



**Eastern San Joaquin Groundwater Authority  
Groundwater Sustainability Workgroup  
July 10, 2018  
4 – 5:30 p.m.  
Robert J. Cabral Agricultural Center  
2101 E. Earhart Ave., Stockton, CA, Calaveras Room**

**Committee Members in Attendance**

	<b>Name</b>	<b>Organization</b>
	Colin Bailey	The Environmental Justice Coalition for Water
x	Tim Stroshane attending for Barbara Barrigan-Parrilla	Restore the Delta
x	Gene E. Bigler	PUENTES
	Drew Cheney	Machado Family Farms
	Robert Dean	Calaveras County Resource Conservation District
x	Mary Elizabeth	Sierra Club
x	David Fries	San Joaquin Audubon
x	Joey Giordano	The Wine Group
x	Jack Hamm	Lima Ranch
x	Mary Hildebrand	South Delta Water Agency
x	George V. Hartmann	The Hartmann Law Firm
	Michael Machado	Farmer
x	Ara Marderosian	Sequoia Forest Keeper
	Ryan Mock	J.R. Simplot Company
x	Yolanda Park	Catholic Charities of the Diocese of Stockton
	Will Price	University of the Pacific & Vice Chair, SJ County Advisory Water Commission
x	Daryll Quaresma	2Q Farming, Inc.
	Jennifer Shipman	Manufacturers Council of the Central Valley
	Chris Shutes	California Sportfishing Protection Alliance
	Michael F. Stierler	CGCS, Spring Creek Golf & Country Club
	Linda Turkatte	San Joaquin County Environmental Health Department
x	Ken Vogel	San Joaquin Farm Bureau Federation
x	Ted Wells	Trinchero Family Estates and Sutter Home Winery
	<b>General Public</b>	
x	Yanin Kramsky	PhD Student at Regional Planning Department at UC Berkeley
x	Jane Wagner-Tyack	League of Womens Voters of SJ County
x	Michael Kelly	Catholic Charities of the Diocese of Stockton
	<b>Staff and Consultants</b>	
x	Brandon Nakagawa	County ESJ GSP Project Representative

x	Michael Callahan	County ESJ
x	Alicia Connelly	County ESJ
x	Alyson Watson	ESJ GSP Project Manager
x	Christy Kennedy	ESJ GSP Deputy Project Manager
x	Sheri Madsen	Stakeholder Engagement & Public Outreach Consultant

## Meeting Notes

### I. Welcome

- a. Alyson Watson welcomed group.
- b. The name of the group changed from Stakeholder Committee to GW Sustainability Workgroup to better reflect the work being conducted.
- c. Purpose of the group is to get feedback from interested parties within the basin.
- d. The Outreach Plan has been posted to the website.
- e. Charter will be streamlined and name may be changed to something similar to “process document.” It has not been finalized since it will be talked about today before finalization.

### II. Comments on Meeting Notes

- a. Mary Elizabeth – interested in having presentation template changed so it is an easily printable format to save ink and to write notes on.

### III. Workgroup Committee Role and Major GSP Topics

- a. Shared slides about Workgroup role and Stakeholder Engagement requirements.
- b. DWR guidance – timeline for Phase 1 of project was 2015-17. We are in Phase 2 - GSP preparation and submission.
- c. SGMA encourages stakeholder and public engagement.
- d. Purpose of the group is to provide meaningful input – above and beyond what is required of SGMA.
- e. Information flow – goal to provide Workgroup with the opportunity to comment and provide input on draft documents.
- f. Workgroup was created to understand the different perspectives throughout the region.
- g. Topics to work on – Technical, Policy and Implementation
  - i. Technical - Start with hydrologic model –used to create historic water budget, current baseline and projected water budget. Also working on hydrogeologic analysis as well as a data management system.
  - ii. Policy - Sustainability Goals – what does it mean? Where are we now? Where do we want to go? How are we going to get there?
    1. Undesirable results
    2. Minimum thresholds
    3. Measurable objectives
  - iii. Implementation – how do we get there – projects and management actions, economics and funding, draft GSP and implement plan?

### IV. Pause for comments and questions:

- a. Some members noted that the acoustics in the room were challenging. Alyson indicated the project team would research new rooms for next month’s meeting.
- b. A member requested the PPT be in more readable/printable format. (*printing in black and white is an option*)
- c. Members asked clarifying questions about the GSP area and where the problem (groundwater overdraft) is in the basin. Alyson noted the basin has been designated as critically overdrafted by the state. Alyson also described the current water balance and reiterated that part of the process is looking to see if in fact there is a problem, and what the local area defines as undesirable results.
- d. Members discussed the possibility of creating a mission statement and it wasn't seen as

needed. Alyson noted the group would revisit the concept of mission statement at the end of the meeting and could add this topic to a future agenda if warranted (note – meeting went over time and this was not revisited). Members also discussed a consensus-based approach and agreed consensus won't always be reached and Alyson reiterated the goal with this group is to hear different perspectives and concerns.

- e. Alyson detailed how the feedback from the Workgroup will be incorporated.
  - i. Comments reflected in work and meeting notes will be included in the plan.
  - ii. There will be a standing agenda item at the Advisory Committee and JPA meetings about Stakeholder feedback.
  - iii. Include meeting Workgroup meeting notes in JPA agenda packets.
  - iv. Members suggested they receive topics in advance of the meeting so they can comment. A member's comments were sent in advance and will be appended to the meeting notes.
  - v. Alyson indicated that notes will be sent out two weeks ahead of the next meeting and include comments on notes as an item before they go to the Board.
  - vi. Members asked about the process of getting feedback from the board i.e. "we've looked at it, this is what we've decided," etc. and if individual comments about the notes could be appended. Alyson indicated there would be no downside to include this.

**V. Situation Assessment** – Alyson touched on the Situation Assessment prepared by DWR. She noted they can interview the group to get their feedback and concerns, summarize the issues so they can document them and give them back to group. The assessment will be done by Lisa Beutler. She will reach out after July 23 and plans to wrap up assessment in August. Ideally, she will present findings at the August meeting (if the assessment is complete in time for development).

- a. A member asked if this is part of existing facilitation contract. Alyson answered yes.

## **VI. Background on Groundwater Conditions**

- a. Members discussed the conditions and how some people may not understand that the ESJ Subbasin is critically overdrafted east of Stockton and what the county's efforts on recharge projects have been.
- b. A member asked which wells are used for analysis and commented that some have not been monitored for 30 years. Alyson indicated that future analysis will show which data is used in the analysis and that all The California Statewide Groundwater Elevation Monitoring (CASGEM) wells are being monitored.
- c. Members discussed the map shape and noted the San Joaquin River needs to be added (*note the river is on the map – on the western border*).
- d. Members asked clarifying questions about how it was determined which area's groundwater levels had recovered and if the City of Stockton's reliance on the treatment plant was considered. Alyson indicated it's a snapshot comparing 1992 to 2016 elevation, both taken in the fall and that blue areas could be substitute supply, projects or other.

## **VII. Brainstorming: What Does Sustainability Look Like in the ESJ Subbasin?**

- a. Alyson described key values.
- b. SGMA requires six sustainability indicators to be addressed – slide 21.
- c. Recap important considerations we've heard so far.
- d. Put together 12 key values to see how they match up – slide 27:
  - i. Be implemented in an equitable manner
  - ii. Be affordable
  - iii. Exhibit multiple benefits to local land owners and other participating agencies
  - iv. Minimize adverse impacts to the environment
  - v. Maintain or enhance the local economy
  - vi. Minimize adverse impacts to entities within the Subbasin
  - vii. Maintain overlying landowner and Local Agency control of Subbasin
  - viii. Protect the rights of overlying land owners

- ix. Protect groundwater and surface water quality
- x. Provide more reliable water supplies
- xi. Restore and maintain groundwater resources
- xii. Increase amount of water put to beneficial use within the Subbasin
- e. Asked workgroup - What's missing?
- f. Members discussed that the following be added:
  - i. climate change
  - ii. incentivizing water reuse or water recycling
  - iii. exploring what other countries do with similar water challenges
  - iv. "accessible and affordable"
- g. Members also noted the financial challenges to make it affordable and accessible, create a tax?
- h. Members discussed how exporting supplies creates groundwater sustainability issues as well as raising salinity levels in tidal zones.
- i. While viewing slides that showed agriculture was the dominant land in the subbasin with a listing of its crops, a member noted they felt that farmers were singled out and wondered why urban use slides weren't included. Alyson insisted that was not the intent.
- j. Members pondered what technology needs to be developed and thought UC Davis could help conduct research to find solutions.

