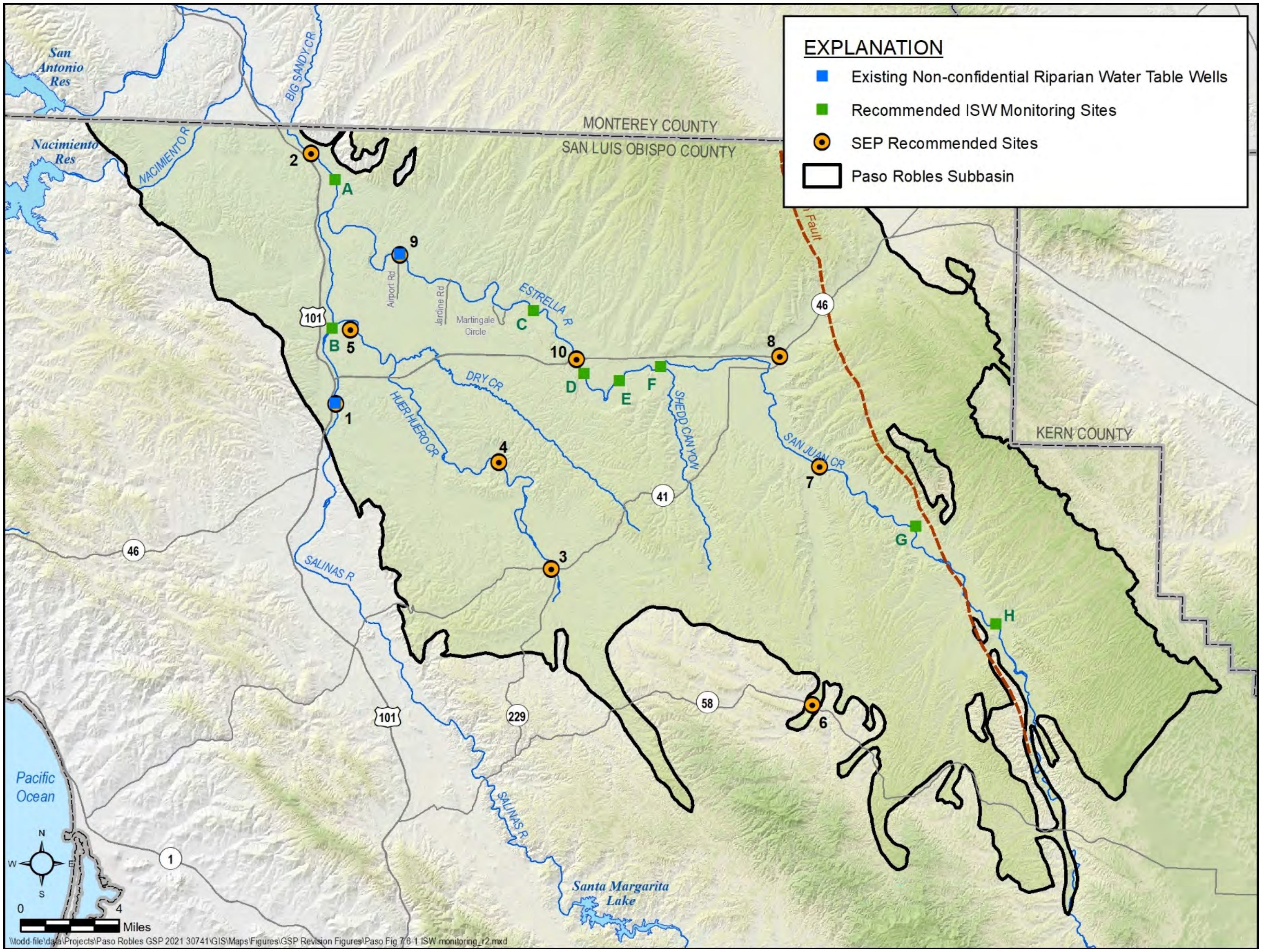


Figure 7-1. Interconnected Surface Water Monitoring Well Network

Table 7-1. Recommended Well Locations for Monitoring Interconnected Surface Water and GDEs

Map Label	Description
A	Salinas River in San Miguel, near existing Paso Robles Formation Aquifer monitoring well clusters. This site could replace or be shifted to SEP site 2. Only a shallow well is needed.
B	Salinas River near Wellsona. This fills a long reach with no data and is a location where surface flow is likely to become discontinuous before other reaches. Only a shallow well is needed.
C	Estrella River above Martingale Circle. This site is near an existing monitoring well near the river that shows a Paso Robles Formation Aquifer water-level pattern. Only a shallow well is needed.
D	Estrella River at Whitley Gardens. The suggested site is at the River Grove Drive bridge at the upstream edge of town. This site could replace or be shifted to SEP site 10. This site needs shallow and deep wells to confirm whether the alluvial water table is somewhat independent of underlying Paso Robles Formation Aquifer water levels.
E	Estrella River 3.3 channel miles upstream of Highway 46 (Whitley Gardens). There are no nearby existing wells to confirm the apparent presence of shallow water table conditions. This site needs shallow and deep wells to confirm whether the alluvial water table is somewhat independent of underlying Paso Robles Formation Aquifer water levels.
F	Estrella River near Shedd Canyon confluence. There are no nearby existing wells to confirm the apparent presence of shallow water table conditions. This site needs shallow and deep wells to confirm whether the alluvial water table is somewhat independent of underlying Paso Robles Formation Aquifer water levels.
G	San Juan Creek between existing monitoring well and San Juan Fault preferably near riparian vegetation. A shallow well is needed at this location to supplement the single existing well along this reach of San Juan Creek, which is reportedly 225 feet deep but has relatively stable water levels close to the creek bed elevation, like an Alluvial Aquifer well.
H	At this location, the San Juan Fault forces groundwater into the channel of San Juan Creek, creating a spring and a short reach of flowing water bordered by wetland vegetation. In lieu of a well, the length of the flowing reach and wetland area could be monitored to detect decreases in the flow of groundwater across the fault.

8 SUSTAINABLE MANAGEMENT CRITERIA

8.4 Chronic Lowering of Groundwater Levels Sustainable Management Criteria

This section is organized to first present the general concepts of the sustainable management criteria as developed in 2019. Responsive to the DWR Corrective Actions, this is supplemented by additional description of the undesirable results and additional explanation of the sustainability criteria with evaluation of the effects of the criteria on beneficial uses and users of groundwater.

8.4.1 Information and Methodology Used to Establish Measurable Objectives and Minimum Thresholds

The information used for establishing the chronic lowering of groundwater levels measurable objectives and minimum thresholds includes:

- Information about the public definition of significant and unreasonable conditions and preferred current and future groundwater elevations, gathered from the Sustainable Management Criteria survey and public outreach meetings.
- Historical groundwater elevation data from wells monitored by the County of San Luis Obispo
- Depths and locations from existing well records
- Maps of current and historical groundwater elevation data
- Results of modeling of various scenarios of future groundwater level conditions

Information and methods used to initially establish sustainable management criteria were supplemented using:

- The identified deficiencies and Corrective Actions defined by DWR in its June 3, 2021 letter reviewing the Paso Robles Area Subbasin – 2020 Groundwater Sustainability Plan and the January 21, 2022 “Incomplete” Determination of the 2020 Paso Robles Area Subbasin Groundwater Sustainability Plan (Appendix O)
- Evaluation of existing well records with information on construction and locations (as of 2021) relative to the Representative Monitoring Site (RMS) wells

- Evaluation of the effects of the sustainability criteria on beneficial uses and users of groundwater, especially existing domestic well records

8.4.2 Locally Defined Significant and Unreasonable Conditions

This section provides the descriptions, definitions, and evaluation that are the basis for establishing sustainability criteria in the next section.

- Description of significant and unreasonable conditions
- Potential causes of significant and unreasonable conditions
- Definition of significant and unreasonable conditions

8.4.2.1 Description of Significant and Unreasonable Conditions

As groundwater levels decline in a well, a sequence of increasingly severe conditions will occur. These include an increase in pumping costs and a decrease in pump output (in gallons per minute). With further declines, the pump may break suction, which means that the water level in the well has dropped to the level of the pump intake. This can be remedied by lowering the pump inside the well, which can cost thousands of dollars. Chronically declining water levels will eventually drop below the top of the well screen. This exposes the screen to air, which can produce two adverse effects. In the first, water entering the well at the top of the screen will cascade down the inside of the well, entraining air; this air entrainment can result in cavitation damage to pump. The other potential adverse effect is accelerated corrosion of the well screen. Corrosion can reduce the efficiency and capacity of a well and eventually creates a risk of well screen collapse, which would likely render the well unusable. If water levels decline below the well screen, water might not be able to flow into the well at the desired rate regardless of the capacity or depth setting of the pump. This might occur more frequently where the thickness of basin fill materials is relatively thin. While describing a progression of potential adverse effects, at some point the well no longer fulfills its water supply purpose and is deemed to have "gone dry." For the purposes of this discussion, a well going dry means that the entire well (to the reported total depth of the well) is unsaturated.

For purposes of setting the Measurable Objective and Minimum Threshold, significant and unreasonable conditions are defined in terms of an increased percentage of wells unable to sufficiently produce water. The rationale is based on four general assumptions summarized below, with more explanation in the following sections:

1. Accurate information on the location, elevation, use, status, and construction of most local supply wells is not readily available for detailed evaluation of the range of adverse effects. Analysis was initiated with the simple concept of the entire well depth

as "going dry" and then applied to the set of existing wells that have available information on location and construction.

2. Responsibility for wells in a SGMA managed groundwater basin is shared between GSAs that manage groundwater levels to protect against significant and unreasonable conditions and well owners who have responsibility for their respective wells.

3. During the recent drought, many wells within the Subbasin were reported to have been unable to sufficiently produce water. The California Department of Water Resources (DWR) *Household Water Supply Shortage Reporting System* (DWR 2021)[1] lists a total of 141 private household wells (i.e., domestic wells) that no longer sufficiently produce water as of the end of 2017, as shown on Figure 8-1.

4. Wells that are unable to sufficiently produce water prior to 2017 are assumed to have either been replaced by deeper wells or an alternative water supply source. 2017 is used as the end of this analysis period to be consistent with the water level measurable objectives defined below.

8.4.2.2 Potential Causes of Significant and Unreasonable Conditions

With respect to chronic groundwater level declines, the primary cause of significant and unreasonable conditions is a water budget imbalance with pumping in excess of recharge. At any given time and place, this could involve multiple factors including local hydrogeologic conditions, cumulative pumping, reduced natural recharge due to drought, or reduction of surface water supplies used in lieu of groundwater and associated reduction in groundwater recharge from return flows.

The groundwater level declines in turn cause adverse conditions (i.e., loss of yield) that not only vary across the Subbasin and through time, but also differ in magnitude from well to well depending on its location, construction, operation, and conditions. Accurate information on the location, elevation, status, and construction of most local supply wells is not readily available and therefore, detailed evaluation of the range of adverse effects is not possible.

Moreover, the significant and unreasonable conditions of a well losing yield, experiencing damage, or the inability to sufficiently produce water represent a complex interplay of causes and shared responsibility. Some of the potential causes are within the responsibility of the GSAs. Most notably, a GSA is responsible for groundwater basin management without causing significant and unreasonable conditions such as chronic groundwater level declines. SGMA also requires that a GSA address significant and unreasonable effects caused by groundwater conditions *throughout the basin.* This indicates that a GSA is not solely

[1] https://mydrywell.water.ca.gov/report/

responsible for local or well-specific problems and furthermore that responsibility is shared with a well owner. A reasonable expectation exists that a well owner would construct, maintain, and operate the well to provide its expected yield over the well's life span, including droughts, and with some anticipation that neighbors also might construct wells (consistent with land use and well permitting policies).

8.4.2.3 Definition of Significant and Unreasonable Conditions

As context, the Sustainability Goal for the Paso Robles Subbasin is to sustainably manage groundwater resources for the long-term community, financial, and environmental benefit of users while maintaining the unique cultural, community, and business aspects of the Subbasin. Significant and unreasonable groundwater levels were initially defined in 2019 as those that:

- Impact the ability of existing domestic wells of average depth to produce adequate water for domestic purposes.
- Cause significant financial burden to those who rely on the groundwater basin
- Interfere with other SGMA sustainability indicators.

These have been modified. First, the limitation of existing domestic wells to those of average depth has been modified to conceptually include all existing well records, with a focus on domestic well records. This focus recognizes the importance of domestic wells as a source of potable supply (often the sole source to one or more households) and assumes that these are more likely to be shallow and thus susceptible to undesirable results from groundwater level declines. Data limitations in identifying domestic wells and evaluating impacts are acknowledged throughout this section. Second, financial burdens are not evaluated as a groundwater sustainability issue but are more appropriately addressed as part of the analysis of projects and management actions and implementation plan. Third, the effects on other SGMA sustainability indicators are addressed in Section 8.4.5.5.

For purposes of this supplementary analysis in response to DWR Corrective Actions and to support the sustainability criteria in this GSP, significant and unreasonable groundwater levels are defined as follows.

1. A significant number of wells throughout the Subbasin unable to sufficiently produce water with the following considerations:
    - As noted above, "going dry" means that the entire well length (to the bottom of the well) is unsaturated.
    - It is acknowledged that groundwater level declines involve a continuum of potential impacts that are specific to a well.

- These include effects not noticed by the well owner and those that are noticed and reasonably handled by the well owner.
- This significance criteria relates to wells that were unable to sufficiently produce water prior to 2017.
- The GSAs define a significant number of wells throughout the Subbasin as ten percent of all wells, as represented by wells with known location and construction information.

2. Chronic groundwater level declines that interfere with other SGMA sustainability indicators.

In that light, the definition of significant and unreasonable conditions would be the chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply equivalent to more than ten percent of wells unable to sufficiently produce water. This is defined by groundwater conditions occurring throughout the Subbasin. Additional temporal and spatial components defining undesirable results are presented in Section 8.4.6.

8.4.3 Measurable Objectives

The measurable objectives for chronic lowering of groundwater levels represent target groundwater elevations that are established to achieve the sustainability goal by at least 2040. Measurable objectives are groundwater levels established at each RMS. Measurable objective groundwater levels are higher than minimum threshold groundwater levels. Measurable objectives provide operational flexibility above minimum threshold levels to ensure that the Subbasin can be managed sustainably over a reasonable range of climate and hydrologic variability. Measurable objectives may change after GSP adoption as new information and hydrologic data become available.

8.4.3.1 Methodology for Setting Measurable Objectives

Initial measurable objectives were established based on historical groundwater level data along with input and preferences on future groundwater levels from domestic groundwater users, agricultural interests, environmental interests, and other Subbasin stakeholders. The input and preferences were used to formulate a range of conceptual measurable objective scenarios. These scenarios were evaluated using the GSP model to project the effect on future Subbasin operation and to select measurable objectives for the GSP.

8.4.3.2 Paso Robles Formation Aquifer Measurable Objectives

Initial measurable objectives for each groundwater level RMS in the Paso Robles Formation Aquifer were set at the approximate 2017 average groundwater levels. The measurable objectives are depicted on hydrographs in Appendix H.

8.4.3.3 Alluvial Aquifer Measurable Objectives

Only one RMS could be established for the Alluvial Aquifer. This RMS is associated with a new monitoring well (well name 18MW-0191) installed by the City of Paso Robles in June 2018. The RMS network is planned to be expanded by either locating new candidate monitoring wells, modifying confidentiality agreements at known wells so that groundwater level data can be used, or by installing new monitoring wells. For the purposes of this GSP, the Alluvial Aquifer measurable objectives shall be those described in Section 8.8.3, which have been set to achieve the avoidance of locally defined significant and unreasonable conditions which are related to the depletion of interconnected surface waters as a consequence of groundwater pumping.

8.4.4 Minimum Thresholds

Section §354.28(c)(1) of the SGMA regulations states that *"The minimum threshold for chronic lowering of groundwater levels shall be the groundwater elevation indicating a depletion of supply at a given location that may lead to undesirable results."*

The Sustainable Management Criteria survey (Appendix G) provided general information on stakeholders' preferences for future groundwater levels. Initial minimum thresholds were developed based on the survey and public outreach results, hydrogeologic information including contours of 2017 groundwater levels and evaluation of historical groundwater level variability at the RMS, and information about well construction.

Average 2017 non-pumping groundwater levels have been selected as measurable objectives, and minimum thresholds are set below those levels. As stated in the Executive Summary section ES-7, a groundwater elevation minimum threshold for each monitoring well was set to an elevation 30 feet below the measurable objective. Analysis of historical groundwater elevation data suggested that 30 feet allows for reasonable operational flexibility that accounts for seasonal and anticipated climatic variations on groundwater elevation. Specific conditions such as well depths at each RMS were considered when establishing the groundwater level for the initial minimum threshold. Protecting a sustainable groundwater supply for existing wells was a guiding consideration. Minimum thresholds were selected to allow sufficient time for the GSAs to develop a broader and publicly accessible dataset that will give clear guidance to establish a reasonable justification for any potential management actions that would be triggered by exceedances of minimum thresholds.

As noted above, only one RMS could be established for the Alluvial Aquifer. This RMS is associated with a new monitoring well (well name 18MW-0191) installed by the City of Paso Robles in June 2018. Additional minimum thresholds may be established for the Alluvial Aquifer early after GSP adoption when an expanded Alluviall Aquifer RMS network is developed. For the purposes of this GSP, the Alluvial Aquifer minimum thresholds shall be those described in Section 8.8.2, which have been set to achieve the avoidance of locally defined significant and unreasonable conditions which are related to the depletion of interconnected surface waters as a consequence of groundwater pumping.

8.4.5 Evaluation of Effect on Existing Wells of Sustainability Criteria

This section focuses on the sustainability criteria for the Paso Robles Formation Aquifer. As noted in Sections 8.4.3.3 and 8.4.4, only one well was identified in 2019 to represent the Alluvial Aquifer and and the sustainability criteria as described in Sections 8.8.2 and 8.8.3. This 2021 evaluation includes:

- identification of existing well records with construction information relative to RMS wells
- presentation of measurable objectives at RMS and analysis of effects on existing well records
- presentation of minimum thresholds at RMS and analysis of effects on existing well records

8.4.5.1 Evaluation of Existing Wells with Construction Information

Figure 8-2 shows the locations of the Representative Monitoring Site (RMS) wells along with locations of existing supply well records in their vicinity. Each of the existing well records (shown on the map as a colored dot) has an assigned location and documented construction details from available sources.

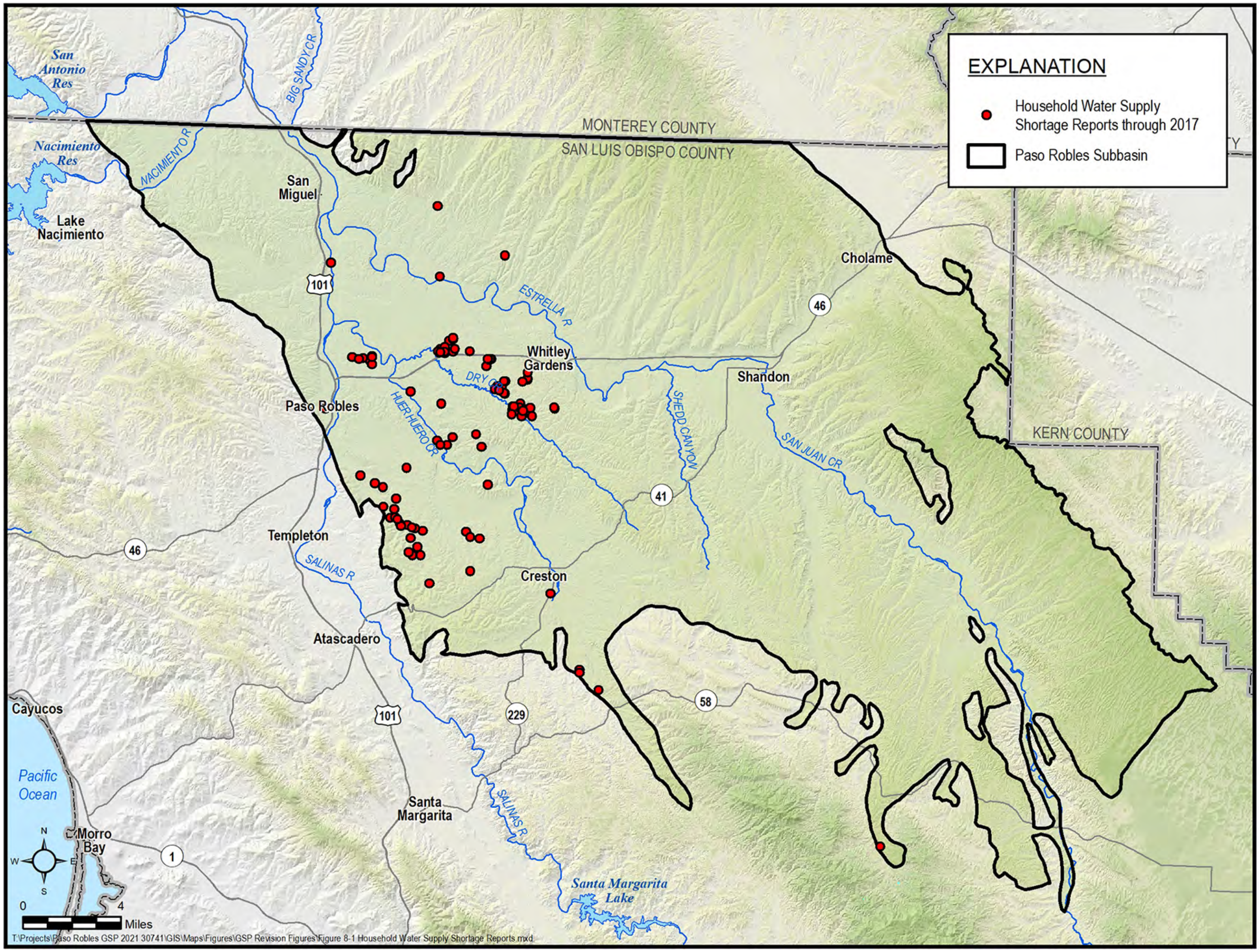


Figure 8-1. Household Water Supply Shortage Reports through 2017

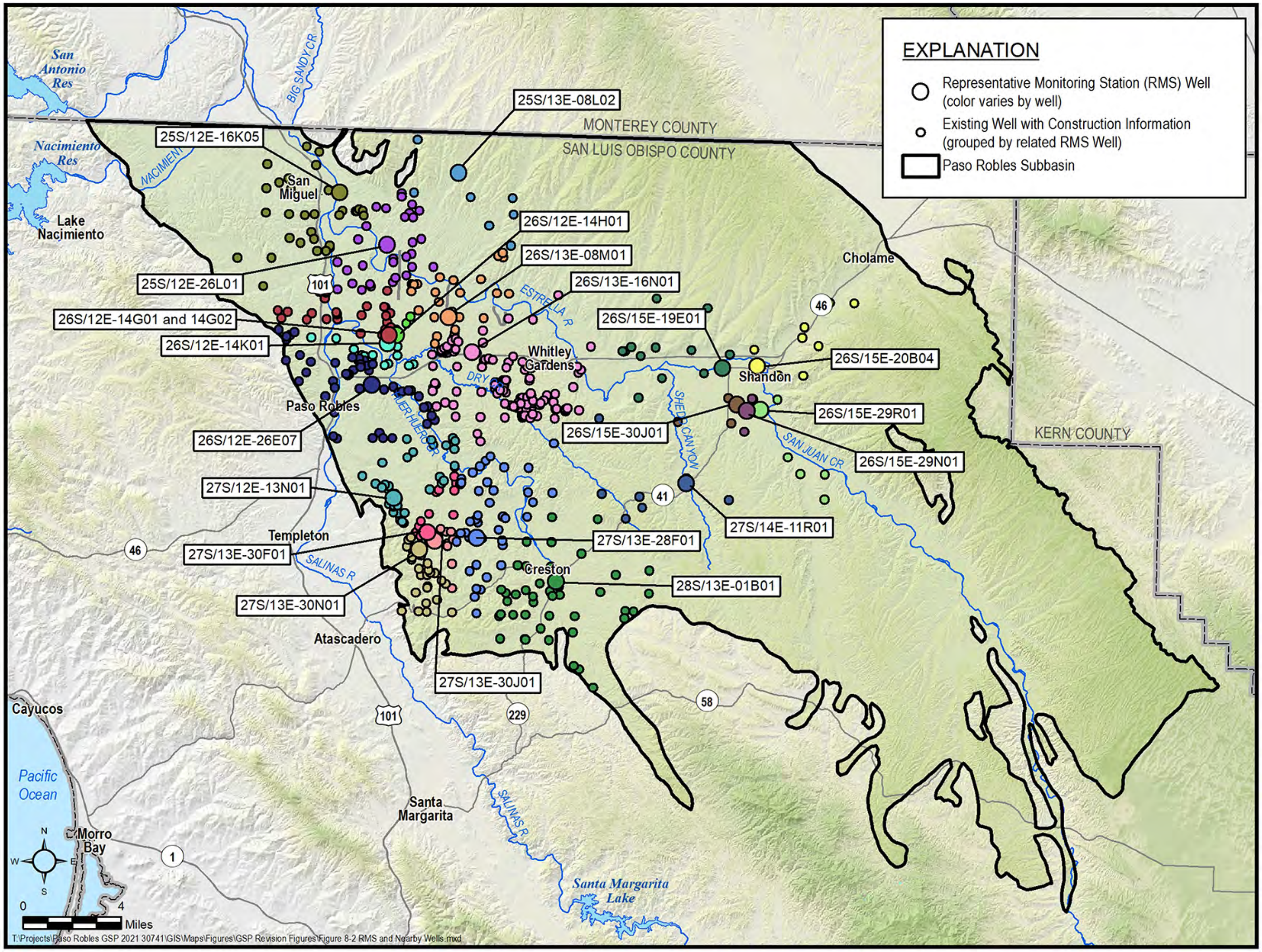


Figure 8-2. Representative Monitoring System (RMS) Wells and Existing Wells with Construction Information

Well locations and total depth information for existing wells in the Subbasin have been collected from three sources:

1. Records digitized as part of the Paso Robles Subbasin Data Management System (DMS)

2. Information from model development (GSSI 2016)

3. Records from DWR's Online System of Well Completion Reports (OSWCR, DWR 2021)

A total of 1,593 wells with total depth information was identified within these three datasets: 71 from the DMS, 193 from model development, and 1,329 from OSWCR. While these datasets include significant well location and construction information, they also have limitations. Specifically:

- These datasets are solely records of well construction. None of the three indicate which wells have been replaced or destroyed, which still exist, or which are actively used for water supply.

- None of these records include information on pumping equipment, so assessment of the effects of water level changes on pumping costs is not possible.

- Very few of these records include complete screen interval information, and total well depth is the most commonly available information relating to well construction. Accordingly, assessment of water levels in comparison to saturated screen length is not possible, but comparison to total well depth is.

- The wells in these datasets represent a long history of well construction and groundwater conditions in the Subbasin. Older wells were typically shallower, corresponding to higher water levels and the drilling technology and practices at the time. Older wells have not been removed from these datasets, even though old shallow wells are likely no longer viable.

- While OSWCR includes the most wells by far, accurate locations for most of the wells in the OSWCR dataset are unknown. Only 4.5 percent of the OSWCR sourced wells with total depth information in the Subbasin are located by address. The remaining wells from this data source have been given Public Land Survey System (PLSS) section centers as their location. This location inaccuracy limits how these data can be used:

- Groundwater surface elevation from subbasin-wide contours or numerical model simulations interpolated at the mapped locations will be incorrect because the elevations would be different at the actual well location(s).

- The hydrogeologic conditions and aquifer in which these wells are completed cannot be accurately assessed because the conditions may be different at the actual well location(s).

- Assessment of the impacts of historical or future groundwater conditions on these wells is limited by the inaccurate locations and should be assumed to be representative in the aggregate and not on an individual-well basis.

The data from these three sources were combined into a single geographically-enabled dataset for evaluation in comparison to water levels in the RMS wells. These existing well recorded locations were mapped and the RMS well closest to each existing well record was identified. The existing well records were then grouped according to the nearest RMS well.

For each of the 22 groupings of wells around the RMS wells, the total depth of the wells was then compiled for comparison to depth to groundwater measurement in the respective RMS well. This allows the enumeration of how many wells theoretically would have been unable to sufficiently produce water in historical and future periods.

Table 8-1 presents summary information for the 1,593 existing well records grouped by the nearest RMS well. As shown in Table 8-1, there is variability in the number and depths of existing wells nearest each RMS well. The number of nearby wells ranges from zero for RMS Well 26S/12E-14G02 (PASO-0017) to 310 for RMS Well 26S/13E-16N01 (PASO-0282). The shallowest well in this dataset is only 6 feet deep (nearest to RMS Well 26S/12E-26E07 (PASO-0124), while the deepest is 1,250 feet deep (nearest RMS Well 26S/13E-08M01 (PASO-0164). While there is a great deal of variability in the total depth of existing well records, the important observations from Table 8-1 are that:

1. The average depth of existing well records is over 400 feet, as shown by the weighted average at the bottom of the last column in the table.

