Paso Basin Cooperative Committee
NOTICE OF SPECIAL MEETING
PUBLIC WORKSHOP

NOTICE IS HEREBY GIVEN that the Paso Basin Cooperative Committee will hold a ***Special Meeting – Public Workshop*** at **5:30 P.M.** on Monday, **April 30, 2018** at **Kermit King Elementary** (700 Schoolhouse Cir, Paso Robles, CA 93446).

NOTE: The Paso Basin Cooperative Committee 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 attend and participate in meetings.

John Hamon, Chairperson, City of Paso Robles
Reginald Cousineau, Member, Heritage Ranch CSD
Joe Parent, Member, San Miguel CSD
John Peschong, Vice Chairperson, County of SLO
Willy Cunha, Secretary, Shandon-San Juan WD

Steve Martin, Alternate, City of Paso Robles
Scott Duffield, Alternate, Heritage Ranch CSD
Kelly Dodds, Alternate, San Miguel CSD
Debbie Arnold, Alternate, County of SLO
Matt Turrentine, Alternate, Shandon-San Juan WD

Agenda
April 30, 2018

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1. **Call to Order**
2. **Roll Call**
3. **Pledge of Allegiance**
4. **Receive and File Presentation on the Sustainable Groundwater Management Act (SGMA) and Groundwater Rights**
5. **Receive and File Presentation on the State of the Paso Basin**
6. **Public Comment – Items not on Agenda**
7. **Upcoming Meetings**
8. **Adjourn**

The Paso Basin Cooperative Committee invites basin users and interested community members to attend a series of Special Meeting - Public workshops on the development of a Groundwater Sustainability Plan (GSP) for the Paso Robles Groundwater Basin in accordance with the requirements of the Sustainable Groundwater Management Act (SGMA).

The workshops will provide an opportunity to learn more about the following topics and provide initial input on:

- **April 23, 2018** **Groundwater Sustainability Plan (GSP) development** for the Paso Basin
- **April 30, 2018** **Sustainable Groundwater Management Act (SGMA)** and the Paso Basin
- **May 14, 2018** **Projects and Programs** for Groundwater Management
- **May 21, 2018** **Further information** on the state of the Paso Basin

For more information and to view previous and upcoming meeting materials, please visit the Groundwater Sustainability Agency websites at:
• City of Paso Robles – www.prcity.com • Heritage Ranch CSD – www.heritageranchcsd.com • San Miguel CSD – www.sanmiguelcsd.org
• County of San Luis Obispo – www.slocountywater.org • Shandon-San Juan Water District – www.ssjwd.org

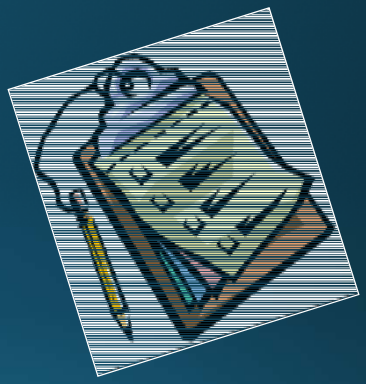
O'Laughlin & Paris LLP
Attorneys at Law

SGMA and Groundwater Rights

By: Valerie C. Kincaid
Partner, O'Laughlin & Paris LLP

Agenda

1. Percolating Groundwater vs. Subsurface Flow
2. Groundwater Rights Generally
3. Types of Groundwater Rights
    i. Pueblo
    ii. Overlying
    iii. Appropriative
    iv. Prescriptive
4. Shortages and Groundwater Rights
5. Overdraft and Groundwater Rights
6. Nonuse and Groundwater Rights
7. SGMA Generally
8. SGMA and De Minimis Users
9. SGMA and Water Rights
10. SGMA and Limiting Extractions



Percolating Groundwater vs. Subsurface Flow

- SGMA regulates "groundwater" – which is defined as:
  - "[W]ater beneath the surface of the earth within the zone below the water table in which the soil is completely saturated with water, but does not include water that flows in known and definite channels." (Water Code, § 10721 (g).)
- SGMA's groundwater definition is commonly referred to as "percolating groundwater"
- SGMA does not regulate subsurface flows, which is water that flows below the surface of the ground in known and definite channels (Water Code, § 10721 (g).)

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Groundwater Rights Generally

- Groundwater rights are not a possessory ownership right
- A right to extract groundwater is more like an option – exercisable only while supplies last
- Water rights holders have the right to "take and use water," but they do not own the water and cannot waste it (*Central and West Basin Replenishment Dist. v. Southern Cal. Water Co.* (2003) 109 Cal.App.4th 891, 906)

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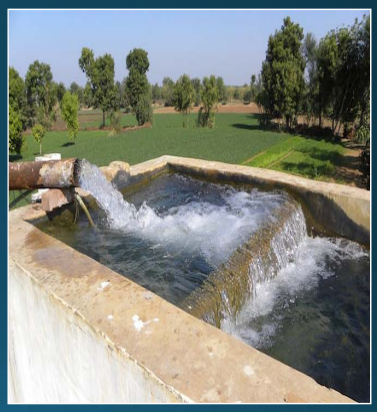
Groundwater Rights Generally, cont.

- Four types of groundwater rights (listed in order of priority):
  1. Pueblo;
  2. Overlying;
  3. Appropriative; and
  4. Prescriptive
- Groundwater users must take <u>in order of priority</u>
- E.g., appropriative right holders cannot extract until all overlying rights holders' demands have been met



- If supply is not sufficient to satisfy all overlying rights holders' demands, then appropriative water rights holders cannot extract groundwater

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Groundwater Rights Generally, cont.

- Groundwater extraction is not authorized by permit
- Limited to reasonable use
- Pre (and post) SGMA, groundwater extraction and use was, and continues to be, limited by California Constitution Article X, Section 2, which represents a state policy requiring the maximum beneficial use of water

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Pueblo Rights

- A pueblo right is the right of a local city or local government, as a successor of a Spanish or Mexican municipality, to use water naturally occurring for municipal use (*Lux v. Haggin* (1884) 69 Cal. 255, 328 – 330).
- A pueblo right is the right of the highest priority in the use of native groundwater (*Los Angeles v. San Fernando* (1975) 14 Cal.3d 199, 245 – 55)
- A pueblo right does not attach to foreign water imported from outside the watershed stored within the boundaries of the historic pueblo (*San Fernando*, at 253.)

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Pueblo Rights, cont.

- Pueblo rights are relatively rare because they require a local city or local government to be a successor of a Spanish or Mexican municipality
- Last case to recognize/reaffirm a pueblo right was from 1975, where the California Supreme Court upheld and reaffirmed the City of Los Angele's pueblo right to water underlying the Upper Los Angles River Area (*San Fernando*, at 246-47.)
- Thus, the following presentation will focus on overlying, appropriative, and prescriptive groundwater rights

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Overlying Rights

- Ownership of land overlying percolating groundwater provides the landowner with an overlying groundwater right (*Pasadena v. Alhambra* (1949) 33 Cal.2d 908, 925)

Key Distinction: Groundwater is used on underlying land from where it is pumped

- An overlying water right is not quantified, but allows the water right holder to divert as much water as is reasonable to support beneficial uses on the overlying land (*Katz v. Walkinshaw* (1902) 141 Cal. 116)

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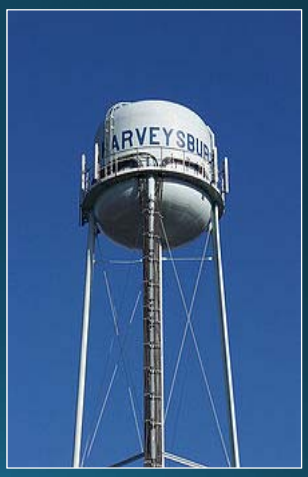
Overlying Rights, cont.