### VIII. Four Sustainability Thought Questions:

Alyson introduced four questions for discussion:

1. What do you envision as the preferred future of the ESJ Subbasin and how is it different from how it is today?
2. When you think about the importance of groundwater and the 12 key values, which are of most concern for you?
3. What indicators or factors would best show the groundwater conditions are improving or deteriorating? For these indicators, is there a minimum or maximum level depending on the indicator, below/beyond which the basin's groundwater should not be allowed to go?
4. What objectives or targets would you want to see achieved to show that the Subbasin is sustainable?
  - a. **Flow Requirements** - Member asked when SGMA will bump up against flow requirements. Others noted WaterFix decisions coming in September and wondered how that will affect flows. Member suggested the JPA consider the State Water Quality Control plan and its effects on ability to achieve sustainability. Some members think the JPA needs to take it to another level and advocate for our water rights.
  - b. **Groundwater Well Depth** - A member suggested looking at where the groundwater is coming from in the aquifer and at its quality profile. They don't want to deplete or contaminate water with how they are constructing wells. They stated that the deeper, larger agriculture wells (over 500-800 feet) pull up higher salinity water. The member noted the SGMA data tool database could be queried. They would like characterization of the well # and well depth.
    - i. Brandon interjected there are a handful of wells over 500 ft. and the yield and quality diminishes as they go deeper. Might exist in Stanislaus and Calaveras counties.
    - ii. A member would like a profile of what groundwater levels are and the distribution of water quality. Brandon noted sending the link on the website.
  - c. **Sources of Contamination in Groundwater** - A member also inquired about other sources of contamination and noted the Boggs Tract Area in Stockton, post-war dumping of building materials, etc. This is important to consider. Boggs Tract is a disadvantaged community.
    - a. **Water Accessibility and Affordability** - A member was curious to know about water accessibility and affordability and if there are similar concerns about where people don't have drinking water.
    - b. There was further discussion about reflection on farmers feeling like they are singled

out as bad guys since previous slides show crop type and changes. A member asked if there is a similar urban water use pie chart. Another member noted water use is oversimplified.

## **IX. Announcements**

- a. First public meeting: August 29, 2018: 6:30 p.m., room TBD, Robert J. Cabral Agricultural Center.
  - i. Members noted their availability and that CA WaterFix project has scheduled hearings in Sacramento that day
- b. Next Workgroup meeting date: August 15, 4-5:30, room TBD, Robert J. Cabral Agricultural Center.

## **X. Other topics**

- a. Non-agenda items
- b. Public comment
  - i. Yanin Kramsky - PhD Student at Regional Planning Depart at UC Berkeley, offered research support to environment justice coalition for water. He is here through end of July helping EJCW and could be available after August in a limited capacity. His focus in on disadvantaged communities. He could do a survey to contacts for ways that they might want to engage.

**Comments by Ara Marderosian on Meeting Notes**

**ESJ Groundwater Sustainability Workgroup meeting on Tuesday, July 10.**

DATE: Tuesday, July 10

TIME: 4 - 5:30 P.M.

LOCATION: Calaveras Room, Robert Cabral Agricultural Center, 2101 E. Earhart Avenue, Suite 100, Stockton, CA 95206

See attached agenda, PowerPoint, and June 12 meeting recap.

Follow CA-99 N to Arch Airport Rd in Stockton. Take exit 250 from CA-99 3 h 18 min (222 mi)

Continue on Arch Airport Rd. Drive to E Earhart Ave 3 min (1.3 mi)

Use any lane to turn slightly left onto Arch Airport Rd 0.9 mi

Turn left onto Pock Ln 0.1 mi

Pock Ln turns slightly right and becomes E Earhart Ave

Destination will be on the right 0.2 mi

San Joaquin County Agricultural Commissioner

2101 E Earhart Ave #100, Stockton, CA 95206

**REQUEST:** Could you please provide a list of abbreviations and their meaning in provided documents? Like [JPA = ?](#)  
San Joaquin Joint Powers Authority?

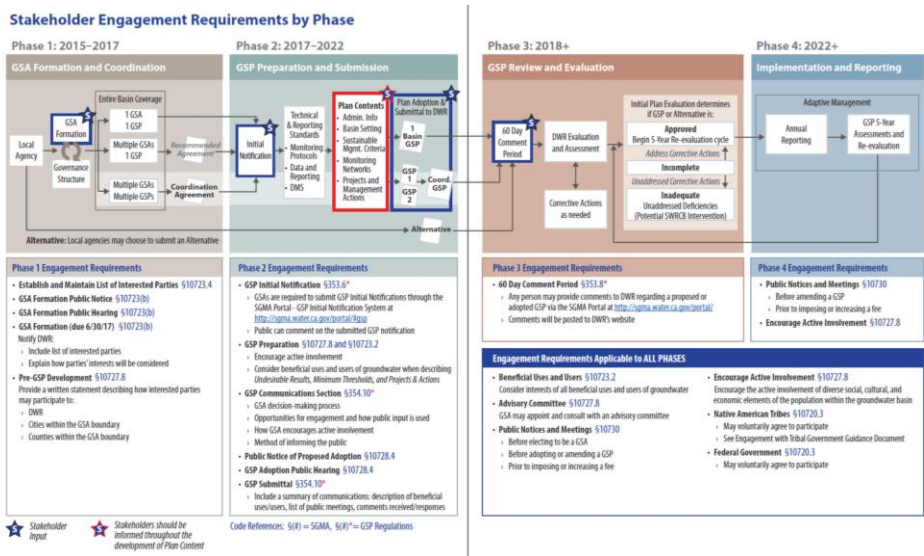
**COMMENT: The meeting notes June 12, 2018** say: 6. Review and Agree to Stakeholder Committee Charter

I do not recall Reviewing and Agreeing to the Stakeholder Committee Charter. We were each handed the binder that contained a document that supposedly was the charter, but the meeting AGENDA was so full that we did not have time to review or agree to the Stakeholder Charter. Nor did we have time, because time ran out at 6 PM, to discuss Stakeholder concerns or complete the agenda item

8. Open Discussion around Outreach Goals and Concerns, even though parts of AGENDA Items 9, 10, 11 and 12 were covered throughout the meeting when those issues were addressed. I had to email my concerns to the group after the meeting AND MY concerns were not included in the notes. I also emailed my suggestions of overlooked members of the public who should have been extended an invitation for Stakeholder Committee membership in the Community Outreach phase.

### **Responses by Ara Marderosian to PowerPoint**

Stakeholder Engagement Requirements by Phase



**REQUEST:** Please explain the Stakeholder Engagement Requirements

**Workgroup Provides Opportunity for More Meaningful Input**

- JPA and GSA Leadership – overall authority for decision-making, GSP development and implementation (monthly meetings open to the public)
- Advisory Committee – advise JPA on plan development (monthly meetings open to the public)
- **Groundwater Sustainability Workgroup – diverse basin interests and provide input to plan development, Advisory Committee, and JPA (monthly meetings open to the public)**
- General public – awareness and understanding; emphasis on engagement of DACs (quarterly meetings)

**REQUEST:** Please explain the difference between the Stakeholder Committee and the Groundwater Sustainability Workgroup.



### **Anticipated Information Flow**

*Information flow provides the Groundwater Sustainability Workgroup with an opportunity to comment on working draft concepts and documents with adequate time to incorporate feedback*

### **What Topics Will the Workgroup Work On?**

**Hydrologic Model**

**Historical Water Budget**

**Current Baseline**

**Projected Water Budget**

**Hydrogeologic Analysis**

**Data Management System**

**Undesirable Results**

**Minimum Thresholds**

**Measurable Objectives**

**Interim Milestones**

**Water Accounting**

**Monitoring Network**

**Projects & Management Actions**

**Economics & Funding**

**Draft GSP & Implement. Plan**

### **SGMA Requires Six Sustainability Indicators to be Addressed**

- Chronic lowering of groundwater levels indicating a significant and unreasonable depletion of supply
- Significant and unreasonable degraded water quality

- Significant and unreasonable reduction of groundwater storage
- Significant and unreasonable land subsidence
- Significant and unreasonable seawater intrusion
- Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water

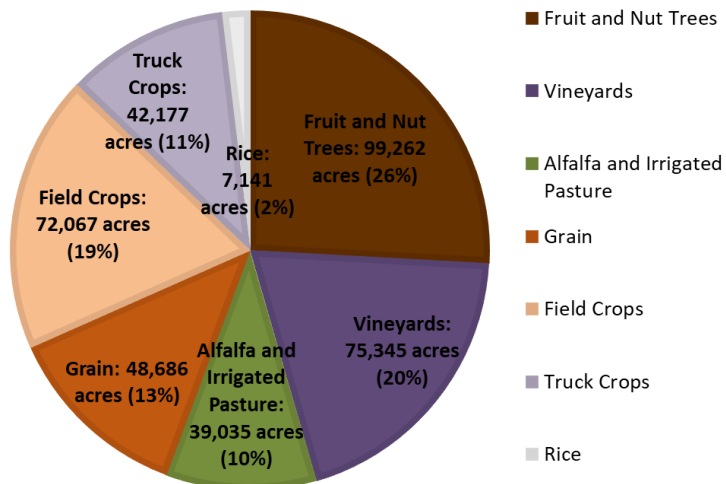
ESJ is a Well-Monitored Subbasin

Several Rivers and Streams Traverse the Subbasin

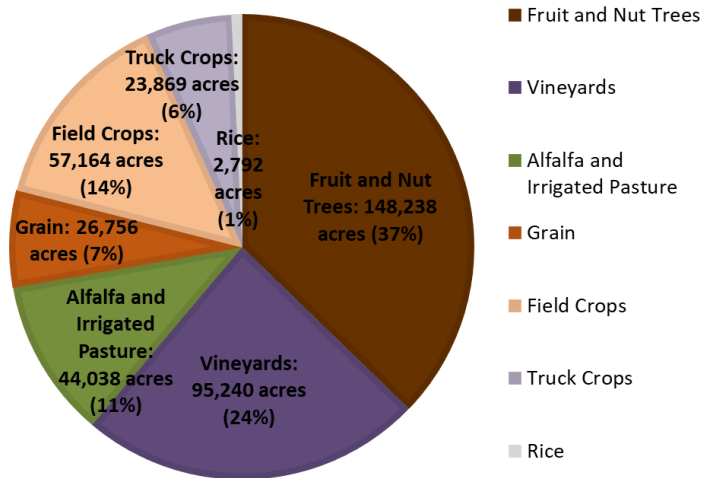
Agriculture is a Dominant Land Use in the Subbasin

### Primary Cropping Patterns

1995 Cropping Pattern for ESJ Subbasin



2015 Cropping Pattern for ESJ Subbasin



**QUESTION:** Does the expansion from 46% to 61% of permanent drops (fruit and nut trees and vineyards:) and the subsequent decrease percentage in all other cropping patterns, as well as an increase in farmland acres demanding water from 1995 to 2015 from 383,713 acres to 398,097 acres (a 3.7% increase in disturbed ground), constitute reasons for the water demand increase and ground subsidence as well as accompanying habitat loss and associated loss of carbon sequestration capacity of the soil, shade loss, ground heating and increase greenhouse gas production, as well as associated drought conditions and climate disruption due to cropping patterns?

