

Paso Robles Groundwater Basin Management Plan

Groundwater Level Monitoring Network Plan for the Paso Robles Groundwater Basin

Paso Robles Groundwater Basin – Groundwater Advisory
Committee

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Abbreviations and Acronyms

Basin	Paso Robles Groundwater Basin
BMOs	Basin Management Objectives
City	City of Paso Robles
County	San Luis Obispo County
CSAs	County Service Areas
District	San Luis Obispo County Flood Control and Water Conservation District
DPW	County Department of Public Works
DWR	California Department of Water Resources
GAC	Groundwater Advisory Committee
IRWMP	Integrated Regional Water Management Plan
M&I	Municipal and Industrial
MCWRA	Monterey County Water Resources Agency
State	State of California
TDS	total dissolved solids
UWMP	Urban Water Management Plan
WRAC	Water Resources Advisory Committee

1 Introduction

1.1 Introduction

The Paso Robles Groundwater Basin (Basin) is located in northern San Luis Obispo County (County) and southern Monterey County and was described in the 1958 California Department of Water Resources (DWR) Bulletin 118, San Luis Obispo County Investigation. As part of the efforts to map the groundwater basins in the State of California (State) presented in Bulletin 118, DWR identified the Paso Robles Area Groundwater Subbasin of the Salinas Valley Groundwater Basin and designated it as Basin Number 3-4.06. The Basin boundary was later updated in the Paso Robles Groundwater Basin Study (2002) and is shown on Figure 1-1.

The Basin encompasses an area of approximately 505,000 acres (790 square miles). The Basin ranges from the Garden Farms area south of Atascadero to San Ardo in Monterey County, and from the Highway 101 corridor east to Shandon (Figure 1-1). Most of the Basin is hydraulically connected by thick sedimentary sections. The Basin is divided into smaller subareas based on water quality, source of recharge, groundwater movement, and the contours of the base of permeable sediments.

The Atascadero Subbasin is defined as that portion of the Basin west of the Rinconada fault. Between Atascadero and Creston, the Rinconada fault juxtaposes less permeable Monterey Formation rocks with the Paso Robles Formation basin sediments. South of the City of Paso Robles, the Paso Robles Formation is found on both sides of the Rinconada fault; however, the fault zone is believed to form a leaky barrier that restricts flow from the Atascadero Subbasin to the main part of the Basin. As a result of this, the Atascadero Subbasin is a hydrologically distinct subbasin within the Basin. The Rinconada Fault does not act as a hydraulic barrier to groundwater flow in the Salinas River Alluvium. As such, groundwater flow in the Alluvium is continuous along the stretch of the Salinas River that traverses the entire Basin. The area encompasses the Salinas River corridor area south of Paso Robles and includes the communities of Garden Farms, Atascadero, and Templeton.

The Basin was subdivided into subareas in the Phase I Report (Fugro, 2002) as a practical approach to organize the 790 square mile Basin into smaller informal areas (see Figure 1-1) and listed below.

1. Atascadero Subbasin
2. Creston Subarea
3. San Juan Subarea
4. Estrella Subarea
5. Shandon Subarea

6. North Gabilan Subarea
7. South Gabilan Subarea
8. Bradley Subarea

Over the past decade, the San Luis Obispo County Flood Control and Water Conservation District (District) and the City of Paso Robles (City) have worked with other pumpers to develop a more organized approach to groundwater management in the Basin. The preparation of the Paso Robles Basin Groundwater Management Plan (Plan) is one of the current activities to improve groundwater management.

The Plan was prepared coincident with the preparation of the Resource Capacity Study as well as other ongoing studies to develop a stakeholder-driven voluntary plan to provide a framework for future groundwater management activities. This project was funded by a grant from the Local Groundwater Assistance Act of 2000 (California Water Cost Section 10795 et seq) to provide grants to public agencies to conduct groundwater studies or to carry out groundwater monitoring and management activities. Local Groundwater Assistance Grants (AB303) are awarded by the California Department of Water Resources (DWR). Funding was available in 2007-2008 for AB303 grants.

Groundwater management requires groundwater level and other data collected and analyzed on a routine basis (typically annually) to establish the current conditions of the groundwater basin. This information is tracked and reported to agencies, interested parties, and stakeholders.

There are currently about 160 wells located within the limits of the Paso Robles Basin that are monitored by the San Luis Obispo County Department of Public Works, cooperating agencies, and the Monterey County Water Resources Agency.