2. The depth of the shallowest wells in the Subbasin varies widely with geography, as shown by the wide range of shallowest well total depths. However, the average depth of the shallowest wells in the Subbasin is only 76 feet, as indicated by the weighted average for the column showing the total depth of the shallowest wells.

These two statistics show that while most well records are for relatively deep wells, there have historically been shallow wells located in the Subbasin.

Table 8-1. RMS Wells and Nearby Existing Wells

RMS Well ID (alt ID)	Number of Nearby Wells	Total Depth of Shallowest Nearby Existing Well (feet)	Total Depth of Deepest Nearby Existing Well (feet)	Average Nearby Well Total Depth (feet)
25S/12E-16K05 (PASO-0345)	40	39	800	431
25S/12E-26L01 (PASO-0205)	92	70	890	377
25S/13E-08L02 (PASO-0195)	8	270	1,180	644
26S/12E-14G01 (PASO-0048)	99	30	870	362
26S/12E-14G02 (PASO-0017)	0	---	---	---
26S/12E-14H01 (PASO-0184)	11	100	1,090	585
26S/12E-14K01 (PASO-0238)	53	32	1,075	379
26S/12E-26E07 (PASO-0124)	174	6	1,004	347
26S/13E-08M01 (PASO-0164)	49	97	1,250	623
26S/13E-16N01 (PASO-0282)	310	120	1,220	610
26S/15E-19E01 (PASO-0073)	16	55	1,060	591
26S/15E-20B04 (PASO-0401)	36	39	475	304
26S/15E-29N01 (PASO-0226)	2	400	640	520
26S/15E-29R01 (PASO-0406)	23	210	867	419
26S/15E-30J01 (PASO-0393)	7	290	800	565
27S/12E-13N01 (PASO-0223)	62	92	980	442
27S/13E-28F01 (PASO-0243)	188	55	800	379
27S/13E-30F01 (PASO-0355)	55	104	810	398
27S/13E-30J01 (PASO-0423)	51	65	740	413
27S/13E-30N01 (PASO-0086)	111	100	660	348
27S/14E-11R01 (PASO-0392)	8	500	940	689
28S/13E-01B01 (PASO-0066)	198	62	750	381
Minimum:	0	6	475	304
Maximum:	310	500	1,250	689
Range:	310	494	775	385
Total / Weighted Average:	1,593	76	927	437

8.4.5.2 Effect of Paso Robles Formation Aquifer Measurable Objectives

Measurable objectives for groundwater level RMS wells in the Paso Robles Formation Aquifer are summarized in Table 8-22. Initial measurable objectives were set at the approximate 2017 average groundwater levels.

Assessment of the measurable objectives for the Paso Robles Formation Aquifer involved evaluation of the number of existing recorded wells that would have been unable to sufficiently produce water in 2017 when the measurable objective last occurred. The total depths of existing wells (with construction information) near the RMS wells were reviewed to identify which wells would be unable to sufficiently produce water in average 2017 conditions, as represented by the nearest RMS well. The number and percentage of wells near each RMS well that would have been unable to sufficiently produce water are indicated on Table 8-2. As shown, a total of 225 wells within the available well information dataset would have been unable to sufficiently produce water in average 2017 groundwater level conditions, equivalent to 14.1 percent of the wells with construction information. This is more than the 141 wells that were reported to have been unable to sufficiently produce water in the *Household Water Supply Shortage Reporting System* (DWR 2021). This likely reflects three characteristics or limitations of the available information. First, the dataset includes well construction records for very old wells that have either been destroyed or are no longer in use and thus would not be reported to DWR. Second, not all of the existing wells for which construction information is available are household water supply sources, and thus this analysis likely includes wells for other purposes (e.g., irrigation). Finally, not all wells that are unable to sufficiently produce water may have been reported to DWR.

Table 8-2. Chronic Lowering of Groundwater Levels Measurable Objectives for Paso Robles Formation Aquifer

RMS Well ID (alt ID)	Measurable Objective (feet NAVD88)	Number of Nearby Wells Dry at Measurable Objective	Percent of Nearby Wells Dry at Measurable Objective
25S/12E-16K05 (PASO-0345)	521	3	7.5%
25S/12E-26L01 (PASO-0205)	490	35	38.0%
25S/13E-08L02 (PASO-0195)	916	0	0.0%
26S/12E-14G01 (PASO-0048)	495	32	32.3%
26S/12E-14G02 (PASO-0017)	498	0	---
26S/12E-14H01 (PASO-0184)	505	2	18.2%
26S/12E-14K01 (PASO-0238)	483	17	32.1%
26S/12E-26E07 (PASO-0124)	648	38	21.8%
26S/13E-08M01 (PASO-0164)	613	4	8.2%
26S/13E-16N01 (PASO-0282)	588	4	1.3%
26S/15E-19E01 (PASO-0073)	929	1	6.3%
26S/15E-20B04 (PASO-0401)	967	1	2.8%
26S/15E-29N01 (PASO-0226)	993	0	0.0%
26S/15E-29R01 (PASO-0406)	986	0	0.0%
26S/15E-30J01 (PASO-0393)	959	0	0.0%
27S/12E-13N01 (PASO-0223)	716	10	16.1%
27S/13E-28F01 (PASO-0243)	894	19	10.1%
27S/13E-30F01 (PASO-0355)	766	16	29.1%
27S/13E-30J01 (PASO-0423)	806	12	23.5%
27S/13E-30N01 (PASO-0086)	810	31	27.9%
27S/14E-11R01 (PASO-0392)	1,028	0	0.0%
28S/13E-01B01 (PASO-0066)	1,040	0	0.0%
	Total:	225	14.1%

8.4.5.3 Effect of Paso Robles Formation Aquifer Minimum Thresholds

Minimum thresholds for groundwater level RMS wells in the Paso Robles Formation Aquifer are summarized on Table 8-33. Hydrographs for RMS wells with minimum thresholds are included in Appendix H. These minimum thresholds were selected to avoid the locally defined significant and unreasonable conditions.

As with the measurable objectives, the number of existing wells that would be unable to sufficiently produce water at the minimum threshold was assessed. In this case, the assessment only included well records that would not have gone dry at the measurable objective. It is assumed that wells that would have been unable to sufficiently produce water in average 2017 groundwater conditions were either no longer active or were replaced with a deeper well or alternative water supply source. The number and percentage of additional wells near each RMS well that would be unable to sufficiently produce water at the minimum threshold are indicated on Table 8-3. A total of 62 additional wells, or 3.9 percent within the available well information dataset, would be unable to sufficiently produce water at the minimum threshold. This is less than the number of wells that were reported to have been unable to sufficiently produce water in the Household Water Supply Shortage Reporting System. The Household Water Supply Shortage Reporting System indicates that at least 95 wells, or 6 percent of wells, have been reported as unable to sufficiently produce water since 2017. Some of these well issues have been resolved by lowering the pump,deepening, or replacing the well. The number of wells unable to sufficiently produce water is expected to increase due to continued declining groundwater levels. Furthermore, current groundwater levels are above the minimum threshold except for one well, which will be the subject of further investigation. Therefore, the available data indicate that the minimum thresholds are protective of undesirable results as they relate to shallow domestic wells, defined as 10 percent of wells unable to sufficiently produce water after 2017.

Table 8-3: Chronic Lowering of Groundwater Levels Minimum Thresholds for Paso Robles Formation Aquifer

RMS Well ID (alt ID)	Minimum Threshold (feet NAVD88)	Number of Nearby Wells Dry at Minimum Threshold Not Dry at Measurable Objective	Percent of Nearby Wells Dry at Minimum Threshold Not Dry at Measurable Objective
25S/12E-16K05 (PASO-0345)	491	2	5.0%
25S/12E-26L01 (PASO-0205)	460	7	7.6%
25S/13E-08L02 (PASO-0195)	886	0	0.0%
26S/12E-14G01 (PASO-0048)	465	11	11.1%
26S/12E-14G02 (PASO-0017)	468	0	---
26S/12E-14H01 (PASO-0184)	475	0	0.0%
26S/12E-14K01 (PASO-0238)	453	3	5.7%
26S/12E-26E07 (PASO-0124)	618	4	2.3%
26S/13E-08M01 (PASO-0164)	583	0	0.0%
26S/13E-16N01 (PASO-0282)	558	1	0.3%
26S/15E-19E01 (PASO-0073)	899	0	0.0%
26S/15E-20B04 (PASO-0401)	937	0	0.0%
26S/15E-29N01 (PASO-0226)	963	0	0.0%
26S/15E-29R01 (PASO-0406)	956	0	0.0%
26S/15E-30J01 (PASO-0393)	929	0	0.0%
27S/12E-13N01 (PASO-0223)	686	3	4.8%
27S/13E-28F01 (PASO-0243)	864	4	2.1%
27S/13E-30F01 (PASO-0355)	736	4	7.3%
27S/13E-30J01 (PASO-0423)	776	4	7.8%
27S/13E-30N01 (PASO-0086)	780	15	13.5%
27S/14E-11R01 (PASO-0392)	998	0	0.0%
28S/13E-01B01 (PASO-0066)	1,010	4	2.0%
	Total:	62	3.9%

8.4.5.4 Minimum Thresholds Impact on Domestic Wells

The potential impacts of the minimum thresholds on domestic wells are included in the assessment presented above, while acknowledging that the available well information datasets do not necessarily differentiate which wells are domestic. The analysis indicates that no more than 3.9 percent of all wells in the Subbasin are susceptible to being unable to sufficiently produce water in the event that the minimum threshold is reached in all RMS wells simultaneously. However, the Household Water Supply Shortage Reporting System indicates that at least 95 wells, or 6 percent of wells, have been unable to sufficiently produce water since 2017. One possible reason for this discrepancy is that some of the wells that have been reported to have an adequate supply of water are completed in the bedrock formations (i.e. Monterey Shale) which underlies the Paso Robles Formation Aquifer and are known to have significantly lower water production capacity than the Paso Robles Formation Aquifer. The methodologies used for the analysis, and methodologies used for forecasting occurrences of wells unable to sufficiently produce water, will be further refined during GSP implementation. As not all wells used in the analysis are for domestic supply, this indicates that a smaller number of domestic wells are susceptible to being unable to sufficiently produce water at the minimum threshold.

8.4.5.5 Relationship between Individual Minimum Thresholds and Relationship to Other Sustainability Indicators

Section 354.28 of the SGMA regulations requires that the description of all minimum thresholds include a discussion about the relationship between the minimum thresholds for each sustainability indicator. In the SMC BMP (DWR, 2017), DWR has clarified this requirement. First, the GSP must describe the relationship between each sustainability indicator’s minimum threshold; in other words, describe why or how a water level minimum threshold set at a particular RMS is similar to or different to water level thresholds in nearby RMS. Second, the GSP must describe the relationship between the selected minimum threshold and minimum thresholds for other sustainability indicators; in other words, describe how a water level minimum threshold would not trigger an undesirable result for land subsidence, for example.

Groundwater elevation minimum thresholds are derived from the measurable objectives, which are average 2017 groundwater elevations. Because the measurable objectives represent a historical and realistic groundwater elevation map, the minimum thresholds derived from these objectives (i.e., 30 feet lower) likely do not conflict with each other.

Groundwater elevation minimum thresholds can influence other sustainability indicators.

- **Change in groundwater storage**. Changes in groundwater elevations reflect changes in the amount of groundwater in storage. Pumping at or less than the sustainable yield will maintain or raise average groundwater elevations in the Subbasin. The groundwater elevation minimum thresholds are set to maintain a constant elevation over an extended period of time, consistent with the practice of pumping at or less than the sustainable yield. Therefore, the groundwater elevation minimum thresholds will not result in long term significant or unreasonable change in groundwater storage.

- **Seawater intrusion**. This sustainability indicator is not applicable to this Subbasin.
- **Degraded water quality**. Protecting groundwater quality is critically important to all who depend upon the groundwater resource, particularly for drinking water and agricultural uses. Maintaining groundwater levels protects against degradation of water quality or exceeding regulatory limits for constituents of concern in supply wells due to actions proposed in the GSP. Water quality could be affected through two processes:
    1. Low groundwater elevations in an area could cause deeper, poor-quality groundwater to flow upward into existing supply wells. Groundwater elevation minimum thresholds are set below current levels, meaning upward flow of deep, poor-quality groundwater could occur in the future. Should groundwater quality degrade due to lower groundwater elevations, the groundwater elevation minimum thresholds will be raised to avoid this degradation.
    2. Changes in groundwater elevation due to actions implemented to achieve sustainability could change groundwater gradients, which could cause poor quality groundwater to flow towards supply wells that would not have otherwise been impacted. These groundwater gradients, however, are only dependent on differences between groundwater elevations, not on the groundwater elevations themselves. Therefore, the minimum threshold groundwater elevations do not directly lead to a significant and unreasonable degradation of groundwater quality in production wells.
- **Subsidence**. A significant and unreasonable condition for subsidence is permanent pumping induced subsidence that substantially interferes with surface land use. Subsidence is caused by dewatering and compaction of clay-rich sediments in response to lowering groundwater levels. Very small amounts of land surface elevation fluctuations have been reported across the Basin. The groundwater elevation minimum thresholds are set below existing groundwater elevations, which could induce additional subsidence that has not already started. Should new subsidence be observed due to lower groundwater elevations, the groundwater elevation minimum thresholds will be raised to avoid this subsidence.
- **Depletion of interconnected surface water**. The set of monitoring wells used to evaluate interconnected surface water includes some overlap with the set of RMS wells used for the groundwater level minimum threshold. Depending on the local relationship between Alluvial Aquifer water levels and Paso Robles Formation Aquifer water levels, the minimum threshold for interconnected surface water could be more constraining than the minimum threshold for groundwater elevations. The interconnected surface water minimum threshold (no more than 10 feet below the spring 2017 water level) is higher

than the groundwater elevation minimum threshold (30 feet below the average 2017 water level), but the former applies only to Alluvial Aquifer wells. At locations along stream segments with riparian vegetation where the difference between Alluvial Aquifer and Paso Robles Formation Aquifer water levels is less than 20 feet, the interconnected surface water minimum threshold would likely constrain water levels. The only locations where existing data indicates a potential connection between the surface water system and the underlying Paso Robles Formation Aquifer include the middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) and along San Juan Creek upstream of Spring Creek. At these locations the connection between surface waters and the underlying Paso Robles Formation Aquifer is unknown but sufficient evidence exists that there could potentially be a connection, and therefore further investigation in these areas is recommended.

8.4.5.6 Effect of Minimum Thresholds on Neighboring Basins

One neighboring groundwater basin is required to develop a GSP: the Upper Valley Subbasin of the Salinas Valley Basin. Additionally, the adjoining Atascadero Subbasin is currently developing a GSP under SGMA. The anticipated effect of the groundwater elevation minimum thresholds on each of the two subbasins is addressed below.

Upper Valley Subbasin of the Salinas Valley Basin. The Upper Valley Subbasin is required to develop a GSP by 2022. The Upper Valley Subbasin is hydrogeologically downgradient of the Paso Robles Subbasin: groundwater generally flows from the Paso Robles Subbasin into the Upper Valley Subbasin. Lower groundwater levels in the Paso Robles Subbasin as a result of GSP actions could reduce the amount of groundwater flowing into the Upper Valley Subbasin, affecting that Subbasin's ability to achieve sustainability. The groundwater elevation minimum thresholds are set at constant levels that are below current elevations; therefore, they could reduce groundwater flow into the adjacent Upper Valley Subbasin. If reduced groundwater flow is observed that impacts sustainability in the Upper Valley Subbasin of the Salinas Valley Basin, then minimum thresholds would be adjusted to avoid this impact.

The Paso Robles Subbasin GSAs have developed a cooperative working relationship with the Salinas Valley Basin GSA who will be developing the GSP for the Upper Valley Subbasin. The two GSAs will monitor and work together to ensure that minimum thresholds do not significantly affect each Subbasin's ability to achieve sustainability.

Atascadero Subbasin. The Paso Robles Subbasin is hydrogeologically separated from the Atascadero Subbasin by the Rinconada Fault. The fault acts as a barrier to groundwater flow in the Paso Robles Formation Aquifer as presented in Chapter 4. While minimum thresholds are set at levels below current groundwater levels, these lower levels are not expected to impact sustainability in the Atascadero Subbasin due to the limited groundwater flow between the two Subbasins. The Paso Robles Subbasin GSAs have a cooperative working relationship with the

Agencies managing the Atascadero Subbasin and will continue to work together to ensure that minimum thresholds do not significantly affect each Subbasin's ability to achieve sustainability.

8.4.5.7 Effects on Beneficial Users and Land Uses

The groundwater elevation minimum thresholds may have several effects on beneficial users and land uses in the Subbasin.

Agricultural land uses and users. The groundwater elevation minimum thresholds limit lowering of groundwater levels in the Subbasin. In the absence of other mitigating measures this has the effect of potentially limiting the amount of groundwater pumping in the Subbasin. Limiting the amount of groundwater pumping will limit the amount and type of crops that can be grown in the Subbasin, which could result in a proportional reduction in the economic viability of some properties. The groundwater elevation minimum thresholds could therefore limit expansion of the Subbasin's agricultural economy. This could have various effects on beneficial users and land uses:

- There will be an economic impact to employees and suppliers of production products and materials. Many parts of the local economy rely on a vibrant agricultural industry, and they too will be hurt proportional to the losses imparted to agricultural businesses.
- Growth of city, county and state tax rolls could be slowed or reduced due to the limitations imposed on agricultural growth.

Urban land uses and users. The groundwater elevation minimum thresholds effectively limit the amount of groundwater pumping in the Subbasin. This may limit urban growth or result in urban areas obtaining alternative sources of water. This may result in higher water costs for municipal water users.

Domestic land uses and users. The groundwater elevation minimum thresholds protect most domestic wells. Therefore, the minimum thresholds will likely have an overall beneficial effect on existing domestic land uses by protecting the ability to pump from domestic wells. However, limited water in some of the shallowest domestic wells may require owners to drill deeper wells. Additionally, the groundwater elevation minimum thresholds may limit the increase of non-*de minimis* groundwater use in order to limit future declines in groundwater levels caused by more non *de minimis* domestic pumping. Policies allowing offsets of existing use to allow new construction or bringing in new sources of water can mitigate against this effect.

Ecological land uses and users. Historical reductions in the extent and density of riparian vegetation in certain stretches of rivers and creeks may have been associated with declines in groundwater levels. The additional 30 feet of water-level decline allowed by the water-level minimum threshold could cause further reduction in riparian vegetation in areas where the Alluvial Aquifer is in contact with the Paso Robles Formation Aquifer. Groundwater elevation minimum thresholds effectively protect the groundwater resource including those existing ecological habitats that rely upon it because they are set to avoid long term declines in groundwater levels in a short amount of time. The sustainability criteria for interconnected surface water (see Section 8.8) include minimum thresholds defined as groundwater levels that are in some locations higher than the groundwater elevation minimum thresholds.

8.4.5.8 Relevant Federal, State, or Local Standards

No Federal, State, or local standards exist for chronic lowering of groundwater elevations.

8.4.5.9 Method for Quantitative Measurement of Minimum Thresholds

Groundwater elevation minimum thresholds will be directly measured from existing or new monitoring wells. The groundwater level monitoring will be conducted in accordance with the monitoring plan outlined in Chapter 7. Furthermore, the groundwater level monitoring will meet the requirements of the technical and reporting standards included in the SGMA regulations.

As noted in Chapter 7, the current groundwater monitoring network in the Paso Robles Formation Aquifer currently only includes 24 wells. For the Alluvial Aquifer, only one RMS was established. The GSAs will expand the monitoring network in both aquifers during GSP implementation.

8.4.5.10 Interim Milestones

Initial interim milestones were developed for the 24 RMS established for the Paso Robles Formation Aquifer based on the results of modeling conducted to evaluate management actions and select measurable objectives (Chapter 9). Because measurable objectives have not been established at RMS for the Alluvial Aquifer, interim milestones cannot be developed. Interim milestones will be developed in the future (after GSP adoption) when the RMS network is expanded in the Alluvial Aquifer.

Conceptually, the following actions and groundwater conditions are expected to occur during implementation.

- Monitoring of Subbasin conditions using an expanded monitoring network and continuous monitoring devices will provide additional information to refine interim milestones

- Pumping cutbacks in some areas of the Subbasin will begin about five years after adoption of the GSP. During this five-year period, current groundwater levels trends would continue to be tracked by the RMS.

- After about 5 years, groundwater levels will begin trending toward measurable objectives as a result of management actions and possibly pumping cutbacks in some area of the Subbasin.

Table 8-4 summarizes the interim milestones for the RMS in the Paso Robles Formation Aquifer.

Table 8-4: Chronic Lowering of Groundwater Levels Interim Milestones for Paso Robles Formation Aquifer

Well ID (alt ID)	Interim Milestones (feet NAVD88)		
	2025	2030	2035
25S/12E-16K05 (PASO-0345)	521	521	520
25S/12E-26L01 (PASO-0205)	499	496	492
25S/13E-08L02 (PASO-0195)	911	905	901
26S/12E-14G01 (PASO-0048)	526	532	534
26S/12E-14G02 (PASO-0017)	523	531	533
26S/12E-14H01 (PASO-0184)	513	521	524
26S/12E-14K01 (PASO-0238)	527	533	535
26S/12E-26E07 (PASO-0124)	644	644	645
26S/13E-08M01 (PASO-0164)	620	619	617
26S/13E-16N01 (PASO-0282)	595	594	593
26S/15E-19E01 (PASO-0073)	935	937	938
26S/15E-20B04 (PASO-0401)	972	976	978
26S/15E-29N01 (PASO-0226)	1,009	1,012	1,014
26S/15E-29R01 (PASO-0406)	997	1,001	1,003
26S/15E-30J01 (PASO-0393)	972	976	978
27S/12E-13N01 (PASO-0223)	711	710	709
27S/13E-28F01 (PASO-0243)	896	899	900
27S/13E-30F01 (PASO-0355)	770	768	765
27S/13E-30J01 (PASO-0423)	817	815	812
27S/13E-30N01 (PASO-0086)	804	799	794
27S/14E-11R01 (PASO-0392)	1,029	1,030	1,030
28S/13E-01B01 (PASO-0066)	1,052	1,055	1,055

Interim milestones may be revised during implementation as new data and understanding of the hydrogeologic conditions in the Subbasin become available.

8.4.6 Undesirable Results

8.4.6.1 Criteria for Defining Undesirable Results

The chronic lowering of groundwater elevation undesirable result is a quantitative combination of groundwater elevation minimum threshold exceedances. For chronic lowering of groundwater elevations, an exceedance is defined by the annual average (e.g., spring and fall) water level below the well's defined minimum threshold. For the Paso Robles Subbasin, the groundwater elevation undesirable result is:

Over the course of two years, no more than two exceedances for the groundwater elevation minimum thresholds within a 5-mile radius or within a defined area of the Basin for any single aquifer. A single monitoring well in exceedance for two consecutive years also represents an undesirable result for the area of the Basin represented by the monitoring well. Geographically isolated exceedances will require investigation to determine if local or Basin wide actions are required in response.

This compound definition of undesirable results provides flexibility in defining sustainability. Increasing the number of allowed minimum threshold exceedances provides more flexibility but may lead to significant and unreasonable conditions for a number of beneficial users. Reducing the number of allowed minimum threshold exceedances ensures strict adherence to minimum thresholds but reduces flexibility due to unanticipated hydrogeologic conditions. The undesirable result was set to balance the interests of beneficial users with the practical aspects of groundwater management under uncertainty.

Use of this definition of undesirable results in combination with the minimum threshold for groundwater elevation will avoid the significant and unreasonable conditions discussed above. Specifically, it will be impossible to cause a significant percentage of the wells in the Subbasin to be unable to sufficiently produce water because the undesirable result includes geographic and temporal components that prevent the entire Subbasin from reaching the minimum thresholds in the RMS wells simultaneously.

As the monitoring system is expanded, the number of exceedances allowed may be adjusted. One additional exceedance will be allowed for approximately every seven new monitoring wells. This was considered a reasonable number of exceedances given the hydrogeologic uncertainty of the Subbasin. Close monitoring of groundwater data over the following years will allow actual numbers to be refined based on observable data. Management of the Subbasin will adapt to specific conditions and to a growing understanding of basin conditions and processes to adopt appropriate responses. When additional data and a better understanding of hydrogeologic conditions are available in the future, the GSAs may adjust measurable objectives and minimum thresholds and adaptively manage sustainability actions to avoid undesirable results.

8.4.6.2 Potential Causes of Undesirable Results

Conditions that may lead to an undesirable result include the following:

- Localized pumping clusters. Even if regional pumping is maintained within the sustainable yield, clusters of high-capacity wells may cause excessive localized drawdowns that lead to undesirable results in specific areas.
- Expansion of *de-minimis* pumping. Individual *de-minimis* pumpers, individually, do not have a significant impact on Subbasin-wide groundwater elevations. However, many *de-minimis* pumpers are often clustered in specific residential areas. Pumping by these *de-minimis* users is not currently regulated under this GSP. Adding additional domestic *de-minimis* pumpers in specific areas may result in excessive localized drawdowns and undesirable results.
- Extensive drought and climate change. Minimum thresholds were established based on historical groundwater elevations and reasonable estimates of future groundwater elevations. Extensive droughts may lead to excessively low groundwater elevations and undesirable results.

8.4.6.3 Effects on Beneficial Users and Land Uses

The primary detrimental effect on beneficial users from allowing multiple exceedances occurs if more than one exceedance occurs in a small geographic area. Exceedances of the minimum thresholds for groundwater elevation are reasonable as long as the exceedances are spread out across the Subbasin. If the exceedances are clustered in a small area, it will indicate that significant and unreasonable effects are being born by a localized group of landowners.

8.8 Depletion of Interconnected Surface Water SMC

8.8.1 Locally Defined Significant and Unreasonable Conditions

The two manifestations of depletion of interconnected surface water are reduced surface flow in streams and a lowering of the water table next to streams. The potential effects of depletion on beneficial uses of surface water and groundwater in the Subbasin are:

- Reduction in Salinas River outflow that decreases groundwater recharge in the Salinas Valley,
- Reduction in the extent, density, and health of riparian vegetation and animal species that use riparian habitat, and
- Reduction in passage opportunity for steelhead trout.

Each of these issues was considered in setting sustainable management criteria for interconnected surface water. In the case of habitat uses, the basis for the SMCs relies on the quantitative evaluation of groundwater effects on habitat presented in GSP Section 5.5.

8.8.2 Minimum Thresholds

The minimum threshold for interconnected surface water is a decline in the alluvial water table elevation as measured at Alluvial Aquifer RMS wells in the spring measurement round along the Salinas River, middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) or San Juan Creek upstream of Spring Creek that is 1) likely caused by groundwater pumping in the Paso Robles Formation Aquifer, 2) is more than 10 feet below the spring 2017 elevation, 3) persists for more than two consecutive years, and 4) occurs along more than 15 percent of the length of any of the three stream reaches. It is noted that the potential connection along the Salinas River is between the surface water system and the adjacent alluvial deposits. There is no evidence that the Salinas River surface water flows are connected to the underlying Paso Robles Formation Aquifer. The potential connection between the surface water system along the middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) and along San Juan Creek upstream of Spring Creek, and the underlying Paso Robles Formation Aquifer is unknown but sufficient evidence exists that there could potentially be a connection, and therefore further investigation in these areas is recommended.

SGMA regulations specify that the minimum threshold for interconnected surface water shall be defined as "the rate or volume of surface water depletions caused by groundwater use that has adverse impacts on beneficial uses of the surface water and may lead to undesirable results” (Regulations §354.28(c)(6)). However, the regulations also allow the use of groundwater elevations as a reasonable proxy for the rate of flow depletion if such approach is “supported by adequate evidence” (Regulations §354.28(d)). In the Paso Robles Subbasin, depth to water is a reasonable proxy because the resource most likely to be impacted is phreatophytic riparian vegetation, which is sensitive to depth to water but not to the rate of percolation. Also, analysis of potentially impacted beneficial uses that do depend on the rate of stream flow—downstream water users and steelhead trout migration—indicates that the likely magnitude of impact is negligibly small. Finally, from a practical standpoint, induced percolation from streams is difficult to measure, particularly if it is a small percentage of total flow and varies substantially from reach to reach along a stream.

There presently are too few Alluvial Aquifer monitoring wells along the middle reach of the Estrella River and the upper reach of San Juan Creek to evaluate the minimum threshold. For the first five years of GSP implementation, the minimum threshold will be evaluated only for the Salinas River reach. New monitoring wells will be installed along the Estrella River and San Juan Creek during that period (see Section 7.6.1), allowing the minimum threshold to be applied to those reaches in subsequent implementation periods.

8.8.3 Measurable Objectives

Measurable objectives are specific, quantifiable goals for the maintenance or improvement of groundwater conditions. They represent a desirable condition with respect to interconnected surface water. With respect to riparian vegetation, the measurable objective is a five-year moving average of spring groundwater elevations in Alluvial Aquifer wells along the Salinas River, the middle reach of the Estrella River (from Shedd Canyon to Martingale Circle) and San Juan Creek upstream of Spring Creek that are no more than 5 feet below the spring 2017 groundwater elevations. This objective is expected to maintain the extent and density of riparian vegetation at the 2017 level. It would also maintain Salinas River outflow and steelhead passage opportunity at existing levels, at least as far as they are affected by depletion from groundwater pumping.