**Groundwater Storage**

The Subbasin has a Substantial Amount of Groundwater in Storage

**Groundwater Elevation Levels**

Some Areas Have Recovered and Some Have Declined Since Last Drought

## **Groundwater Quality**

Salinity Contamination of Freshwater Wells is a Concern

### **Brainstorming: What Does Sustainability Look Like for the ESJ Basin?**

#### **SGMA Requires Six Sustainability Indicators to be Addressed**

- **Chronic lowering of groundwater levels indicating a significant and un-reasonable depletion of supply**
- **Significant and unreasonable degraded water quality**
- **Significant and unreasonable reduction of groundwater storage**
- **Significant and unreasonable land subsidence**
- **Significant and unreasonable seawater intrusion**
- **Depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water**

**OBSERVATION:** SGMA should also consider the sustainability factors required by California Environmental Quality Act (CEQA).

Does the discretionary project being considered conform to a plan to stabilize the climate at a livable level? Or does it contribute to destabilization? CEQA is about the actual environmental quality. That means the environmental outcome, considering the most up-to-date understanding of physics, not legislation and not Executive Orders.

#### **We Will Develop Measurable Objectives for Each Sustainability Indicator**

*These objectives, and the pathway to achieving them (projects, management actions, etc), are the “guts” of the GSP*

- Document Potential Undesirable Results for Each Sustainability Indicator
- Identify “Minimum Thresholds” (Levels Where Undesirable Results Could Occur)
- Develop “Measurable Objectives” Above Each Minimum Threshold

*We start by thinking about what our desired future condition looks like, and what negative impacts we are trying to avoid*

**OBSERVATION:** Potential Undesirable Results that should be considered are **the impacts of each use of water on the environment. The Plan’s Goals must:**

- 1) Reduce carbon emissions (CO<sub>2</sub>, methane, NO<sub>x</sub>, PM<2.5, PM10, H<sub>2</sub>S, NH<sub>3</sub>, Endotoxins, O<sub>3</sub>, and other GHG emissions) by allocating water to uses that do not directly or indirectly produce these emissions.
- 2) Clearly define reducing greenhouse gas emissions in the short term and increasing carbon sequestration in the long term, with the short-term being the priority as climate change is an immediate and global existential threat.
- 3) Set specific greenhouse gas emission reduction goals protect environmental justice and global communities.
- 4) Prioritize healthy soils.
- 5) Prevent habitat destruction.

**Example “Undesirable Results” for Each Sustainability Indicator**

Sustainability Indicators	Lowering GW Levels	Reduction of Storage	Land Subsidence	Surface Water Depletion	Degraded Water Quality
Metrics Defined by SGMA	Groundwater elevation	Total volume	Rate and extent of subsidence	Volume or rate of depletion	Migration of plumes; constituent concentrations
Approach for measurement	Measured at “representative wells”	Estimate as a function of GW elevations	Estimate as a function of GW elevations	Estimate as a function of GW elevations	Measured at “representative wells”

But first, let's talk about what is most important...or what sustainability means in this setting.

#### **Important Considerations We Have Heard So Far (1 of 2)**

- Adequate representation, involvement, and consideration for environmental justice and disadvantaged communities
- Transparency and openness of process for all stakeholders
- Water quality and susceptibility to drought
- Impacts of industrial agriculture on groundwater quality, quantity, habitat, and economic vitality of smaller operations
- Impacts to surface water resulting from groundwater operations
- Habitat and wildlife protection in the context of water use
- Access of farmers and growers to water at a reasonable cost (lower than for urban water uses)

#### **Important Considerations We Have Heard So Far (2 of 2)**

- Groundwater contamination, salt water intrusion, storage and recharge challenges, and lack of access to groundwater
- Replacing groundwater use with surface water
- Protecting water rights
- Recognizing that sustainability may mean different things in different parts of the basin
- Economic impact of pumping fees
- Protecting the nation's largest agriculturally productive region
- Protecting water supply and quality

**COMMENT:** The list does not indicate the Impacts of industrial agriculture on climate change, which was the focus of my concerns in the first meeting.

Potential Undesirable Results that should be considered are **the impacts of each use of water on the environment. The Plan's Goals must:**

- 1) Reduce carbon emissions (CO<sub>2</sub>, methane, NO<sub>x</sub>, PM<2.5, PM10, H<sub>2</sub>S, NH<sub>3</sub>, Endotoxins, O<sub>3</sub>, and other GHG emissions) by allocating water to uses that do not directly or indirectly produce these emissions.

- 2) Clearly define reducing greenhouse gas emissions in the short term and increasing carbon sequestration in the long term, with the short-term being the priority as climate change is an immediate and global existential threat.
- 3) Set specific greenhouse gas emission reduction goals protect environmental justice and global communities.
- 4) Prioritize healthy soils.
- 5) Prevent habitat destruction.

### **Include the Value of Sequestration in Upland, Chaparral, and Desert Ecosystems**

Groundwater overdraft by planting water-intensive crops in the San Joaquin Valley, especially orchards and vineyards, that cannot be fallowed in California's cycle of drought.

Destruction of habitat by urban and agricultural sprawl occurs when water is taken from basins, which become no longer able to function naturally, and put on desert landscapes. Endangered species have zero protections from agriculture.

Chaparral is a vital source of carbon sequestration that must be specified as such in the Plan, which must distinguish this extensive ecosystem and address the threat of native shrubland loss from plowing and planting, and especially the planting of tree farms in desert-like habitats.

Additionally, California deserts store substantial amounts of carbon, primarily in vast caliche deposits in inland basins. Once the surface of the desert is disturbed, this caliche releases its carbon into the atmosphere.

Currently, the ability of the desert to sequester and store carbon is under threat. Additional, direct threats include water export projects from the desert to urban areas.

Appropriate steps should be taken to protect native shrubland and desert ecosystems and their sequestered carbon.

## Water Conservation

Water conservation and storm water management are essential to carbon sequestration on natural and working lands, with a priority of capturing runoff to support and expanding urban forests, forest-woodland, and on restoring eroded chaparral and shrublands as well as percolation into aquifers for agriculture.

Without water, the general increase in the soil carbon sponge and perennial vegetation obviously cannot grow. Restoration of small water cycles is necessary for biological carbon sequestration.

## Twelve Key Values

- **Be implemented in an equitable manner**
- Be affordable
- Exhibit multiple benefits to local land owners and other participating agencies
- **Minimize adverse impacts to the environment**
- Maintain or enhance the local economy
- Minimize adverse impacts to entities within the Subbasin
- Maintain overlying landowner and Local Agency control of the Subbasin
- Protect the rights of overlying land owners
- **Protect groundwater and surface water quality**
- Provide more reliable water supplies
- **Restore and maintain groundwater resources**
- Increase amount of water put to beneficial use within the Subbasin

**OBSERVATION:** Because CEQA requirements are to be considered a priority, plan must stabilize the climate at a livable level—not contribute to destabilization. CEQA is about the actual environmental quality, so of the twelve Key Values, the most important is - Minimize adverse impacts to the environment. And the next most important



are - Protect groundwater and surface water quality and Restore and maintain groundwater resources. And depending on the definition of “beneficial Uses”, next is Increase amount of water put to beneficial use within the Subbasin .

What’s Missing?

What other issues do we need to be thinking about?

**COMMENT:** The list does not indicate the Impacts of industrial agriculture on climate change, which was the focus of my concerns in the first meeting.

Potential Undesirable Results that should be considered are **the impacts of each use of water on the environment. The Plan’s Goals must:**

- 1) Reduce carbon emissions (CO<sub>2</sub>, methane, NO<sub>x</sub>, PM<2.5, PM10, H<sub>2</sub>S, NH<sub>3</sub>, Endotoxins, O<sub>3</sub>, and other GHG emissions) by allocating water to uses that do not directly or indirectly produce these emissions.
- 2) Clearly define reducing greenhouse gas emissions in the short term and increasing carbon sequestration in the long term, with the short-term being the priority as climate change is an immediate and global existential threat.
- 3) Set specific greenhouse gas emission reduction goals protect environmental justice and global communities.
- 4) Prioritize healthy soils.
- 5) Prevent habitat destruction.