The goals of the groundwater level monitoring and reporting program in the Paso Robles Basin include:

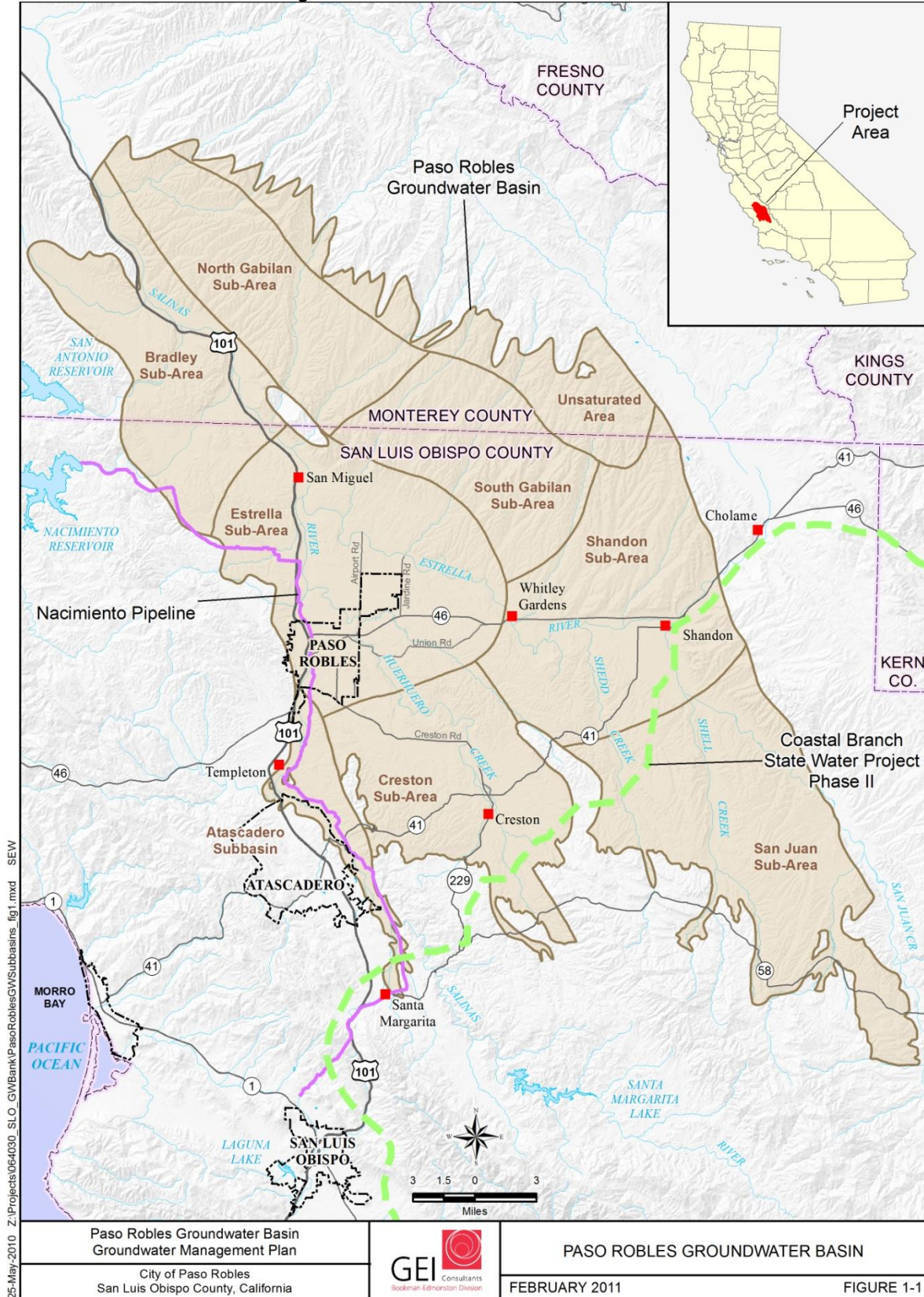
- Assessing groundwater elevations on an annual basis including trends, conditions, and adequacy of the groundwater level monitoring network.
- Preparing and distributing annual groundwater level monitoring reports to the public and public officials.
- Developing an outreach program to obtain groundwater level data from private pumpers and private well owners in the Basin.
- Coordinating with local, state, and federal agencies to develop better information on groundwater level monitoring and comply with current monitoring and report requirements such as California Statewide Groundwater Elevation Monitoring (CASGEMs) Program.

There are gaps in the monitoring network both laterally and vertically which, if filled, would improve the ability of groundwater users and managers in the Basin to fully understand the state of the groundwater conditions.

This Groundwater Level Monitoring Network Plan was prepared as part of the Paso Robles Groundwater Basin Management Plan to identify and document the groundwater level monitoring network and potential actions to improve the network. This Groundwater Level Monitoring Network is organized as follows:

- Section 1 – Introduction
- Section 2 – Existing Monitoring Network
- Section 3 – Monitoring Protocols
- Section 4 – Recommendations for Improving Groundwater Level Monitoring Network
- Section 5 – References

Figure 1-1 Paso Robles Groundwater Basin



2 Existing Monitoring Network

In the Paso Robles Basin, the County has been monitoring groundwater levels on a semi-annual basis (spring and fall) for more than 50 years to support general planning and engineering purposes.

The monitoring takes place from a voluntary monitoring network of production wells. The voluntary monitoring network has changed over time as wells have been lost, or new wells have been added to the network. In 2003, an evaluation of the monitoring network in the Paso Robles Basin was completed by Cleath and Associates to evaluate the efficiency and effectiveness of the County's Monitoring Program for wells located in the Basin. In 2008, this analysis was updated by Cleath & Associates for San Luis Obispo County's county-wide monitoring program, and included changes in the Paso Robles Basin since the 2003 report.