- Municipal or public extractions cannot be supported by overlying rights (*San Bernardino v. Riverside* (1921) 186 Cal. 7, at 24 -29.)
- This is so regardless of whether the municipality's boundaries and residents it delivers water to overly the basin it extracts from



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Appropriative Rights

- Do not derive from the land ownership but comes from the actual taking or "appropriation" of water (*Pasadena*, at 925.)
- May export groundwater and are not limited to use on lands within a specific area (like overlying rights holders) (*Peabody v. Vallejo* (1935) 2 Cal. 2d 351, 368 – 69.)
- Municipal appropriation, regardless of whether the water is served to customers overlying the basin from which the water is extracted (*San Bernardino*, at 10 – 11)
- The quantity of an appropriative right is based on the amount of appropriative water extracted and put to beneficial use

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Prescriptive Rights

- Develops when an appropriator takes water that is not surplus and the extraction is:
  1. Actual, open, and notorious;
  2. Hostile and adverse to the true owner;
  3. Under a claim of right; and
  4. Continues uninterrupted for 5 years (*Pasadena*, at 926.)
- Both overlying and appropriative rights are subject to prescription

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Prescriptive Rights, cont.

- The "adverse" requirement ((2.) on the previous slide) can only be met when a basin is in overdraft (*City of Santa Maria v. Adam* (2012) 211 Cal.App.4th 266,293)
- Importantly, private pumpers cannot obtain prescriptive rights against public entities (*San Fernando*, at 214.)
- Appropriative and overlying water right holders may protect themselves from prescription by engaging in "self-help" (i.e., continuing to extract water during a period of overdraft) (*Pasadena*, at 926.)

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Prescriptive Rights, cont.

- Note: SGMA limits prescriptive rights under limited circumstances
- No groundwater extractions between January 1, 2015 and the date a GSP is adopted or an alternate plan is approved by DWR (whichever is sooner) may be used as evidence of, or to establish or defend against, any claim of prescription (Water Code, § 10720.5(a).)

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What Happens to Each Right During…

Shortage?

Overdraft?

Nonuse?

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Shortage

- Extractions are limited in order of <u>priority of category</u>

- All pueblo rights are served before any other extractions are allowed
- All overlying rights are served before appropriative
- Appropriative water rights are served after all pueblo and overlying rights are fully supplied

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Shortage – Overlying Rights

- During times of shortage, overlying rights are senior to appropriative rights (*Pasadena*, at 926.)
- Amongst and between other overlying rights holders, each is apportioned their "proportionate fair share of the total amount available based upon reasonable needs" (*Pasadena*, at 926.)

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Shortage – Overlying Rights, cont.

- There is no formula for determining proportionate fair share (*Tehachapi-Cummings County Water District v. Armstrong* (1975) 49 Cal.App. 3d 992, 1001)
- To determine each users' proportionate fair share, courts evaluate the following factors:
  - Amount of water available
  - Extent of ownership in the basin
  - Nature of the projected use
  - Area sought to be irrigated
  - Character of the soil
  - Practicability of irrigation
  - Expense of irrigation compared to the projected profit

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Shortage – Appropriative

- Appropriative rights are junior to overlying extractors and limited to the quantity of surplus water after all overlying uses are satisfied (*Pasadena*, at 926.)
- Amongst appropriators, the rule during shortage is "first in time, first in right" (*City of Barstow v. Mojave Water Agency* (2000) 23 Cal.4th 1224, 1241)
- A prior appropriator is entitled to take all the water he has previously used before a subsequent appropriator may divert water (*Pasadena*, at 926.)

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Shortage – Prescriptive

- During shortage, a prescriptive rights holder's response depends on what type of right they prescribed
- Meaning, if a prescriptive water right holder prescribed appropriative rights, then during shortage, they must adhere to the "first in time, first in right" principle
- Alternatively, if a prescriptive water right holder prescribed overlying rights, they must adhere to the "proportionate fair share" principle

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Overdraft

Overlying

- Overlying rights holders can have their right eroded by another prescriptive user if they do not engage in "self-help" and continue pumping during overdraft (*Pasadena*, at 926.)

Appropriative

- Like overlying holders, appropriative rights holders can have their right eroded by another prescriptive user if they do not engage in "self-help" and continue pumping during overdraft (*Pasadena*, at 926.)

Prescriptive

- A necessary condition to gain prescriptive rights. This is the only time a water user can gain a prescriptive right – during a period of overdraft

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Nonuse

Overlying

- Overlying water rights are not subject to forfeiture for nonuse (*Pasadena*, at 933.)
- But, overlying rights are subject to prescription and may be eroded or otherwise lost if prescribed (*Pasadena*, at 925 – 26.)

Appropriative

- Are subject to loss after 5 years of nonuse (*Mojave*, at 1241.)
- Can likewise be lost via prescription

Prescriptive

- Are subject to loss after 5 years of nonuse (*Santa Maria*, at 294.)

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SGMA – Management Requirement

- SGMA requires groundwater management by locals, it is **not** an adjudication or required physical solution
- SGMA's purpose is to achieve sustainable groundwater management, which SGMA defines as the avoidance of the following six "undesirable results"
  - Reduction in groundwater storage
  - Lowered groundwater elevations
  - Degraded water quality
  - Seawater intrusion
  - Land subsidence
  - Depletions of interconnected surface water

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SGMA and De Minimis Users (SWB Slide)

- Under SGMA, a "de minimis" user is anyone who extracts 2 acre-feet per year (or less) for domestic purposes
- De minimis users are subject to SGMA, depending on local needs
  - GSAs will decide how de minimis users are incorporated
  - GSAs can decide to exclude or include
  - GSAs can decide on fees
  - GSAs cannot require metering
- De minimis users may be subject to reporting and fees to the state if intervention occurs
- De minimis users can also still be regulated by authorities (counties, water districts etc.) outside the scope of SGMA

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SGMA and Water Rights

- SGMA requires all groundwater management to be consistent with section 2 of Article X of the California Constitution [limits all water rights to reasonable and beneficial uses] (Water Code, § 10720.5(a).)
- SGMA asserts that "nothing" in this part modifies rights or priorities to use or store groundwater consistent with section 2 of Article X (Water Code, § 10720.5(a).)

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SGMA and Water Rights, cont.

- SGMA further asserts that "nothing" in this part, or any groundwater management plan adopted pursuant to this part determines or alters surface water rights, under common law or any provision of law that determines or grants surface water rights (Water Code, § 10720.5(b).)
- Finally, SGMA explicitly provides that "nothing" in this part shall be construed as authorizing a local agency to make a binding determination of the water rights of any person or entity, or to impose fees or regulatory requirements on activities outside the boundaries of the local agency (Water Code, § 10726.8(b).)

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SGMA and Limiting Extractions

- SGMA provides the State Water Board and GSAs with the authority to limit groundwater extractions under certain circumstances

GSA Authority

- GSAs are empowered to perform "any act necessary or proper" to implement SGMA (Water Code, § 10725.2(a).)
- Additionally, GSAs are authorized to "control" groundwater extractions by "regulating, limiting, or suspending" extractions from individual groundwater wells or extractions from groundwater wells in the aggregate (Water Code, § 10726.4(a)(2).)

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SGMA and Limiting Extractions, cont.

State Authority

- SGMA authorizes the State Water Board to intervene in "probationary basins" and adopt an "interim plan" for the basin's groundwater management (Water Code, § 10735.8(a).)
- State Water Board imposed interim plans may include "restrictions on groundwater extraction" (Water Code, § 10735.8(c)(1).)
- Note, any adopted interim plan must be consistent with water right priorities (Water Code, § 10735.8(d).)