The Impacts of industrial agriculture on the environment / climate change is the focus of CEQA, so the PLAN must consider the requirements of CEQA—does the PLAN stabilize the climate at a livable level? Or does it contribute to destabilization? CEQA is about the actual environmental quality. That means the environmental outcome, considering the most up-to-date understanding of physics/science.

Shouldn't water conservation that enhances groundwater storage be a major factor for the PLAN to require of all sectors of use?

### **Sustainability Thought Questions**

1. What do you envision as the preferred future of the ESJ Subbasin and how is that different from how it is today?
2. When you think about the importance of groundwater, and the twelve key values, which are of most concern for you?
3. What indicators or factors would best show the groundwater conditions are improving or deteriorating? For these indicators, is there a minimum or maximum level, depending on the indicator, below/beyond which the Basin's groundwater should not be allowed to go?
4. What objectives or targets would you want to see achieved to show that the Subbasin is sustainable?

### **ANSWERS:**

#### **1. The preferred future of the ESJ Subbasin would be to:**

- 1) Reduce carbon emissions (CO<sub>2</sub>, methane, NO<sub>x</sub>, PM<2.5, PM10, H<sub>2</sub>S, NH<sub>3</sub>, Endotoxins, O<sub>3</sub>, and other GHG emissions) by allocating water to uses that do not directly or indirectly produce these emissions.
- 2) Clearly define reducing greenhouse gas emissions in the short term and increasing carbon sequestration in the long term, with the short-term being the priority as climate change is an immediate and global existential threat.
- 3) Set specific greenhouse gas emission reduction goals protect environmental justice and global communities.
- 4) Prioritize healthy soils.
- 5) Prevent habitat destruction.

#### **2. The most important of the key values:**

**ANSWERS** Because CEQA requirements are to be considered a priority, plan must stabilize the climate at a livable level—not contribute to destabilization. CEQA is about the actual environmental quality, so of the twelve Key Values, the most important is - **Minimize adverse impacts to the environment**. And the **next most important are** - **Protect groundwater and surface water quality** and **Restore and maintain groundwater resources**. And as long as the “beneficial Uses” agree with the above-listed **1. The preferred future of the ESJ Subbasin**, comply with the California Constitution Section 2, the next **most important of the key values** is **Increase amount of water put to beneficial use within the Subbasin**.

### **Reduce Emissions with Water for Beneficial Water Uses**

Methane production from manure and decomposing crops, which both use enormous quantities of water, have a huge carbon footprint that is exacerbating global climate change in the near-term and as Methane breaks down into CO<sub>2</sub> in the long-term.

The Plan must have a formal system for managing the risk that a long-term plan based on current projections and “science-based assessments” of the beneficial uses may require a formal process for review and revision in light of new science down the road.

Mitigate carbon emissions (methane, NO<sub>x</sub>, and other GHG emissions) by allocating water to uses that do not directly or indirectly produce these emissions.

While reducing carbon emissions is vital, methane traps more heat than CO<sub>2</sub>. California’s methane emissions are mostly produced by corporate feedlots whose pungent odors grace Interstate 5 in the western San Joaquin Valley.

Some 2.6 million head of cattle in the Valley (about two-thirds of which are dairy cows) release annual methane emissions that have the CO<sub>2</sub> equivalency of 43 billion pounds into the atmosphere over a 20-year period, similar to 21 billion pounds of coal, or five coal-burning power plants.

[\(https://www.mercurynews.com/2017/10/01/opinion-delta-farmers-not-waterfix-tunnels-are-our-best-climate-change-defense/\)](https://www.mercurynews.com/2017/10/01/opinion-delta-farmers-not-waterfix-tunnels-are-our-best-climate-change-defense/)

Air quality degradation by corporate animal and plant agriculture that causes the entire basin to stink in addition to increasing atmospheric PM<sub><2.5</sub>, PM<sub>10</sub>, NO<sub>x</sub>, H<sub>2</sub>S, NH<sub>3</sub>, Endotoxins, O<sub>3</sub>, MH<sub>4</sub>, and CO<sub>2</sub>, are in unreasonable use of water.

The violation of Public Trust continues, while corporations have declared that citizens have no rights to water.

Lack of environmental justice in impoverished communities, especially those of color, result from industrial agriculture excesses.

Achievement of California's GHG reduction goals depends upon programs that draw carbon from the atmosphere over many years and sequester carbon in the soil ecosystems.

The Plan should emphasize the importance of carbon sequestration on working lands through programs that promote healthy soils.

Natural wetlands are dried and channelized by corporate agricultural water users, or even worse, water is piped underground where it loses all benefit for the local environment.

Biodiversity should be a guiding principle for working land ecosystems. It is crucial on working lands because greater biodiversity is associated with healthier crops, less pests, and less reliance on toxic inputs that compromise the accumulation of soil carbon.

### **3. What indicators or factors would best show the groundwater conditions are improving or deteriorating?**

**ANSWERS** Dry wells have water as shown by acoustic well depth monitoring systems that upload to publicly available databases that continuously update the independently-maintained database.

## **Foster Transparent Review and Prioritize Effective Monitoring Tools**

Monitoring progress in reducing greenhouse gas emissions must use transparent, science-based models.

Stakeholders must see the model and all its assumptions as early as possible.

The Plan must use monitoring tools that can accurately determine the carbon-outcomes of specific interventions. In addition to an adequate modeling tool, effective monitoring tools are key to measuring the Plan's success.

The Plan must account for the effects of extreme weather—an extreme weather event that has at least a 10% chance of occurring in the next 50 years.

The Plan must have a FORMAL process for regularly revising and updating to account for changed conditions in climate.

The Plan must allow a majority and a minority report from the Stakeholder Committee—not just a consensus opinion, the same as the United States Supreme Court would issue to the public, so the public can understand considered options.

**For these indicators, is there a minimum or maximum level, depending on the indicator, below/beyond which the Basin's groundwater should not be allowed to go?**

**ANSWERS** Any level of groundwater that prevents shallow wells from accessing groundwater is **below or beyond which the Basin's groundwater should not be allowed to go.**

**4. What objectives or targets would you want to see achieved to show that the Subbasin is sustainable?**

**ANSWERS** The answers provided above should be the basis for a PLAN that achieves a sustainable subbasin, watershed, and healthful global environment for future life. The plan and the State need to recognize the importance of curtailing carbon, methane, and other GHG emissions through the judicious allocation of water to

uses that do not directly or indirectly emit carbon, methane, or other GHG emissions and through carbon sequestration and storage with California’s statewide and global climate mitigation goals.

Clearly, implementing these Plan Goals will have immediate, positive impacts of reducing air pollution, reducing impacts to environmental justice and global communities and the air we breathe, as well as reducing climate disruption in the short and long-term. These protection activities will increase stored carbon.

California Constitution, Article 10, Water, states:

“SEC. 2. It is hereby declared that because of the conditions prevailing in this state the general welfare requires that the water resources of the state be put to beneficial use to the fullest extent of which they are capable, and that the waste or unreasonable use or unreasonable method of use of water be prevented, and that the conservation of such waters is to be exercised with a view to the reasonable and beneficial use thereof in the interest of the people and for the public welfare.

#### **Announcements**

- First public meeting: August 29, 2018 6:30 p.m., room tbd, Robert J. Cabral Agricultural Center
- Next Workgroup meeting date: August 15, time and room tbd , Robert J. Cabral Agricultural Center

#### **Other Topics**

- Non-Agenda Items
- Public Comments



## **July 10, 2018 Groundwater Sustainability Workgroup Meeting Comments from Restore the Delta**

I would like to add from a Restore the Delta perspective we want to make sure that adequate flows remain in the SJ River as a way to protect groundwater banks from collapsing (separating) near the river. In the struggle between SGMA requirements and flows for the Delta, farmers want to acquire more freshwater flows on the east side for agricultural use almost as a substitute to meet SGMA obligations, but we maintain that flows are also essential for groundwater recharge to protect the physical structure of the basin itself.

Last, we need to look at urban groundwater restoration requirements and urban management water plans. We should also track what cities are doing to improve and comply with SGMA in addition to agricultural users. Science tells us so much water is needed for healthy rivers and groundwater systems. That leaves x amount of water for all the other human uses. We maintain that sacrifice has to be shared by all human use parties. With climate change we will have less and less runoff, which needs to be accounted for in our analysis and planning. We need to protect river systems, especially as they relate to groundwater recharge, and drinking water supplies first -- and from there work for best practices in all other areas.



## **July 10, 2018 Groundwater Sustainability Workgroup Meeting Comments from Mary Elizabeth/Sierra Club**

### Mary Elizabeth Notes for July 10 Meeting Summary

I am sure that you already have heard box is boggs.

The first meeting had folks asking for easier printing – Yolanda parks and I asked again at the July meeting.  
(you have it twice)

The July meeting had folks asking for full copies to be provided at the meeting.

Folks asked for a characterization of existing recharge projects.

The wells for the model have already been selected and used for calibration so what are those well IDs.

Folks asked for maps to be able to see the details.