These reports are used as the basis for describing the groundwater level monitoring network in the Paso Robles Basin. The Paso Robles Basin monitoring network should include wells that produce water from either the alluvial aquifers or the Paso Robles Formation aquifers.

- **Shallow Aquifer Monitoring** - The report identified the importance of including monitoring wells in the shallow alluvial aquifers of the Salinas River, Estrella River, Huer Huero Creek, and San Juan Creek. If possible, these wells should be located near stream gages to support future analysis of stream recharge.
- **Paso Robles Formation Monitoring** - The Paso Robles Formation includes various aquifer types including shallow-unconfined zones, lower-confined zones (pressure zones) and thermal aquifer zones. Monitoring wells should be included in the monitoring network which taps each of these different aquifer zones.

The wells included in the monitoring network are selected based on aquifer definition and uniform areal distribution. There are approximately 159 wells in the current monitoring program (see Figure 2-1), County Public Works employees monitor 100 wells, and 57 wells are monitored by local municipal water company employees (who forward the data to the County's Public Works Department for inclusion in the monitoring program database). Additionally, three wells are located in Monterey County and are monitored by the Monterey County Water Resources Agency.

Table 2-1 lists the number of monitoring wells in each subarea, with more wells in the areas of the greatest population density (in the urban areas) and the largest developed agricultural areas. In general, many of the wells in the Atascadero Subbasin and the Estrella Subarea are associated with urban land uses. In the Creston Subarea and the rest of the Basin, monitoring wells are located adjacent to agricultural lands.

During the 2008 Monitoring Program Evaluation, criteria were developed to improve the monitoring network by identifying existing wells to add to the monitoring program, and identify existing wells to be eliminated from the monitoring program. The general criteria for selecting wells for inclusion in the monitoring network included:

- Wells included in the program should be located geographically throughout the Basin and vertically throughout the aquifer system to provide groundwater level data that represents natural static water levels that are not influenced by transient conditions.
- Selected wells should not pump frequently or be within 1,000 feet of a high producing well or wells tapping the same aquifer.
- Two wells that tap different aquifers may be located in close proximity to each other without producing redundant monitoring data.
- Because younger alluvial deposits contain aquifers separated from deeper aquifers, and the Paso Robles Formation typically contains multiple aquifers, there should be separate program wells in a particular subarea that tap these various aquifers.
- The various Paso Robles Formation aquifer types to be represented by program wells include shallow-unconfined zones, lower-confined (pressure) zones, and in some locations thermal aquifer zones.
- Monitoring well distribution should be based on population density and projected population growth, and on current and projected land use because of the greater well pumping impacts in these areas.

Groundwater level data is currently recorded in bound field books containing card files from each well. Each well card file includes the well name, a location sketch, description of the well head and access, water level measurement and reference point, depth to water by date, observer's initials and comments. Well construction reports should be obtained for all wells included in the monitoring network that would include much of this information.

During development of the Paso Robles Groundwater Management Plan, recent land use data was collected to compare the current land use to the existing monitoring network. This identified additional gaps in the monitoring network.

These gaps are located adjacent to areas currently experiencing declining groundwater levels, or are in areas where limited or no water level data is available. Figure 2-2 shows the locations of the wells to be added to the existing groundwater monitoring network (listed on Table 2-1) and areas that need additional monitoring where existing wells have not been identified.

Some of these areas include:

- Around the City of Paso Robles
- Creston Road Area
- Union Road Area
- Highway 46 west of Whitley Gardens
- Jardine Road Area

- Airport Road- Highway 101
- Highway 46 east of Whitley Gardens
- Creston Area
- Shandon Area
- Highway 41 south of Shandon
- North of San Miguel
- East of San Miguel

Table 2-1. Monitoring Program in the Paso Robles Groundwater Basin

Groundwater Subarea	Wells Currently in Program	Wells Added to Program	Wells Dropped From Program	Wells In Updated Program
Atascadero Subbasin	51	2	0	53
Bradley	0	1	0	1
Creston	17	6	2	21
Estrella	50	11	5	56
Gabilan (North and South)	1	0	0	1
San Juan	16	10	2	24
Shandon	24	5	4	25
TOTAL	159	35	13	181