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State Water Board Enforcement

- Three triggers for SWB enforcement:
  - No GSA by June 30, 2017
  - No GSP by 2020 or 2022 deadlines (or determination GSP is inadequate)
  - Failure to implement GSP

- Probationary notice
- Probationary hearing (90 days after hearing)
- Reporting requirements and fees triggered - this is by well owner!!
- 180 cure period after hearing
- SWB will develop interim plan

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Questions?

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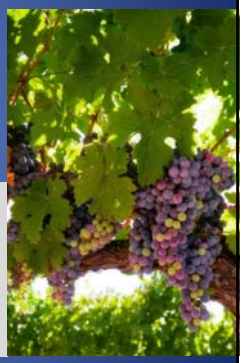
Paso Robles Basin Groundwater Sustainability Plan

Public Workshop #2
State of the Paso Basin



April 30, 2018

Workshop Objectives

- Develop a common understanding of groundwater in the Paso Basin
- Provide conceptual picture of the geologic conditions in the basin that govern the presence and movement of groundwater
- Describe the historic and current groundwater conditions as they relate to sustainability indicators
- Summarize historic water budget based on existing bodies of work

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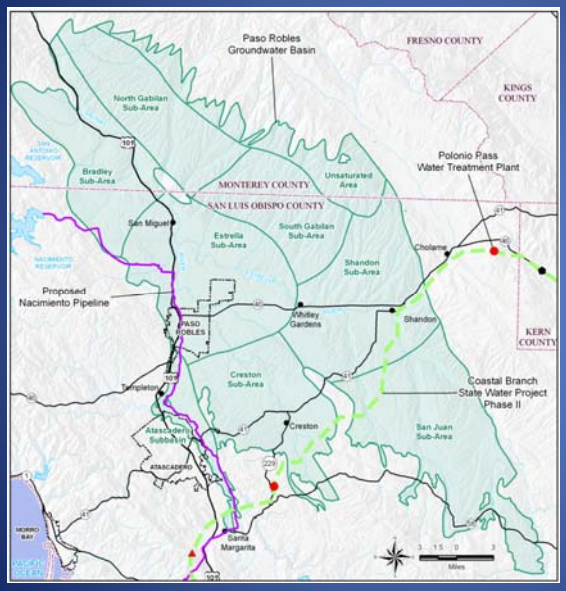
Paso Robles Groundwater Basin



Source: GEI, 2007

SUBAREAS
(Not Management Areas)

- North Gabilan
- Bradley
- South Gabilan
- Estrella
- Creston
- Shandon
- San Juan

3

Geology Controls the Occurrence and Movement of Groundwater

- Geologic Formations – highest level
- Sediment types – coarse grained (sand and gravel) store and convey groundwater, fine-grained (silts and clays) limit groundwater movement
- Aquifers - defined after understanding geologic conditions

4

Geology

- Geologic Formations: Water-bearing and Non-water Bearing
  - Water Bearing – Alluvium, Paso Robles Formation
  - Non-Water Bearing (including poor water quality) – Bedrock exposed in hills surrounding and beneath basin – Pancho Rico, Santa Margarita and Monterey Formations

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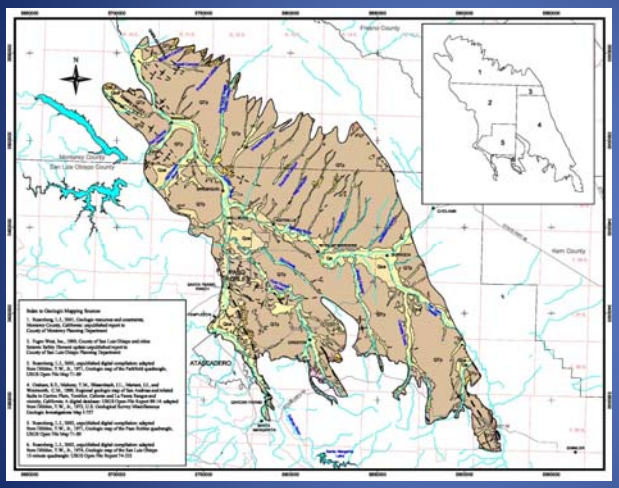
Geology



Source: Fugro, 2002

Alluvium (yellow color)

- Sediments deposited along creeks and rivers
- Found throughout basin and rests on Paso Robles Fm.
- Contains mostly coarse-grained sediments
- Relatively thin

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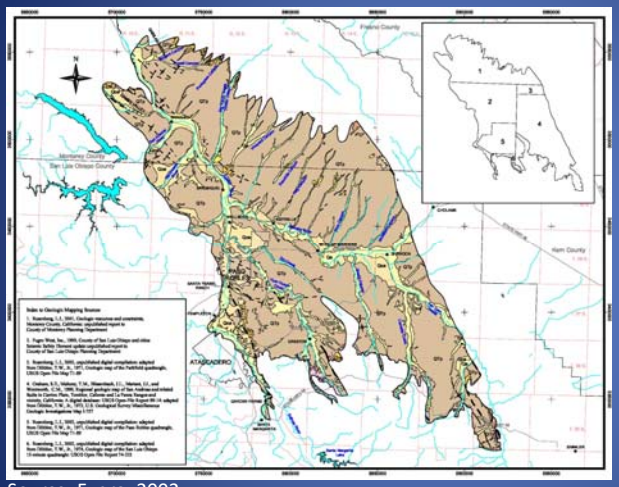
Geology



Source: Fugro, 2002

Paso Robles Formation (brown color)

- Sediments deposited in valley
- Found throughout basin and rests on bedrock
- Contains both coarse- and fined-grained sediments
- Two fine-grained layers
- Thick – greater than 600 feet

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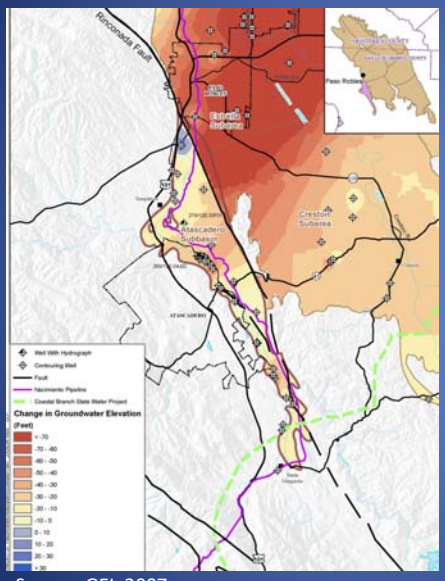
Geology



Source: GEI, 2007

Rinconada Fault

- West side of basin
- Barrier to groundwater flow
- Window cut through fault by Salinas River sediments
- Hot springs presence due to movement along fault

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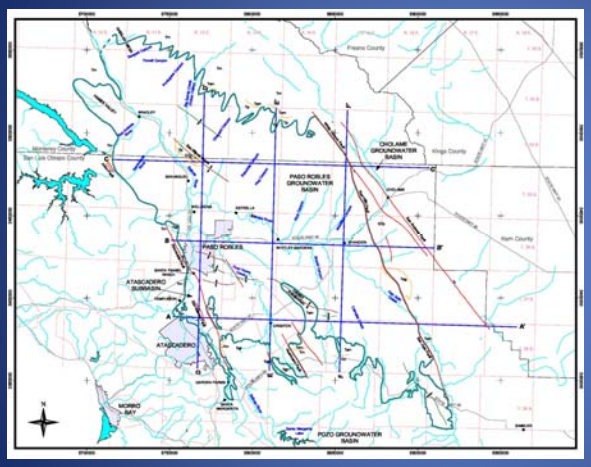
Geology