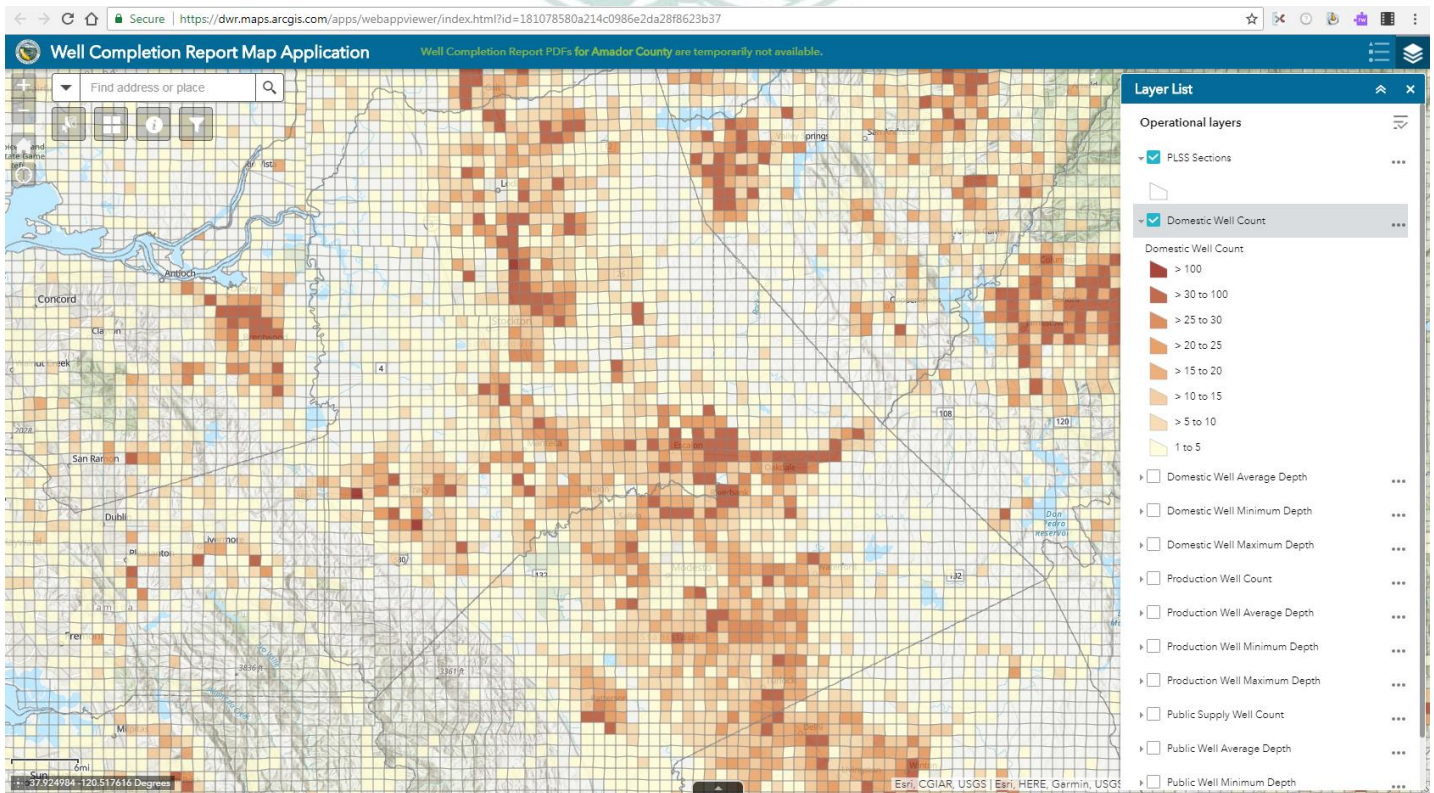
Not sure technology for what?

Basin_Subbasin_Number	DWR DATA 5-022.01	Eastern San Joaquin Groundwater Authority
Basin_Subbasin_Name	San Joaquin Valley - Eastern San Joaquin	
Hydrologic_Region	San Joaquin River	
Basin_Area_Acres	772472.7141	<b>8 Prioritization Factors</b> 1. The population overlying the basin. 2. The rate of current and projected growth of the population overlying the basin. 3. The number of public supply wells that draw from the basin. 4. The total number of wells that draw from the basin. 5. The irrigated acreage overlying the basin. 6. The degree to which persons overlying the basin rely on groundwater as their primary source of water. 7. Any documented impacts on the groundwater within the basin, including overdraft, subsidence, saline intrusion, and other water quality degradation. 8. Any other information determined to be relevant by the department, including adverse impacts on local habitat and local streamflows. [Note: underline text was added by SGMA]
Basin_Area_SqMi	1206.98	
C1_Population_Census	591202	
C1_Population_SqMi	489.81	
C1_Priority_Points	2	
C2_Population_Projection	782849	
C2_Population_Growth	32.41	
C2_Zero_2010_Population	FALSE	
C2_Negative_or_No_Growth	FALSE	
C2_Positive_Growth_and_2010_Pop_1000	FALSE	
C2_Density_50_and_2010_Population_25000	FALSE	
C2_Priority_Points	4	
C3_Public_Supply_Groundwater_Wells	459	
C3_Public_Supply_Wells_SqMi	0.38	
C3_Priority_Points	3	
C4_Total_Groundwater_Wells	13668	
C4_Production_Wells_SqMi	11.32	
C4_Priority_Points	4	
C5_Irrigated_Acres	374146	
C5_Irrigated_Acres_SqMi	309.98	
C5_Priority_Points	4	
C6_Urban_Groundwater_AF	53728	
C6_Agricultural_Groundwater_AF	418721	
C6_Total_Water_Use_AF	1342407	
C6_Surface_Water_Use_AF	869957	
C6_Groundwater_Use_AF	472449	
C6a_Groundwater_Use_AF_BasinAcre	0.61	
C6a_Points	4	
C6b_Groundwater_Percent_Supply	0.3519	
C6b_Points	2	
C6_Priority_Points	3	
C7_Impacts_Declining_Groundwater_Levels_Points	7.5	
C7_Impacts_Declining_Groundwater_Levels_Comment	<p>CRITICAL OVERDRAFT 2016. Source: DWR</p> <p>1) CASGEM/WDL/GWIDS: Longterm hydrographs show groundwater level decline. Source: DWR</p> <p>2) The plan also must address whether and how placing water to underground storage and subsequently withdrawing the water, under Permit 10477 will prevent additional overdraft in the Eastern San Joaquin and Cosumnes groundwater subbasins and include measures to avoid any such impacts. Source: <a href="http://www.nsjgroundwater.org/uploads/7_NSJWCD_Conjunctive_Use_Plan.pdf">http://www.nsjgroundwater.org/uploads/7_NSJWCD_Conjunctive_Use_Plan.pdf</a></p>	

	<p>3) Water levels are declining and chloride concentrations are increasing in western San Joaquin County as a result of pumping in excess of recharge.  Source: &lt;a target='_blank' href='https://ca.water.usgs.gov/projects/stockton_drill.html'&gt;https://ca.water.usgs.gov/projects/stockton_drill.html &lt;/a&gt;</p>	
C7_Impacts_Subsidence_Points	0	
C7_Impacts_Subsidence_Comment	No documented GW extraction induced subsidence	
C7_Impacts_Salt_Intrusion_Points	5	
C7_Impacts_Salt_Intrusion_Comment	<p>1) In the Eastern San Joaquin subbasin, the groundwater is characterized with low to high salinity levels and localized areas of high calcium or magnesium bicarbonate, salinity, nitrates, pesticides, and organic constituents (DWR 2006j, 2013b). The high groundwater salinity is attributed to poor-quality groundwater intrusion from the Delta caused by the pumping-induced decline in groundwater levels, especially in the groundwater underlying the Stockton area since the 1970s (SJCFCWCD 2008). (pg. 7-34) The east side of the San Joaquin River is underlain by seven groundwater subbasins: the Cosumnes, Eastern San Joaquin, Modesto, Turlock, Merced, Chowchilla, and Madera subbasins. ...Declining groundwater levels in the subbasins east of the San Joaquin River have resulted in an area approximately 16-miles long with high salinity due to saltwater intrusion from the Delta (USFWS 2012). Doesn't say along which 16-mile stretch of which sub-basin (Cosmunes, East San Joaquin, Modesto, Turlock, Merced, Chochilla, Madera). (pgs. 7-32, 7-33) Source: LTO-EIS_USBR_Chapter7-GWRResources.pdf</p> <p>2) In the Eastern San Joaquin Groundwater Subbasin, near Stockton, California, 130 km east of San Francisco (Fig. 1), pumping in excess of recharge and resulting declines in water levels within aquifers to below sea level has led to an increase in chloride concentrations in water from wells (Izbicki et al. 2006). This trend began in the 1950s and has led to exceedances of the USEPA secondary maximum contaminant level (SMCL) of 250 mg/L for chloride in several wells (DWR 1967). In an effort to mitigate the impact of high-chloride water on groundwater supplies, local agencies, led by the Eastern San Joaquin County Groundwater Basin Authority in cooperation with the DWR, Stockton East Water District, and the City of Stockton, implemented strategies involving the conjunctive use of surface water and groundwater to meet demand. ...Artificial recharge programs have also been implemented that promote infiltration of captured local runoff to manage declining water levels and chloride concentrations. Programs include Stockton East Water District's Farmington Groundwater Recharge Program, with a goal of recharging about 43?106 m3 /year annually through field-flooding (Stockton East Water District 2014) and the City of Stockton's Morada Recharge Facility, which utilizes an existing stormflow basin to infiltrate local surface water and stormflow runoff (O'Leary et al. 2012). Source: EasternSanJoaquin-OLearyIzbickiMetzger2015.pdf</p>	
C7_Impacts_Water_Quality_Points	1	