Figure 2-1 Existing Well Monitoring Network

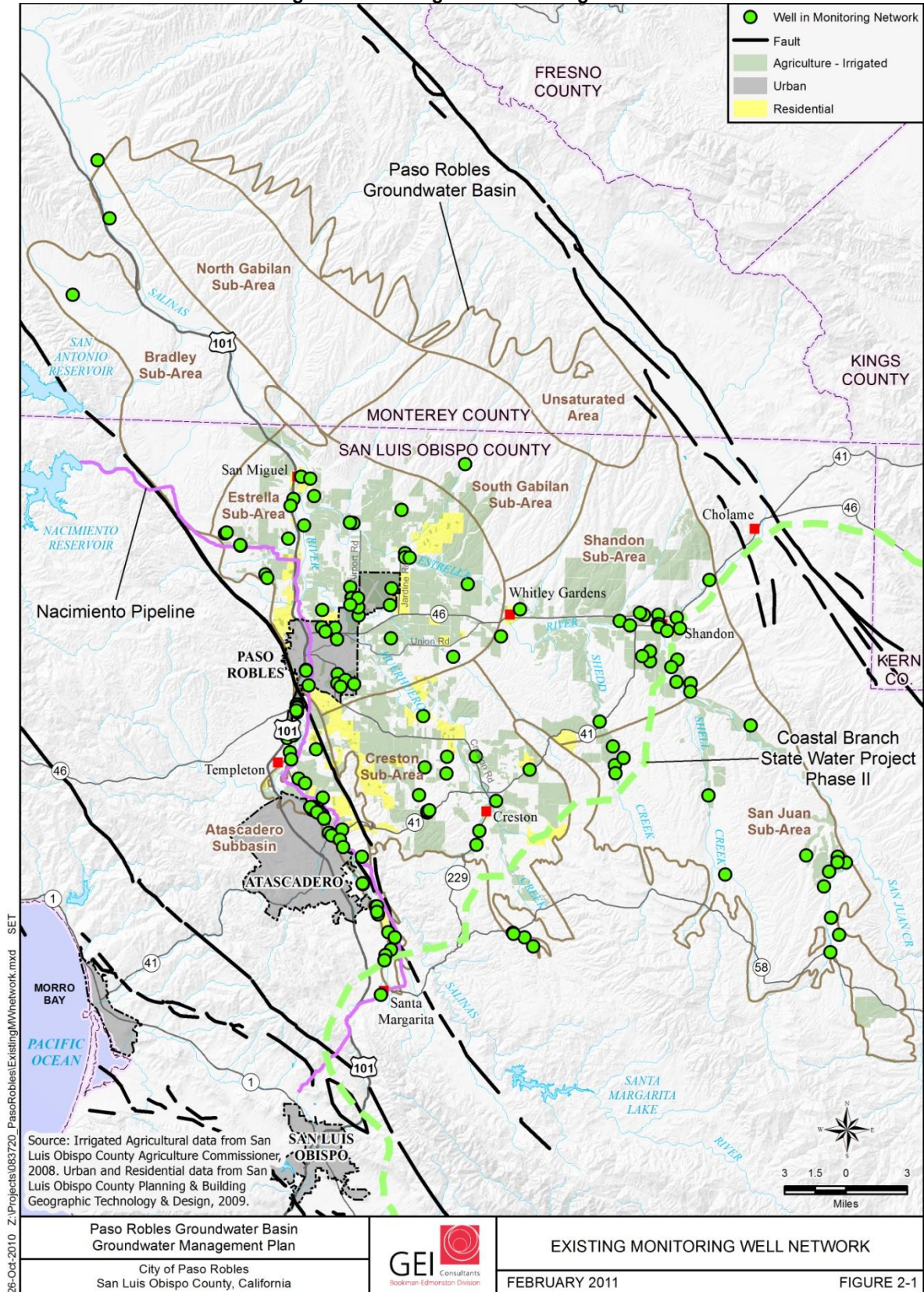
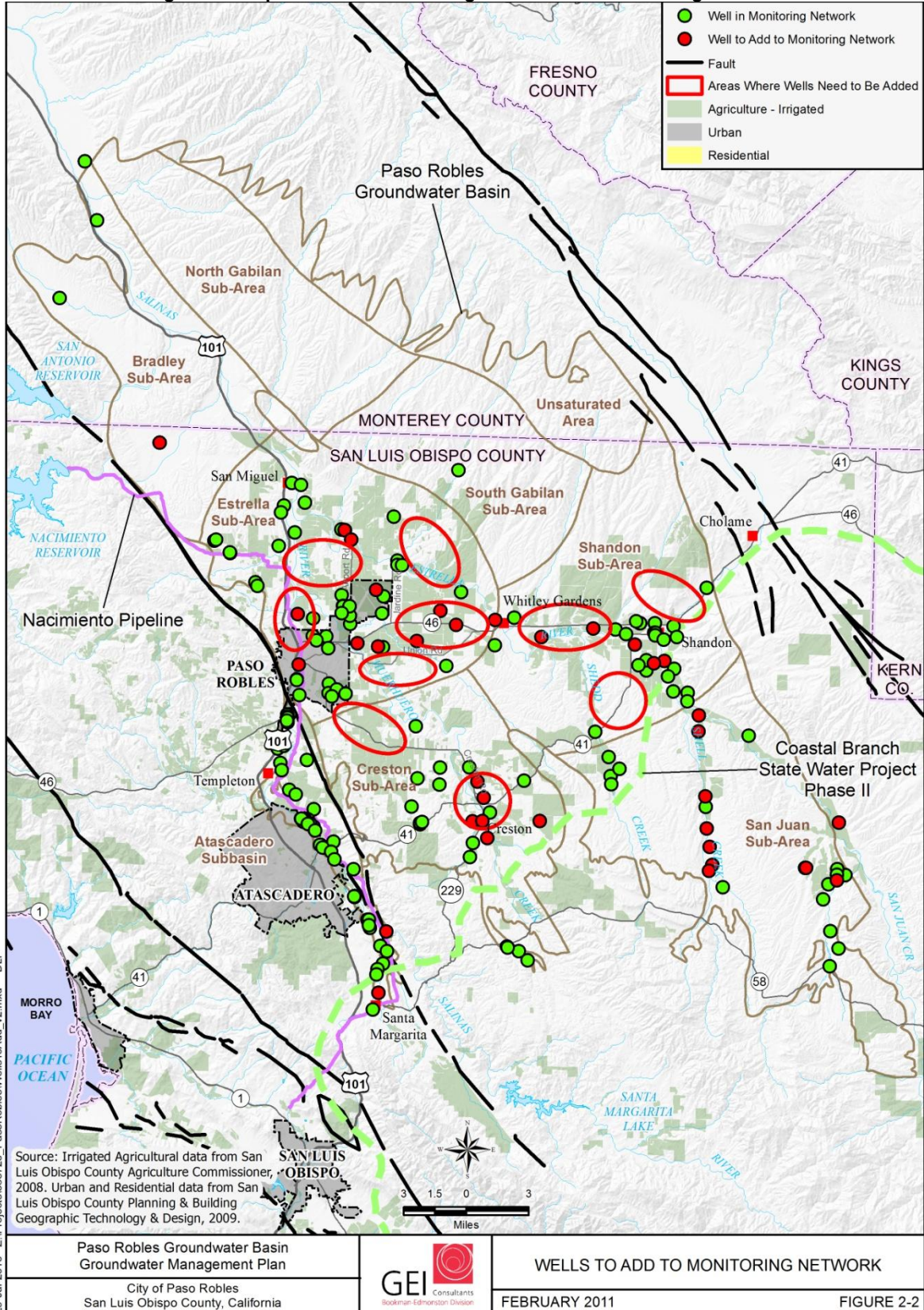