Source: Fugro, 2002

East Side Faults

- San Andreas is the boundary of the basin
- Barrier to groundwater flow
- Steep bluff face?
- White Canyon and Red Hills create isolated groundwater body
- Other Faults: San Juan, Gillis Canyon

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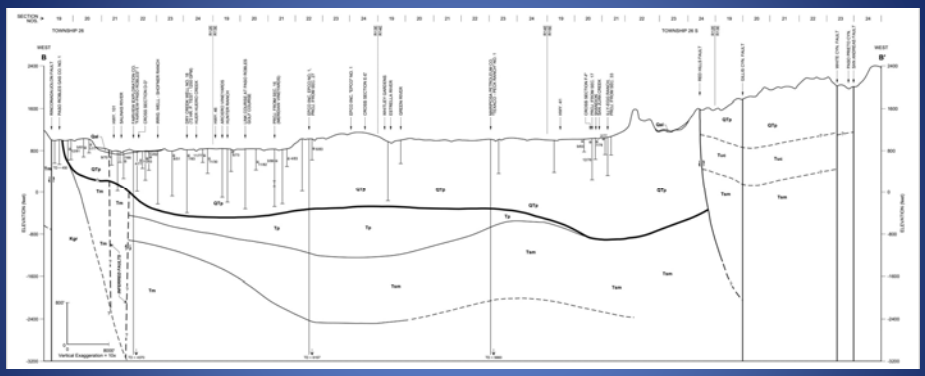
Geologic Formations



Source: Fugro, 2002

- Six profiles showing Formations
- Show the Formations have been folded or warped
- Shows fault compartments

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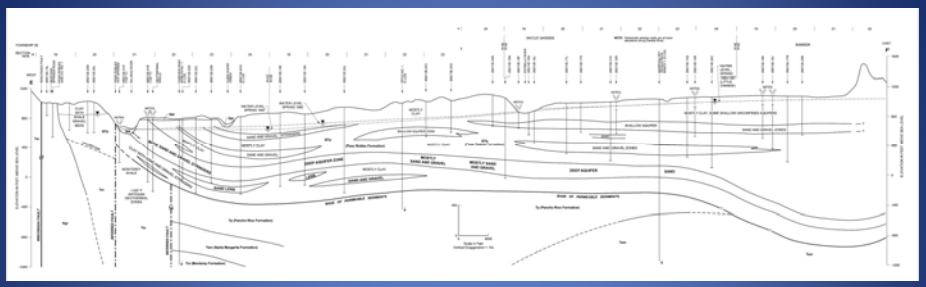
Sediments



Source: Fugro, 2002

- Geologic profiles show where coarse-grained and fine-grained sediments deposited
- Coarse-grained sediments of different Formations/units can lie opposite each other and interconnect Formations

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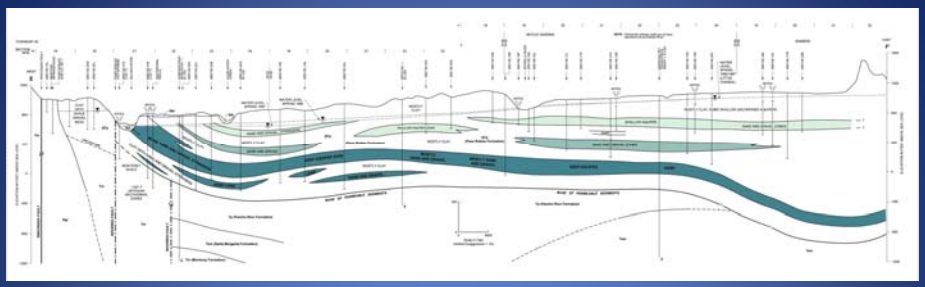
Aquifers



Source: Fugro, 2002 as modified by GEI, 2018

- Three aquifers
  - Shallow – unconfined
  - Intermediate – unconfined to semi-confined
  - Deep – confined
- Aquifers may not be present at all locations
- Each aquifer may react differently dependent upon recharge and pumping

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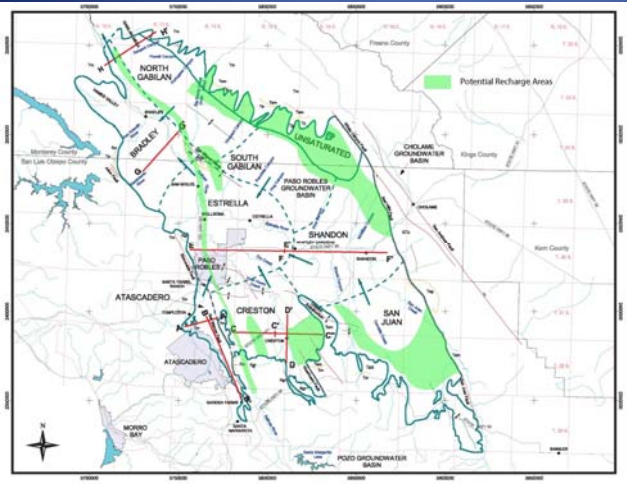
Aquifer Recharge Areas



Source: Fugro, 2002 as modified by GEI, 2018

- **Shallow** Aquifer – streams, precipitation, applied water, septic systems
- **Deep** Aquifer– Limited to narrow band and some vertical from above and below

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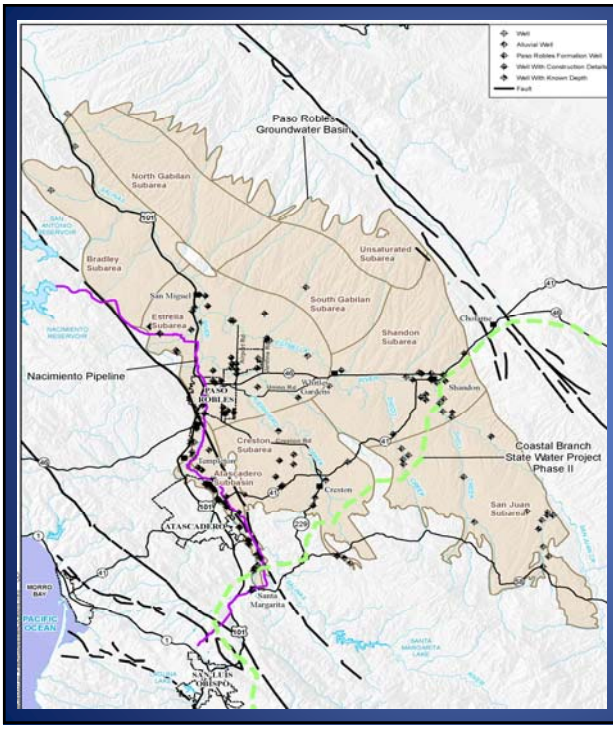

Monitoring Well Locations (about 100 in basin)

Source: GEI, 2010

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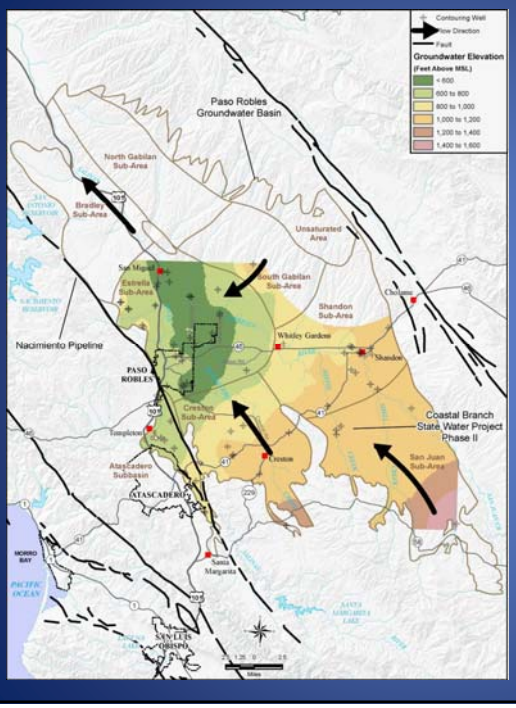