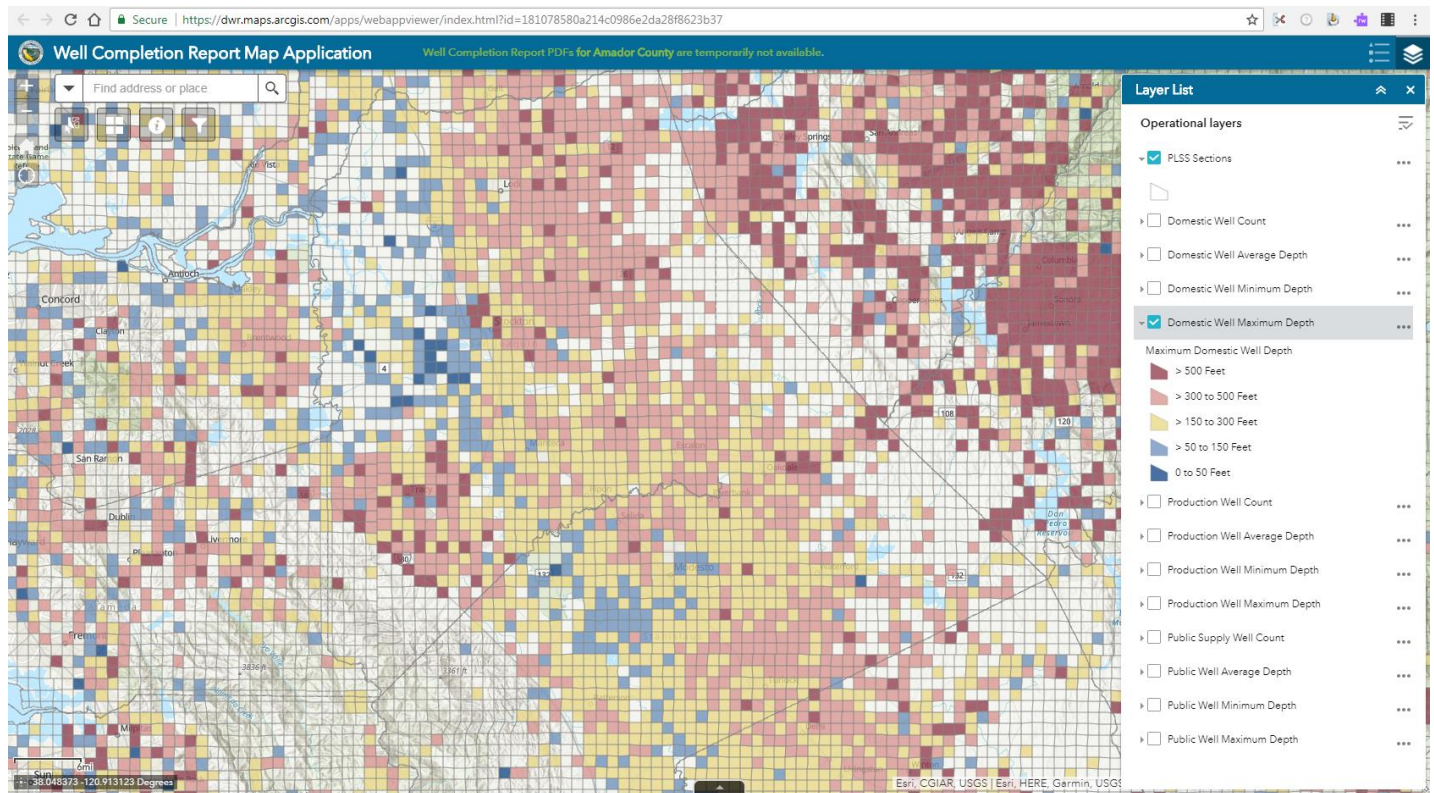
C7_Impacts_Water_Quality_Comment		
C7_Impacts_Total_Points	13.5	
C7_Priority_Points	3	
C8a_Streamflow_Points	1	
C8a_Habitat_Points	1	
C8a_Monitoring	TRUE	
C8a_Monitoring_and_GroundwaterThreshold_Adverse	Monitored with Declining GW Levels and > 0.16 ft GW Use	
C8a_Adverse_Adjustment	0	
C8a_AdverseComment		
C8a_HabitatSF_Priority_Points	2	
C8b_BasinOtherInfo_Priority_Points	0	
C8b_BasinOtherInfoComment		
C8a_and_C8b_Priority_Points	2	
C8c_2kGroundwater	FALSE	
C8c_9.5kGW_NoDocImpacts	FALSE	
C8c_Adjudication	FALSE	
C8c_Groundwater_NonAdj_AF		
C8c_9.5kGW_NonAdj	FALSE	
C8c_CriticalOverdraft	TRUE	
C8c_OutOfBasinGWExports_SubstitutionTransfers	FALSE	
Total_Priority_Points	42	
Priority	High	
Priority_Change_2014_to_2018	No Change	

Domestic Well Count <https://www.water.ca.gov/Programs/Groundwater-Management/Wells>