Figure 2-2 Improvements to Existing Groundwater Monitoring Network



29-Jul-2010 Z:\Projects\083720_PasoRobles\WellsToAdd_v2.mxd DLF

3 Monitoring Protocols

The following is the standard operating procedure used by the County for the determination of groundwater surface elevations for wells in the Paso Robles Groundwater Basin monitoring network. These procedures may be varied or changed as required, depending on the site conditions, and equipment limitations.

In all instances, the actual procedures employed will be documented and described on the Groundwater Level Form. The water level measurements are used to construct water table or potentiometric surface maps and to determine flow direction as well as other aquifer characteristics.

Groundwater levels shall be measured in all wells on a semi-annual basis. If possible, sampling personnel should make groundwater level measurements in the same week but at no time should the measurements be taken over a period exceeding two-weeks.

3.1 Preparation for Field Work

Prior to collecting groundwater levels and before going to the field, sampling personnel shall clean, maintain, and test the water level sounder.

The sampling personnel will assemble the following equipment and supplies:

- Copies of Groundwater Level Form on waterproof paper
- Copies of well cards for wells being monitored
- Copy Monitoring Network Location map
- Electrical water level sounder
- Measuring Tape with gradations in tenths and hundredths of feet.
- Ballpoint pen (waterproof) and clipboard
- Paper towels
- Bleach
- Spray bottles
- Distilled water

During use of a water level sounder, it is possible for the cable to become stretched or shortened because of tangles and obstructions in wells. Before each monitoring event, the water level sounder shall be calibrated by laying it out and comparing it with a steel tape and the results documented. When calibration measurements show that the measurements are greater than 0.10 feet off in 100 feet, the cable shall be replaced.

Measurement locations will be identified and appropriate accommodations and permissions for site access will be made.

3.2 Monitoring Procedures

The following procedures shall be used to measure the depth to water at each designated monitoring well.

3.2.1 *Verify the Reference Point*

Distance above or below ground level to the reference point (RP) at which depth to water in the well is measured, i.e. TOC (Top of Casing). Make sure the measurement is equal to the one listed on the first well card for each well. If there is a difference in the distance, make a note in the remarks and correct the data on the front of the card.

3.2.2 *Recording of Measurements*

Each well has been assigned a unique identification number and a common name. The Groundwater Level Form will be used to record all groundwater level measurements and other information regarding well while in the field.

Groundwater level measurements will be measured to the nearest 0.01 foot. To obtain a depth to water measurement, the electric sounder cable will be lowered slowly into the well through the access port until the sounder indicates submergence by a beeping sound and/or light, depending on the type of sounder being used. At this point, the sampling personnel will note the depth to water from the reference point. The depth shall be confirmed by lifting the sounder above the water surface by about 2 to 3 feet and then re-measuring the depth to water. If the depth remains constant, the depth-to-water shall be recorded on the Groundwater Level Form, along with the time and date of the measurement. If the depth changes, the sampling personnel shall indicate that on the form, as well as the variable nature of the measurement and its possible cause (e.g., bouncing, recovering water levels, oil on water surface). The following measurements will be recorded:

- **Depth from Reference Point:** Total distance from the reference point to the top of the water.
- **Reference Point Distance:** Total distance from ground to reference point. If the reference point is above the ground surface, the reference point distance is a positive value. If the reference point is below the ground surface, the reference point distance is a negative value.
- **Depth to Water:** Total distance from the ground surface to the top of the water. It is calculated as the 'Depth from Reference Point' less the 'Reference Point Distance'.
- **Obs. Init.:** Initials of sampling personnel
- **Remarks:** Any special remarks will go in this area.