There presently are too few Alluvial Aquifer monitoring wells along the middle reach of the Estrella River and the upper reach of San Juan Creek to evaluate the measurable objective. For the first five years of GSP implementation, the measurable objective will be evaluated only for the Salinas River reach. New monitoring wells will be installed along the Estrella River and San Juan Creek during that period (see Section 7.6.1), allowing the measurable objective to be applied to those reaches in subsequent implementation periods.

8.8.4 Relationship of Minimum Threshold to Other Sustainability Indicators

8.8.4.1 Groundwater Elevations

The measurable objective and minimum threshold for interconnected surface water involve groundwater elevations in the Alluvial Aquifer. They do not conflict with the SMCs for Alluvial Aquifer groundwater elevations because those are not yet quantified (see Sections 8.4.3.3 and 8.4.4.2). The interconnected surface water SMCs could potentially be more restrictive than the SMCs for Paso Robles Formation Aquifer groundwater elevations if the latter would allow large declines in water table elevations along protected reaches of riparian vegetation. Specifically, the Paso Robles Formation Aquifer minimum threshold allows for 30 feet of additional water-level decline below the 2017 groundwater elevation.

8.8.4.2 Groundwater Storage

Groundwater storage is inherently connected to groundwater levels. Based on the logic presented above for groundwater elevation SMCs, the interconnected surface water SMCs could potentially constrain temporary or sustained reductions in groundwater storage in some locations that would otherwise be allowed by the groundwater storage minimum threshold, which is defined as groundwater elevations averaged over the entire Subbasin that are above the groundwater elevation minimum threshold (see Section 8.5.2).

8.8.4.3 Subsidence

Subsidence is not related to Alluvial Aquifer water levels because the Alluvial Aquifer is too thin and coarse-grained to experience significant compaction of clay layers due to 10 feet of water-level decline. Subsidence is a function of Paso Robles Formation Aquifer water levels, which are not directly involved in the interconnected surface water SMCs. To the extent that the interconnected surface water SMCs constrain the permissible amount of decline in Paso Robles Formation Aquifer water-levels, they decrease the risk of subsidence.

8.8.4.4 Water Quality

The interconnected surface water SMCs would not affect groundwater gradients and recharge rates, and they would not introduce contaminants or cause changes in aquifer geochemistry. Thus, they would not affect the water quality SMCs.

8.8.5 Effect of SMCs on Neighboring Basins

The mechanism by which the interconnected surface water SMCs could affect the Upper Valley Subbasin in the Salinas Valley (adjacent to and downstream of the Paso Robles Subbasin) would be by decreased groundwater recharge resulting from decreased flow in the

Salinas River. However, that effect would be negligibly small (see Section 8.9.7.1 under "Undesirable Results" below).

The interconnected surface water SMCs would not affect groundwater in the Atascadero Subbasin because any changes in Salinas River flow would not propagate upstream to that Subbasin. By maintaining GDEs in the Paso Robles Subbasin in good condition, the SMCs would support the regional maintenance of GDEs, especially animals that move up and down the river and riparian corridors.

8.8.6 Relationship of SMCs to Federal, State and Local Regulations

The only federal, state or local regulation that directly applies to stream flow gains and losses is the "live stream" requirement imposed by the State Water Resources Control Board in the water rights permit for operating Salinas Dam upstream of the Subbasin. However, that requirement reflects a concern that changes in surface flow might impact groundwater availability, not the opposite, which is the concern here.

The state and federal endangered species acts protect animal species listed as threatened or endangered against "take", which is to capture, harm, wound or kill the animal. Harm includes significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. The listed animals that appear to actually be present in the Subbasin and potentially vulnerable to depletion of interconnected surface water are steelhead trout and California red-legged frog. The SMCs for interconnected surface water are designed to sustain populations of GDE animals, including these listed species, at 2017 levels. This would avoid take.

8.8.7 Undesirable Results

Undesirable results are adverse effects on beneficial users and uses of water that reach a magnitude considered significant and unreasonable. This section defines undesirable results for surface water users, riparian vegetation and fish passage. Generally, undesirable results are defined in terms of the percent of all interconnected surface water reaches that exceed the minimum threshold.

8.8.7.1 Surface Water Users

Decreased groundwater discharge to the Salinas River would be significant and unreasonable if it prevented groundwater users in the Salinas Valley—where groundwater is primarily recharged by Salinas River percolation—from continuing their existing, economically viable agricultural or urban uses of land. This is not expected to occur because of the combined effects of the groundwater storage and interconnected surface water SMCs. A decrease in groundwater storage would be associated with lower groundwater elevations and decreased groundwater discharge to the Salinas River. The groundwater storage SMC allows for a reduction in storage to an amount associated with Paso Robles Formation Aquifer groundwater elevations 30 feet below 2017 groundwater elevations but does not allow further declines beyond that. Annual water budgets for 1981-2011 produced by the groundwater model show that groundwater discharge to the Salinas River is dominated by contributing flows from the alluvial deposits and clearly correlated with year type (it increases in wet years) but is not obviously correlated with changes in pumping and storage from the Paso Robles Formation Aquifer (see Figure 6-3), which are strongly correlated with each other (Figure 5-12). Average annual groundwater discharge to streams (7,400 AFY) equals about 1.5 percent of annual groundwater pumping downstream in the Salinas Valley. If pumping in the Paso Robles Subbasin were to change, its effect on groundwater discharge to the Salinas River would likely be small, and hence much less than 1.5 percent of downstream water use. This is because the connection along the Salinas River is between the surface water system and the adjacent alluvial deposits. There is no evidence that the Salinas River surface water flows are connected to the underlying Paso Robles Formation Aquifers. Furthermore, to achieve the groundwater level management objective it will be necessary to balance the Subbasin water budget, which means that groundwater pumping will not cause increased depletion of stream flow in the future. As stated in Section 6.5.1 “An overarching assumption is that any future increases in groundwater use within the Subbasin will be offset by equal reductions in groundwater use in other parts of the Subbasin, or in other words, groundwater use will remain neutral through implementation of the GSP.” In any event, the interconnected surface water minimum threshold would tend to restrict rather than increase the amount of future storage depletion and thus be more protective of Salinas River outflow and downstream users.

8.8.7.2 Groundwater Dependent Vegetation

The qualitative undesirable result for riparian vegetation is mortality. The minimum threshold definition for interconnected surface water specifies a quantitative depth and duration of low water table conditions that are considered likely to cause riparian tree stress and potential mortality, based on observed limited mortality patterns during 2013 to 2017[1].

An exceedance of the minimum threshold at a single location would not necessarily be undesirable if riparian vegetation in other parts of the Subbasin remained in good condition. Regional ecological function would continue, and the locally impacted area would likely recover when the water table rises back to more normal elevations above the minimum threshold. However, widespread exceedance of the minimum threshold could impair regional ecological function and retard the recovery process. Accordingly, an undesirable result is

[1] Results of a riparian vegetation EVI trend analysis indicate that riparian vegetation health has generally remained stable over the long term from January 2009 through present (see Section 5.5.3).

when water levels along more than 15 percent of the length of any of the three stream reaches with abundant riparian vegetation exceed the minimum threshold (defined in Section 8.9.3) as a result of groundwater pumping in the Paso Robles Formation Aquifer. The three reaches are the Salinas River from Paso Robles to the Subbasin boundary below San Miguel, the middle reach of the Estrella River (Shedd Canyon to Martingale Circle), and San Juan Creek upstream of Spring Creek.

8.8.7.3 Groundwater Dependent Animals

Animals that depend on riparian vegetation are assumed to suffer population declines if the extent of riparian vegetation decreases and thus are implicitly covered by the SMCs and undesirable results for vegetation. The undesirable result for steelhead trout—which uses surface flow in the Salinas River for migration—is a long-term decrease in population as a result of flow depletion caused by groundwater pumping. As explained in section 5.5.10, groundwater pumping has little effect on passage opportunity. Because the SMCs for groundwater levels and storage preclude ongoing future increases in pumping or decreases in groundwater levels, undesirable results with respect to steelhead passage are not expected to occur.

9 MANAGEMENT ACTIONS AND PROJECTS

9.1 Introduction

The GSAs agree herein to work together in protecting the groundwater resource and in complying with SGMA, and further agree that this GSP makes no determination of water rights. GSP management actions undertaken to achieve sustainability under SGMA shall not result in or be construed as a forfeiture of or limitation on groundwater rights under common law.

This chapter describes the management actions that will be developed and implemented in the Subbasin to attain sustainability in accordance with §354.42 and §354.44 of the SGMA regulations. Management actions described herein are non-structural programs or policies that are intended to reduce or optimize local groundwater use. Consistent with SGMA regulations §354.44, this chapter also describes projects in process and conceptual projects involving new or improved infrastructure to make new water supplies available to the Subbasin that may be implemented by willing project participants to offset pumping and lessen the degree to which the management actions would be needed. The concept projects referenced are based on previous publicly vetted feasibility studies[1]. The need for management actions (and projects if implemented) is based on the following Subbasin conditions that were described in previous chapters.

- Groundwater levels are declining in many parts of the Subbasin, indicating that the amount of groundwater pumping is more than the natural recharge (Chapter 5)
- Water budgets (Chapter 6) indicate that amount of groundwater in storage will continue to decline in the future at an estimated rate of nearly 14,000 acre-feet per year (AFY), which assumes no net increase in pumping demand on the basin. If there is a net increase in demand due to e.g., the development of currently undeveloped properties in a way that requires the use of additional groundwater, the deficit would be greater.

To stop persistent declines in groundwater levels, achieve the sustainability goal before 2040, and avoid undesirable results as required by SMGA regulations, reducing groundwater pumping will be needed. Reductions in pumping will be required in amounts and locations which will prevent groundwater level declines that would result in undesirable results. A reduction in groundwater pumping will occur as a result of management actions, except where a new water supply becomes available and is used in lieu of pumping groundwater.

[1] Paso Robles Groundwater Basin Supplemental Supply Options Feasibility Study, January 2017

SGMA regulations §354.44 require that each management action and conceptual project described in the GSP include a discussion about:

- Relevant measurable objectives it would address
- The expected benefits of the action
- The circumstances under which management actions or projects will be implemented
- How the public will be noticed
- Relevant regulatory and permitting considerations
- Implementation schedules
- Legal authority required to take the actions
- Estimated costs

The groundwater management actions are intended to stabilize groundwater elevations, avoid undesirable results, and address all other sustainability indicators described in Chapter 8. Management actions to directly reduce groundwater pumping will be implemented where necessary. If groundwater levels are stabilized and/or sustained, many of the associated undesirable results described in Chapter 8 will be avoided.

The management actions (and projects if implemented) identified in this GSP will achieve groundwater sustainability by avoiding Subbasin-specific undesirable results.

***De Minimis* Groundwater Users**

While the number of *de minimis* groundwater users in the basin is significant, they are not currently regulated under this GSP. Growth of *de minimis* groundwater extractors could warrant regulated use in this GSP in the future. Growth will be monitored and reevaluated periodically.

9.2 Implementation Approach and Criteria for Management Actions

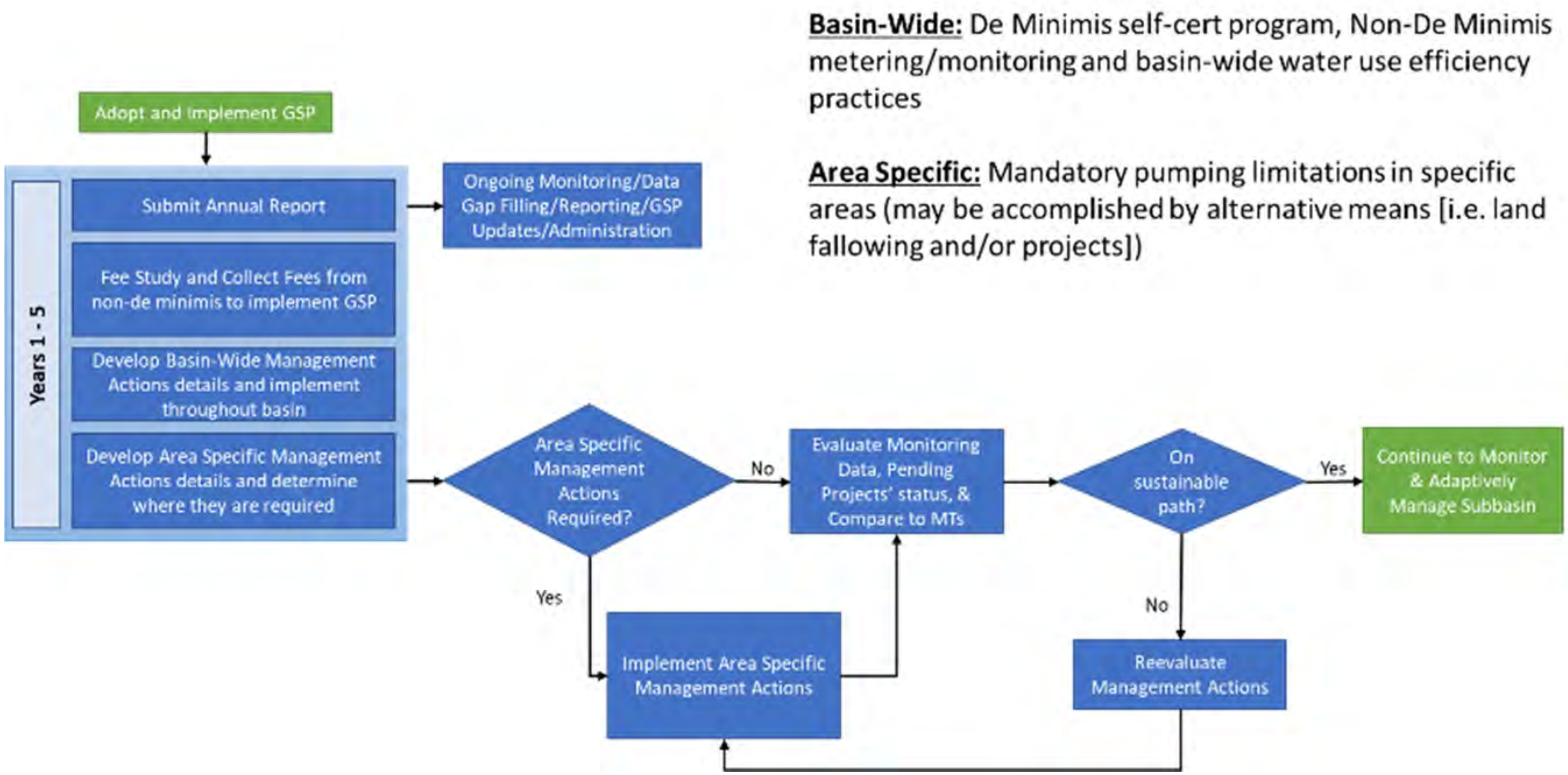
Using authorities outlined in Sections 10725 to 10726.9 of the California Water Code, the GSAs would ensure the maximum degree of local control and flexibility consistent with this GSP to commence management actions. Because the amount of groundwater pumping in the Subbasin is more than the estimated sustainable yield of about 61,000 AFY (see Chapter 6 and Appendix E)[2] and groundwater levels are persistently declining in certain areas, the GSAs will begin to implement management actions as early as possible after GSP adoption. The

[2] Chapter 6 and Appendix E describe the process used to estimate sustainable yield. Sustainable yield is estimated based on the groundwater budget. The updated GSP model was used to develop the water budget and sustainable yield. Appendix E provides information on why the estimate of sustainable yield in the GSP differs from previous estimates.

effect of the management actions will be reviewed annually, and additional management actions will be implemented as necessary to avoid undesirable results. Management actions fall into two categories, basin-wide and area specific, as described in more detail in the subsequent sections. Appendix L describes other programs that individual GSAs, pumpers and/or other entities may choose to fund and implement if they have the authority to do so.

In general, basin-wide management actions will apply to all Subbasin areas and reflect basic GSP implementation requirements such as monitoring, reporting and outreach, including necessary studies and early planning work, monitoring and filling data gaps with additional monitoring sites, annual reports and GSP updates, and promoting voluntary limitations in groundwater pumping aimed at both keeping groundwater levels stable and avoiding undesirable results.

Area specific management actions will also be implemented in areas experiencing persistent declines after the development of an appropriate regulation. Because developing and adopting the regulation will require substantial negotiations between the GSAs, public hearings, environmental review (CEQA) and legal risks that need to be addressed, efforts to define and gain approvals for the scope and detail associated with a regulation for area specific management actions will begin soon after GSP adoption. There is a strong need for adequate information to justify area specific management actions and considering that information will be a critical part of initial GSP implementation. Regulations adopted by GSAs related to identifying the specific areas for pumping limitations would need to be substantially identical to assure a consistent methodology for identifying those areas across the Subbasin. Individual pumpers in those areas will then need to choose how to comply with the necessary pumping limitations in those areas.


Basin-Wide: De Minimis self-cert program, Non-De Minimis metering/monitoring and basin-wide water use efficiency practices
Area Specific: Mandatory pumping limitations in specific areas (may be accomplished by alternative means [i.e. land fallowing and/or projects])
Adopt and Implement GSP
Years 1 - 5
Submit Annual Report
Fee Study and Collect Fees from non-de minimis to implement GSP
Develop Basin-Wide Management Actions details and implement throughout basin
Develop Area Specific Management Actions details and determine where they are required
Ongoing Monitoring/Data Gap Filling/Reporting/GSP Updates/Administration
Area Specific Management Actions Required?
No
Yes
Evaluate Monitoring Data, Pending Projects' status, & Compare to MTs
Implement Area Specific Management Actions
On sustainable path?
Yes
No
Continue to Monitor & Adaptively Manage Subbasin
Reevaluate Management Actions

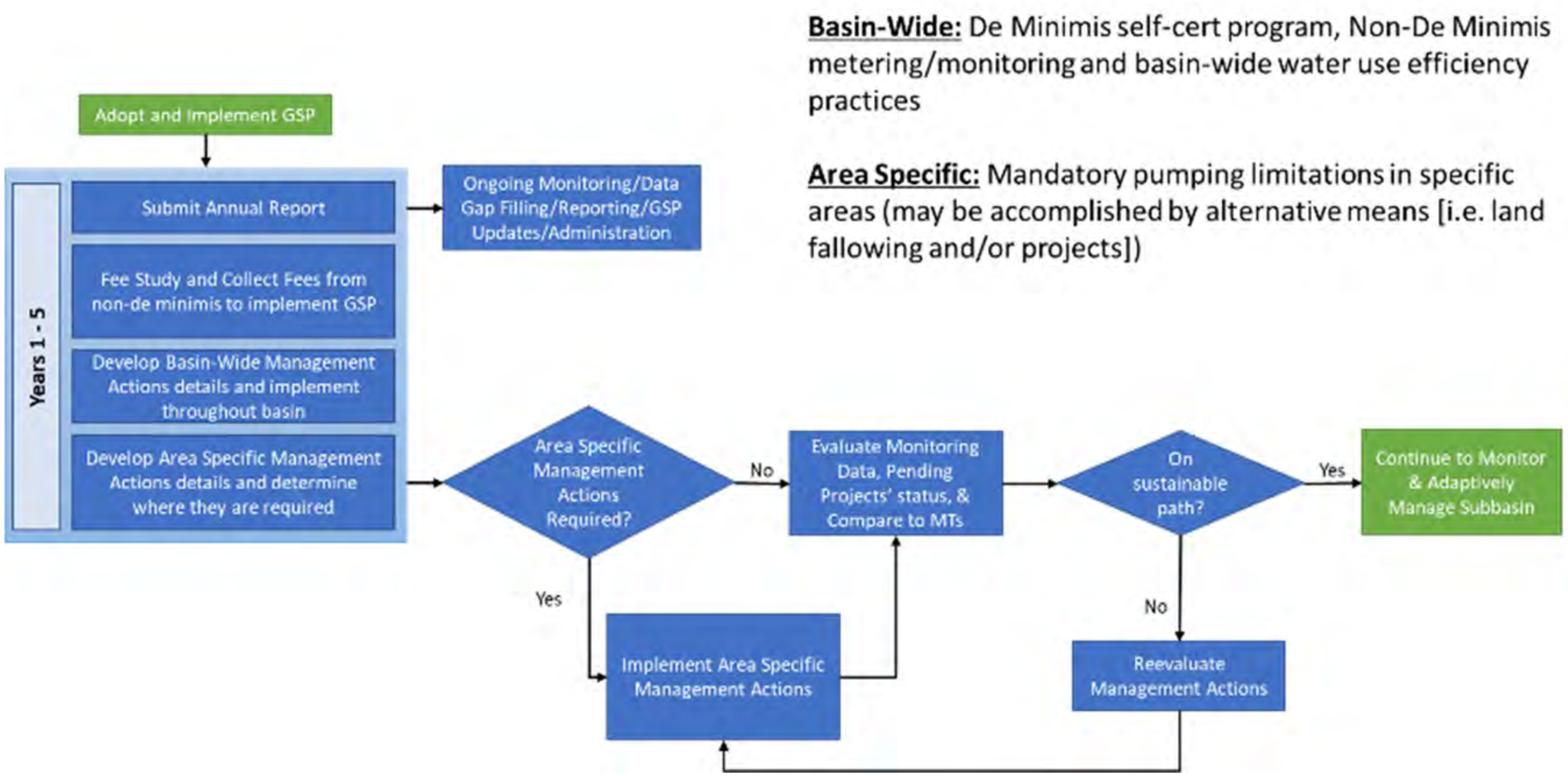


Figure 0-1 shows a flowchart of the conceptual GSP implementation approach. Public meetings and hearings will be held during the process of determining when and where in the Subbasin management actions are needed. A proportional and equitable approach to funding implementation of the GSP and any optional actions will be developed in accordance with all State laws and applicable public process requirements. During these meetings and hearings, input from the public, interested stakeholders, and groundwater pumpers will be considered and incorporated into the decision-making process.

At a time in the future when the effects of management actions have stabilized groundwater levels, the GSAs will reassess the need for continuing these actions. At a minimum, the reassessment process would be done as part of the 5-year review and report to the regulatory agencies.

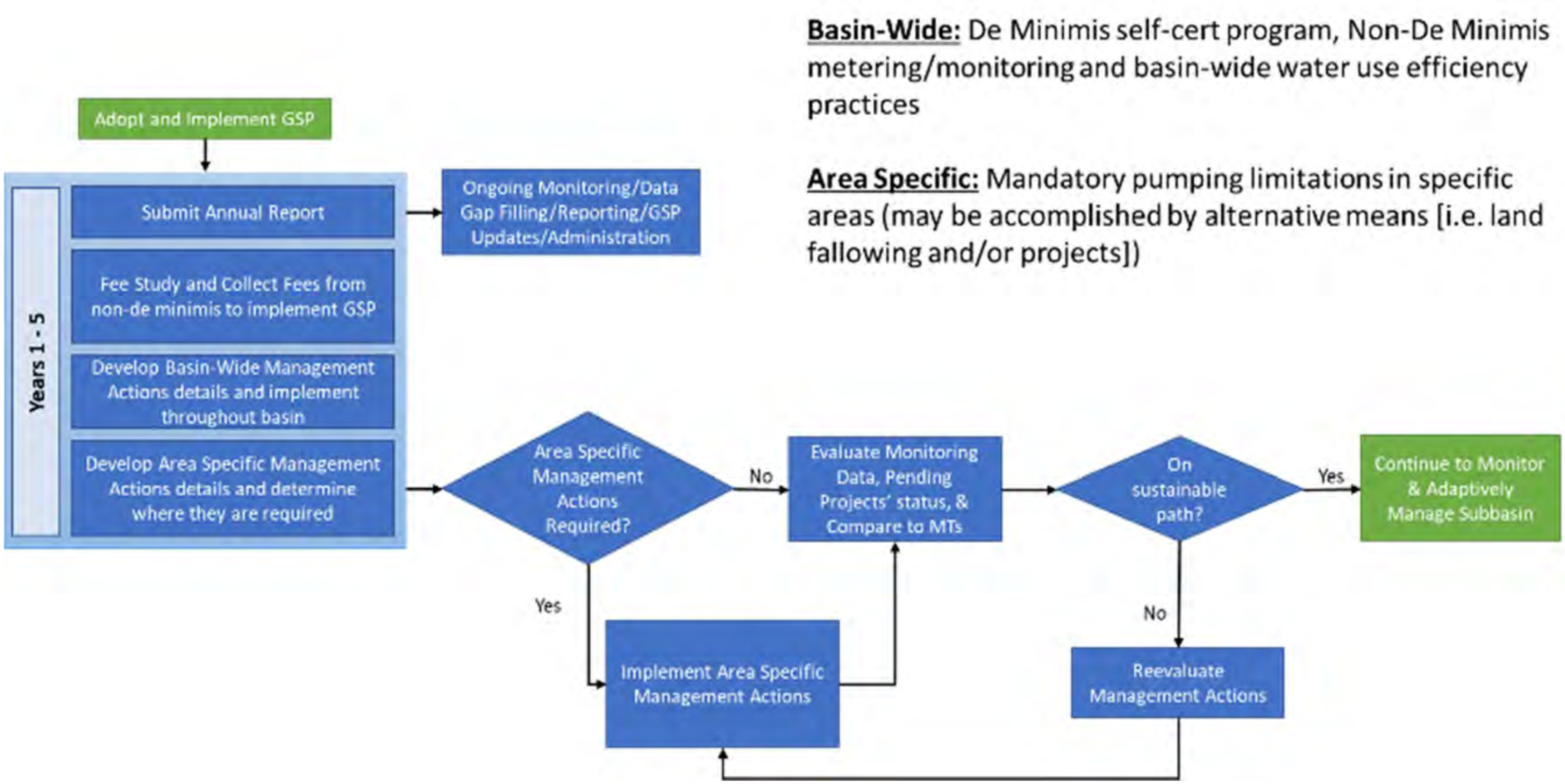


Figure 0-1: Conceptual Implementation Approach for Management Actions and Projects

9.3 Basin-Wide Management Actions

The following subsections outline the various basin-wide management actions. Basin-wide management actions will be implemented using input from stakeholders and in a data-driven process.

Basin-wide management actions include:

- Monitoring, reporting and outreach
- Promoting best water use practices
- Promoting stormwater capture
- Promoting voluntary fallowing of irrigated crop land

Sections required by SGMA regulations §354.44 follow the description of each management action below. Grant funding has been is being sought though the SGMA Round 1 Implementation Grant for implementation of the management actions listed above. Each management action was scored and ranked using a set of scoring criteria. The scores of individual management actions, as well as management action descriptions and justifications are included as a table in Appendix X.

9.3.1 Monitoring, Reporting and Outreach

Monitoring, reporting and outreach reflects the core functions that the GSAs need to provide to comply with SGMA regulations. The GSAs will direct the monitoring programs outlined in Chapter 7 to track Subbasin conditions related to the five applicable sustainability indicators. Data from the monitoring programs will be routinely evaluated to ensure progress is being made toward sustainability or to identify whether undesirable results are occurring. Data will be maintained in the Data Management System (DMS). Data from the monitoring program will be used by the GSAs to guide decisions on management actions and to prepare annual reports to Subbasin stakeholders and DWR and by individual entities to guide decisions on projects. SGMA regulations require that the reports comply with DWR forms and submittal requirements that will be published by DWR, and that all transmittals are signed by an authorized party. Data will be organized and available to the public to document Subbasin conditions relative to Sustainability Management Criteria (Chapter 8).

9.3.1.1 *De Minimis* Self Certification

A system for *de minimis* basin extractors to self-certify that they extract, for domestic purposes, two acre-feet or less per year will be developed in order to differentiate extractors for the purposes of implementing the GSP.

9.3.1.2 Non-*De Minimis* Metering and Reporting Program

This GSP calls for a program that will require all non-*de minimis* extractors to report extractions annually and use a water-measuring method satisfactory to the GSAs in accordance with Water Code Section 10725.8. It is anticipated that the GSAs will develop and adopt a regulation to implement this program, which is expected to include a system for reporting and accounting for land fallowing, stormwater capture projects, or other activities that individual pumpers implement. The information collected will be used to account for pumping that would have otherwise occurred, for analyzing projected Subbasin conditions and completing annual reports and five-year GSP assessment reports.

9.3.1.3 Annual Reports (SGMA Regulation §356.2)

Annual reports will be submitted to DWR starting on April 1, 2020. The purpose of the report is to provide monitoring and total groundwater use data to DWR, compare monitoring data to the sustainable management criteria, to report on management actions and projects implemented to achieve sustainability, and to promote best water use practices, stormwater capture and voluntary irrigated land fallowing. Annual reports will be available to Subbasin stakeholders.