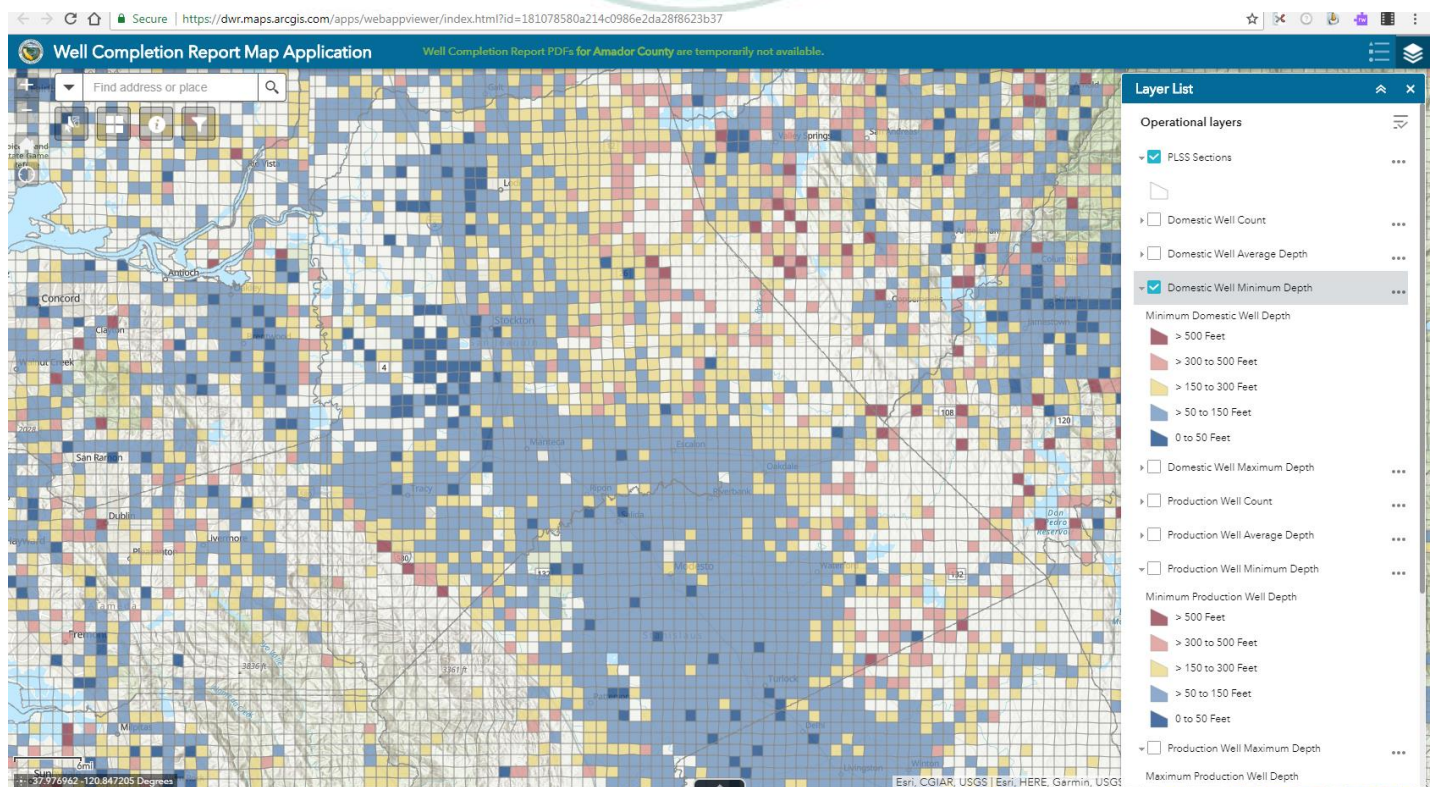




## Domestic Well Maximum Depth

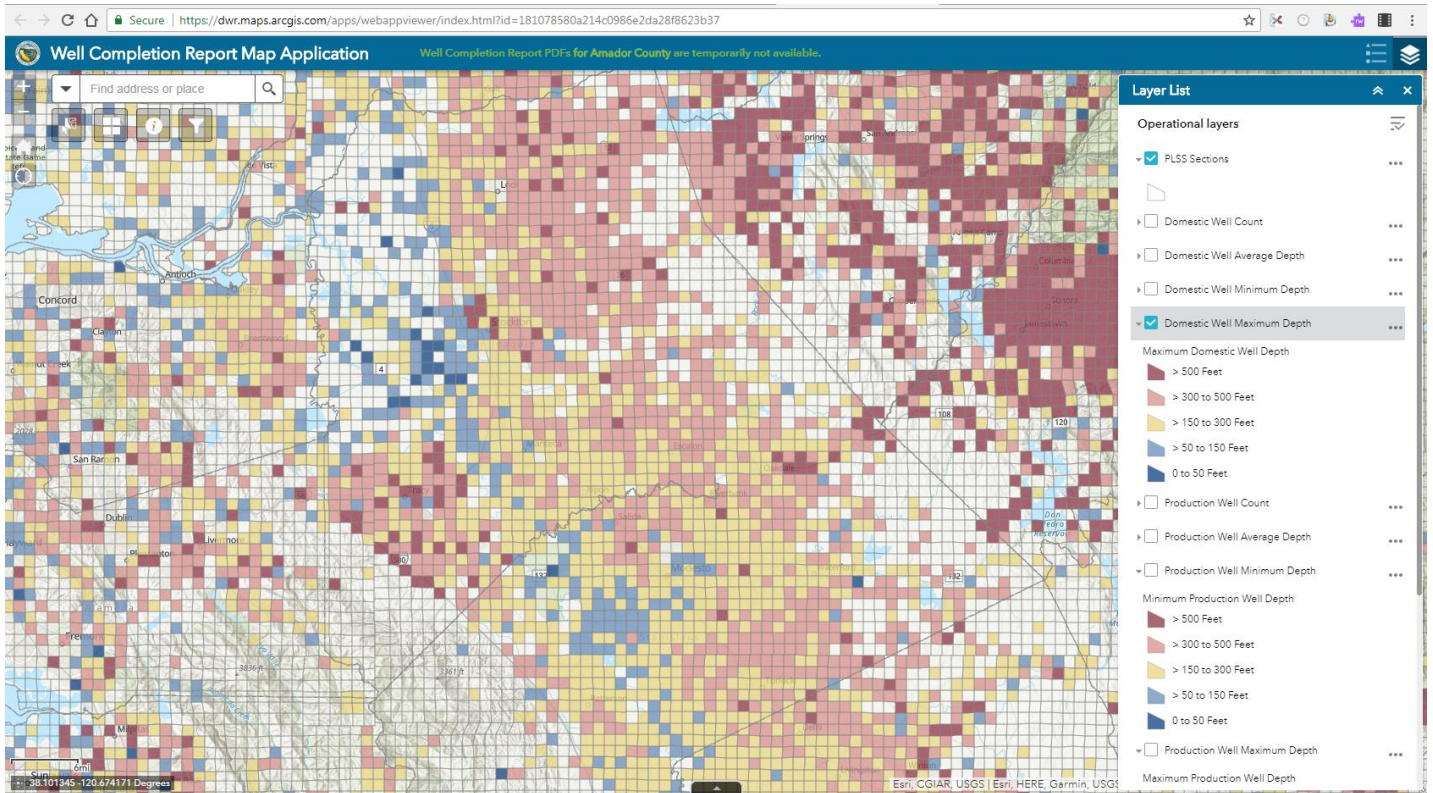


## Domestic Well Minimum Depth

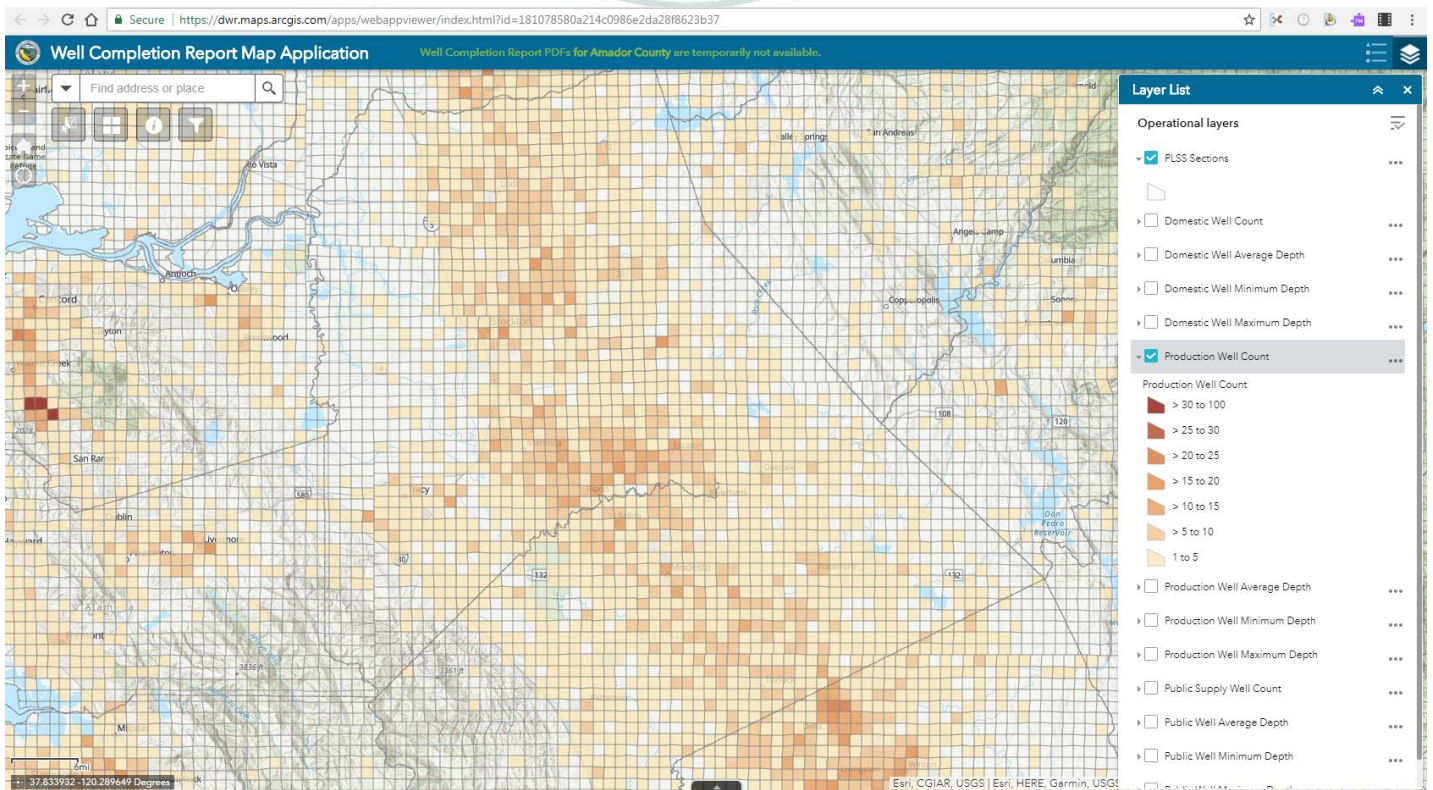




# Domestic Well Maximum Depth

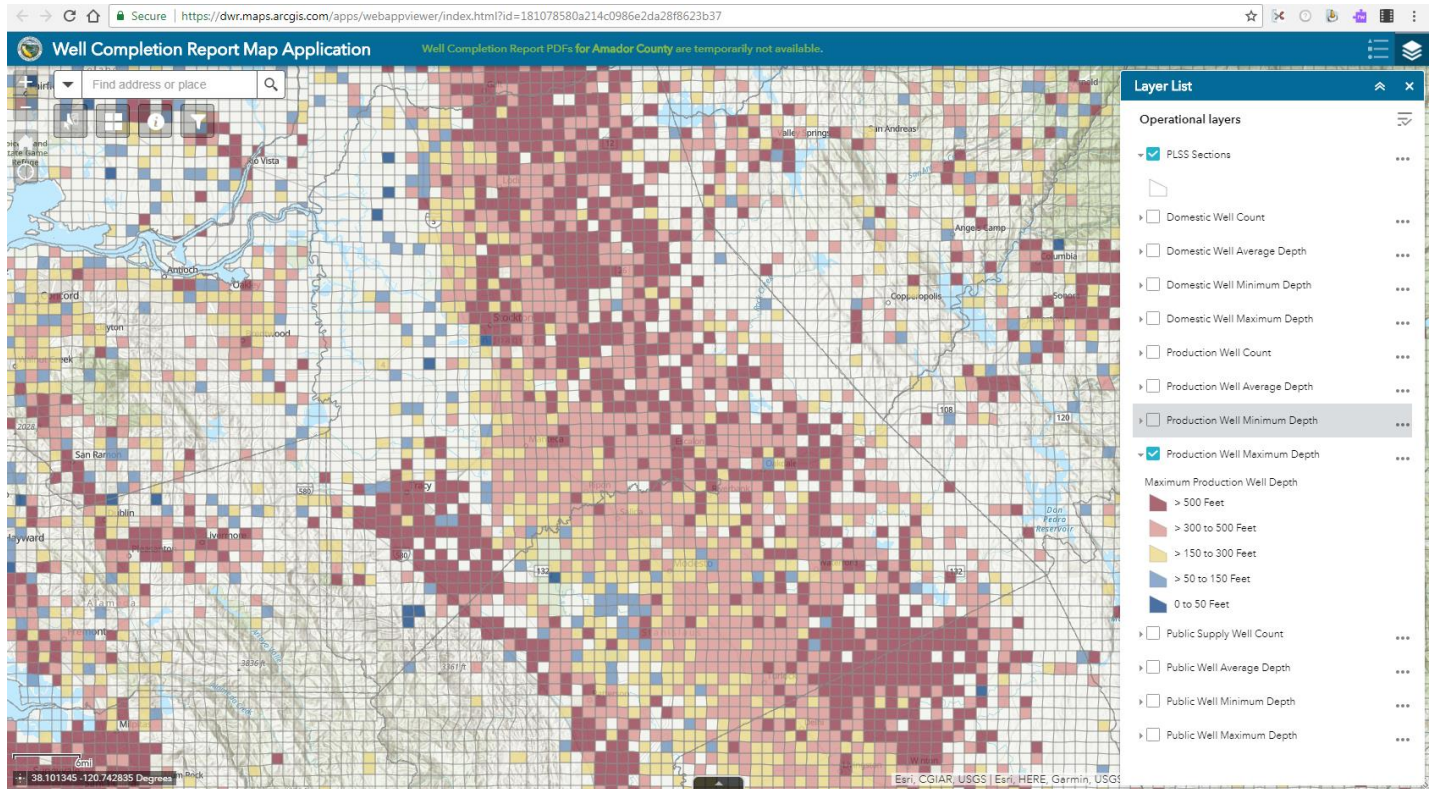