3.2.3 Static Measurement Verification

The following procedure will be used to verify if a well has or has not been recently been pumping (for example, the difference is greater than 0.02 feet or there are other indicators of recent pumping). Once the depth of the water is measured, pull the end of the sounder up ½ inch and wait about 5 minutes to see if a signal is acquired. If it does re-acquire a signal, pull it up ½ inch again and wait to see if a signal is acquired. If it is reacquired, make a note in the remarks section “Well rebounding”. If the pump is hot or the water pipe is cool, a note should be made in the remarks section.

If sampling personnel will be working in the area and it won't be an inconvenience they may check at a later time to see if the well isn't pumping. “Well Pumping” will be written on the data card.

3.2.4 Well Actively Pumping

If a well is actively pumping, unless it is stated on the well's first page, the measurement will not be taken.

3.2.5 Maintenance and Cleaning of Equipment

Prior to obtaining the water level measurement at each well and between each well site, the bottom 10 feet of the electric sounder cable shall be rinsed in a solution of sodium hypochlorite (liquid bleach) and distilled water. The solution shall consist of bleach and distilled water in a one-tablespoon-to-one-quart ratio (a concentration of about 200 parts per million chlorine is desirable). The sounder shall then be rinsed thoroughly three times with distilled water and allowed to air-dry. Thorough cleaning of equipment is necessary to avoid any possibility of cross-contamination and transport of bacteria between wells.

3.2.6 Discontinuing Records

If there is a well that has not been monitored during the last three monitoring periods, i.e. could not find, no opening in top, removed, make a special note and this well will be considered for removal from the network.

3.3 Quality Assurance

In the field, the following general quality assurance/quality control (QA/QC) procedures apply:

1. All instrumentation must be operated in accordance with operating instructions as supplied by the manufacturer, unless otherwise specified.
2. Each well should be tested at least twice in order to compare results. If results do not agree to within 0.02 feet, a third measurement should be taken and the readings averaged. Notes about the inconsistent measurements and their possible cause should be made on the Groundwater Level Form.

3. Results should be compared to historical measurements while in the field and significant discrepancies noted and resolved if possible.
4. Wells for which no or questionable measurements are obtained need to be documented by the sampling personnel in the remarks section of the Groundwater Level Form.

After field personnel have completed their work, the data shall be entered into an electronic spreadsheet or database. The groundwater level measurements shall be proofed for accuracy by a second person within five days of obtaining the measurements. Should a measurement appear suspicious, a confirmation reading shall be obtained.

4 Recommendations for Improving the Groundwater Level Monitoring Network

This section identifies some of the activities related to maintaining and improving the groundwater level monitoring network. Several different factors may contribute to the improvements to the monitoring network, which may include the following:

- Recent groundwater monitoring legislation
- Improvements to the existing voluntary monitoring network
- Improvements to the data collected from wells in the existing monitoring network
- Development of a dedicated monitoring network to supplement the existing voluntary monitoring network
- Recommendations from the Resource Capacity Study regarding groundwater monitoring

Each of these are described below.

4.1 Complying with New Groundwater Monitoring Legislation

Future groundwater elevation monitoring and reporting will need to comply with the California Statewide Groundwater Elevations Monitoring Program (CASGEMs). This legislation, passed in 2009 is intended to establish a collaborative process between local monitoring parties and DWR to collect groundwater elevations statewide and make them available to the public.

To comply with CASGEMs:

- Local parties may assume responsibility for monitoring and reporting groundwater elevations.
- DWR will work cooperatively with local monitoring entities to achieve monitoring programs that demonstrate seasonal and long-term trends in groundwater elevations.
- A ‘Monitoring Entity’ is identified for each basin to coordinate monitoring in the basin and the reporting to DWR.
- Where a Monitoring Entity is not established, DWR will perform the monitoring functions. If local parties do not volunteer to perform the groundwater monitoring functions, DWR will assume those functions, and those parties will become ineligible for water grants and loans from the State.

The major deadlines for this effort include:

- On or before January 1, 2011: parties seeking to assume groundwater level elevation monitoring functions must notify DWR.
- On or before January 1, 2012: Monitoring entities shall begin reporting seasonal groundwater elevation measurements.

To comply with CASGEMs Program requirements the District should consider the following actions:

- The San Luis Obispo County FCWCD should be identified with DWR as the groundwater monitoring lead in the Paso Robles Basin.
- Document the recent effort completed to evaluate the existing groundwater level monitoring network to determine the status of the existing wells and identify new wells to be included in network.
- Continue to coordinate data collection efforts among local agencies and data exchange with DWR.
- Submit a copy of the 2009/2010 Groundwater Level Monitoring Report to DWR to comply with their reporting requirements.