9.3.1.4 5-Year GSP Updates and Amendments (SGMA Regulation §356.2)

In accordance with SGMA regulatory requirements (§356.4), five-year GSP assessment reports will be provided to DWR starting in 2025. The GSAs shall evaluate the GSP at least every five years to assess whether it is achieving the sustainability goal in the Subbasin. The assessment will include a description of significant new information that has been made available since GSP adoption or amendment and whether the new information or understanding warrants changes to any aspect of the plan.

Although not required by SGMA regulations, the GSAs anticipate that an amendment to the GSP will be prepared within the first five years to integrate new information. Updates may include incorporating additional monitoring data, updating the sustainable management criteria, documenting any projects that are being implemented and facilitating adaptive management of management actions.

9.3.1.5 Data Gaps

SGMA regulations require identification of data gaps and a plan for filling them (§ 354.38). Monitoring data will be collected and reported for each of the five sustainability indicators that are relevant to the Subbasin: chronic lowering of groundwater levels, reduction in groundwater storage, degraded water quality, land subsidence, and depletion of interconnected surface water. As noted in Chapter 7, the approach for establishing the monitoring networks was to leverage existing monitoring programs and, where data gaps existed, incorporate additional monitoring locations that have been made available by cooperating entities or that have been established by the GSAs. Appendix L identifies the plan for addressing data gaps in each monitoring network and the computer model of the Subbasin.

9.3.1.6 Relevant Measurable Objectives

Monitoring, Reporting, and Outreach would help achieve measurable objectives by keeping basin users informed about Subbasin conditions and the need to avoid undesirable results.

9.3.1.7 Expected Benefits and Evaluation of Benefits

The primary benefit from Monitoring, Reporting and Outreach is increasing hydrogeologic understanding of basin conditions and how management affects those conditions. Outreach, public education and associated changes in behavior improve the chances of achieving sustainability. Because it is unknown how much behavior will change as a result of Monitoring, Reporting and Outreach, it is difficult to quantify the expected benefits at this time.

Reductions in groundwater pumping will be measured directly through the metering and reporting program and recorded in the Data Management System (DMS). Changes in groundwater elevation will be measured with the groundwater level monitoring program. Subsidence will be measured using InSAR data. Changes in groundwater storage will be estimated using changes in groundwater levels (via proxy). Information about the monitoring programs is provided in Chapter 7. Isolating the effect of Monitoring, Reporting and Outreach on groundwater levels will be challenging because they are only one of several management actions that may be implemented concurrently in the Subbasin.

9.3.1.8 Circumstances for Implementation

Monitoring, Reporting and Outreach will begin upon adoption of the GSP. No other triggers are necessary or required.

9.3.1.9 Public Noticing

Public meetings will be held to inform the groundwater pumpers and other stakeholders about Subbasin conditions and the need for behavior changes. Groundwater pumpers and interested stakeholders will have the opportunity at these meetings to provide input and comments on how the Monitoring, Reporting and Outreach are being implemented in the Subbasin. Information on Monitoring, Reporting and Outreach will also be provided through annual GSP reports and links to relevant information on GSA websites.

9.3.1.10 Permitting and Regulatory Process

It is anticipated that the GSAs will adopt a regulation governing the metering and reporting program.

9.3.1.11 Implementation Schedule

Monitoring, Reporting and Outreach efforts will begin upon GSP adoption.

9.3.1.12 Legal Authority

The legal authority to conduct Monitoring, Reporting and Outreach is included in SGMA. For example, Water Code § 10725.8 authorizes GSAs to require through their GSPs that the use of every groundwater extraction facility (except those operated by *de minimis* extractors) be measured.

9.3.1.13 Estimated Cost

The total estimated cost for Monitoring, Reporting, and Outreach is $1,150,000.

9.3.2 Promoting Best Water Use Practices

This GSP calls for the GSAs to encourage pumpers to implement the most effective water use efficiency methods applicable, often referred to as Best Management Practices (BMPs). It is anticipated that industry leaders would facilitate workshops or other programs designed to communicate what the latest best water use practices are for their industry. Effective BMPs could result in:

- Efficient irrigation practices.
- A better accounting of annual precipitation and its contribution to soil moisture in all irrigation decisions and delay commencing irrigation until soil moisture levels require replenishment.
- Optimization of irrigation needs for frost control if sprinklers are used.
- More optimal irrigation practices by monitoring crop water use with soil and plant monitoring devices and tie monitoring data to evapotranspiration (ET) estimates.
- Conversion from high water demand crops to lower water demand crops.

Many growers already use BMPs, but improvements can be made. A goal of promoting BMPs is to broaden their use to more growers in the Subbasin. *De minimis* groundwater users will be encouraged to use BMPs as well. Promoting BMPs will include broad outreach to groundwater pumpers in the Subbasin to emphasize the importance of utilizing BMPs and understanding their positive benefits for mitigating declining groundwater levels and forestalling mandated limitations in groundwater extraction on their property.

9.3.2.1 Relevant Measurable Objectives

BMPs would help achieve the groundwater elevation, groundwater storage, and land subsidence measurable objectives.

9.3.2.2 Expected Benefits and Evaluation of Benefits

The primary benefit from initiating BMPs is mitigating the decline, or raising, groundwater elevations. An ancillary benefit from stable or rising groundwater levels may include avoiding pumping induced subsidence. Because it is unknown how much pumping will be reduced from promoting BMPs, it is difficult to quantify the expected benefits at this time.

Reductions in groundwater pumping will be measured directly through the metering and reporting program and recorded in the Data Management System (DMS). Changes in groundwater elevation will be measured with the groundwater level monitoring program. Subsidence will be measured with the InSAR network. Changes in groundwater storage will be estimated using the groundwater level proxy. Information about the monitoring programs is provided in Chapter 7. Isolating the effect of BMPs on groundwater levels will be challenging because they are only one of several management actions that may be implemented concurrently in the Subbasin.

9.3.2.3 Circumstances for Implementation

BMPs and related outreach will be promoted soon after adoption of the GSP. No other triggers are necessary or required.

9.3.2.4 Public Noticing

Public meetings will be held to inform the groundwater pumpers and other stakeholders about Subbasin conditions and the need for BMPs. Groundwater pumpers and interested stakeholders will have the opportunity at these meetings to provide input and comments on how the BMPs are being implemented in the Subbasin. The BMPs will also be promoted through annual GSP reports and links to relevant information on GSA websites.

9.3.2.5 Permitting and Regulatory Process

No permitting or regulatory process is needed for promoting BMPs.

9.3.2.6 Implementation Schedule

The GSAs envision that BMPs will be promoted within a year of GSP adoption.

9.3.2.7 Legal Authority

No legal authority is needed to promote BMPs.

9.3.2.8 Estimated Cost

The estimated cost for promoting BMPs and understanding the extent to which they are being implemented in the Subbasin is included in the cost of the metering and reporting program and developing annual reports.

9.3.3 Promote Stormwater Capture

Stormwater and dry weather runoff capture projects, including Low Impact Development (LID) standards for new or retrofitted construction, will be promoted as priority projects to be implemented as described in the San Luis Obispo County Stormwater Resource Plan (SWRP). The SWRP outlines an implementation strategy to ensure valuable, high-priority projects with multiple benefits. While the benefits are not easily quantified, the State is very supportive of such efforts. Stormwater capture projects in several areas of the Basin, including reaches of the Huer Huero, San Juan and Estrella drainages are likely to be pursued.

This management action covers two types of stormwater capture activities. The first stormwater capture activity involves retaining and recharging onsite runoff. Examples of this type of activity include LID and on-farm recharge of local runoff. The second stormwater capture activity involves recharge of unallocated storm flows. These actions require temporary diversions of storm flows from streams, and transport of those flows to recharge locations. State programs and grants (e.g., FLOOD-MAR, Proposition 68) and local entities (e.g., Resource Conservation Districts) can be utilized as resources to move forward on stormwater capture and percolation efforts.

9.3.3.1 Relevant Measurable Objectives

Stormwater capture would benefit the groundwater elevation, groundwater storage, and land subsidence measurable objectives.

9.3.3.2 Expected Benefits and Evaluation of Benefits

The primary benefit from promoting stormwater capture is to mitigate the decline of, or possibly raise, groundwater elevations through additional recharge. An ancillary benefit from stable or rising groundwater elevations may include avoiding pumping induced subsidence. Because the amount of recharge that could be accomplished from the program is unknown at this time, it is difficult to quantify the expected benefits.

Changes in groundwater elevation will be measured with the groundwater level monitoring program. Subsidence will be measured with the InSAR network. Changes in groundwater storage will be estimated using the groundwater level proxy. Information about the monitoring programs is provided in Chapter 7. Isolating the effect of the stormwater capture on groundwater levels will be challenging because it will be only one of several management actions that may be implemented concurrently in the Subbasin.

9.3.3.3 Circumstances for Implementation

Stormwater capture will be promoted as soon as possible after adoption of the GSP.

9.3.3.4 Public Noticing

Public meetings will be held to inform the groundwater pumpers and other stakeholders about Subbasin conditions and the need for stormwater capture. Groundwater pumpers and interested stakeholders will have the opportunity at these meetings to provide input and comments on how stormwater capture projects are being implemented in the Subbasin. Stormwater capture will also be promoted through annual GSP reports and links to relevant information on GSA websites.

9.3.3.5 Permitting and Regulatory Process

Recharge of stormwater by retaining and recharging onsite runoff does not require permits. Recharge of unallocated storm flows is currently subject to the SWRCB’s existing temporary permit for groundwater recharge program. The SWRCB is currently developing five-year permits for capturing high flow events. Recharge of unallocated storm flows will be subject to the terms of these five-year permits if and when they are enacted. Stormwater capture may also be subject to CEQA permitting. A regulation will need to be adopted by the GSAs to account for projects that recharge unallocated storm flows as a part of the metering and reporting program. Regulations are subject to CEQA.

9.3.3.6 Implementation Schedule

The GSAs envision that stormwater capture will be promoted within two years of GSP adoption.

9.3.3.7 Legal Authority

Other than acquiring required permits and the right to divert stormwater, there are no other legal authorities required to implement stormwater capture.

9.3.3.8 Estimated Cost

The estimated cost for promoting stormwater capture and understanding the extent to which it is being implemented in the Subbasin is included in the cost of the metering and reporting program and developing annual reports.

9.3.4 Promote Voluntary Fallowing of Agricultural Land

This GSP calls for the GSAs to promote voluntary fallowing of crop land to reduce overall groundwater demand. For example, the GSAs could develop a Subbasin-wide accounting system that tracks landowners who decide to voluntarily fallow their land and cease groundwater pumping or otherwise refrain from using groundwater. If given the opportunity to create a "place holder" for their ability to pump under regulations adopted by the GSAs, some property owners currently irrigating crops or that might want to irrigate in the future may choose to forego the expense of farming and extracting water if those rights can be accounted for and protected. A regulation would need to be adopted by the GSAs for the metering and reporting program, and the program could include provisions related to land fallowing.

9.3.4.1 Relevant Measurable Objectives

The voluntary fallowing of irrigated land would benefit the groundwater elevation, groundwater storage, and land subsidence measurable objectives.

9.3.4.2 Expected Benefits and Evaluation of Benefits

The primary benefit of voluntary fallowing would be mitigating the decline of groundwater elevations by reducing pumping. An ancillary benefit from stable or rising groundwater elevations may include avoiding pumping induced subsidence. Because it is unknown how many landowners will willingly fallow their land, it is difficult to quantify the expected benefits at this time.

Reductions in groundwater pumping will be measured directly through the metering and reporting program and recorded in the DMS. Changes in groundwater elevation will be measured with the groundwater level monitoring program. Subsidence will be measured with the InSAR network. Changes in groundwater storage will be estimated using the groundwater level proxy. Information about the monitoring programs is provided in Chapter 7. Isolating the effect of voluntary fallowing on sustainability metrics will be challenging because it will be only one of several management actions that may be implemented concurrently in the Subbasin.

9.3.4.3 Circumstances for Implementation

The GSAs envision that voluntary fallowing of land will be promoted as soon as possible after GSP adoption.

9.3.4.4 Public Noticing

Public meetings will be held to inform the groundwater pumpers and other stakeholders about Subbasin conditions and the need for voluntary fallowing. Landowners, groundwater pumpers and interested stakeholders will have the opportunity at these meetings to provide input and comments on how voluntary fallowing is being implemented in the Subbasin. Voluntary fallowing will also be promoted through annual GSP reports and links to relevant information on GSA websites.

9.3.4.5 Permitting and Regulatory Process

Regulations are subject to CEQA.

9.3.4.6 Implementation Schedule

The GSAs envision that voluntary fallowing will be promoted within two years of GSP adoption.

9.3.4.7 Legal Authority

California Water Code §10726.2(c) provides GSAs the authorities to provide for a program of voluntary land fallowing.

9.3.4.8 Estimated Cost

The estimated cost for promoting and accounting for land fallowing is included in the cost of the metering and reporting program and developing annual reports.

9.4 Area Specific Management Actions

Implementation of area specific management actions may be necessary to address areas of persistent groundwater level decline (

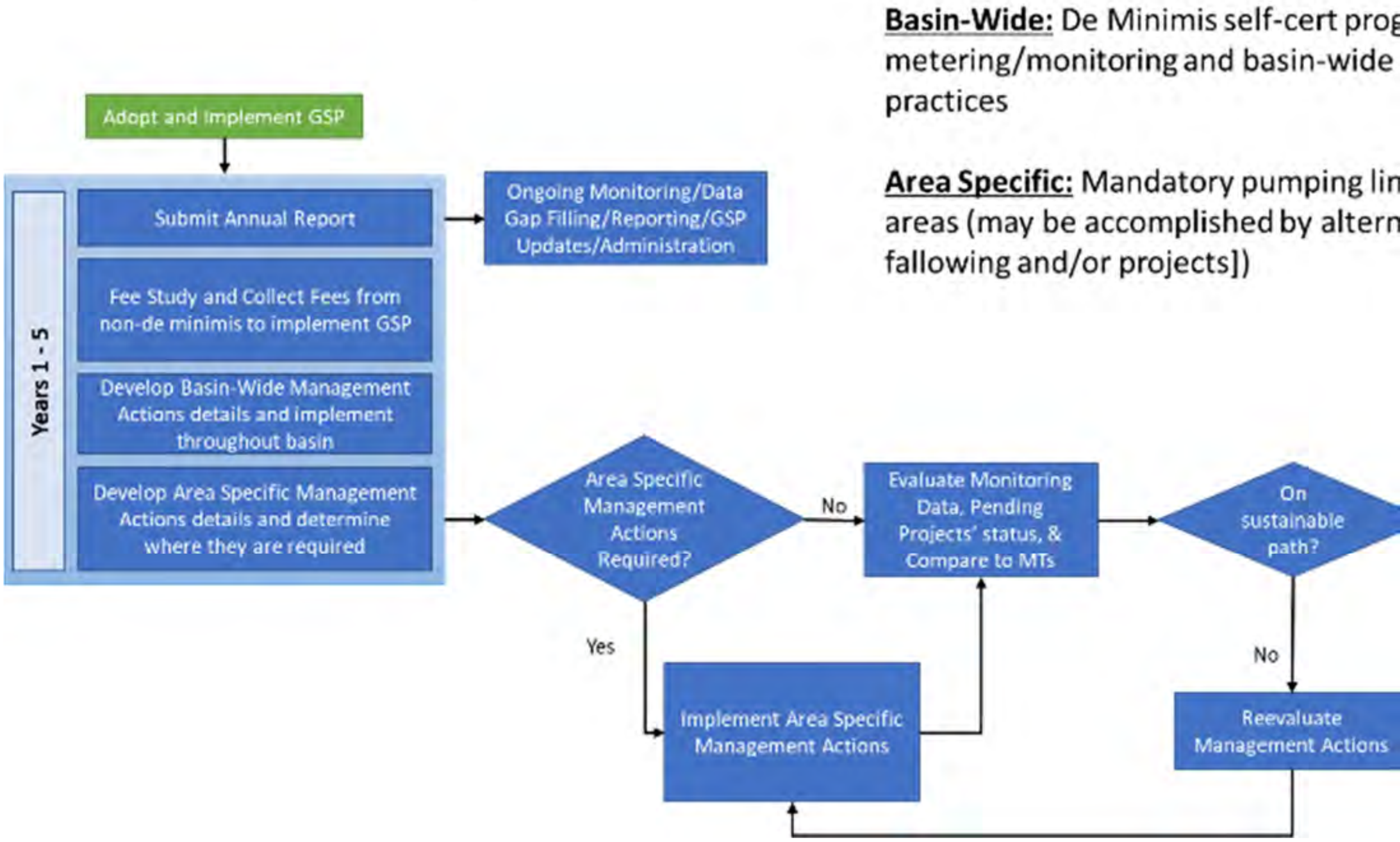


Figure 0-1). Through a regulatory program, GSAs will conduct extensive data analysis to delineate where pumping needs to be limited to stabilize levels. With this information, affected pumpers will need to decide how to achieve these limitations. This may include land fallowing/retirement or paying for projects and/or programs that can be effectively implemented proportional to the recognized volume of groundwater necessary to avoid undesirable results in each area of the Subbasin. Sections required by SGMA regulations §354.44 follow the description of each management action below.

9.4.1 Mandatory pumping limitations in specific areas

The GSAs will establish a regulatory program to identify and enforce required pumping limitation as necessary to arrest persistent groundwater level declines in specific areas. The amount of mandatory pumping limitations is uncertain and will depend on the effectiveness and timeliness of voluntary actions by pumpers and the success of other measures outlined in the GSP. The water budget presented in Chapter 6 suggests that an estimated shortfall of 13,700 AFY will need to be addressed by a combination of increased water supply, conservation and reduction in pumping in order to achieve sustainability. After GSP adoption, developing the program would likely require the following steps:

1. Establishing a methodology for determining baseline pumping in specific areas considering:
    a. Groundwater level trends in areas of decline and estimated available volume of water in those areas
    b. Land uses and corresponding irrigation requirements
2. Establishing a methodology to determine whose use must be limited and by how much considering, though not limited to, water rights and evaluation of anticipated benefits from projects bringing in supplemental water or other relevant actions individual pumpers take.
3. A timeline for limitations on pumping ("ramp down") in specific areas as required to avoid undesirable results
4. Approving a formal regulation to enact the program

Determination of baseline pumping in specific areas will need to be established and guidance developed by DWR in response to legislative directives for consistent implementation of the Water Conservation Act of 2009, as is used in Urban Water Management Plans, may be helpful. Baseline pumping would be ramped down to meet water use targets in specific areas until it is projected that groundwater levels will stabilize. Analyses will be updated periodically as new data are developed. The ramp down schedule would be developed during program development; the rate of ramp down would depend on when the program starts, and projections of how long lower pumping rates are required in specific areas in order to avoid undesirable results. The specific ramp down amounts and timing would be reassessed periodically by the GSAs as needed to achieve sustainability. These adjustments would occur when additional data and analyses are available.

9.4.1.1 Relevant Measurable Objectives

Mandatory limitations to groundwater pumping in specific areas would benefit the groundwater elevation, groundwater storage, and land subsidence measurable objectives in those areas.

9.4.1.2 Expected Benefits and Evaluation of Benefits

The primary benefit from the mandatory pumping limitations is mitigating the decline of groundwater levels through reduced total pumping. An ancillary benefit from stable or increasing groundwater elevations may include avoiding pumping induced subsidence. The program is designed to ramp down total pumping to the sustainable yield; therefore, the quantifiable goal is to maintain pumping within the sustainable yield.

Limitations on groundwater pumping will be measured directly through the metering and reporting program and recorded in the DMS. Changes in groundwater elevation are an important metric for the mandatory pumping limitation program and will be measured with the groundwater level monitoring program. Subsidence will be measured using InSAR data. Changes in groundwater storage will be estimated using the groundwater level proxy. Information about the monitoring programs is provided in Chapter 7. Isolating the effect of the mandatory pumping limitation program on sustainability metrics will be challenging because it will be only one of several management actions that may be implemented concurrently in the Subbasin. However, as the pumping ramp down is initiated, the correlation between reduced pumping and higher groundwater levels may become more apparent.

9.4.1.3 Circumstances for Implementation

Because there are areas where groundwater levels are persistently declining and undesirable results could occur, the mandatory pumping limitation program will be implemented after the GSAs adopt the regulation governing the program.

9.4.1.4 Public Noticing

Public meetings will be held to inform groundwater pumpers and other stakeholders that the mandatory pumping limitation program is being developed. The mandatory pumping limitation program will be developed in an open and transparent process. Landowners, groundwater pumpers and other stakeholders will have the opportunity at these meetings to provide input and comments on the process and the program elements.

9.4.1.5 Permitting and Regulatory Process

The mandatory pumping limitation program is subject to CEQA. The mandatory pumping limitation program would be developed in accordance with all applicable groundwater laws and respect all groundwater rights.

9.4.1.6 Implementation Schedule

Developing the mandatory pumping limitation program and adopting the regulation would likely take up to five years. Once the regulation is adopted, the program will be implemented.

9.4.1.7 Legal Authority

California Water Code §10726.4 (a)(2) provides GSAs the authorities to control groundwater extractions by regulating, limiting, or suspending extractions from individual groundwater wells or extractions from groundwater wells in the aggregate.

9.4.1.8 Estimated Cost

The cost to develop and implement the mandatory pumping limitation program is estimated to be $350,000. This does not include the cost of the CEQA permitting or any ongoing program oversight.

9.5 Projects

Projects involve new or improved infrastructure to make new water supplies available to the Subbasin. Best Management Practices and developing projects that will enhance supply will mitigate groundwater level decline. Several potential projects are described in this GSP that may be implemented by willing entities to offset pumping and lessen the degree to which the management actions would be needed. The implementation of projects depends on willing participants and/or successful funding votes.

There are six potential sources of water for projects:

1. Tertiary treated wastewater supplied and sold by City of Paso Robles and the San Miguel CSD to private groundwater extractors to use in lieu of groundwater. This water is commonly referred to as recycled water (RW).
2. State Water Project (SWP) water
3. Nacimiento Water Project (NWP) water
4. Salinas Dam/Santa Margarita Reservoir water
5. Local recycled water
6. Flood flows/stormwater from local rivers and streams

These six water sources are described in more detail in Appendix I. Of these six sources, only RW, SWP, NWP, and Salinas Dam currently have sufficiently reliable volumes of unused water to justify the expense of new infrastructure to be used on a regular basis for supplementing water supplies in the Subbasin. Since there are uncertainties associated with securing agreements to utilize SWP and related infrastructure, descriptions of concept projects associated with the use of this water supply are included in Appendix L. Capturing flood flows/stormwater from streams in permitted projects will be pursued. Specific elements of these projects will be developed in the near future. Use of the Salinas Dam to capture flood flows/stormwater is presently the only conceptual project included in the GSP. In summary, the initial focus of new supply is on developing RW, NWP, and Salinas Dam projects in the Subbasin. Grant funding has been is being sought though the SGMA Round 1 Implementation Grant for implementation of the projects listed above. Each project was scored and ranked using a set of scoring criteria. The scores of individual projects, as well as project descriptions and justifications are included as a table in Appendix X.

9.5.1 General Project Provisions

Many of the priority projects listed below are subject to similar requirements. These general provisions that are applicable to all projects include certain permitting and regulatory requirements, public notice requirements, and the legal authority to initiate and complete the projects. This section assumes the development of projects are led by one or more GSAs in order to complete the sections below that are required by SGMA regulations §354.44.

9.5.1.1 Summary of Permitting and Regulatory Processes

Although the provisions of this GSP do not require projects to be subject to a particular set of requirements, projects envisioned in the GSP may require an environmental review process via CEQA and may require an Environmental Impact Report, a Negative Declaration, or a Mitigated Negative Declaration.

There will be a number of local, county and state permits, right of ways, and easements required depending on pipeline alignments, stream crossings, and project type.

Projects must adhere to the Salt/Nutrient Management Plan for the Paso Robles Groundwater Basin (RMC 2015).

9.5.1.2 Public Noticing

All projects are subject to the public noticing requirements per CEQA.

9.5.1.3 Legal Authority Required for Projects and Basis for That Authority within the Agency

California Water Code §10726.2 provides GSAs the authority to purchase, among other things, land, water rights, and privileges. Additionally, an assessment of the legal rights to acquire and use various water sources is included in Appendix I.

9.5.2 Conceptual Projects

Six conceptual projects are included in this GSP and have been identified after many public meetings and studies over the last decade and currently ongoing. All six projects will not necessarily be implemented, but they represent six reasonable projects that could help achieve sustainability throughout the Subbasin. Conceptual projects were developed for different regions in the Subbasin to address localized declines in groundwater elevations. Projects were sized based on the locations of available supplies and pumping demands in different areas of the Subbasin. Actual projects will be highly dependent on the ability of the GSAs and/or individual entities to negotiate with water suppliers and purchase the surface waters described in Appendix I. Four other conceptual projects that are not being developed currently are included in Appendix L for future consideration.

Table 0-1. Conceptual Projects

Project Name	Water Supply	Project Type	Approximate Location	Average Volume (AFY)
City Recycled Water Delivery	RW	Direct Delivery	Near City of Paso Robles	2,200
San Miguel Recycled Water Delivery	RW	Direct Delivery	Near San Miguel	200 [a]
NWP Delivery at Salinas and Estrella River Confluence	NWP	Direct Delivery	Near the confluence of the Salinas and Estrella Rivers	2,800
NWP Delivery North of City of Paso Robles	NWP	Direct Delivery	North of Huer Huero Creek, due west of the airport	1,000
NWP Delivery East of City of Paso Robles	NWP	Direct Delivery	East of the City of Paso Robles	2,000
Expansion of Salinas Dam	Salinas River	River Recharge	Along the Salinas River	1,000

Notes: (a) Average volume amounts may be updated in final GSA based on more recent information
(b) Approximate locations are assumed to establish the benefit calculations required by SGMA

Short descriptions of each concept project are included below, along with a map showing general project locations. Sections required by SGMA regulations §354.44 follow the description of each project. Generalized costs are also included for planning purposes. Components of these projects including facility locations, pipeline routes, recharge mechanisms, and other details may change in future analyses. Therefore, each of the projects listed below should be treated as a generalized project that represents a number of potential detailed projects.

9.5.2.1 Assumptions Used in Developing Projects

Assumptions that were used to develop projects and cost estimates are provided in Appendix J. Assumptions and issues for each project need to be carefully reviewed and revised during the pre-design phase of each project. Project designs, and therefore costs, could change considerably as more information is gathered.

The cost estimates included below are class 5, order of magnitude estimates. These estimates were made with little to no detailed engineering data. The expected accuracy range for such an estimate is within +50 percent or –30 percent. The cost estimates are based on the engineering assessment of current conditions at the project location. They reflect a professional opinion of costs at this time and are subject to change as project designs mature.

Capital costs include major infrastructure including pipelines, pump stations, customer connections, turnouts and storage tanks. Capital costs also include 30% contingency for plumbing appurtenances, 15% increase for general conditions, 15% for contractor overhead and profit, and 8% for sales tax. Engineering, legal, administrative, and project contingencies was assumed as 30% of the total construction cost and included within the capital cost. Land acquisition at $30,000/acre was also included within capital costs.

Annual operations and maintenance (O&M) fees include the costs to operate and maintain new project infrastructure. O&M costs also include any pumping costs associated with new infrastructure. O&M costs do not include O&M or pumping costs associated with existing infrastructure, such as existing NWP O&M costs because these are assumed to be part of water purchase costs. Water purchase costs were assumed to include repayment of loans for existing infrastructure; however, these purchase costs will need to be negotiated. The terms of such a negotiation could vary widely.

Capital costs were annualized over thirty years and added with annual O&M costs and water purchase costs to determine an annualized dollar per acre-foot ($/AF) cost for each project. This $/AF value might not always represent the $/AF of basin benefit ($/AF-benefit).

9.5.2.2 Preferred Project 1: City Recycled Water Delivery

This project will use up to 2,200 AFY of disinfected tertiary effluent for in-lieu recharge in the central portion of the basin near and inside the City of Paso Robles. Water that is not used for recycled water purposes will be discharged to Huer Huero Creek with the potential for additional recharge benefits. The general layout of this project and relevant monitoring wells are shown on Figure 0-2. Infrastructure includes upgraded wastewater treatment plant and pump station, 5.8 miles of pipeline, a storage tank, numerous turnouts, and a discharge to Huer Huero Creek. Additionally, a conceptual pipeline to the north of the main line will deliver recycled water to a larger geographical area. The cost to upgrade the wastewater treatment plant is also not included in the cost estimate, since the upgrades were required per the NPDES permit regardless of use for recycled water. Since this project is already in the predesign phase, the predesign project cost estimate is provided for this GSP.