Groundwater Flow Directions (Spring 2009)

- Groundwater flows from higher elevation to lower elevation
- Groundwater flows from basin edges to Salinas River or to pumping depressions that have modified groundwater flow directions

Source: GEI, 2010

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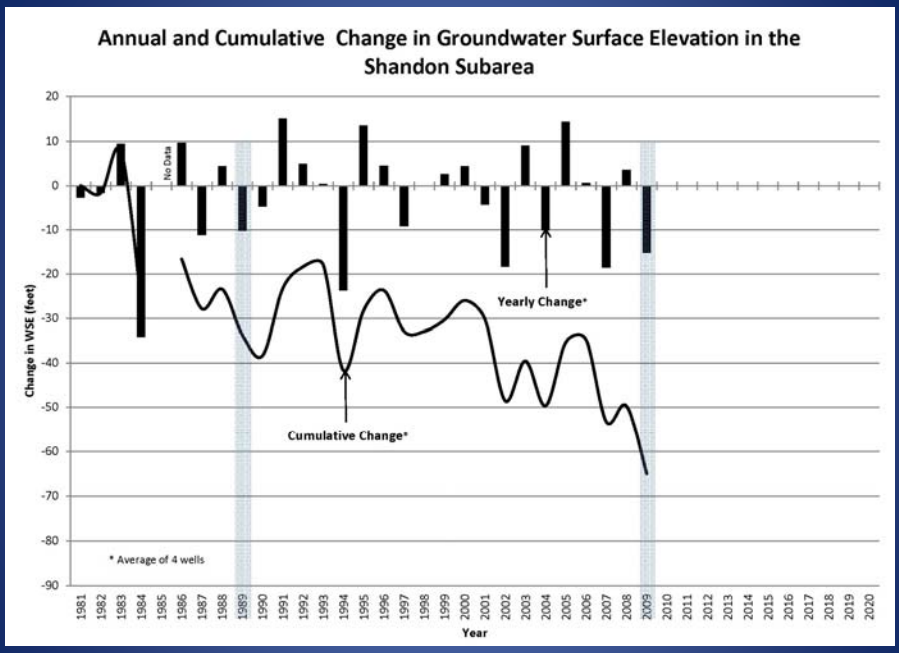

Source: GEI, 2010

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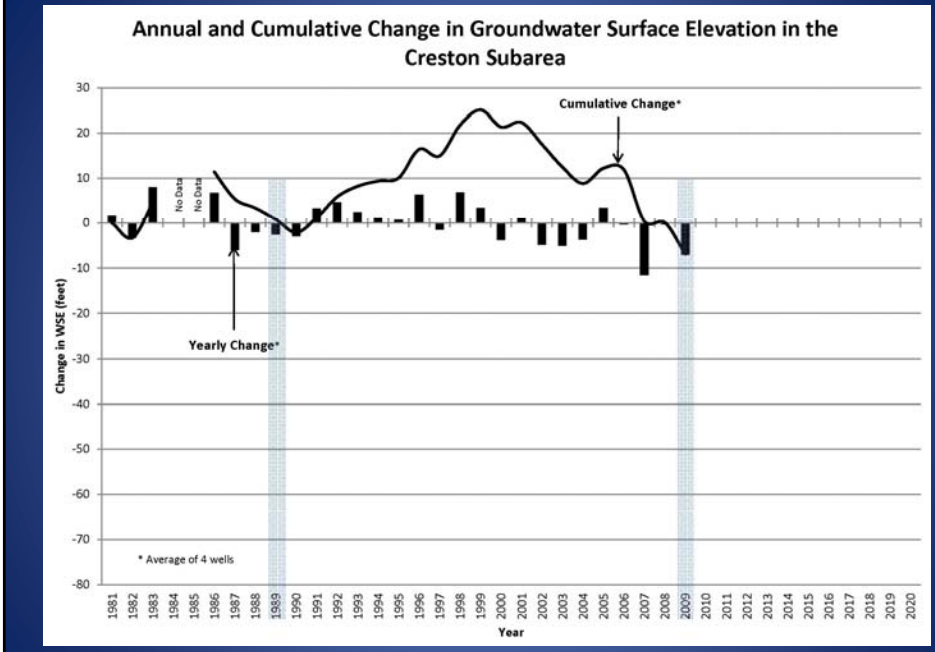

Source: GEI, 2010

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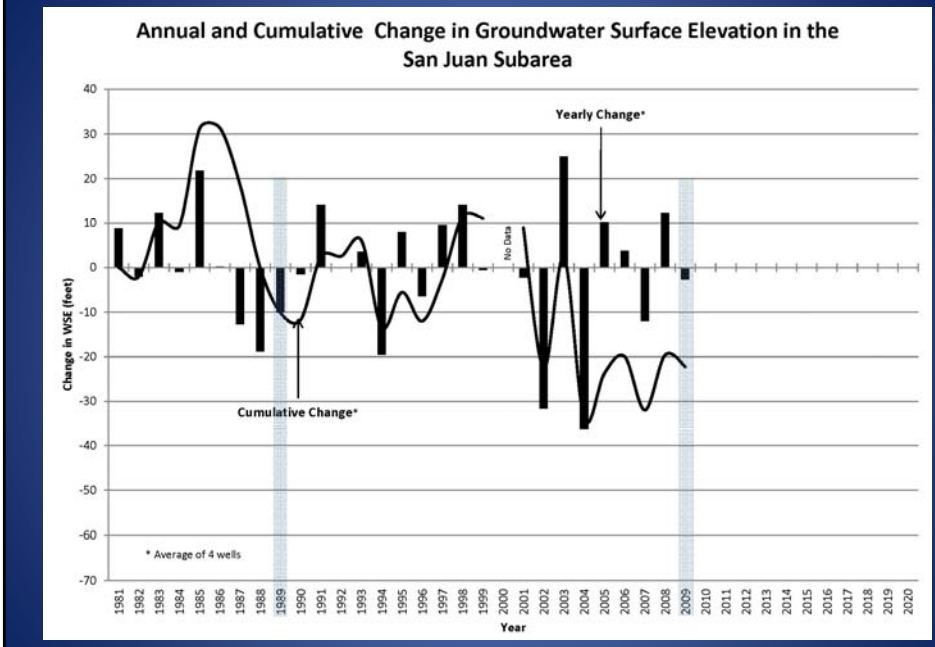

Source: GEI, 2010

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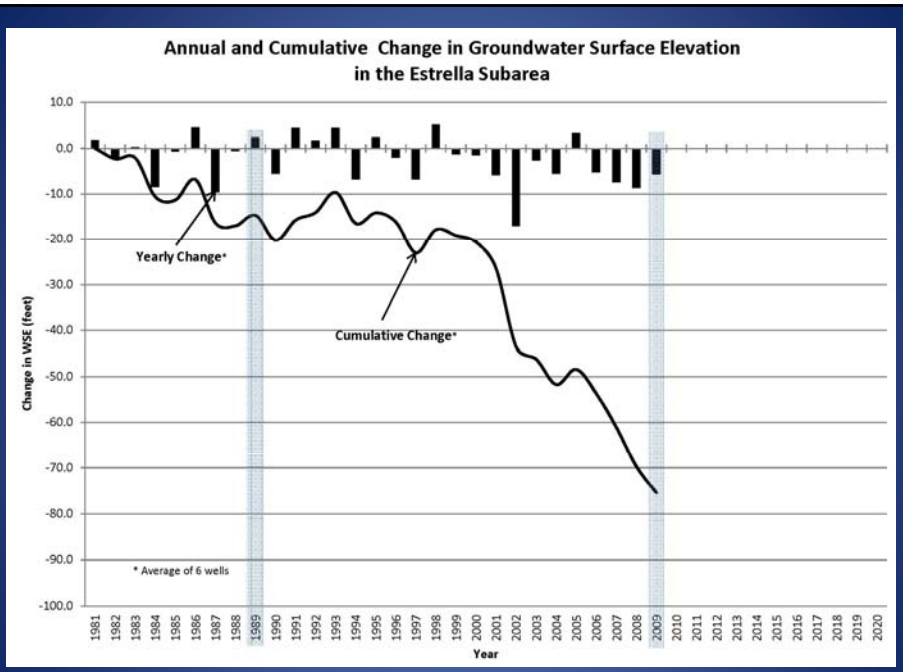