4.2 Improving the Existing Voluntary Monitoring Network

The District currently encourages well owners to consider adding their wells to the voluntary monitoring network. Figure 2-2 identifies areas where additional monitoring wells are needed to fill in gaps in the groundwater level monitoring network. The purpose of improving the voluntary monitoring network includes:

- Increasing the number of wells in groundwater level monitoring network
- Collecting available well construction data for existing wells included in monitoring network to improve understanding of aquifer being represented by each well
- Expanding the monitoring network to include areas experiencing changes in groundwater levels or changing land use conditions

Expanding the voluntary groundwater level monitoring network could be done by:

- Developing an outreach and education program to increase the understanding of the importance of the monitoring program
- Developing support for the program among responsible stakeholder groups to encourage participation among their membership
- Identifying specific locations needed for additional monitoring and identifying interested well owners

Interested well owners should contact the County Department of Public Works to inform them of their interest in making their well available to the District monitoring network. At that point the District will evaluate the candidate well for inclusion in the program. The

County Department of Public Works is currently developing a screening process to include additional wells into the monitoring network that includes the steps described below.

Step 1 – Contact District: Contact the District to confirm your interest in making your well available for inclusion in the voluntary monitoring network. Complete the Volunteer Application Form and provide the following information about your well to the District (Attachment A):

- **Well Location:** To determine if the well is located within a DWR designated groundwater basin, and identify if there are already three or more County monitored wells within a mile of the proposed well that tap the same aquifer.
- **Well Construction Information:** To determine the depth of the well and aquifers being tapped.
- **Existing Groundwater Level Data:** Includes past groundwater level data to determine the history of groundwater levels in the well to compare to other nearby wells.
- **Recent Well History:** To document any recent changes in the well, pumps, or changes in groundwater production or quality.

Step 2 - Initial Assessment: Applies screening criteria to determine the suitability for including the well in the monitoring network.

- **Well Location:** To determine if the well is located within a DWR designated groundwater basin, and identify if there are already three or more County monitored wells within a mile of the proposed well that tap the same aquifer.
- **Well Access:** To determine that there is safe, reliable and relatively easy access to the well.
- **Well Condition:** To confirm that well construction information is available, and if any changes have been made to the well (such as deepening the well).
- **Land Use:** To track historic changes in land use and corresponding groundwater levels, and monitor areas of future anticipated land use changes.
- **Water Levels:** An area experiencing historic water levels trends (rising or dropping) should have nearby County monitored wells to identify the extent of the area showing the trends.

Step 3 - Field Evaluation: Conducted to determine the well accessibility (in the field) and the conditions of the well.

- **Well Access:** To determine that the well:
 - Is free of hazardous conditions or obstacles, and there is safe parking and access to the wellhead.
 - Is accessible in all seasons and bad weather conditions.
 - Has an accessible sounding port that allows entry to the well with an electric sounder.

- **Well Condition:** To determine that the well:
 - Is free of down-hole obstructions that could interfere with water level measurements.
 - Does not have any down-hole problems such as oily conditions.
 - Does not produce any sand which may be an indication of a problem with the well construction.

Suitable wells that pass the 2-step screening process may be added to the Paso Robles Basin groundwater level monitoring network.

4.3 Improving Information on Existing Monitoring Wells

Well construction data may not be available for all wells currently included in the monitoring network. Downhole surveys of some of the existing wells currently being monitored could be conducted to obtain construction details and determine which aquifers are being monitored. These downhole surveys would improve the understanding of the groundwater levels and groundwater movement in the area of the well.

For wells without construction records, video logs could be performed during pump maintenance. Recent technology developments allow down-hole investigation of wells without having to remove their pumps and can provide a video survey to determine their screen intervals; estimate the amount of flow contributed by aquifer (allowing the aquifer characteristics to be estimated) and collect water quality samples by aquifer. These video surveys do have limitations due to the pump column being in the well during the survey. The well owner could notify the County and the well logging service to coordinate these efforts with their pump maintenance.

4.4 Adding Dedicated Monitoring Wells

The groundwater level monitoring network could be expanded by including dedicated monitoring wells to provide long-term continuity of the monitoring program, and fill existing gaps in the monitoring network. Dedicated monitoring wells are typically placed away from production wells so they will not be subject to the effect of pumping wells on their observations. Additionally, dedicated monitoring wells are not subject to removal from the monitoring network which may result if production wells change ownership. Dedicated monitoring wells should be outfitted with transducers to record water level data at selected time intervals. This allows a more detailed glimpse at the changes in groundwater levels over a short duration (hours, days, or weeks) compared to semi-annual monitoring. This can be especially important in the summer months when groundwater pumping is greatest but may not be captured in the spring and fall monitoring.

The dedicated monitoring well network could be expanded to include monitoring wells:

- In critical areas of concern where groundwater levels have declined or are experiencing groundwater level declines.

- In areas where there are data gaps because there are no wells in the existing monitoring well network.
- At the edges of the developed land use in the Basin. These areas may not be experience seasonal or long-term trends associated with localized pumping.

This could be done by:

- Developing a long-term strategy to develop and finance a dedicated monitoring network
- Prioritizing the areas of greatest concern to install dedicated monitoring wells
- Identifying specific locations (parcels) to site dedicated monitoring wells
- Pursue grant funding opportunities to implement the dedicated monitoring network

Figure 2-2 identifies areas that may be suitable for adding dedicated monitoring wells. These locations may be modified by the CASGEMs guidelines when they are released (expected in Fall 2010).