9.5.2.2.1 Relevant Measurable Objectives

The measurable objectives benefiting from this groundwater project include:

- Groundwater elevation measurable objectives in the central portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the central portion of the Subbasin

9.5.2.2.2 Expected Benefits and Evaluation of Benefits

The primary benefit from the Paso Robles RW project is higher groundwater elevations in the Central portion of the Subbasin due to in-lieu recharge from the direct use of the RW and recharge through Huer Huero Creek. Ancillary benefits of shallower groundwater elevations may include an increase in groundwater storage, improved groundwater quality from recharge of high-quality water, and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 0-3 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 0-3 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 0-3 is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

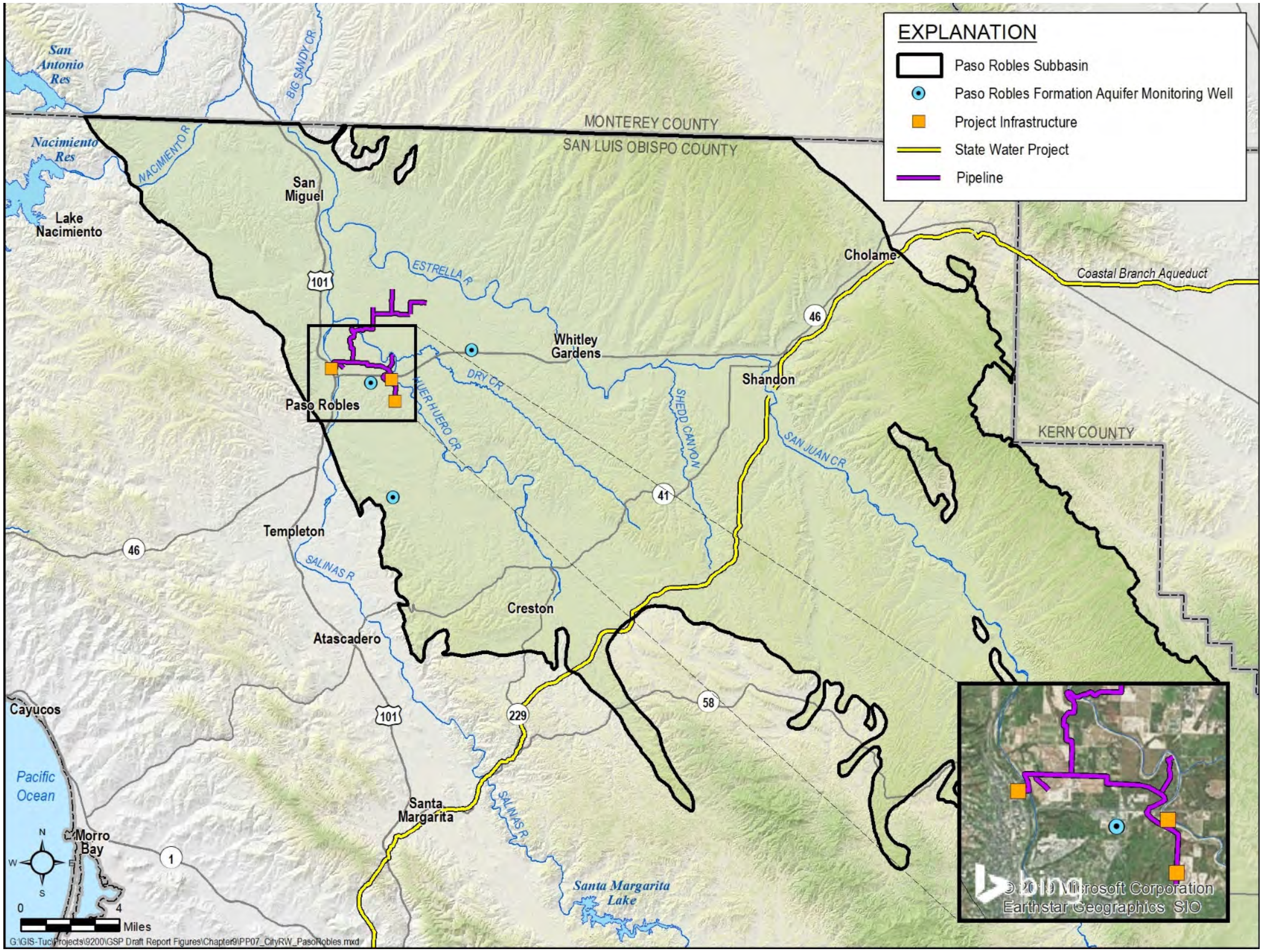


Figure 0-2. Paso Robles RW Project Layout

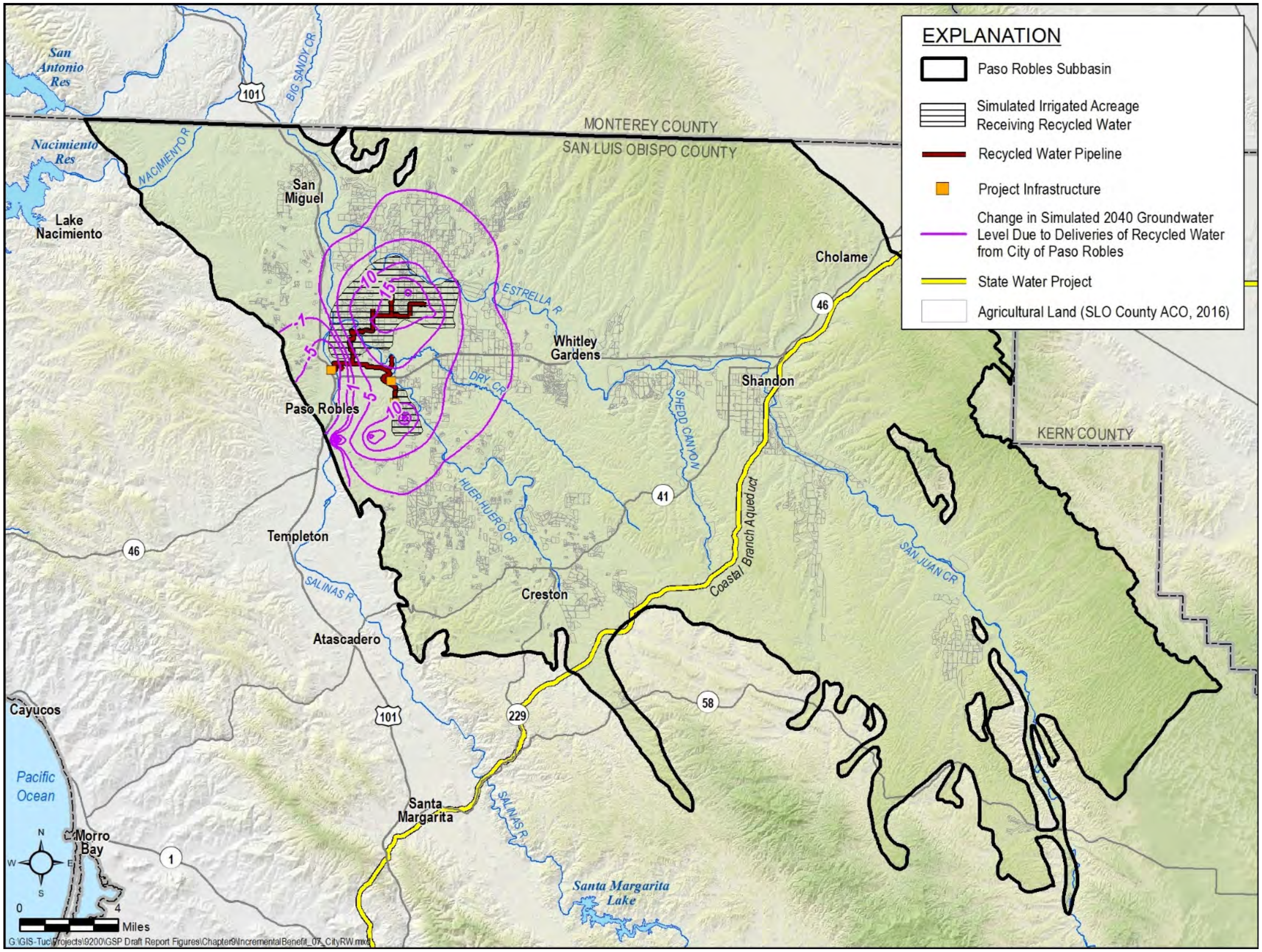


Figure 0-3. Groundwater Level Benefit of Paso Robles RW Project in Central Subbasin

Changes in groundwater elevation will be measured with the groundwater level monitoring program detailed in Chapter 7. Subsidence will be measured with the InSAR network detailed in Chapter 7. A direct correlation between the Paso Robles RW project and changes in groundwater levels may not be possible because this is only one among many management actions and projects that might be implemented in the Subbasin.

9.5.2.2.3 Circumstances for Implementation

This project is already being implemented by the City of Paso Robles. The monitoring wells 26S/12E-26E07, 26S/13E-16N01, and 27S/12E-13N01 will likely be positively impacted by this project.

9.5.2.2.4 Implementation Schedule

The project is underway. The phase design is expected to be complete by 2019 and construction complete by 2021. The implementation schedule is presented on Figure 0-4.

Figure 0-4. Implementation Schedule for Paso Robles RW in Central Subbasin

9.5.2.2.5 Estimated Cost

The estimated total project cost for this project is $22M. The cost and financing for the project is being determined by the City of Paso Robles. Annual O&M costs are not provided in this GSP. The cost ($/AF) of this water will be set by the City of Paso Robles and is not included in this GSP.

9.5.2.3 Preferred Project 2: San Miguel CSD Recycled Water Delivery

The San Miguel RW project is currently in the planning and preliminary design phases; therefore, the project concepts presented herein are preliminary.

This project is a planned project that involves the upgrade of San Miguel Community Services District (CSD) wastewater treatment plant to meet California Code of Regulations (CCR) Title 22 criteria for disinfected secondary recycled water for irrigation use by vineyards. Potential customers include a group of agricultural customers on the east side of the Salinas River, and a group of agricultural customers northwest of the wastewater treatment plant. The project might include the utilization of process discharge from a nearby processing facility for additional water recycling. The project could provide between 200 and 450 AFY of additional water supplies. The general layout of this project and relevant monitoring wells are shown on Figure 0-5. The infrastructure shown here includes a treatment plant upgrade, a recycled water pumping station and pipeline infrastructure to provide for delivering water to customers. The actual project size and infrastructure will be determined based on project feasibility and negotiations with suppliers and customers. For more information on technical assumptions and cost assumptions, refer to Appendix J.

9.5.2.3.1 Relevant Measurable Objectives

The measurable objectives benefiting from this groundwater project include:

- Groundwater elevation measurable objectives in the northern portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the northern portion of the Subbasin

9.5.2.3.2 Expected Benefits and Evaluation of Benefits

The primary benefit from RW use for irrigation is higher groundwater elevations in the northern portion of the Subbasin due to in-lieu recharge from the direct use of the RW. Ancillary benefits may include an increase in groundwater storage and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 0-6 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 0-6 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 0-6 is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

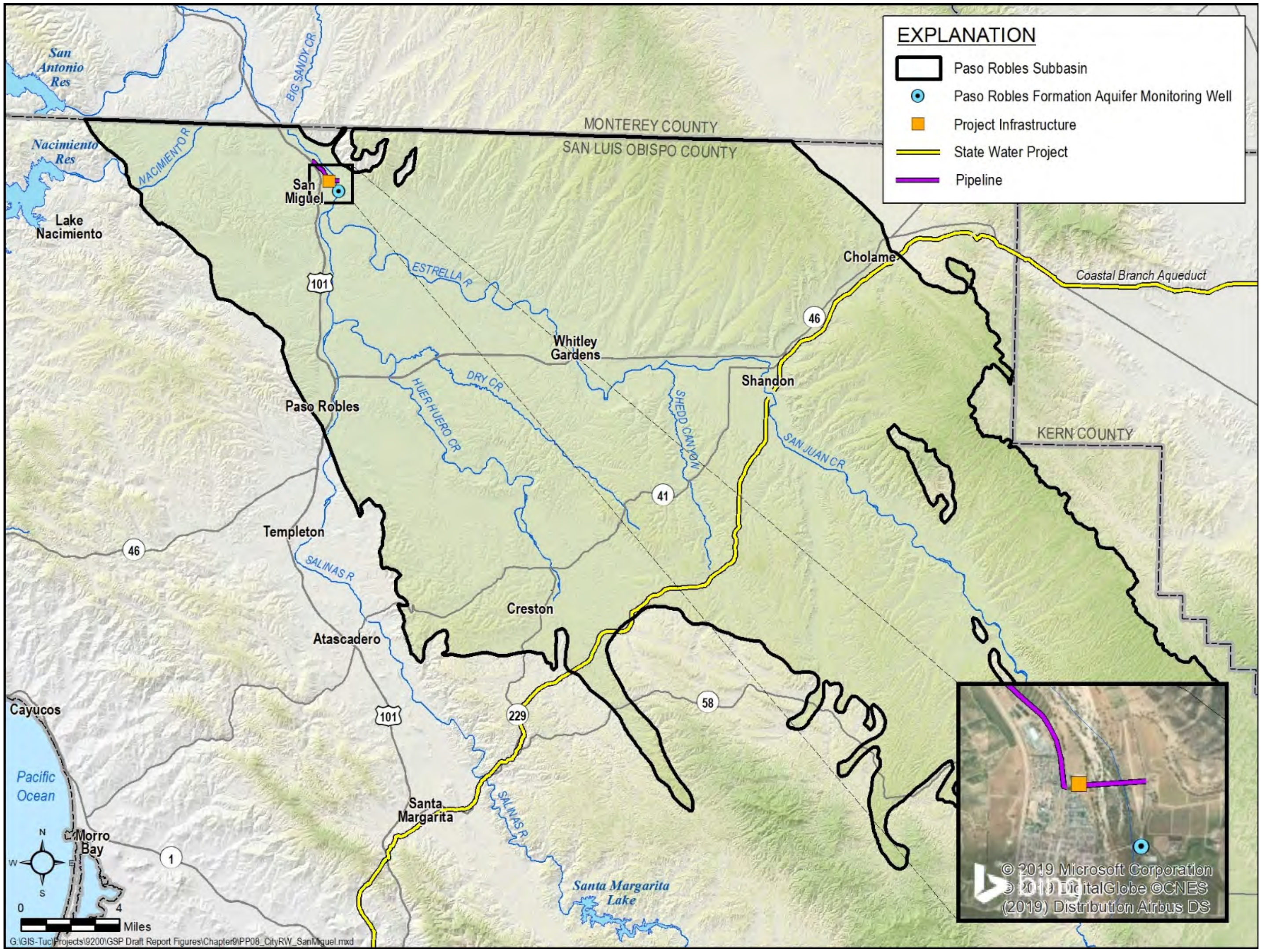


Figure 0-5. Conceptual San Miguel CSD RW Project Layout

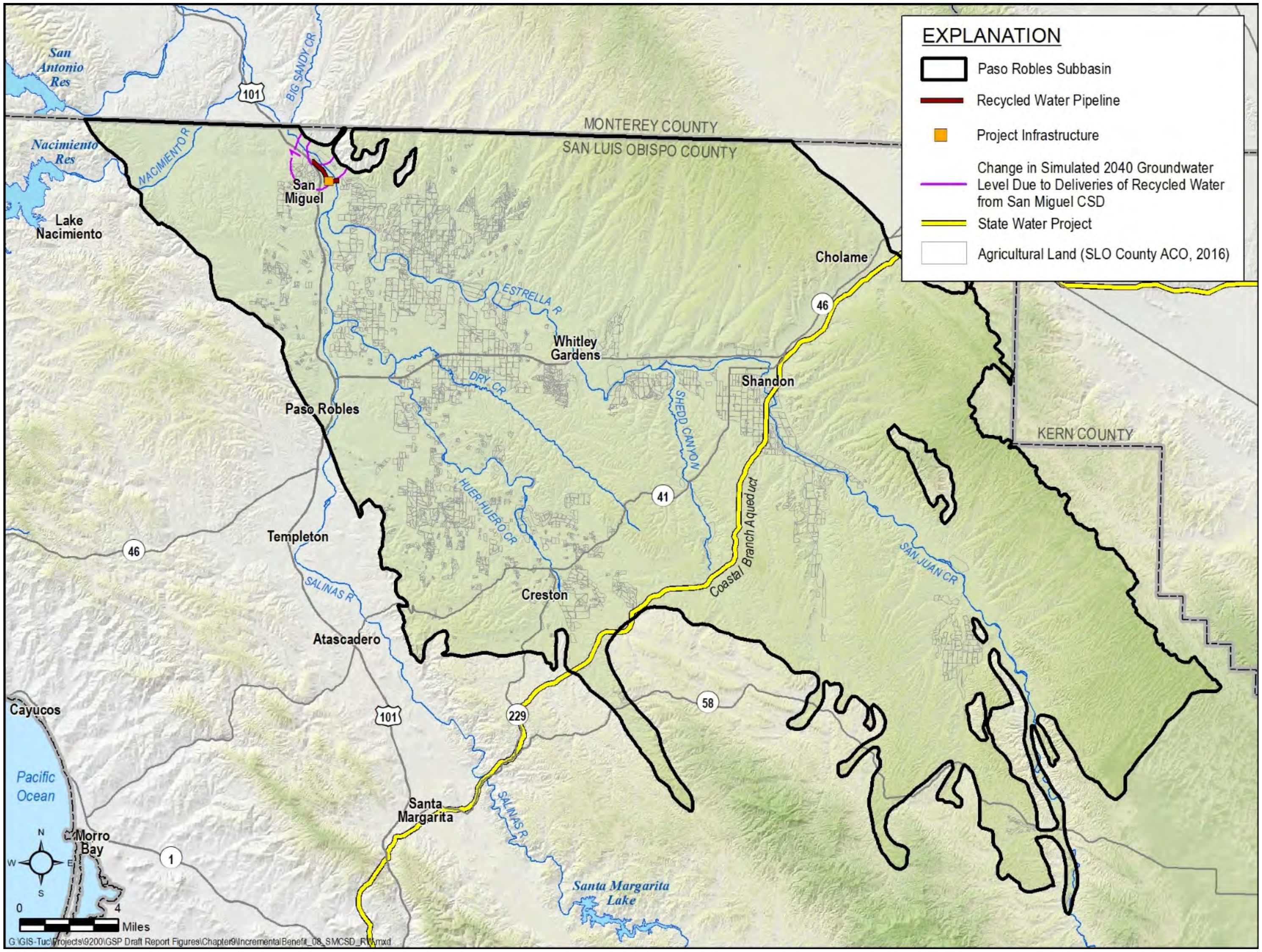


Figure 0-6. Groundwater Level Benefit of San Miguel CSD RW Project

Changes in groundwater elevation will be measured with the groundwater level monitoring program detailed in Chapter 7. Subsidence will be measured with the InSAR network detailed in Chapter 7. A direct correlation between the San Miguel CSD RW Project and changes in groundwater levels may not be possible because this is only one among many management actions and projects that might be implemented in the Subbasin.

9.5.2.3.3 Circumstances for Implementation

Willing parties will plan, design and raise funds to initiate projects. San Miguel CSD Staff has completed the planning phase and is currently in the design development phase of the project. The initial phase of the San Miguel CSD RW Project is currently planned for completion in mid-2021 with subsequent phases to be initiated if, after five years, groundwater levels in the northern portion of the monitoring network continue to decline at unsustainable rates. In particular, continued unsustainable groundwater level declines in monitoring well 25S/12E-16K05 will trigger implementation of this project. Additional triggers will be added as the monitoring well network expands.

This project is a planned project being undertaken by San Miguel CSD and may be implemented regardless of the triggered implementation framework presented herein.

9.5.2.3.4 Implementation Schedule

The implementation schedule is presented on Figure 9-7. The project will take 4 to 6 years to implement. The actual project start date is to be determined on an as-needed basis or by San Miguel CSD.

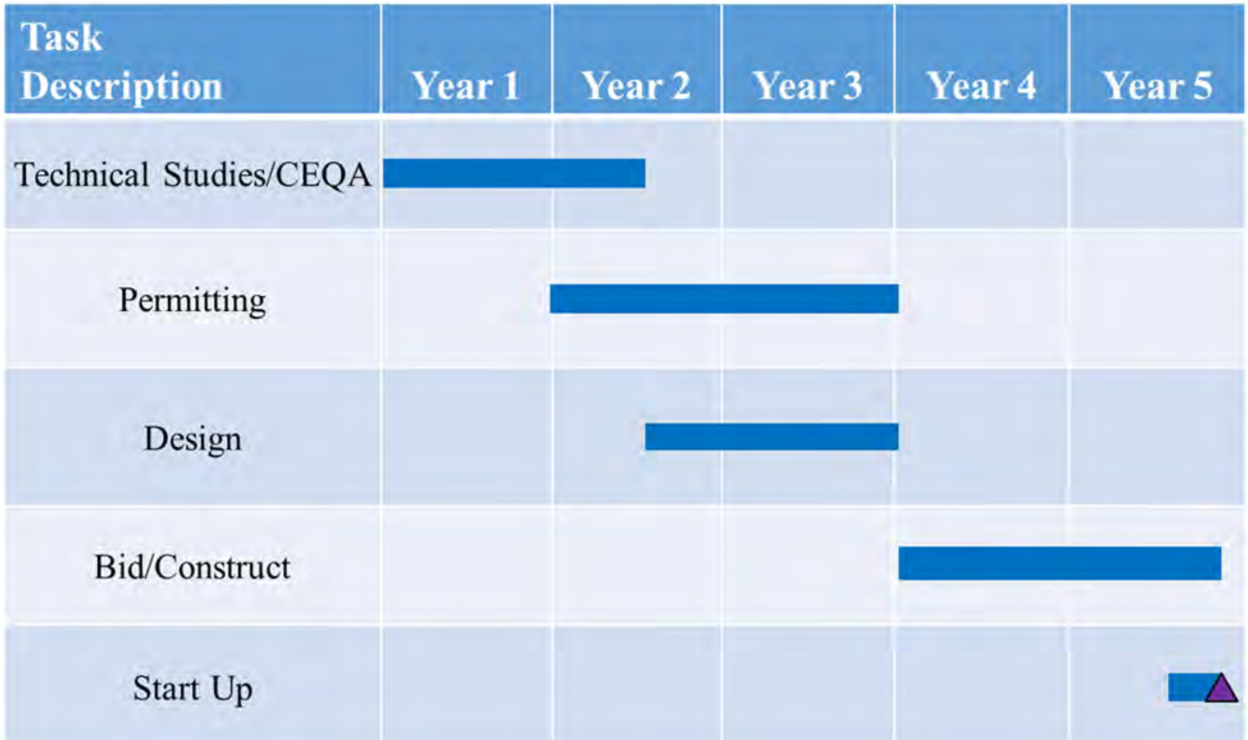


Figure 9-7. Implementation Schedule for San Miguel RW

9.5.2.3.5 Estimated Cost

This project is currently in the planning phases, and the San Miguel RW project presented herein might not accurately reflect the most current design concept. The cost of the potential project that is described herein was estimated for the purposes of the GSP. The estimated total project cost for this project is $15M, not including wastewater treatment plant upgrades. Cost can be covered by the bonding capacity developed through the groundwater conservation program. Annual O&M costs are estimated at $340,000. O&M costs would be covered by the overproduction surcharges. Based on a 30-year loan at a 5% interest rate, the cost of water for this project would be approximately $2,900/AF. Additional details regarding how costs were developed are included in Appendix J.

9.5.2.4 Preferred Project 3: NWP Delivery at Salinas and Estrella River Confluence

This conceptual project directly delivers up to 3,500 AFY of NWP water to agricultural water users near the confluence of the Salinas and Estrella Rivers, and an area north of the Estrella River. On average, this project will provide 2,800 AFY of water for use in lieu of groundwater pumping in the region. Before implementing this project, additional outreach and meetings with property owners and interested stakeholders will be conducted to inform them about the project details and acquire necessary approvals.

The general layout of this project and relevant monitoring wells are shown on Figure 9-8. Infrastructure includes a new NWP turnout, 13 miles of pipeline, a 700 horsepower (hp) pump station, and two river crossings: one crossing of the Salinas River and one crossing of the Estrella River. For more information on technical assumptions and cost assumptions, refer to Appendix J.

9.5.2.4.1 Relevant Measurable Objectives

The measurable objectives benefiting from this project include:

- Groundwater elevation measurable objectives in the central portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the central portion of the Subbasin

9.5.2.4.2 Expected Benefits and Evaluation of Benefits

The primary benefit from in-lieu recharge using NWP water is higher groundwater elevations in the central portion of the Subbasin. Ancillary benefits of shallower groundwater elevations may include an increase in groundwater storage and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 9-9 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 9-9 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 9-9 is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

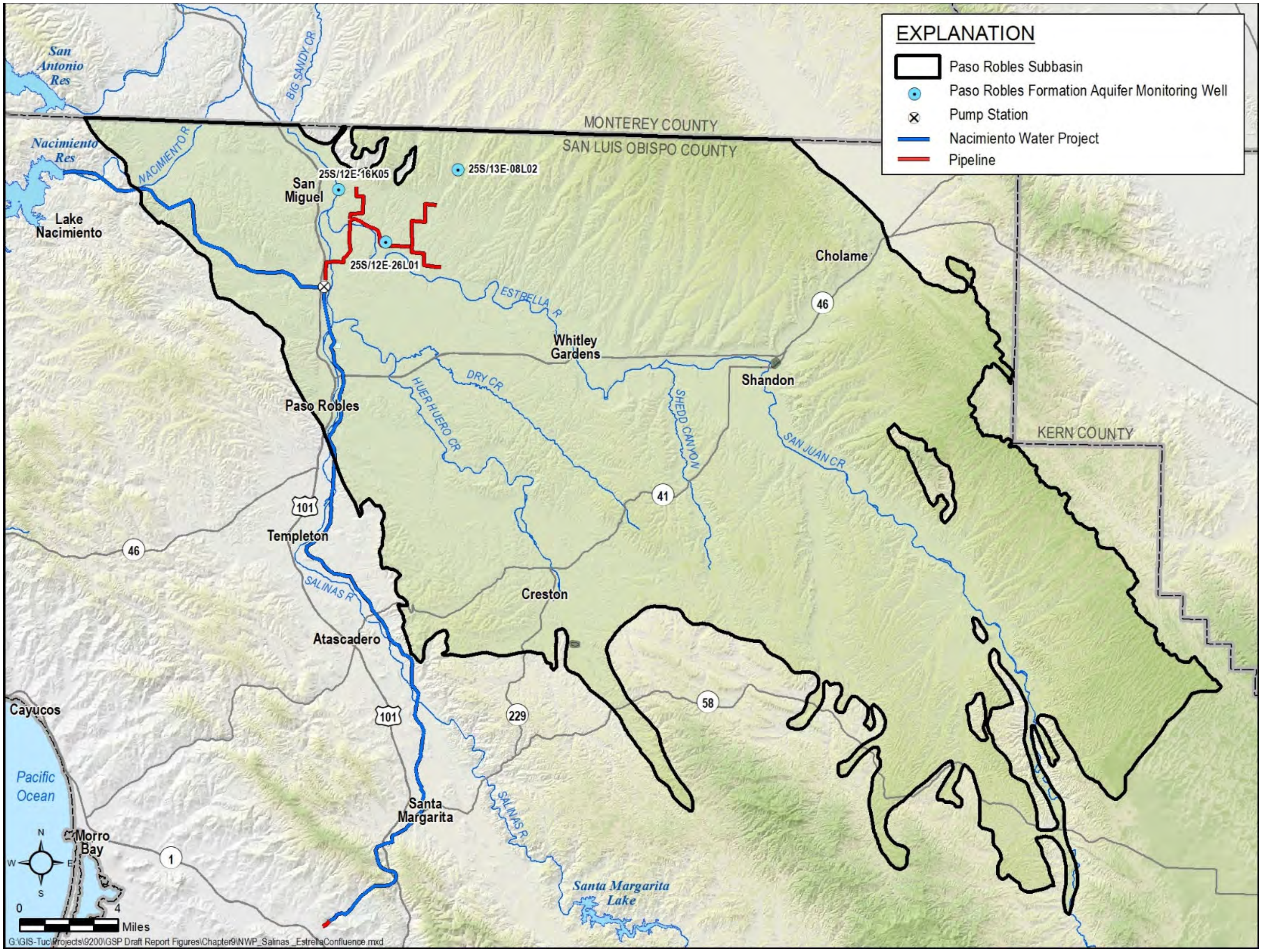


Figure 9-8. Conceptual NWP Delivery at Salinas and Estrella River Confluence Project Layout

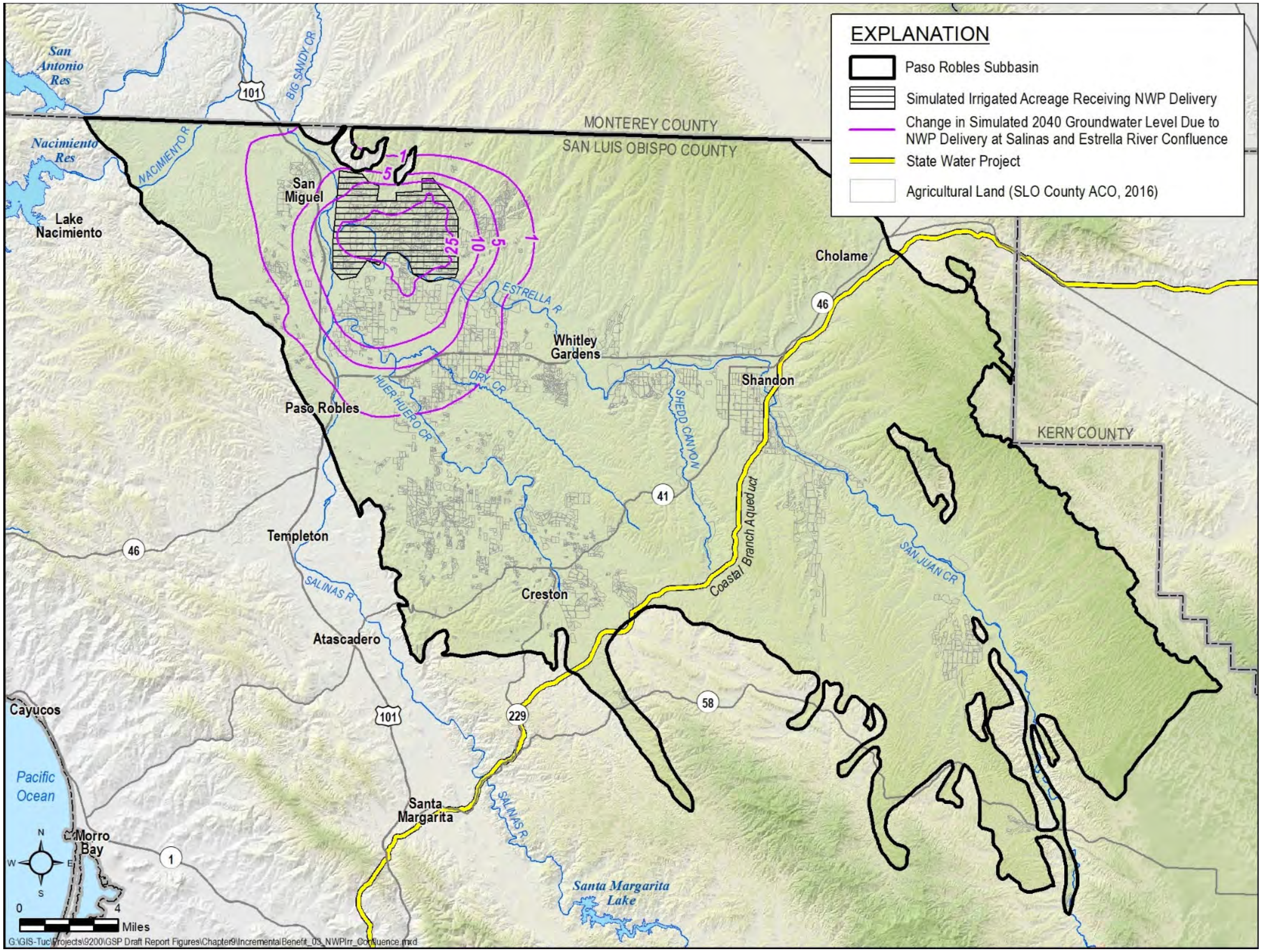


Figure 9-9. Groundwater Level Benefit of NWP Delivery at Salinas and Estrella River Confluence

Changes in groundwater elevation will be measured with the groundwater level monitoring program detailed in Chapter 7. Subsidence will be measured with InSAR data as detailed in Chapter 7. A direct correlation between in-lieu recharge and changes in groundwater levels may not be possible because this is only one among many management actions and projects that may be implemented in the Subbasin.