Source: GEI, 2010

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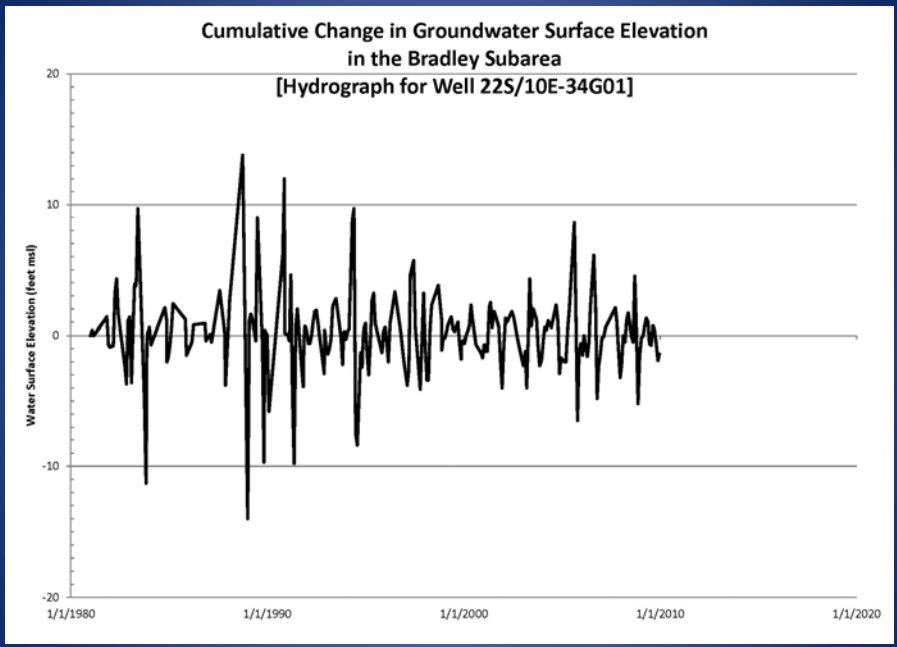

Source: GEI, 2018

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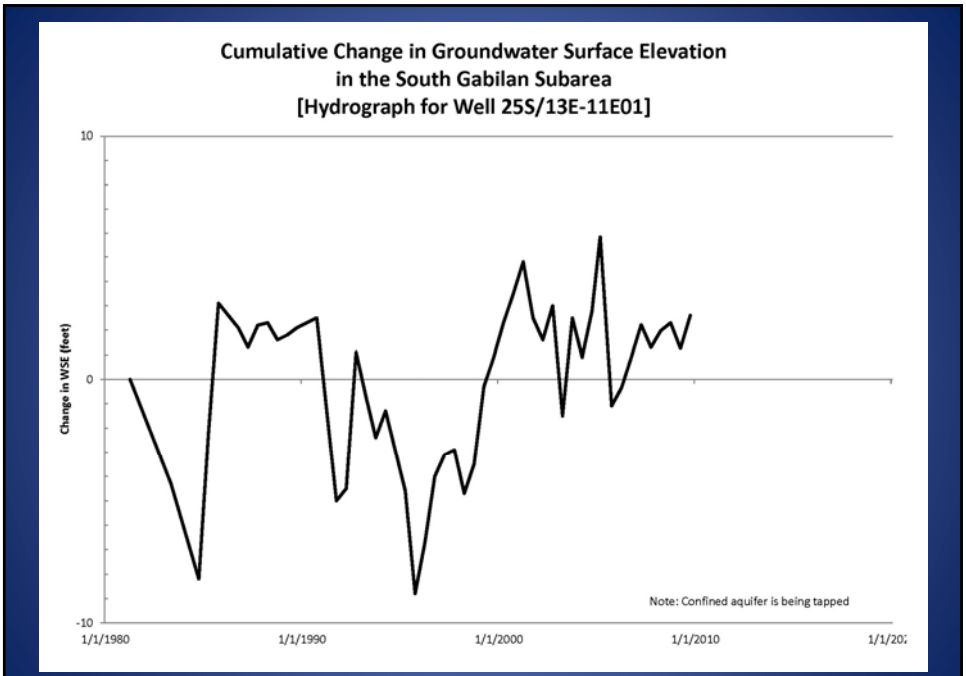

Source: GEI, 2018

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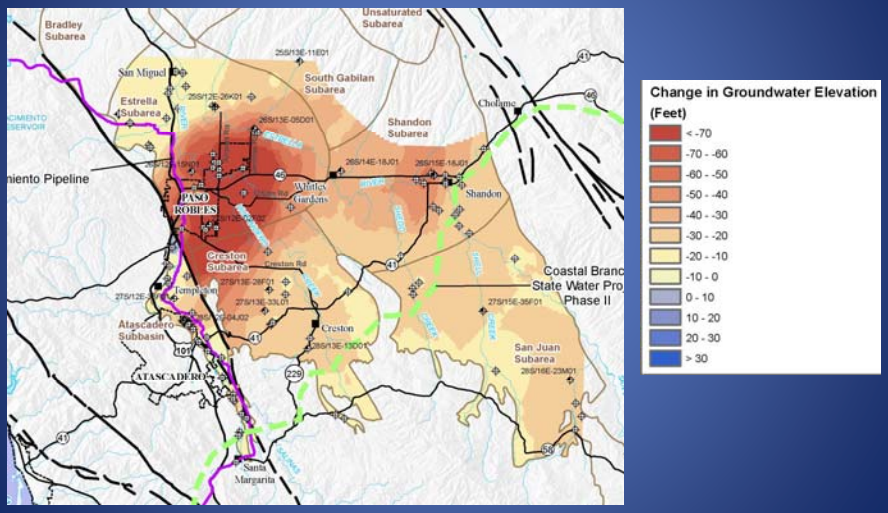
Generalized Change in Spring Groundwater Levels (1997 to 2009)



Source: GEI, 2010

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Groundwater Quality

- Compounds of Concern:
  - Salts
  - Arsenic, Iron, Manganese
  - Nitrate
  - Salts and Nitrate locally increasing

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Land Subsidence

- One data point in basin - Shows 0.6 to 1.2 inches of subsidence
- Timing does appear coincident with increased pumping
- Higher potential in fault bounded compartments

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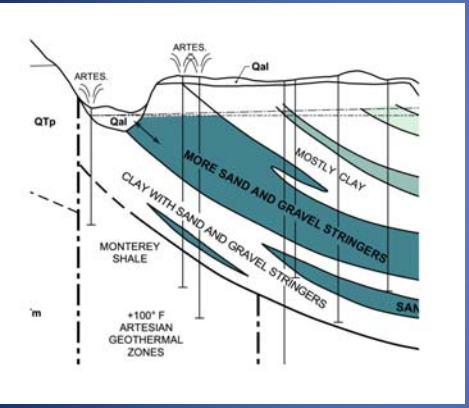
Surface Water Depletion