The dedicated monitoring network should be designed in such a fashion that it could eventually replace the use of production wells for the purpose of monitoring groundwater levels. When established, the dedicated monitoring well network may include between 20 to 40 wells. Initially, ten to fifteen wells could be added in those locations described previously. The actual location each well should be evaluated in the context of the large dedicated monitoring network so as to optimize the value of each well. Developing an effective and efficient dedicated monitoring network (with regard to the number of wells and their locations) could reduce the installation costs and future monitoring costs. The cost of the installation of dedicated monitoring wells ranges in the Paso Robles Basin is currently estimated at \$30,000 to \$40,000,

4.5 Relationship of Resource Capacity Study and Groundwater Level Monitoring Program

The Resource Capacity Study (RCS) addresses the state of the Paso Robles Groundwater Basin based on whether the Basin is being used at or beyond its dependable supply currently or will be within a certain period of time. The RCS uses available studies that calculated the perennial yield and water use by major water use sectors (agriculture, rural land uses, small commercial uses, municipal systems, and small community systems) in order to make this determination. The results of these studies show that groundwater use has increased during the 1980 to 2009 period to the point where the Basin outflows (including groundwater pumping) will soon be greater than Basin inflows (recharge). The RCS includes recommendations for land-use and monitoring actions based on the results of the studies.

The RCS recognizes that there are over-arching issues that complicate any action the County might wish to take, two of which are related to the Groundwater Level Monitoring Plan:

1. The major portion of Basin outflows are not measured, but are estimated. While municipal pumping is measured, agricultural, rural, and small community/commercial pumping is estimated. This adds to the uncertainty regarding actual groundwater use.
2. Identification of changing groundwater levels is based on limited data.

Because the County is the lead agency in coordinating the collection of groundwater level data, the Monitoring Plan should be regularly reviewed to ensure consistency with any monitoring actions ultimately implemented by the County.

4.6 Summary of Improvements

The following list summarizes the suggested improvements to the groundwater level monitoring network described in this section:

- The San Luis Obispo County FCWCD should be identified with DWR as the Monitoring Entity in the Paso Robles Basin.
- Document the recent effort completed to evaluate the existing groundwater level monitoring network to determine the status of the existing wells and identify new wells to be included in network
- Continue to coordinate data collection efforts among local agencies and data exchange with DWR
- Submit a copy of the 2009/2010 Groundwater Level Monitoring Report to DWR to comply with their reporting requirements.
- Develop an outreach and education program to increase the understanding of the importance of the monitoring program and foster support for the program among individuals and stakeholder groups to encourage participation among their membership
- Inform private wells owners about the 2-step process to add their well to the voluntary monitoring well network.
- Identify specific locations needed for additional wells in the voluntary monitoring network and interested well owners in those areas
- Develop a long-term strategy and finance plan to evaluate the development of a dedicated monitoring network
- Prioritize the areas of greatest concern to install dedicated monitoring wells and identify specific locations (parcels) to site dedicated monitoring wells
- Secure the right to access all new key wells together with retaining voluntary access to existing wells having useful histories to ensure that the County's investment in these records is protected.
- Prioritize the areas of greatest concern to install dedicated monitoring wells and identify specific locations (parcels) to site dedicated monitoring wells

- Continue to conduct semi-annual groundwater measurements to chart the scope of groundwater level changes

Attachment A

**PASO ROBLES GROUNDWATER BASIN
GROUNDWATER MANAGEMENT PLAN**

**Groundwater Level Monitoring Network
Well Interest Form**

Well Location: _____

Subarea: _____

Address: _____

Well Construction Information (total depth/ depth of well screens/(gpm):

Existing Groundwater Level Data:

- What are the current trends in groundwater levels in your well?

Recent Well History:

- Have you had to take any actions related to maintain production in your well (deepen wells/ replace pump/ lower pumps)?

General Comments:



Volunteer Application Form

SAN LUIS OBISPO COUNTY
DEPARTMENT OF PUBLIC WORKS

County Government Center, Room 207 • San Luis Obispo CA 93408 • (805) 781-5252

(Please print or write legibly)

Name: _____ Date: _____

Address: _____ PO Box: _____

City: _____ State: _____ Zip: _____ County: _____

Home Phone: () _____ Daytime Phone: () _____

Email Address: _____ Daily Internet Access: Yes / No

Give a brief description of your location
(Latitude/Longitude and assessor's parcel
number if available):

Nearest Cross streets/roads:

Please use the box on the right to draw a map of your site
and /or attach a picture.

Diagram of Site:

How did you find out about volunteering? _____

Please return this form to:

Kim Hubbs
County Government Center, Room 207
San Luis Obispo, CA 93408

Fax Number: (805) 788-2182
Phone Number: (805) 781-5272

For Staff Use Only

Station Name: _____
Station Number: _____
Latitude: _____ Longitude: _____
Date of Field Review: _____
Date Station Num Issued: _____
Date Received/Shipped Gauge: _____

Thank you for volunteering!

5 References

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