9.5.2.4.3 Circumstances for Implementation

All projects are implemented based on need, cost benefit studies and willing participants. The project to deliver water for in-lieu recharge near the Salinas and Estrella confluence will be initiated if, after five years, groundwater levels in the northern portion of the monitoring network continue to decline at unsustainable rates and willing participants agree to participate in the project. In particular, continued unsustainable groundwater level declines in monitoring wells 25S/12E-16K05, 25S/12E-26L01, and 25S/13E-08L02 will trigger implementation of this project. Additional triggers will be added as the monitoring well network expands.

9.5.2.4.4 Implementation Schedule

The implementation schedule is presented on Figure 9-10. The project will take 4 to 6 years to implement depending on the time required to negotiate procurement of NWP water. Conceptually, project implementation would occur in years 6 through 12 after GSP adoption.

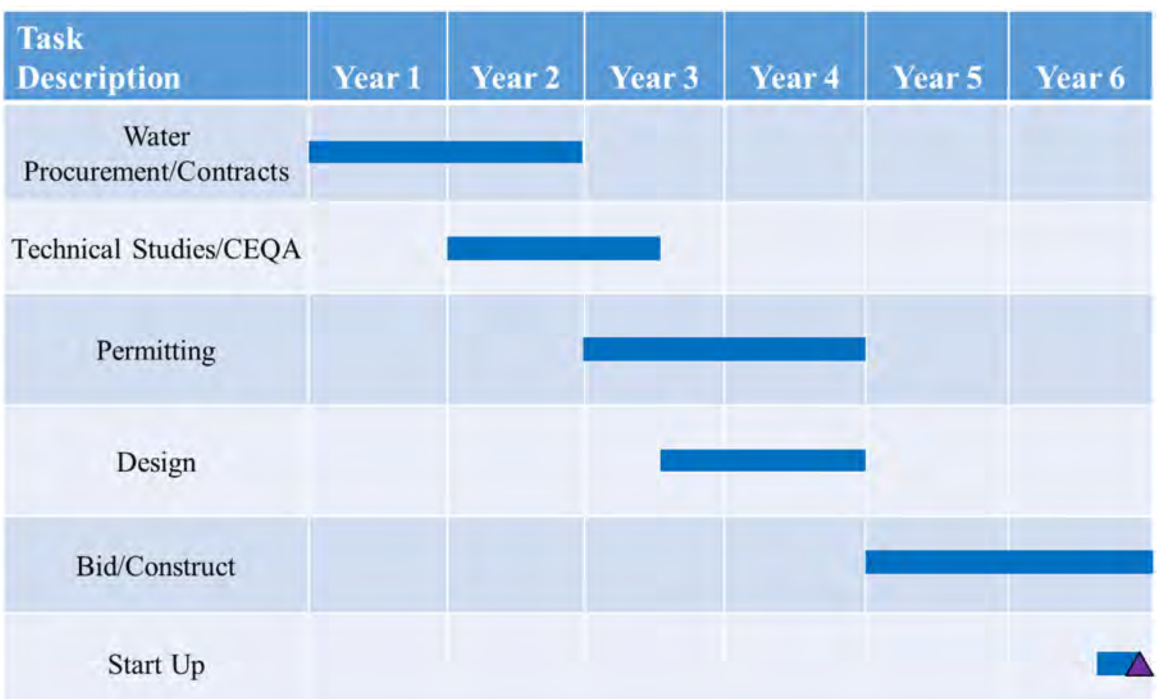


Figure 9-10. Implementation Schedule for NWP Delivery at Salinas and Estrella River Confluence

9.5.2.4.5 Estimated Cost

The estimated total project cost for this project is $50M. Annual O&M costs are estimated at $740,000. The average annual cost of NWP purchased water is estimated at $2.4M based on an average year delivery of 2,800 AFY. However, the unit price would need to be negotiated, and the actual amount of water available will vary year to year thereby affecting the actual annual purchase cost. O&M and water purchase costs would be covered by the overproduction surcharges. Based on a 30-year loan at a 5% interest rate, the cost of water for this project would be approximately $3,200/AF. Additional details regarding how costs were developed are included in Appendix J.

9.5.2.5 Preferred Project 4: NWP Delivery North of City of Paso Robles

This project provides up to 1,250 AFY of NWP water for direct delivery to agricultural water users north of the Paso Robles airport. On average, this project will provide 1,000 AFY of water for use in lieu of groundwater pumping in the region.

The general layout of this project and relevant monitoring wells are shown on Figure 9-11. Infrastructure includes a new NWP turnout, 5.6 miles of pipeline, a 130 hp pump station, and one river crossing for the Salinas River. For more information on technical assumptions and cost assumptions, refer to Appendix J.

9.5.2.5.1 Relevant Measurable Objectives

The measurable objectives benefiting from this project include:

- Groundwater elevation measurable objectives in the central portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the central portion of the Subbasin

9.5.2.5.2 Expected Benefits and Evaluation of Benefits

The primary benefit from in-lieu recharge using NWP water is higher groundwater elevations in the central portion of the Subbasin. Ancillary benefits of shallower groundwater elevations may include an increase in groundwater storage and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 9-12 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 9-12 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 9-12 is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

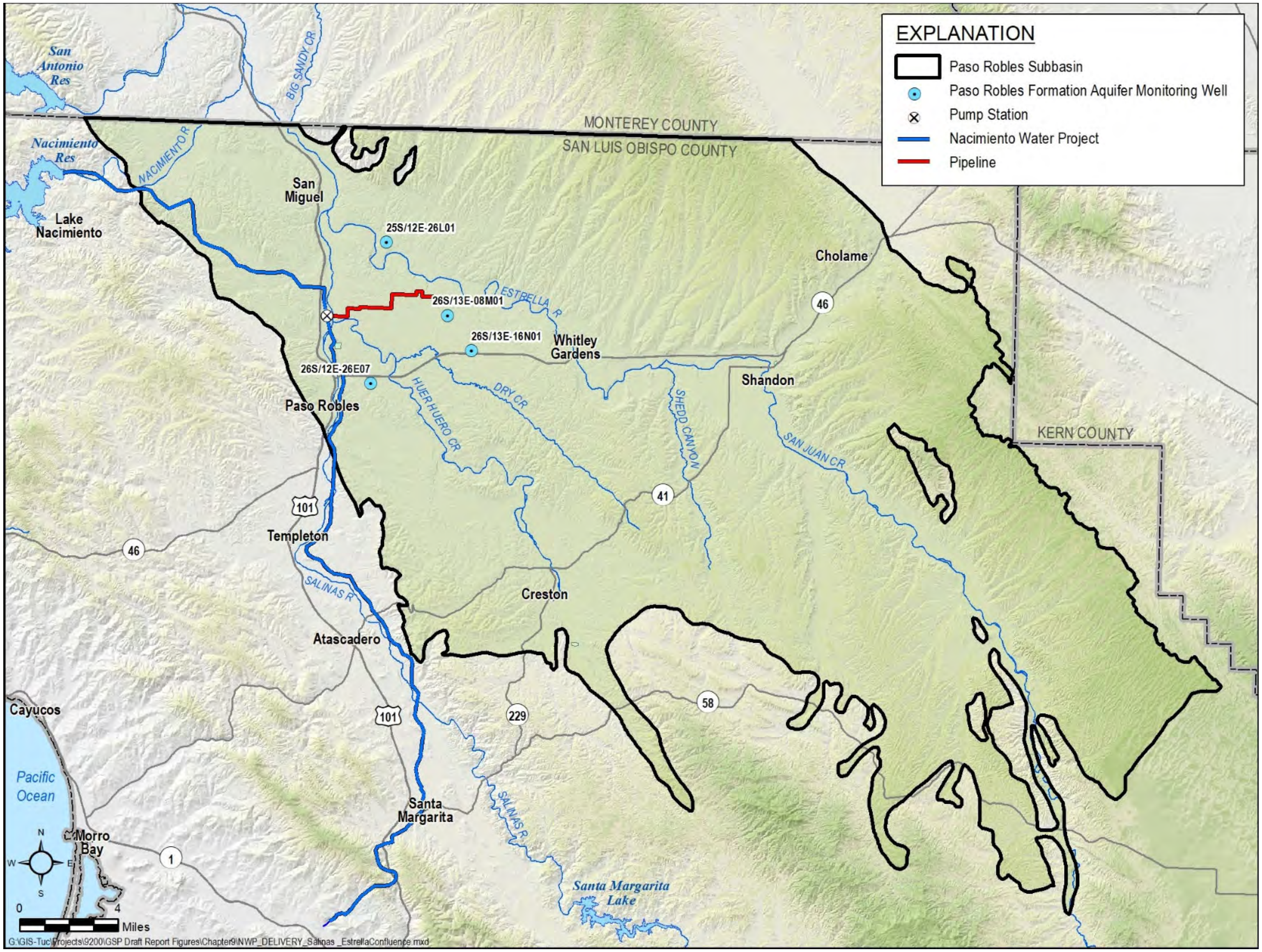


Figure 9-11. Conceptual NWP Delivery North of City of Paso Robles Project Layout

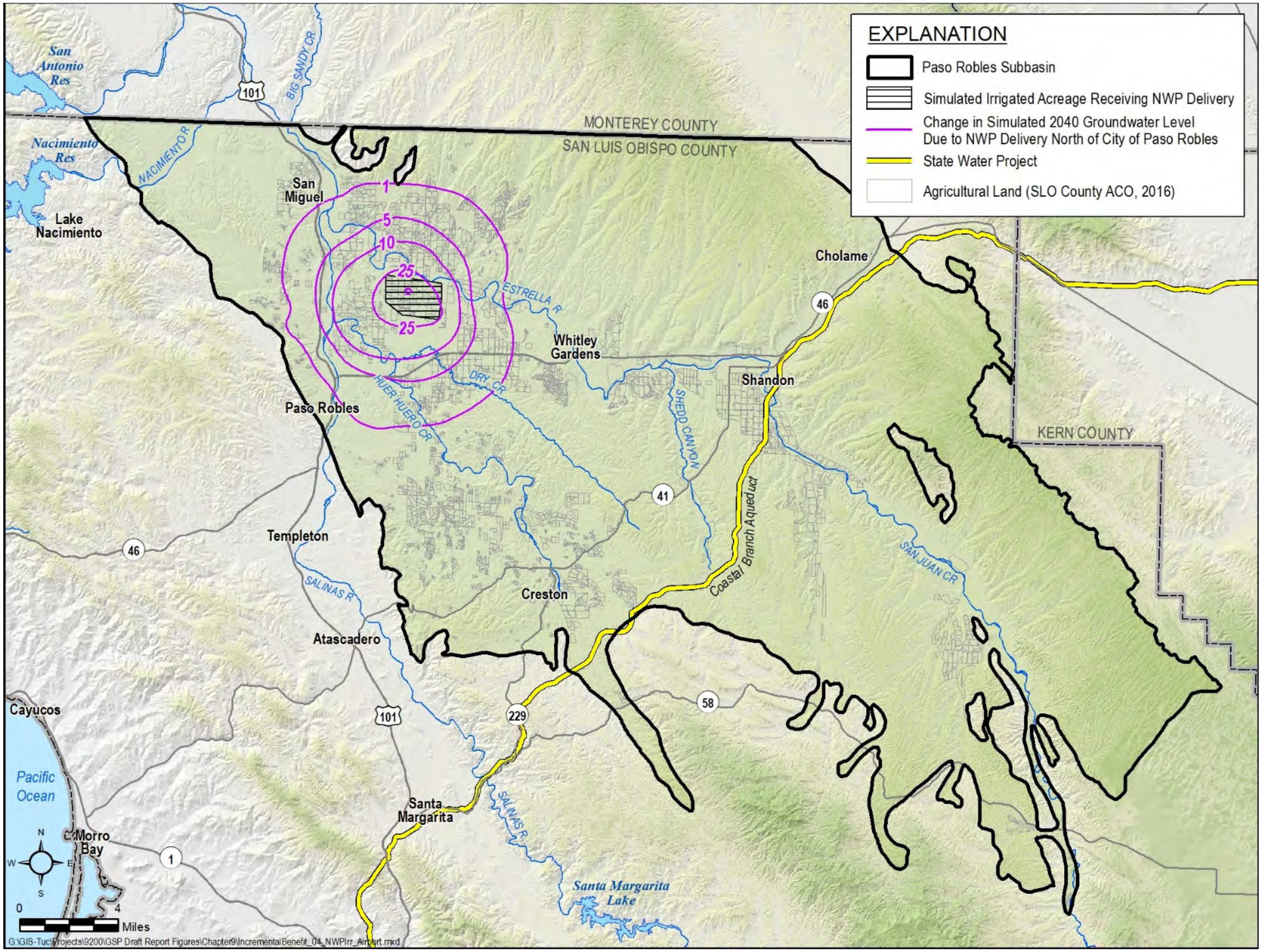


Figure 9-12. Groundwater Level Benefit from NWP Delivery North of City of Paso Robles

Changes in groundwater elevation will be measured with the groundwater level monitoring program detailed in Chapter 7. Subsidence will be measured with the InSAR network detailed in Chapter 7. A direct correlation between in-lieu recharge and changes in groundwater levels may not be possible because this is only one among many management actions and projects that may be implemented in the Subbasin.

9.5.2.5.3 Circumstances for Implementation

All projects are implemented based on need, cost benefit studies and willing participants. The project to deliver water for in-lieu recharge north of the airport will be initiated if, after five years, groundwater levels in the northern portion of the monitoring network continue to decline at unsustainable rates. In particular, continued unsustainable groundwater level declines in monitoring wells 26S/13E-08M01, 26S/13E-16N01, 25S/12E-26L01, and 26S/12E-26E07 will trigger implementation of this project. Additional triggers will be added as the monitoring well network expands.

9.5.2.5.4 Implementation Schedule

The implementation schedule is presented on Figure 9-13. The project will take 4 to 6 years to implement depending on the time required to negotiate procurement of NWP water. Conceptually, project implementation would occur in years 6 through 12 after GSP adoption.

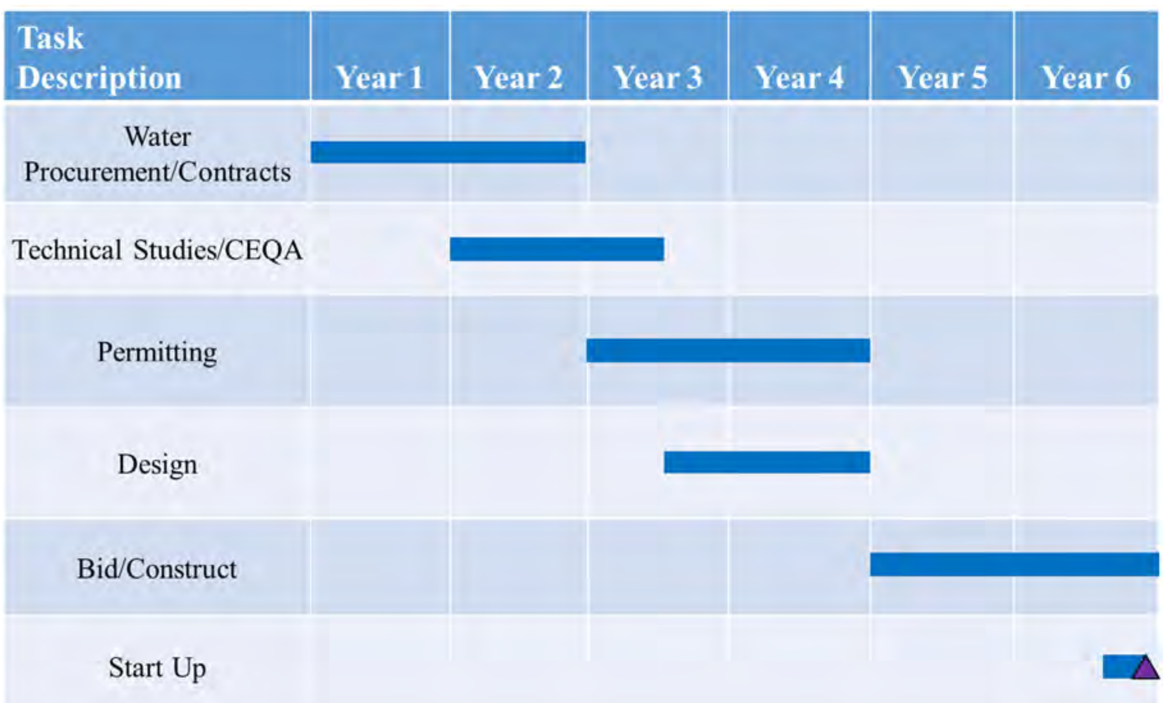


Figure 9-13. Implementation Schedule for NWP Delivery North of City of Paso Robles

9.5.2.5.5 Estimated Cost

The estimated total project cost for this project is $22M. Annual O&M costs are estimated at $150,000. The average annual cost of NWP purchased water is estimated at $1.2M based on an average year delivery of 1,000 AFY. However, the unit price would need to be negotiated, and the actual amount of water available will vary year to year thereby affecting the actual annual purchase cost. O&M and water purchase costs would be covered by the overproduction surcharges. Based on a 30-year loan at a 5% interest rate, the cost of water for this project would be approximately $2,800/AF. Additional details regarding how costs were developed are included in Appendix J.

9.5.2.6 Preferred Project 5: NWP Delivery East of City of Paso Robles

This project provides up to 2,500 AFY of NWP water to for direct delivery to agricultural water users east of the City of Paso Robles. On average, this project will provide 2,000 AFY of water for use in lieu of groundwater pumping in the region.

The general layout of this project and relevant monitoring wells are shown on Figure 9-14. Infrastructure includes a new NWP turnout, 5.6 miles of pipeline, a 130 hp pump station, and two river crossings one crossing of the Estrella River and one crossing of a tributary to the Estrella River. For more information on technical assumptions and cost assumptions, refer to Appendix J.

9.5.2.6.1 Relevant Measurable Objectives

The measurable objectives benefiting from this project include:

- Groundwater elevation measurable objectives in the central portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the central portion of the Subbasin

9.5.2.6.2 Expected Benefits and Evaluation of Benefits

The primary benefit from in-lieu recharge using NWP water is higher groundwater elevations in the central portion of the Subbasin. Ancillary benefits of shallower groundwater elevations may include an increase in groundwater storage and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 9-14 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 9-14 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 9-14 is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

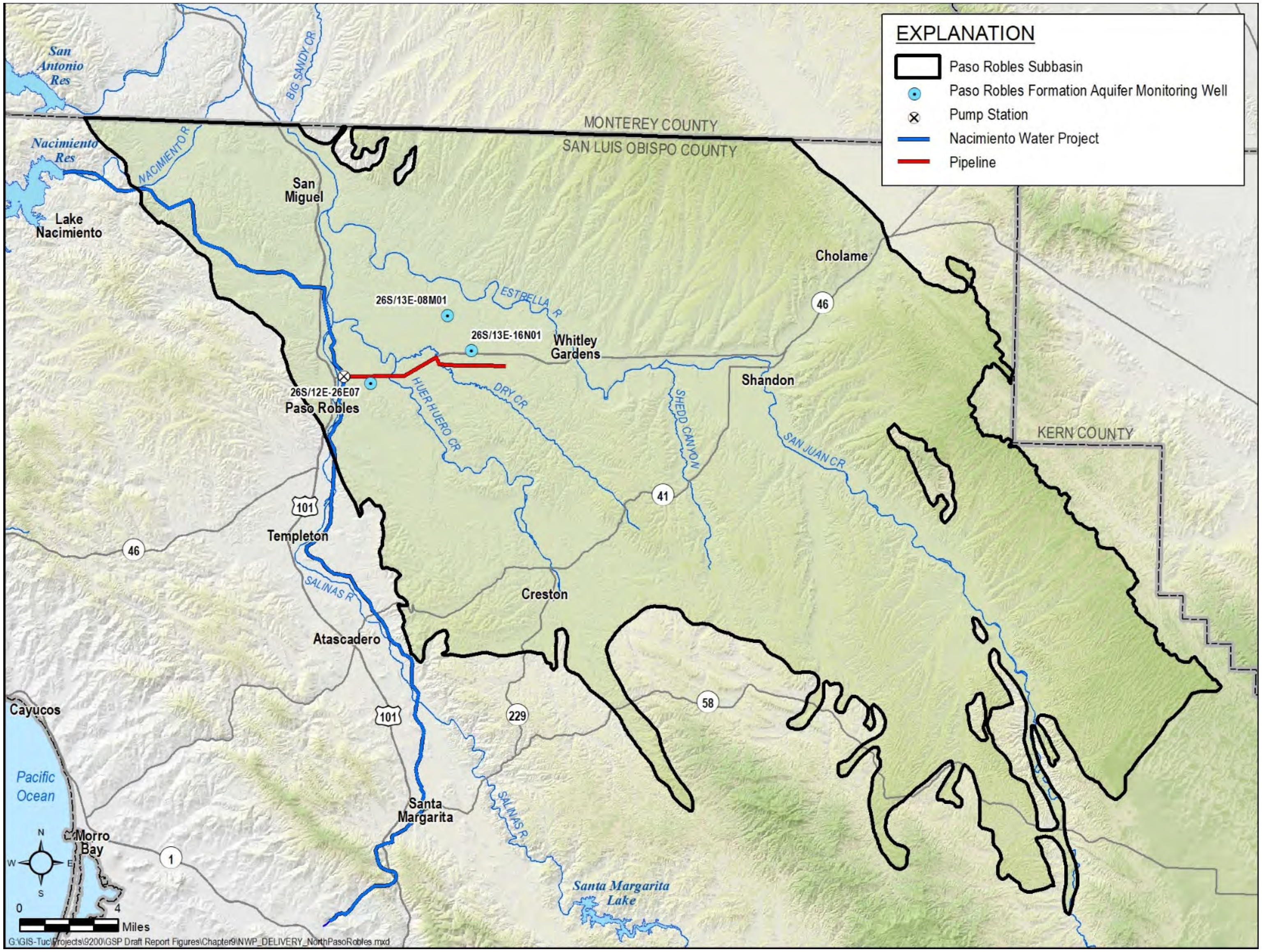


Figure 9-14. Conceptual NWP Delivery East of City of Paso Robles Project Layout

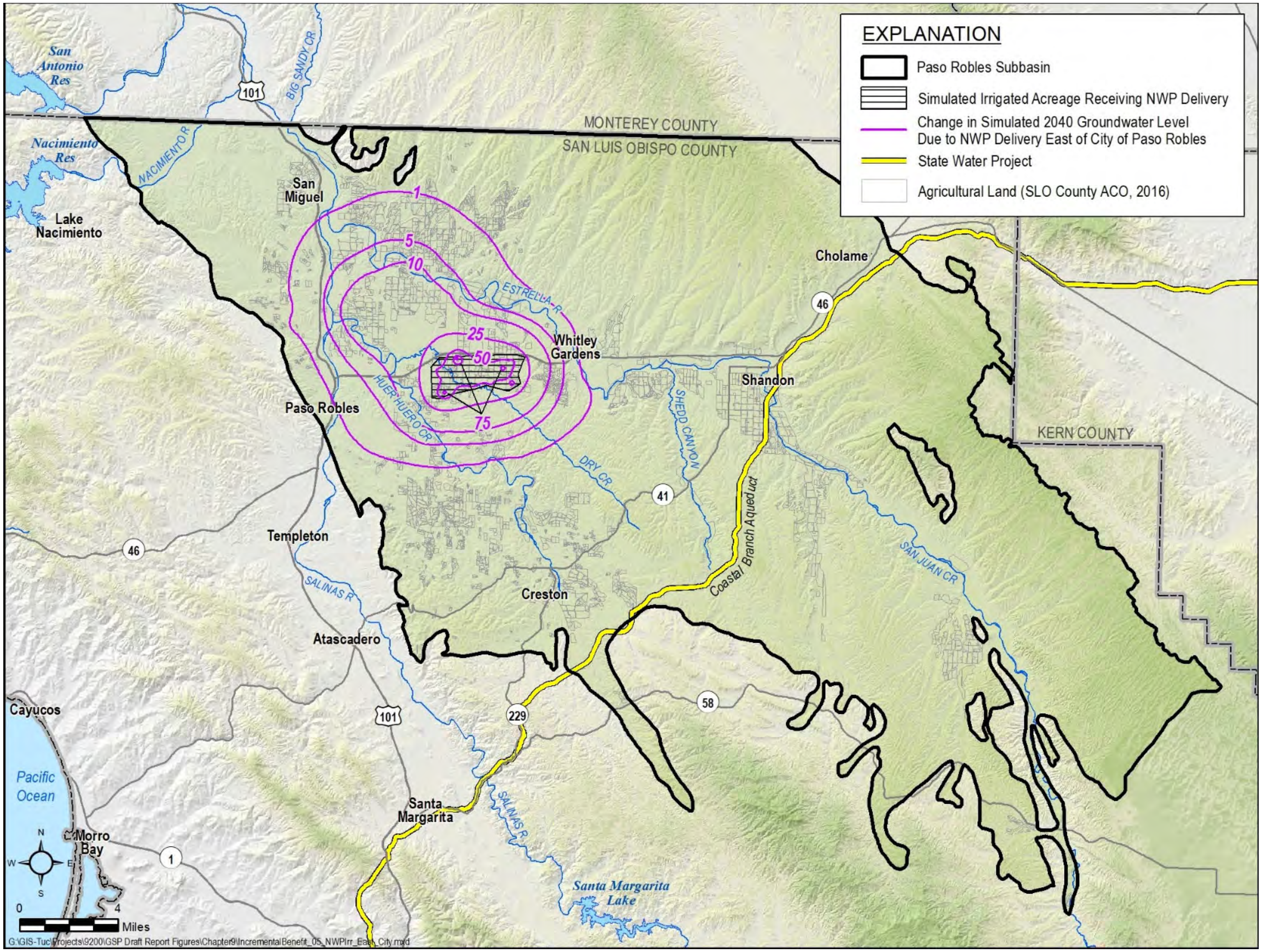


Figure 9-15. Groundwater Level Benefit from NWP Delivery East of City of Paso Robles

Changes in groundwater elevation will be measured with the groundwater level monitoring program detailed in Chapter 7. Subsidence will be measured with the InSAR network detailed in Chapter 7. A direct correlation between in-lieu recharge and changes in groundwater levels may not be possible because this is only one among many management actions and projects that may be implemented in the Subbasin.