Source: Fugro, 2002 as modified by GEI, 2018

Creeks and rivers interconnected to shallow, intermediate and deep aquifers

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Summary of Groundwater Conditions (Sustainability Indicators)

- Groundwater Levels - declining
- Groundwater in Storage - depleting
- Groundwater Quality – some compounds of concern
- Land Subsidence – some
- Surface Water Depletion – aquifers connected

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Questions

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Water Budget

Presentation Outline

- Water budget concepts
- Groundwater model
- Summarize historic water budget from model

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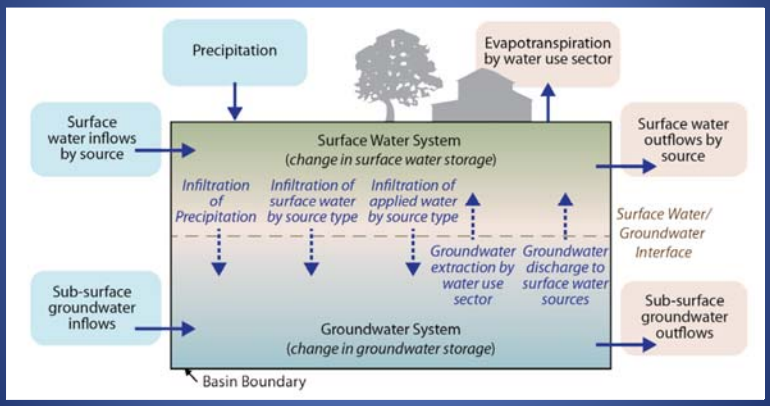
What is a Water Budget?

Basin-wide accounting of water **inflows** and **outflows**



Source: California Department of Water Resources, 2016

Inflows − Outflows = Change in Storage

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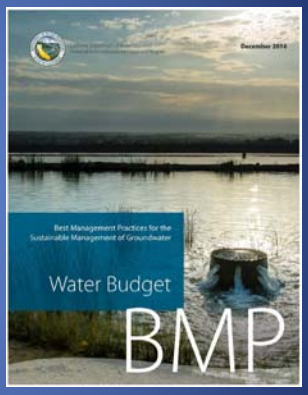
Water Budget Considerations for Groundwater Sustainability Plan (GSP)

- Use best available data and science
- Uncertainty is OK – address data gaps later
- Water budget provides estimate of sustainable yield
- Sustainable yield does not define sustainability



SGMA defines Sustainable Yield "*as the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin, and including temporary surplus that can be withdrawn annually from groundwater supply without causing an undesirable result*"

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Why is Water Budget Important?

Estimate of water available for use	Effective tool for water resource management
• Imported water • Groundwater • Water in storage • Sustainable yield	• Accounting system • Communication • Tracking basin conditions • Inform monitoring programs • Guidance on the amount of overdraft occurring

Sustainable Yield = Safe yield = Perennial Yield

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How is Water Budget Developed?

Measured Components	Estimated Components
• Precipitation • Pumping from wells with meters • Water deliveries to recharge basins • Surface water deliveries	• Pumping from wells without meters • Agricultural consumptive use • Recharge from precipitation • Groundwater storage

Paso Robles basin water budget developed using a groundwater model

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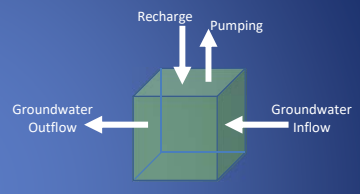
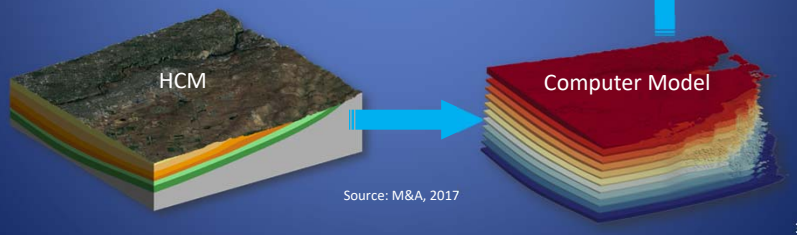
What is a Groundwater Model?

- Computer representation of hydrogeologic conceptual model (HCM)
- Model simulates water budgets in cells
- Groundwater management tool





Source: M&A, 2017

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How are Models Developed?

Add data (model input)
- Aquifer properties, recharge, pumping, maximum evapotranspiration rates, etc.

Calibrate model
- Process to ensure computer model adequately simulates HCM

Run the model (model output)
- Water levels, evapotranspiration, groundwater flow to/from boundaries and streams

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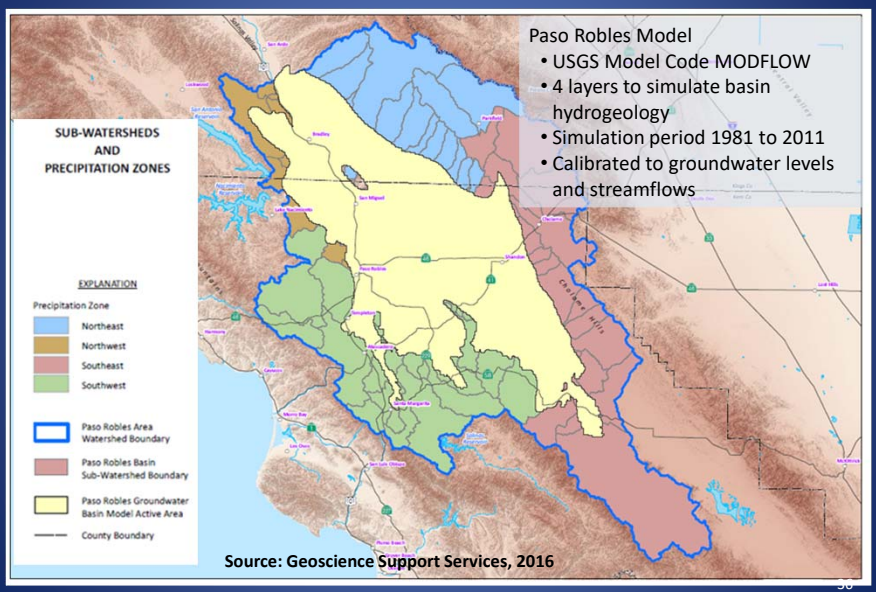
Paso Robles Basin Model



Uses of Model for GSP

- Develop water budgets
  - Historical, current, and future
- Develop sustainable management criteria
- Estimate amount of water needed to achieve sustainability
- Evaluate and compare sustainability projects and programs

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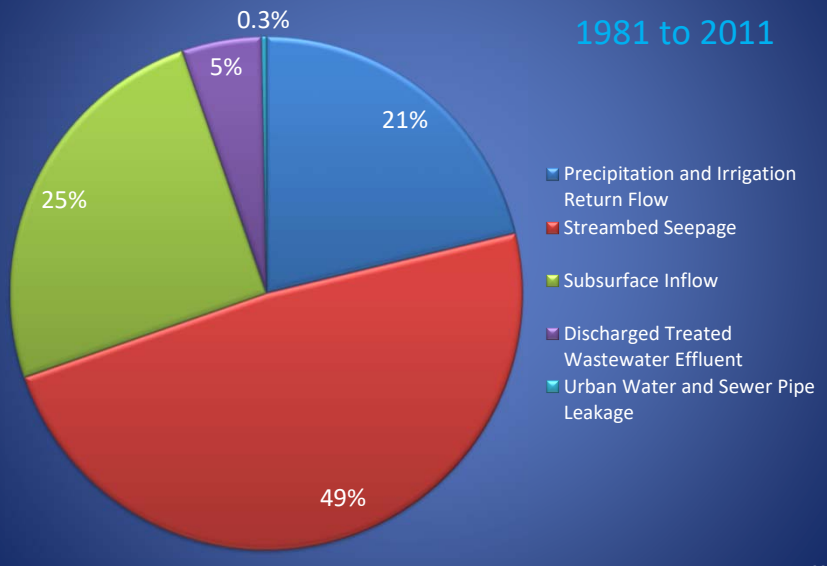
Average Annual Inflow