# Production Well Count

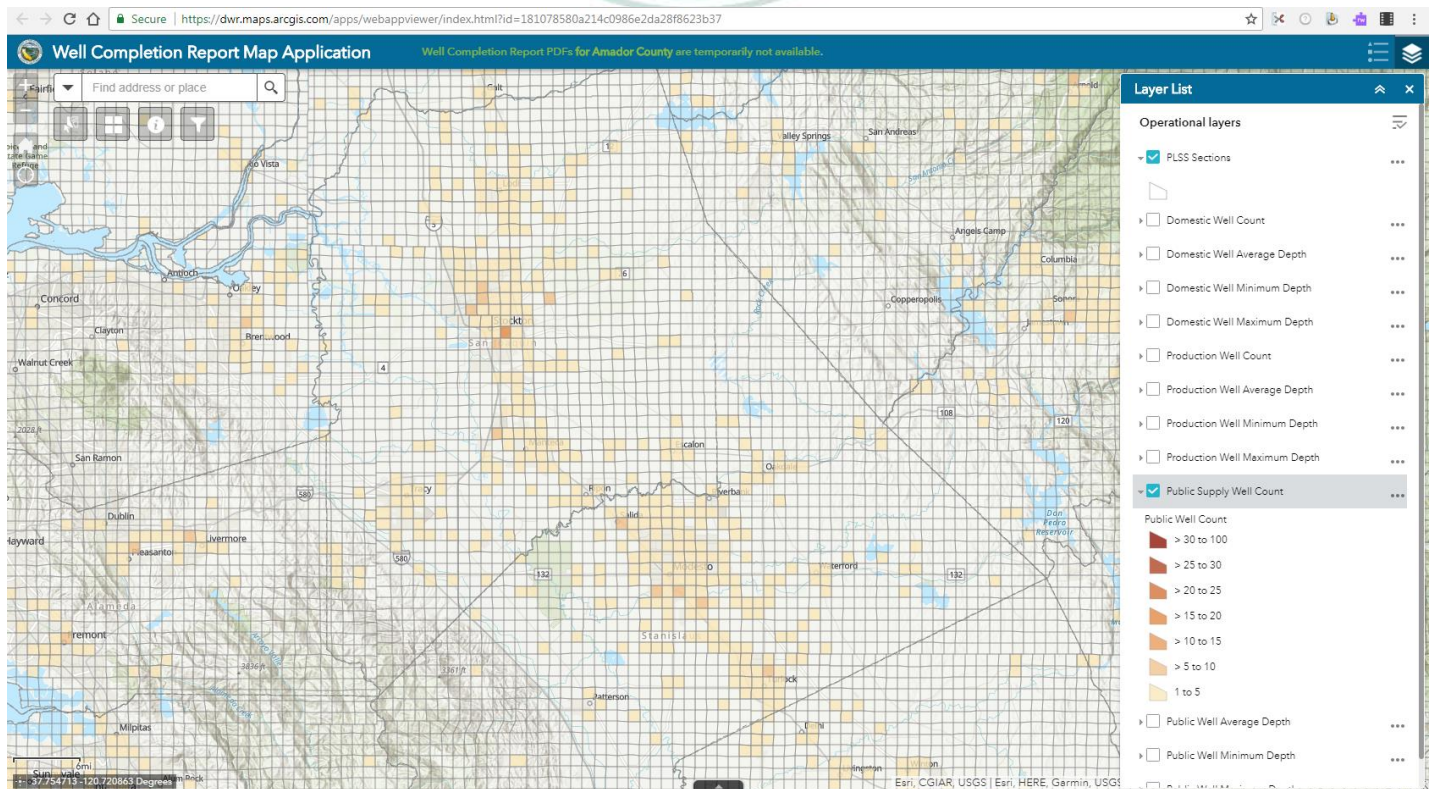




# Production Well Maximum Depth

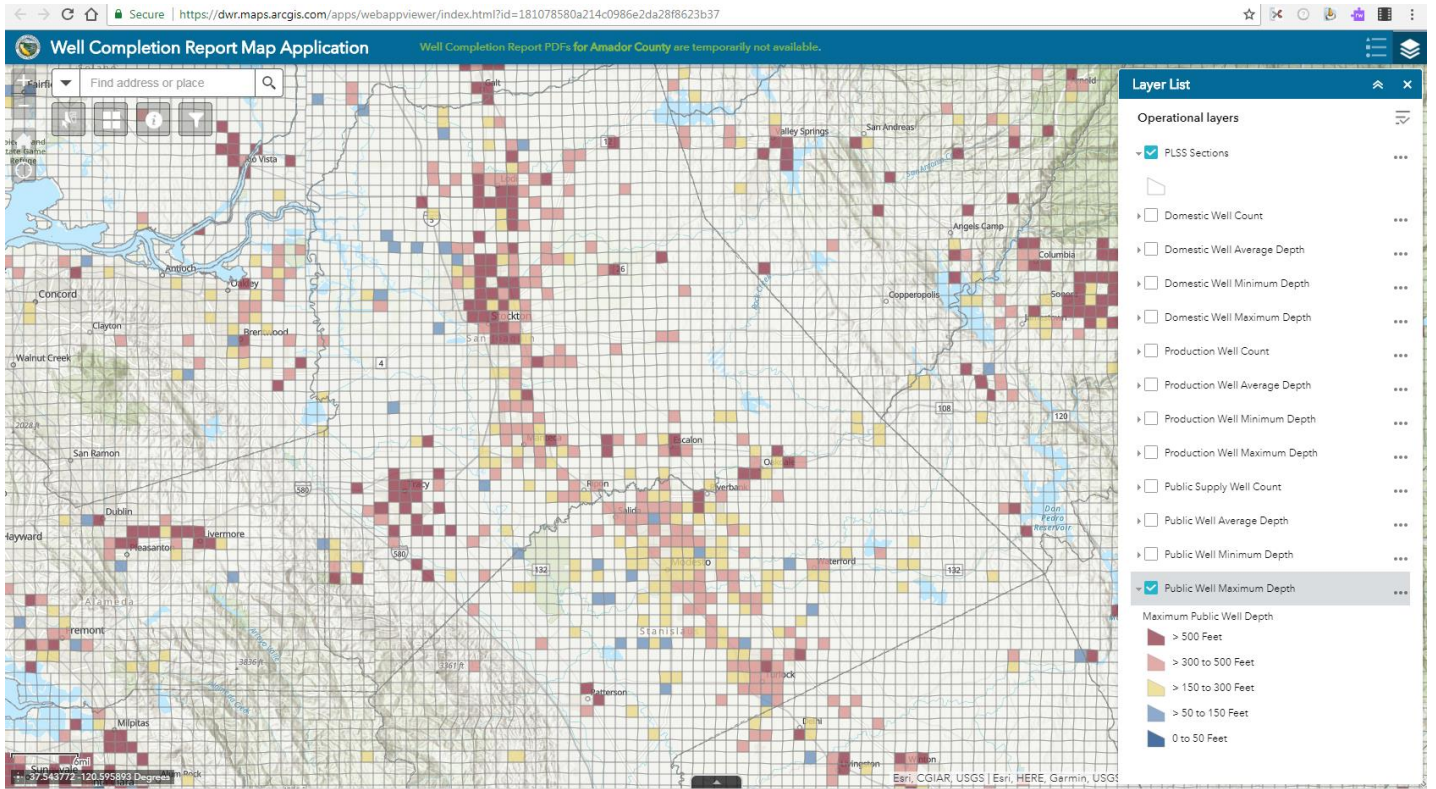


# Public Supply Wells Count





# Public Supply Well Maximum Depth



# Base Map