9.5.2.6.3 Circumstances for Implementation

All projects are implemented based on need, cost benefit studies and willing participants. The project to deliver water for in-lieu recharge east of the City of Paso Robles will be initiated if, after five years, groundwater levels in the central portion of the monitoring network continue to decline at unsustainable rates. In particular, continued unsustainable groundwater level declines in monitoring wells 26S/13E-16N01, 26S/13E-08M01 and 26S/12E-26E07 will trigger implementation of this project. Additional triggers will be added as the monitoring well network expands.

9.5.2.6.4 Implementation Schedule

The implementation schedule is presented on Figure 0-16. The project will take 4 to 6 years to implement depending on the time required to negotiate procurement of NWP water. Conceptually, project implementation would occur in years 6 through 12 after GSP adoption.

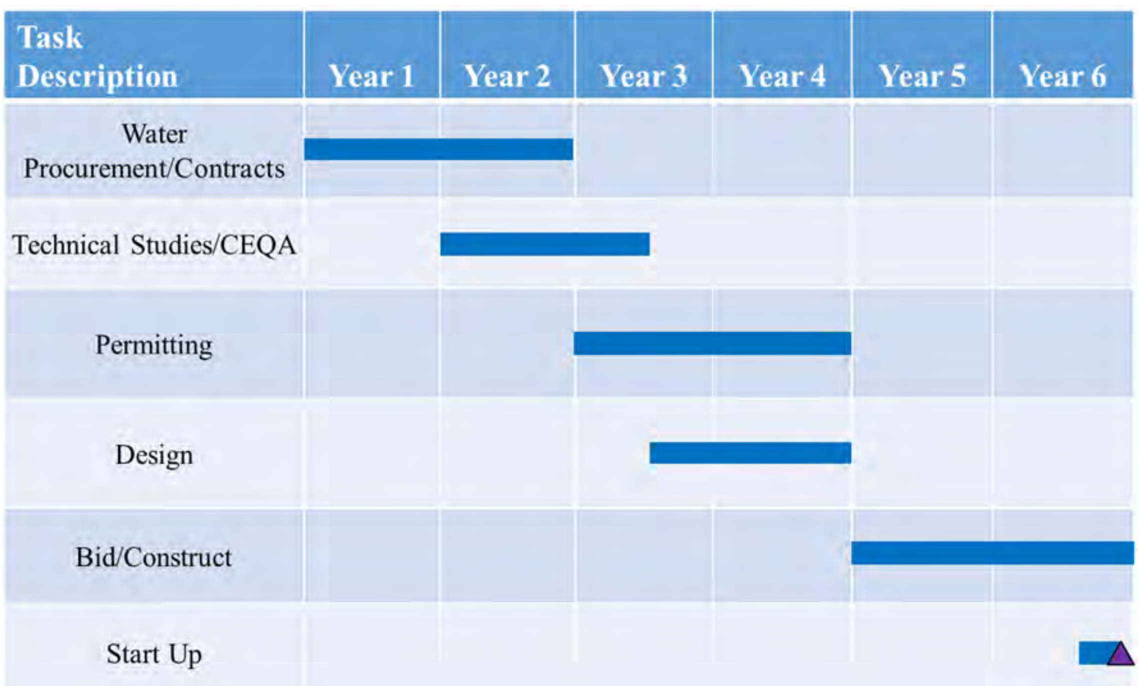


Figure 0-16. Implementation Schedule for NWP Delivery East of City of Paso Robles

9.5.2.6.5 Estimated Cost

The estimated total project cost for this project is $32M. Annual O&M costs are estimated at $380,000. The average annual cost of NWP purchased water is estimated at $2.4M based on an average year delivery of 2,000 AFY. However, the unit price would need to be negotiated, and the actual amount of water available will vary year to year thereby affecting the actual annual purchase cost. O&M and water purchase costs would be covered by the overproduction surcharges. Based on a 30-year loan at a 5% interest rate, the cost of water for this project would be approximately $2,400/AF. Additional details regarding how costs were developed are included in Appendix J.

9.5.2.7 Preferred Project 6: Expansion of Salinas Dam

SLOCFCWCD operates the Salinas Dam to provide water to the City of San Luis Obispo. The storage capacity of the lake is 23,843 AF; however, the City has existing water rights of 45,000 AF of storage. It is anticipated that funding would be sought to help the cost of retrofitting the dam and expanding the storage capacity by installing gates along the spillway in order to retain flood flow/stormwater for beneficial use. A risk assessment for the Dam is scheduled for the summer of 2019.

There may be opportunities to use the water from the expanded reservoir storage to benefit the Subbasin. One possibility would be to schedule summer releases from the storage to the Salinas River, which would benefit the Subbasin by recharging the basin through the Salinas River. Another way this project might indirectly benefit the Subbasin is if the City of San Luis Obispo were to use more of their Salinas River water allocation, thereby freeing up the NWP water for purchase by the GSAs.

9.5.2.7.1 Relevant Measurable Objectives

The measurable objectives benefiting from this project include:

- Groundwater elevation measurable objectives in the central portion of the Subbasin
- The groundwater storage measurable objective
- Land subsidence measurable objectives in the central portion of the Subbasin

9.5.2.7.2 Expected Benefits and Evaluation of Benefits

The primary benefit from releasing additional water to the Salinas River during the summer is higher groundwater elevations along the Salinas River. Ancillary benefits of shallower groundwater elevations may include an increase in groundwater storage and avoiding pumping induced subsidence. The GSP model was used to quantify the expected benefit from this project. Figure 0-17 shows the expected groundwater level benefit predicted by the GSP model after 10 years of project operation. Figure 0-17 expresses the benefit as feet of groundwater. The groundwater level benefit shown on Figure 0- is a measure of how much higher groundwater elevations are expected to be with the project rather than without the project.

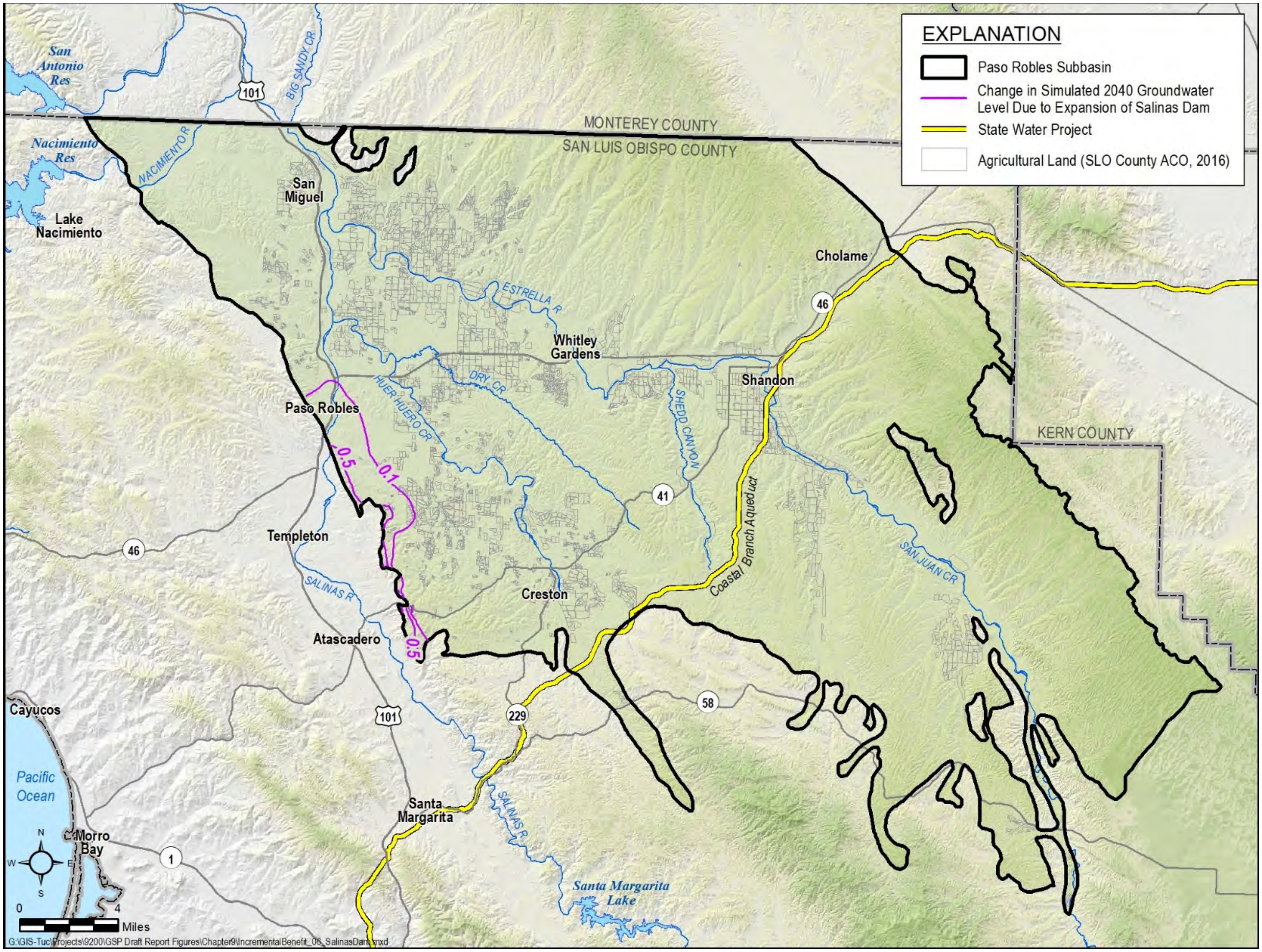


Figure 0-17. Groundwater Level Benefit from Salinas River Summer Releases

9.5.2.7.3 Circumstances for Implementation

All projects are implemented based on need, cost benefit studies and willing participants. The project to release Salinas River water during the summer will be initiated if, after two years, groundwater levels near the Salinas River continue to decline at unsustainable rates. In particular, continued unsustainable groundwater level declines in monitoring wells 25S/12E-16K05, 26S/13E-16N01, 27S/12E-13N01 and 27S/13E-30N01 will trigger implementation of this project. Additional triggers will be added as the monitoring well network expands.

9.5.2.7.4 Implementation Schedule

The implementation schedule is presented on Figure 9-18. The project will take 4 to 5 years to implement. Conceptually, project implementation would occur in years 3 through 8 after GSP adoption.

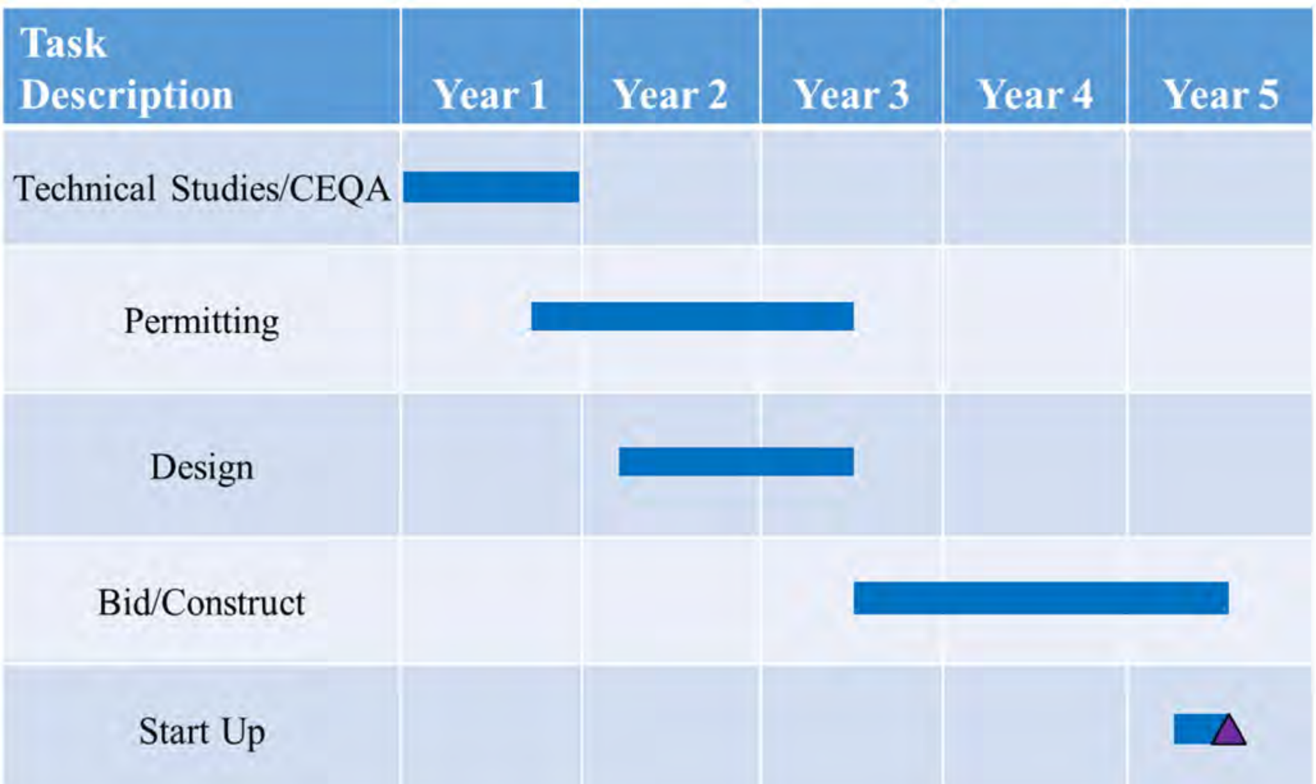


Figure 9-18. Implementation Schedule for Expansion of Salinas Dam

9.5.2.7.5 Estimated Cost

The cost to increase the storage capacity behind the Salinas Dam has been estimated at between $30M and $50M. O&M costs have not been estimated at this time. Some of these costs may be available from federal sources. No additional capital cost would be required to release water to the Salinas River for recharge during the summer months.

9.6 Other Groundwater Management Activities

Although not specifically funded or managed as part of implementing this GSP, a number of associated groundwater management activities will be promoted and encouraged by the GSAs as part of general good groundwater management practices.

9.6.1 Continue Urban and Rural Residential Conservation

Existing water conservation measures should be continued, and new water conservation measures promoted for residential users. Conservation measures may include the use of low flow toilet fixtures, or laundry-to-landscape greywater reuse systems. Conservation projects can reduce demand for groundwater pumping, thereby acting as in-lieu recharge.

9.6.2 Watershed Protection and Management

Watershed restoration and management can reduce stormwater runoff and improving stormwater recharge into the groundwater basin. While not easily quantified and therefore not included as projects in this document, watershed management activities may be worthwhile and benefit the basin.

9.6.3 Retain and Enforce the Existing Water Export Ordinance

This GSP recommends that San Luis Obispo County’s existing groundwater export ordinance should be enforced and retained. With limited exception, the ordinance requires a permit for the movement of groundwater across the county or Subbasin line. To obtain a permit, the movement of groundwater cannot negatively impact a nearby overlying groundwater user, result in seawater intrusion, or result in a cone of depression greater than the landowner’s property line. This ordinance will continue to protect the county’s water supplies.

9.7 Demonstrated Ability to Attain Sustainability

To demonstrate the ability to attain sustainability, a groundwater management scenario that included both projects and management actions was modeled. The scenario included all of the conceptual projects listed in Section 9.5.2. In addition to the conceptual projects, pumping was reduced to bring groundwater elevations to the measurable objectives before 2040 and maintain the same groundwater elevations through 2070.

The GSP model was adapted to simulate the scenario described above over the GSP implementation period from 2020 through 2040. The ability to achieve sustainability was quantified by comparing 2040 simulated groundwater levels under each of the two scenarios against the Measurable Objective surface – as described in Chapter 8 – for both the Paso Robles formation aquifer and the Alluvial aquifer.

Individual hydrographs comparing the predicted groundwater elevations to the measurable objectives at each representative monitoring site are included in Appendix K.

9.8 Management of Groundwater Extractions and Recharge and Mitigation of Overdraft

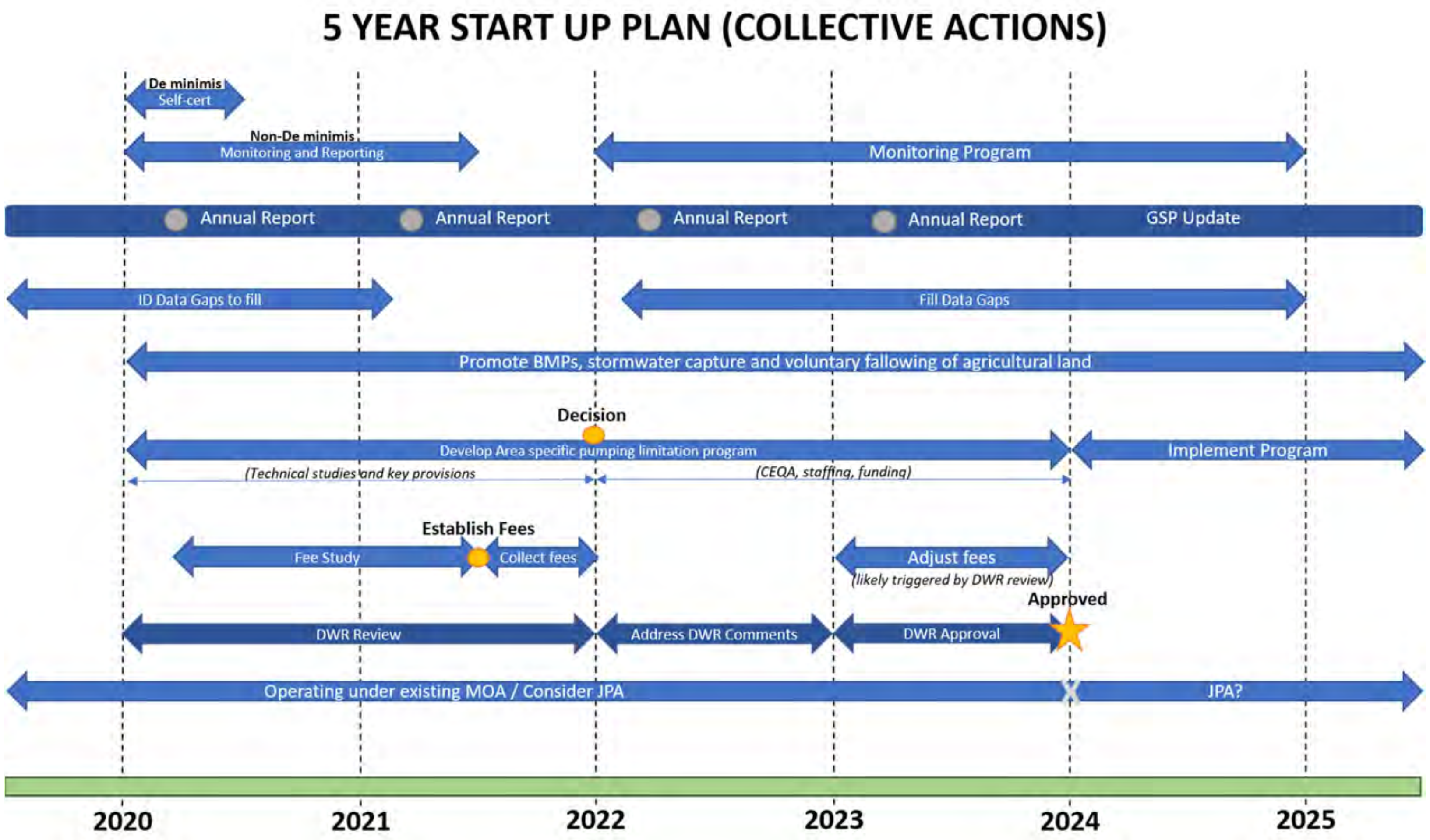
This GSP is specifically designed to mitigate the decline in groundwater storage and persistent groundwater level declines in certain areas with a combined program of management actions designed to promote voluntary reductions in pumping and provide authority for mandatory pumping limitations where necessary. Individual GSAs are also proceeding on projects designed to use recycled water, any available Nacimiento Project water and flood flow/stormwater in the Salinas River to use in lieu of pumping groundwater and/or to supplement groundwater supplies.

7 GROUNDWATER SUSTAINABILITY PLAN IMPLEMENTATION

This chapter is intended to serve as a conceptual roadmap for efforts to start implementing the GSP over the first five years and discusses implementation effects in accordance with SGMA regulations sections 354.8(f)(2) and (3). A general schedule showing the major tasks and estimated timeline is provided in Figure 10-1. Specific regulations guiding the content of this chapter were not developed by DWR.

The implementation plan provided in this chapter is based on current understanding of Subbasin conditions and anticipated administrative considerations that affect the management actions described in Chapter 9. Understanding of Subbasin conditions and administrative considerations will evolve over time based on future refinement of the hydrogeologic setting, groundwater flow conditions, and input from Subbasin stakeholders.

Implementation of the GSP requires robust administrative and financing structures, with adequate staff and funding to ensure compliance with SGMA. The GSP calls for GSAs to routinely provide information to the public about GSP implementation and progress towards sustainability and the need to use groundwater efficiently. The GSP calls for a website to be maintained as a communication tool for posting data, reports and meeting information. The website may also include forms for on-line reporting of information needed by the GSAs (e.g., annual pumping amounts) and an interactive mapping function for viewing Subbasin features and monitoring information.



JPA: Joint Powers Authority

Figure 7-1. General Schedule of 5-Year Start-Up Plan

7.1 Administrative Approach

GSAs will likely hire consultant(s) or hire staff to implement the GSP. If consultants are hired, it is anticipated that qualified professionals will be identified and hired through a competitive selection process. It is also anticipated that the lead GSA for a particular task will keep the other GSAs informed via periodic updates to the Cooperative Committee and the public. As needed, the GSAs would likely coordinate on the specific studies and analyses necessary to improve understanding of Subbasin conditions. The GSAs would likely then use new information on Subbasin conditions and projects to identify, evaluate, and/or improve management actions to achieve sustainability. This GSP calls for actions considered by the GSAs to be vetted through a public outreach process whereby groundwater pumpers and other stakeholders will have opportunities to provide input to the decision-making process.

7.2 Funding GSP Implementation

As summarized in Table 10-1, a conceptual planning-level cost of about $7,800,000 was estimated for planned activities during the first five years of implementation, or an estimated cost of $1,560,000 per year. This cost estimate reflects routine administrative operations, monitoring, public outreach, and the basin wide and area specific management actions outlined in Chapter 9. This estimate assumes a centralized approach to implementation and staffing, it does not include CEQA, legal staff costs, individual GSA staff costs or responding to DWR comments, nor does it include costs associated with any projects undertaken by willing entities.

The GSP calls for implementation to be covered under the terms of the existing MOA (see Chapter 12) among the four GSAs until DWR approves the GSP and a new or renewed GSA cooperative agreement is established. Consistent with current practice under the MOA, it is anticipated that an annual operating budget will be established that is considered for approval by each GSA. This budget information and management action details would be used to conduct a fee study for purposes of developing a groundwater pumping fee to cover the costs of implementing the regulatory program described in the GSP including, but not limited to, costs related to monitoring and reporting, hydrogeologic studies, pumping reduction enforcement where necessary, and public outreach.

The GSAs plan to conduct focused public outreach and hold meetings to educate and solicit input on the proposed fee structure and plan to begin developing the fee structure as soon as administratively feasible after GSP adoption. Establishing a funding structure is estimated to cost $250,000.

California Water Code Sections 10730 and 10730.2 provide GSAs with the authority to impose certain fees, including fees on groundwater pumping. Any imposition of fees, taxes or other charges would need to follow the applicable protocols outlined in the above sections and all applicable Constitutional requirements based on the nature of the fee. Such protocols would likely include public outreach, notification of all property owners, and at least one public hearing where the opinions and concerns of all parties are heard and considered before the GSAs make a determination to proceed with a fee or other charge. It is assumed that any fee structure adopted by the individual GSAs would be adopted by resolution or ordinance and would be identical in all material respects, i.e. with respect to levels and classes of uses. As part of or in conjunction with the feasibility study and in order to reduce the risk of a legal challenge, the GSAs plan to obtain the legal advice necessary to ensure that the proposed fee is consistent with all applicable legal requirements and rights.

With respect to those pumpers that are not anticipated to be subject to the fee, the GSAs plan to develop a program pursuant to which such pumpers will be required to self-certify that they only pump for domestic purposes and use less than 2 AFY.

Table 7-1. Estimated Planning-Level Costs for First Five Years of Implementation[1]

GSP Implementation Activity	Description	Estimated Costs	Cost Unit	Anticipated Timeframe	Estimated Costs During Startup (2020-2025)
Administration and Finance					
Administration development	Update agreements; hire staff (GSP manager and staff); update website; conduct public outreach and meeting protocols	$ 100,000	lump sum	Quarters 1-2, 2020	$ 100,000
Ongoing GSP implementation administration	Routine operating costs (salaries, office space, equipment, etc.)	$ 500,000	annual	Starting in 2020	$ 2,500,000
Fee study for GSP implementation	Study to develop and justify funding mechanism for GSP implementation	$ 250,000	lump Sum	Quarter 2, 2020 through Quarter 2, 2021	$ 250,000
Basin-wide Management Actions					
Monitoring, reporting & outreach					
De minimis self certification	Evaluate existing programs; develop new program for GSP	$ 30,000	lump sum	Quarters 1-2, 2020	$ 30,000
Non-de minimis metering & reporting program	Develop new metering and reporting program, land fallowing/project accounting	$ 100,000	lump sum	Quarters 1-2, 2020	$ 100,000
Annual reports	Collect and analyze groundwater level data; apply groundwater lelvel - storage proxy, evaluate water quality data, download and evaluate land subsidence data; update data management system (DMS); maintain monitoring network infrastructure; prepare and submit annual report to DWR	$ 250,000	annual	Starting in 2020	$ 1,250,000
Data gaps					
Supplemental hydrogeologic study	Refine hydrolologeologic conceptual model; address data gaps	$ 300,000	lump sum	2020 to 2024	$ 300,000
Monitoring networks - groundwater levels					
Verify network	Verify proposed network	$ 30,000	lump sum	Quarters 1-2, 2020	$ 30,000
Expand network - add existing wells	Identify/inspect wells, video-logging, access agreements	$ 100,000	lump sum	Quarters 1-2, 2020	$ 100,000
Expand network - drill new wells	Add new wells in key data gap areas	$ 100,000	per well	Quarters 1-2, 2020	$ 500,000
Monitoring networks - groundwater storage					
Develop groundwater level - storage proxy	Quantiative relationship between changes in groundwater level, changes in storage, and amount of groundwater pumping	$ 50,000	lump sum	Quarters 3-4, 2020	$ 50,000
Monitoring networks - water quality					
Verify network	Verify proposed network	$ 20,000	lump sum	2020 to 2024	$ 20,000
Monitoring networks - land subsidence					
Verify network	Verify proposed network	$ 20,000	lump sum	2020 to 2024	$ 20,000
Monitoring networks - interconnected surface water					
Conduct surface water/groundwater investigation	Focused surface and groundwater investigations in areas of ptentailly interconnectivity; conduct monitoring; cost depends on avaailabiltiy of existing wells and number of new wells needed; cost assumes 5 new wells needed	$ 400,000	lump sum	2020 to 2024	$ 400,000
5-year GSP updates & amendments					
GSP assessment and reporting	Prepare report/amend GSP	$ 300,000	lump sum	2023 to 2024	$ 300,000
Groundwater modeling	Refine, update, and recalibrate groundwater model	$ 250,000	lump sum	2023	$ 250,000
Promoting					
Best water use practices	Costs included in monitoring, reporting and outreach for ongoing GSP implementation				
Stormwater capture					
Voluntary fallowing of agricultural land					
Area Specific Management Actions					
Mandatory pumping limitations in specific areas					
Baseline pumping determination	Develop structure; public outreach; meetings; legal fees	$ 350,000	lump sum	2020 to 2022	$ 350,000
Pumping limitations determination					
Timeline established for pumping limitations					
Pumping limitations regulations approval process					
Regulation implementation	Oversight and enforcement	$ 250,000	annual	Starting in 2020	$ 1,250,000
				Total Estimated Costs during Startup (2020-2025)	**$ 7,800,000**
				Average Annual Estimated Costs during Startup (2020-2025)	**$ 1,560,000**

[1] This estimate assumes a centralized approach to implementation and staffing, it does not include CEQA, legal staff costs, individual GSA staff costs or responding to DWR comments, nor does it include costs associated with any projects undertaken by willing entities.

7.3 Plan Implementation Effects on Existing Land Use

Given that implementation of the GSP will likely result in the adoption of regulations limiting or suspending extractions pursuant to the authority granted by SGMA, implementation of the GSP is likely to have an impact on land uses. However, all such regulations will need to be consistent with the applicable statutory constraints, including those described in Water Code Section 10726.4(a)(2) which provides that such regulations shall be consistent with the applicable elements of the city or county general plan, unless there is insufficient sustainable yield in the basin to serve a land use designated in the city or county general plan and Water Code Section 10726.8(f) which states that nothing contained in SGMA or in a GSP shall be interpreted as superseding the land use authority of cities and counties.