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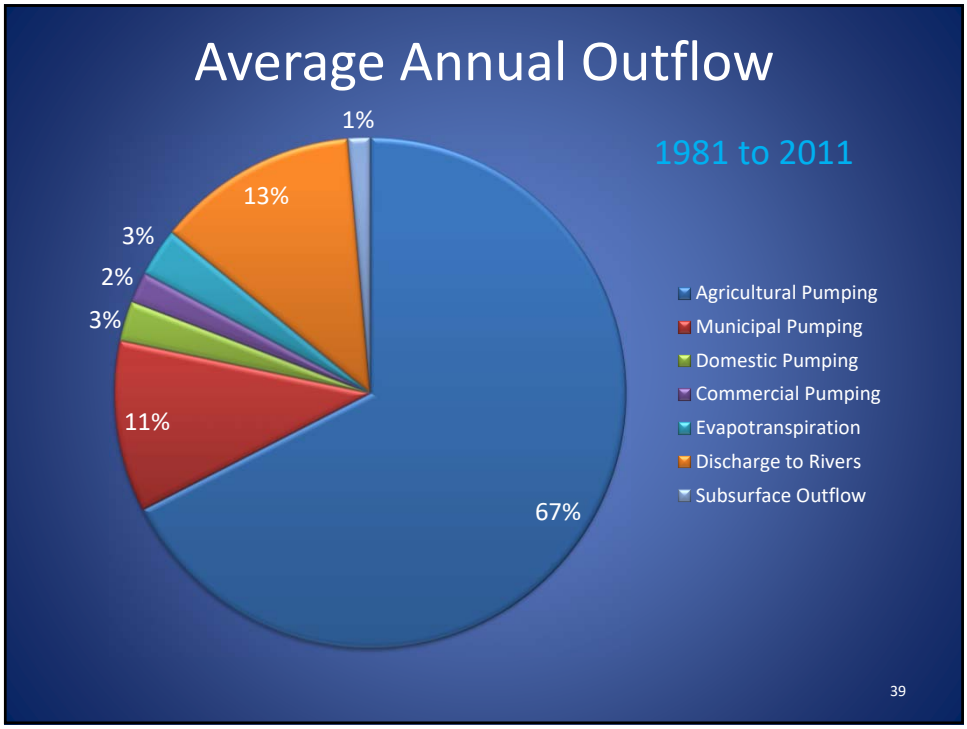
Average Annual Outflow
1981 to 2011
1%
13%
3%
2%
3%
11%
67%
Agricultural Pumping
Municipal Pumping
Domestic Pumping
Commercial Pumping
Evapotranspiration
Discharge to Rivers
Subsurface Outflow
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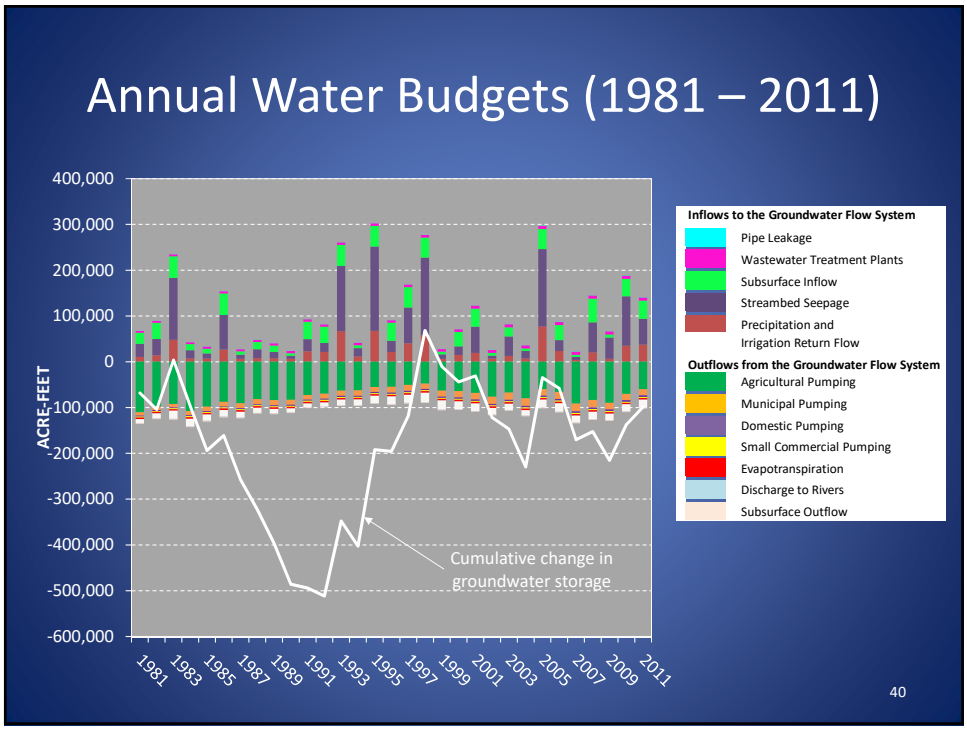
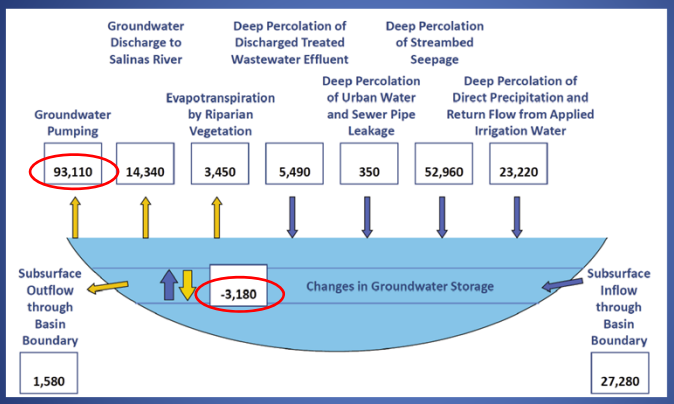

Annual Water Budgets (1981 – 2011)
400,000
300,000
200,000
100,000
0
-100,000
-200,000
-300,000
-400,000
-500,000
-600,000
ACRE-FEET
1981
1983
1985
1987
1989
1991
1993
1995
1997
1999
2001
2003
2005
2007
2009
2011
Cumulative change in groundwater storage
Inflows to the Groundwater Flow System
Pipe Leakage
Wastewater Treatment Plants
Subsurface Inflow
Streambed Seepage
Precipitation and Irrigation Return Flow
Outflows from the Groundwater Flow System
Agricultural Pumping
Municipal Pumping
Domestic Pumping
Small Commercial Pumping
Evapotranspiration
Discharge to Rivers
Subsurface Outflow
40

Overview of Average Annual Water Budget



Source: Geoscience Support Services, 2016

Perennial Yield = the maximum quantity of groundwater perennially available if all possible methods and sources are developed for recharging the basin. In effect, this quantity depends upon the amount of water economically, legally, and politically available to the water producers

Perennial Yield of Basin
~90,000 Acre-feet per year

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Summary

- Effective groundwater management tool
- Based on calibrated groundwater model
- Key observations:
  - Largest inflow is seepage from streambeds (50%)
  - Largest outflow is agricultural pumping (67%)
  - Groundwater storage is decreasing about 3,000 AFY
  - Perennial yield is about 90,000 AFY
- Water budget for entire basin – problems can exist in parts of basin

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Questions

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