7.4 Plan Implementation Effects on Water Supply

Plan implementation will not significantly alter the existing water supply of the Subbasin. If entities opt to develop optional water supply projects as outlined in Chapter 9, the Subbasin's water supply could increase.

7.5 Plan Implementation Effects on Local and Regional Economy

Plan implementation will potentially limit economic growth due to pumping reductions outlined in Chapter 9. Pumping reductions could limit or reduce agricultural output, thereby reducing regional income.

8 NOTICE AND COMMUNICATION

This chapter and the Communications and Engagement (C&E) Plan in Appendix M describe the notification and communication with interested parties and stakeholders in the Subbasin regarding the GSP. The information presented is prepared in accordance with the SGMA Regulations §354.10 to provide a description of beneficial uses, a list of public meetings, and comments and a summary of responses. It also contains a communication section with an explanation of the decision-making process, identification of opportunities for public engagement, a description of outreach to diverse populations, and the method for keeping the public updated about the plan and related activities. These requirements are met by the Communications and Engagement (C&E) Plan that is included in Appendix M. Public comments received and provided by the GSAs are listed in Appendix N. Table 8-1 lists the specific regulatory and statutory requirements for notice and communication and refers to sections of the C&E Plan.

The plan was written early in the process of GSP development as a stand-alone document to guide notice and communication throughout GSP development. The C&E Plan was presented to and accepted as "receive and file" by the Cooperative Committee on July 25, 2018. Table 8-1 lists public meetings that were held after July 2018.

Table 8-1. Requirements of Statutes and Regulations Pertaining to Notice and Communications

Legislative / Regulatory Requirement	Legislative / Regulatory Section Reference	C&E Plan Section
Publish public notices and conduct public meetings when establishing a GSA, adopting or amending a GSP, or imposing or increasing a fee.	SGMA Sections 10723(b), 10728.4, and 10730(b)(1).	7.0
Maintain a list of, and communicate directly with, interested parties.	SGMA Sections 10723.4, 10730(b)(2), and 10723.8(a)	4.0
Consider the interests of all beneficial uses and users of groundwater.	SGMA Section 10723.2	4.0
Provide a written statement describing how interested parties may participate in plan [GSP] development and implementation, as well as a list of interested parties, at the time of GSA formation.	SGMA Sections 10723.8(a) and 10727.8(a)	4.0
Encourage active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin.	SGMA Section 10727.8(a)	7.0
Understand that any federally recognized Indian Tribe may voluntarily agree to participate in the planning, financing, and management of groundwater basins – refer to DWR's Engagement with Tribal Governments Guidance Document for Tribal recommended communication procedures.	SGMA 10720.3(c)	7.0
Description of beneficial uses and users of groundwater in the basin	GSP Regulations §354.10	3.0
List of public meetings at which the Plan [GSP] was discussed or considered	GSP Regulations §354.10	Table 11-2
Comments regarding the Plan [GSP] received by the Agency and a summary of responses	GSP Regulations §354.10	N/A at time of publication
A communication section that includes the following:	GSP Regulations §354.10	
Explanation of the Agency's decision-making process	GSP Regulations §354.10	4.0
Identification of opportunities for public engagement and discussion of how public input and response will be used	GSP Regulations §354.10	7.0
Description of how the Agency encourages active involvement of diverse social, cultural, and economic elements of the population within the basin	GSP Regulations §354.10	7.0
The method the Agency will follow to inform the public about progress implementing the Plan [GSP], including the status of projects and actions	GSP Regulations §354.10	7.0

Table 8-2. Public Meetings at which the GSP Was Discussed

Type of Meeting	Location	Date
City of Paso Robles		
GSA Formation Public Hearing	Paso Robles City Hall	Jan 17, 2017
Todd Groundwater Contract for Pre-GSP Planning	Paso Robles City Hall	April 4, 2017
GSA/GSP Funding	Paso Robles City Hall	June 6, 2017
Paso Basin MOA	Paso Robles City Hall	Aug 15, 2017
Paso Basin MOA Appointments	Paso Robles City Hall	Sept 7, 2017
Paso Basin Prop 1 Grant Application	Paso Robles City Hall	Oct 17, 2017
GSA Notice of Intent to Prepare GSP	Paso Robles City Hall	Jan 6, 2018
GSP Contract Award to HydroMetrics	Paso Robles City Hall	March 20, 2018
GSA Review of GSP Draft Chapters 1-4 and 11	Paso Robles City Hall	Oct 16, 2018
GSA Review of GSP Draft Chapters 5-8	Paso Robles City Hall	April 16, 2019
GSA Review of GSP Draft Chapters 9-12	Paso Robles City Hall	June 18, 2019
GSA Increase to GSP Budget	Paso Robles City Hall	Aug 6, 2019
Adoption of GSP Public Hearing	Paso Robles City Hall	Dec 17, 2019
County of San Luis Obispo		
County Board of Supervisors	County Government Center	May 16, 2017
County Board of Supervisors	County Government Center	Aug 22, 2017
County Board of Supervisors	County Government Center	Feb 6, 2018
County Board of Supervisors	County Government Center	March 6, 2018
County Board of Supervisors	County Government Center	June 19, 2018
County Board of Supervisors	County Government Center	Oct 2, 2018
County Board of Supervisors	County Government Center	Dec 4, 2018
County Board of Supervisors	County Government Center	Feb 26, 2019
County Board of Supervisors	County Government Center	April 9, 2019
County Board of Supervisors	County Government Center	June 18, 2019
County Board of Supervisors	County Government Center	Aug 20, 2019
County Board of Supervisors	County Government Center	Oct 22, 2019
County Board of Supervisors	County Government Center	Nov 5, 2019
County Board of Supervisors	County Government Center	Nov 19, 2019
County Board of Supervisors	County Government Center	Dec 17, 2019
Paso Robles Subbasin Cooperative Committee		
Cooperative Committee Meeting	EOC Main Conference Room	Oct 18, 2017
Cooperative Committee Meeting	Courtyard by Marriott	Oct 25, 2017
Cooperative Committee Meeting	EOC Main Conference Room	Dec 6, 2017
Cooperative Committee Meeting	Hampton Inn & Suites	Feb 14, 2018
Cooperative Committee Meeting	Paso Robles City Hall	March 7, 2018
Cooperative Committee Meeting	Paso Robles City Hall	April 25, 2018
Cooperative Committee Meeting	Paso Robles City Hall	July 25, 2018
Cooperative Committee Special Meeting	Paso Robles City Hall	Sept 12, 2018
Public Workshop: Sustainable Management Criteria	Kermit King Elementary School	Oct 4, 2018
Public Workshop: Sustainable Management Criteria	Creston Elementary School	Oct 8, 2018

Type of Meeting	Location	Date
Paso Robles Subbasin Cooperative Committee (continued)		
Cooperative Committee Regular Meeting	Paso Robles City Hall	Oct 17, 2018
Cooperative Committee Special Meeting	Paso Robles City Hall	March 6, 2019
Cooperative Committee Regular Meeting	Paso Robles City Hall	April 24, 2019
Cooperative Committee Special Meeting	Paso Robles City Hall	May 22, 2019
Cooperative Committee Regular Meeting	Paso Robles City Hall	July 24, 2019
Cooperative Committee Special Meeting	Paso Robles City Hall	Aug 21, 2019
Cooperative Committee Regular Meeting	Paso Robles City Hall	Oct 23, 2019
Cooperative Committee Special Meeting	Paso Robles City Hall	Nov 20, 2019
San Miguel Community Services District		
2018 GSP Meeting	SMCS District office	June 28, 2018
2018 GSP Meeting	SMCS District office	Aug 23, 2018
2018 GSP Meeting	SMCS District office	Sept 27, 2018
2018 GSP Meeting	SMCS District office	Oct 25, 2018
2019 GSP Meeting	SMCS District office	Jan 24, 2019
2019 GSP Meeting	SMCS District office	March 28, 2019
2019 GSP Meeting	SMCS District office	April 25, 2019
2019 GSP Meeting	SMCS District office	May 21, 2019
2019 GSP Meeting	SMCS District office	July 25, 2019
2019 GSP Meeting	SMCS District office	Aug 22, 2019
2019 GSP Meeting	SMCS District office	Sept 26, 2019
2019 GSP Meeting	SMCS District office	Oct 24, 2019
2019 GSP Meeting	SMCS District office	Nov 21, 2019
2019 GSP Meeting	SMCS District office	Dec 19, 2019
Shandon-San Juan Water District		
SSJWD Board Meeting	Shandon High School Library	Aug 15, 2017
SSJWD Board Meeting	Shandon High School Library	Sept 19, 2017
Shandon Advisory Groundwater Update	Shandon Park	Oct 4, 2017
SSJWD Board Meeting	Shandon High School Library	Oct 17, 2017
SSJWD Board Meeting	Shandon High School Library	Nov 15, 2017
Shandon Advisory Groundwater Update	Shandon Park	Feb 7, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Feb 20, 2018
Shandon Advisory Groundwater Update	Shandon Park	March 7, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	March 27, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	May 15, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	June 19, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	July 17, 2018
Shandon Advisory Groundwater Update	Shandon Park	Aug 1, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Aug 21, 2018
Shandon Advisory Groundwater Update	Shandon Park	Sept 5, 2018
SSJ GSA GSP Special Board meeting	Windfall Farms Creston	Sept 18, 2018
Shandon Advisory Groundwater Update	Shandon Park	Oct 3, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Oct 16, 2018

Type of Meeting	Location	Date
Shandon-San Juan Water District (continued)		
Shandon Advisory Groundwater Update	Shandon Park	Nov 7, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Nov 14, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Dec 11, 2018
SSJ GSA GSP Board meeting	Shandon High School Library	Jan 15, 2019
SSJ GSA GSP Board meeting	Shandon High School Library	Feb 19, 2019
SSJ GSA GSP Special Board meeting	J Lohr Wine Center Paso Robles	March 19, 2019
SSJ GSA GSP Special Board meeting	J Lohr Wine Center Paso Robles	April 9, 2019
Shandon Advisory Groundwater Update	Shandon Park	May 1, 2019
SSJ GSA GSP Special Board meeting	J Lohr Wine Center Paso Robles	May 7, 2019
SSJ GSA GSP Board meeting	Shandon High School Library	June 18, 2019
SSJ GSA GSP Special Board meeting	Paso Robles Wine Services Paso Robles	July 8, 2019
SSJ GSA GSP Board meeting	Paso Robles Wine Services Paso Robles	Aug 27, 2019
SSJ GSA GSP Special Board meeting	Sunny Slope Lodge Shandon	Sept 5, 2019
SSJ GSA GSP Board meeting	Sunny Slope Lodge Shandon	Sept 17, 2019
SSJ GSA GSP Board meeting	Sunny Slope Lodge Shandon	Oct 15, 2019
SSJ GSA GSP Board meeting	Sunny Slope Lodge Shandon	Nov 21, 2019

9 MEMORANDUM OF AGREEMENT

The GSAs will operate under the existing MOA until DWR approves the GSP. The existing MOA is included in Appendix A. During DWR's review process, the GSAs will consider developing a refined governance structure to implement the GSP. The governance structure would be established in a new agreement between the GSAs. The agreement would outline details and responsibilities for GSP administration among the participating entities and may include provisions to establish a new governing body to oversee GSP implementation.

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PASO BASIN COOPERATIVE COMMITTEE
April 27, 2022

Agenda Item #9 – Update on Governor's Executive Order

Recommendation
None; information only.

Prepared By
Blaine Reely, County of San Luis Obispo Groundwater Sustainability Director

Discussion
Due to ongoing drought conditions, the Governor issued Executive Order N-7-22 on March 28, 2022.

Below are key sections related to well permitting requirements:

- Section 9a – New well permits require written authorization **from a GSA** that groundwater extraction will not be inconsistent with any sustainable groundwater management program and not decrease likelihood of achieving sustainability.
- Section 9b – New well permits or alteration of existing well require a determination **by permitting agencies** that the well will (1) not likely interfere with production and functioning of existing nearby wells, or (2) not likely cause subsidence that would adversely impact or damage nearby infrastructure.

The Groundwater Sustainability Director will provide additional discussion on this item at the meeting on April 27, 2022.

Attached
Governor's Executive Order N-7-22

* * *

Attachment 1

EXECUTIVE DEPARTMENT
STATE OF CALIFORNIA

EXECUTIVE ORDER N-7-22

WHEREAS on April 12, 2021, May 10, 2021, July 8, 2021, and October 19, 2021, I proclaimed states of emergency that continue today and exist across all the counties of California, due to extreme and expanding drought conditions; and

WHEREAS climate change continues to intensify the impacts of droughts on our communities, environment, and economy, and California is in a third consecutive year of dry conditions, resulting in continuing drought in all parts of the State; and

WHEREAS the 21st century to date has been characterized by record warmth and predominantly dry conditions, and the 2021 meteorological summer in California and the rest of the western United States was the hottest on record; and

WHEREAS since my October 19, 2021 Proclamation, early rains in October and December 2021 gave way to the driest January and February in recorded history for the watersheds that provide much of California's water supply; and

WHEREAS the ongoing drought will have significant, immediate impacts on communities with vulnerable water supplies, farms that rely on irrigation to grow food and fiber, and fish and wildlife that rely on stream flows and cool water; and

WHEREAS the two largest reservoirs of the Central Valley Project, which supplies water to farms and communities in the Central Valley and the Santa Clara Valley and provides critical cold-water habitat for salmon and other anadromous fish, have water storage levels that are approximately 1.1 million acre-feet below last year's low levels on this date; and

WHEREAS the record-breaking dry period in January and February and the absence of significant rains in March have required the Department of Water Resources to reduce anticipated deliveries from the State Water Project to 5 percent of requested supplies; and

WHEREAS delivery of water by bottle or truck is necessary to protect human safety and public health in those places where water supplies are disrupted; and

WHEREAS groundwater use accounts for 41 percent of the State's total water supply on an average annual basis but as much as 58 percent in a critically dry year, and approximately 85 percent of public water systems rely on groundwater as their primary supply; and

WHEREAS coordination between local entities that approve permits for new groundwater wells and local groundwater sustainability agencies is important to achieving sustainable levels of groundwater in critically overdrafted basins; and

WHEREAS the duration of the drought, especially following a multiyear drought that abated only five years ago, underscores the need for California to redouble near-, medium-, and long-term efforts to adapt its water management and delivery systems to a changing climate, shifting precipitation patterns, and water scarcity; and

WHEREAS the most consequential, immediate action Californians can take to extend available supplies is to voluntarily reduce their water use by 15 percent from their 2020 levels by implementing the commonsense measures identified in operative paragraph 1 of Executive Order N-10-21 (July 8, 2021); and

WHEREAS to protect public health and safety, it is critical the State take certain immediate actions without undue delay to prepare for and mitigate the effects of the drought conditions, and under Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this Proclamation would prevent, hinder, or delay the mitigation of the effects of the drought conditions.

NOW, THEREFORE, I, GAVIN NEWSOM, Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes, including the California Emergency Services Act, and in particular, Government Code sections 8567, 8571, and 8627, do hereby issue the following Order to become effective immediately:

IT IS HEREBY ORDERED THAT:

1. The orders and provisions contained in my April 21, 2021, May 10, 2021, July 8, 2021, and October 19, 2021 Proclamations remain in full force and effect, except as modified by those Proclamations and herein. State agencies shall continue to implement all directions from those Proclamations and accelerate implementation where feasible.

2. To help the State achieve its conservation goals and ensure sufficient water for essential indoor and outdoor use, I call on all Californians to strive to limit summertime water use and to use water more efficiently indoors and out. The statewide Save Our Water conservation campaign at SaveOurWater.com provides simple ways for Californians to reduce water use in their everyday lives. Furthermore, I encourage Californians to understand and track the amount of water they use and measure their progress toward their conservation goals.

3. By May 25, 2022, the State Water Resources Control Board (Water Board) shall consider adopting emergency regulations that include all of the following:

    a. A requirement that each urban water supplier, as defined in section 10617 of the Water Code, shall submit to the Department of Water Resources a preliminary annual water supply and demand assessment consistent with section 10632.1 of the Water Code no later than June 1, 2022, and submit a final annual water supply and demand assessment to the Department of Water Resources no later than the deadline set by section 10632.1 of the Water Code;

b. A requirement that each urban water supplier that has submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, the shortage response actions adopted under section 10632 of the Water Code for a shortage level of up to twenty percent (Level 2), by a date to be set by the Water Board; and

c. A requirement that each urban water supplier that has not submitted a water shortage contingency plan to the Department of Water Resources implement, at a minimum, shortage response actions established by the Water Board, which shall take into consideration model actions that the Department of Water Resources shall develop for urban water supplier water shortage contingency planning for Level 2, by a date to be set by the Water Board.

To further conserve water and improve drought resiliency if the drought lasts beyond this year, I encourage urban water suppliers to conserve more than required by the emergency regulations described in this paragraph and to voluntarily activate more stringent local requirements based on a shortage level of up to thirty percent (Level 3).

4. To promote water conservation, the Department of Water Resources shall consult with leaders in the commercial, industrial, and institutional sectors to develop strategies for improving water conservation, including direct technical assistance, financial assistance, and other approaches. By May 25, 2022, the Water Board shall consider adopting emergency regulations defining "non-functional turf" (that is, a definition of turf that is ornamental and not otherwise used for human recreation purposes such as school fields, sports fields, and parks) and banning irrigation of non-functional turf in the commercial, industrial, and institutional sectors except as it may be required to ensure the health of trees and other perennial non-turf plantings.

5. In order to maximize the efficient use of water and to preserve water supplies critical to human health and safety and the environment, Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended, with respect to the directives in paragraphs 3 and 4 of this Order and any other projects and activities for the purpose of water conservation to the extent necessary to address the impacts of the drought, and any permits necessary to carry out such projects or activities. Entities that desire to conduct activities under this suspension, other than the directives in paragraphs 3 and 4 of this Order, shall first request that the Secretary of the Natural Resources Agency make a determination that the proposed activities are eligible to be conducted under this suspension. The Secretary shall use sound discretion in applying this Executive Order to ensure that the suspension serves the purpose of accelerating conservation projects that are necessary to address impacts of the drought, while at the same time

protecting public health and the environment. The entities implementing these directives or conducting activities under this suspension shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

6. To support voluntary approaches to improve fish habitat that would require change petitions under Water Code section 1707 and either Water Code sections 1425 through 1432 or Water Code sections 1725 through 1732, and where the primary purpose is to improve conditions for fish, the Water Board shall expeditiously consider petitions that add a fish and wildlife beneficial use or point of diversion and place of storage to improve conditions for anadromous fish. California Code of Regulations, title 23, section 1064, subdivisions (a)(1)(A)(i)-(ii) are suspended with respect to any petition that is subject to this paragraph.

7. To facilitate the hauling of water for domestic use by local communities and domestic water users threatened with the loss of water supply or degraded water quality resulting from drought, any ordinance, regulation, prohibition, policy, or requirement of any kind adopted by a public agency that prohibits the hauling of water out of the water's basin of origin or a public agency's jurisdiction is hereby suspended. The suspension authorized pursuant to this paragraph shall be limited to the hauling of water by truck or bottle to be used for human consumption, cooking, or sanitation in communities or residences threatened with the loss of affordable safe drinking water. Nothing in this paragraph limits any public health or safety requirement to ensure the safety of hauled water.

8. The Water Board shall expand inspections to determine whether illegal diversions or wasteful or unreasonable use of water are occurring and bring enforcement actions against illegal diverters and those engaging in the wasteful and unreasonable use of water. When access is not granted by a property owner, the Water Board may obtain an inspection warrant pursuant to the procedures set forth in Title 13 (commencing with section 1822.50) of Part 3 of the Code of Civil Procedure for the purposes of conducting an inspection pursuant to this directive.

9. To protect health, safety, and the environment during this drought emergency, a county, city, or other public agency shall not:

   a. Approve a permit for a new groundwater well or for alteration of an existing well in a basin subject to the Sustainable Groundwater Management Act and classified as medium- or high-priority without first obtaining written verification from a Groundwater Sustainability Agency managing the basin or area of the basin where the well is proposed to be located that groundwater extraction by the proposed well would not be inconsistent with any sustainable groundwater management program established in any applicable Groundwater Sustainability Plan adopted by that Groundwater Sustainability

Agency and would not decrease the likelihood of achieving a sustainability goal for the basin covered by such a plan; or

b. Issue a permit for a new groundwater well or for alteration of an existing well without first determining that extraction of groundwater from the proposed well is (1) not likely to interfere with the production and functioning of existing nearby wells, and (2) not likely to cause subsidence that would adversely impact or damage nearby infrastructure.

This paragraph shall not apply to permits for wells that will provide less than two acre-feet per year of groundwater for individual domestic users, or that will exclusively provide groundwater to public water supply systems as defined in section 116275 of the Health and Safety Code.

10. To address household or small community drinking water shortages dependent upon groundwater wells that have failed due to drought conditions, the Department of Water Resources shall work with other state agencies to investigate expedited regulatory pathways to modify, repair, or reconstruct failed household or small community or public supply wells, while recognizing the need to ensure the sustainability of such wells as provided for in paragraph 9.

11. State agencies shall collaborate with tribes and federal, regional, and local agencies on actions related to promoting groundwater recharge and increasing storage.

12. To help advance groundwater recharge projects, and to demonstrate the feasibility of projects that can use available high water flows to recharge local groundwater while minimizing flood risks, the Water Board and Regional Water Quality Control Boards shall prioritize water right permits, water quality certifications, waste discharge requirements, and conditional waivers of waste discharge requirements to accelerate approvals for projects that enhance the ability of a local or state agency to capture high precipitation events for local storage or recharge, consistent with water right priorities and protections for fish and wildlife. For the purposes of carrying out this paragraph, Division 13 (commencing with section 21000) of the Public Resources Code and regulations adopted pursuant to that Division, and Chapter 3 (commencing with section 85225) of Part 3 of Division 35 of the Water Code and regulations adopted pursuant thereto are hereby suspended to the extent necessary to address the impacts of the drought. This suspension applies to (a) any actions taken by state agencies, (b) any actions taken by local agencies where the state agency with primary responsibility for the implementation of the directives concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b). The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

13. With respect to recharge projects under either Flood-Managed Aquifer Recharge or the Department of Water Resources Sustainable

Groundwater Management Grant Program occurring on open and working lands to replenish and store water in groundwater basins that will help mitigate groundwater conditions impacted by drought, for any (a) actions taken by state agencies, (b) actions taken by a local agency where the Department of Water Resources concurs that local action is required, and (c) permits necessary to carry out actions under (a) or (b), Public Resources Code, Division 13 (commencing with section 21000) and regulations adopted pursuant to that Division are hereby suspended to the extent necessary to address the impacts of the drought. The entities implementing these directives shall maintain on their websites a list of all activities or approvals for which these provisions are suspended.

14. To increase resilience of state water supplies during prolonged drought conditions, the Department of Water Resources shall prepare for the potential creation and implementation of a multi-year transfer program pilot project for the purpose of acquiring water from willing partners and storing and conveying water to areas of need.

15. By April 15, 2022, state agencies shall submit to the Department of Finance for my consideration proposals to mitigate the worsening effects of severe drought, including emergency assistance to communities and households and others facing water shortages as a result of the drought, facilitation of groundwater recharge and wastewater recycling, improvements in water use efficiency, protection of fish and wildlife, mitigation of drought-related economic or water-supply disruption, and other potential investments to support short- and long-term drought response.

IT IS FURTHER ORDERED that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

IN WITNESS WHEREOF I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 28th day of March 2022.

GAVIN NEWSOM
Governor of California

ATTEST:

SHIRLEY N. WEBER, PH.D.
Secretary of State

PASO BASIN COOPERATIVE COMMITTEE
April 27, 2022

Agenda Item #11 – Letter of Support for Salinas Dam Feasibility Study

Recommendation
Authorize a letter of support for the Salinas Dam Feasibility Study as outlined in agenda item No. 11.

Prepared By
Blaine Reely, County of San Luis Obispo Groundwater Sustainability Director

Discussion
Draft letters of support for the Salinas Dam Feasibility Study are provided as Attachment 1 for consideration of approval.

Attached
Letter of Support for Salinas Dam Feasibility Study

* * *

Attachment 1

COOPERATIVE COMMITTEE
OF THE
PASO ROBLES GROUNDWATER BASIN
GROUNDWATER SUSTAINABILITY AGENCIES

City of Paso Robles GSA
1000 Spring Street, City of Paso Robles, CA 93635

County of San Luis Obispo
1055 Monterey Street, San Luis Obispo, CA 93408

San Miguel Community Services District GSA
1150 Mission Street, P.O. Box 180, San Miguel, CA 93451

Shandon-San Juan Water District and Shandon-San Juan GSA
P.O. Box 150, Shandon, CA 93461

DATE

The Honorable Dianne Feinstein
U.S. Senate
331 Hart Senate Office Building
Washington, D.C. 20510

Re: County of San Luis Obispo, FY23 Appropriations - Salinas Dam Feasibility Study

Dear Senator Feinstein –

The County of San Luis Obispo has submitted a request to your office for $1.9 million in Congressionally Directed Spending (CDS) for the Salinas Dam Feasibility Study. I strongly support this important project and urge you to give all due consideration to the request.

The project includes a Feasibility Study for taking ownership of, retrofitting, and potentially expanding the Salinas Dam and its storage capacity by installing gates along the spillway to retain flood flow/stormwater for beneficial use. While a retrofit is required to get the dam up to State seismic safety standards, it is anticipated that an expansion, which could increase the safe yield of the reservoir by up to 1,650 acre-feet per year, could benefit Northern San Luis Obispo County and support sustainability in the Paso Robles Groundwater Basin.

The Salinas Dam (which forms Santa Margarita Lake) is situated in the northern area of San Luis Obispo County, California, about seven miles southeast of the town of Santa Margarita, California. The dam is located on the upper Salinas River at river mile 150. The US Army Corps of Engineers is in the process of conducting a Disposition Study to evaluate alternatives for disposing of the dam. Taking ownership of and retrofitting the dam would help secure and protect an essential part of the local water supply and expanding the dam would leverage existing infrastructure to increase resilience and an available water supply. The $1.9 million funding requested here is for the Feasibility Study to support a larger project, which is anticipated to cost $30 - $50 million, to take ownership of, retrofit, and potentially expand the Salinas Dam and its storage capacity to protect and optimize existing infrastructure, increase local resilience and address groundwater declines in the Paso Robles Groundwater Basin.

I urge you to support this request, and I thank you for all of your service to our County, our State, and our country.

Sincerely,

COOPERATIVE COMMITTEE OF THE PASO ROBLES GW BASIN GROUNDWATER SUSTAINABILITY AGENCIES

____
Debbie Arnold, Chairperson

COOPERATIVE COMMITTEE
OF THE
PASO ROBLES GROUNDWATER BASIN
GROUNDWATER SUSTAINABILITY AGENCIES

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1150 Mission Street, P.O. Box 180, San Miguel, CA 93451

Shandon-San Juan Water District and Shandon-San Juan GSA
P.O. Box 150, Shandon, CA 93461

DATE

The Honorable Alex Padilla
U.S. Senate
112 Hart Senate Office Building
Washington, D.C. 20510

Re: County of San Luis Obispo
FY23 Appropriations - Salinas Dam Feasibility Study

Dear Senator Padilla –

The County of San Luis Obispo has submitted a request to your office for $1.9 million in Congressionally Directed Spending (CDS) for the Salinas Dam Feasibility Study. I strongly support this important project and urge you to give all due consideration to the request.

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I urge you to support this request, and I thank you for all of your service to our County, our State, and our country.

Sincerely,

COOPERATIVE COMMITTEE
OF THE
PASO ROBLES GROUNDWATER BASIN
GROUNDWATER SUSTAINABILITY AGENCIES

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Shandon-San Juan Water District and Shandon-San Juan GSA
P.O. Box 150, Shandon, CA 93461

DATE

The Honorable Salud Carbajal
Member of Congress
2331 Cannon House Office Building
Washington, D.C. 20515

Re: County of San Luis Obispo
FY23 Appropriations - Salinas Dam Feasibility Study

Dear Congressman Carbajal –

The County of San Luis Obispo has submitted a request to your office for $1.9 million in Congressionally Directed Spending (CDS) for the Salinas Dam Feasibility Study. I strongly support this important project and urge you to give all due consideration to the request.

The project includes a Feasibility Study for taking ownership of, retrofitting, and potentially expanding the Salinas Dam and its storage capacity by installing gates along the spillway to retain flood flow/stormwater for beneficial use. While a retrofit is required to get the dam up to State seismic safety standards, it is anticipated that an expansion, which could increase the safe yield of the reservoir by up to 1,650 acre-feet per year, could benefit Northern San Luis Obispo County and support sustainability in the Paso Robles Groundwater Basin.

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I urge you to support this request, and I thank you for all of your service to our County, our State, and our country.

Sincerely,