proceeds west along the southernmost boundary of the San Luis Water District. The boundary then projects westward from this alignment until intersecting the Delta-Mendota sub-basin Western boundary described above.

1.5. Delta-Mendota Subbasin GSP Planning

The GSAs of the Delta-Mendota Subbasin intend to work together to meet Sustainable Groundwater Management Act (SGMA) requirements and prepare a Groundwater Sustainability Plan (GSP) or coordinated Sustainability Plans by June 31, 2020. The San Luis Delta- Mendota Water Authority (SLDMWA) is assisting its members and non-members in planning and implementation of this law and has been directly assisting a subset of the local GSA eligible agencies in organizing to accomplish required SGMA tasks. The SLDMWA has also hosted informal, information meetings with all of the subbasin GSAs.

While SLDMWA coordinated GSAs are confident in their ability to prepare a GSP for the areas under their jurisdiction, SGMA requires that an approved GSP or multiple coordinated GSPs are in place to provide sustainable management for the entire subbasin. The identified GSAs have been asked to determine how they wish to proceed in individual GSP development or a coordinated single GSP by July 2017 and whether or not they wish to participate in the Prop 1 Sustainable Groundwater Planning Grant as a joint request.

1.6. Delta Mendota Subbasin GSAs

Following are the DWR identified agencies (as of June 15, 2017).[4]

1. Aliso Water District
2. Central Delta-Mendota Region Multi-Agency GSA
3. City of Dos Palos
4. City of Firebaugh
5. City of Gustine
6. City of Los Baños
7. City of Mendota
8. City of Newman
9. City of Patterson
10. County of Madera—3
11. DM-II
12. Farmers Water District
13. Fresno County—Management Area 'A'
14. Fresno County—Management Area 'B'
15. Grasslands Groundwater Sustainability Agency
16. Merced County—Delta-Mendota

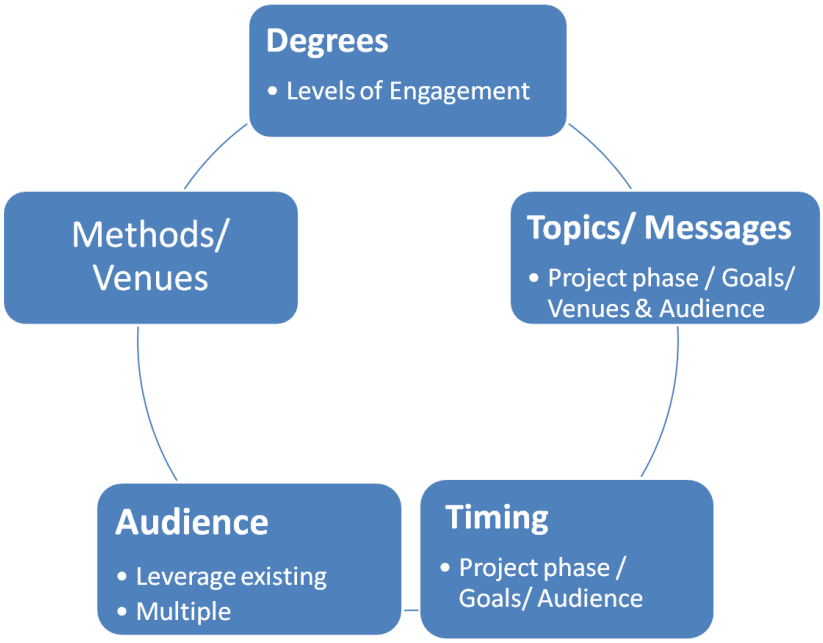
[4] See: http://sgma.water.ca.gov/portal/

17. Northwestern Delta-Mendota GSA
18. Ora Loma Water District
19. Patterson Irrigation District
20. San Joaquin River Exchange Contractors Water Authority
21. Turner Island Water District-2
22. West Stanislaus Irrigation District GSA
23. Widren Water District GSA

COMMUNICATIONS PLAN OVERVIEW

Communication is the process of transmitting ideas and information. According to the Project Management Institute, 75%-90% of a project manager's time is spent communicating. A Coms Plan provides the purpose, method, messages, timing, intensity, and audience of the communication, then describes who will do the communicating, and the frequency of the communication (see **Figure 3**.)

Figure 3. Elements of a Communications Plan



2.1. Purpose

The purpose of the Delta-Mendota Subbasin, Sustainable Groundwater Management Act, Coms Plan is to outline the information and communications needs of the project stakeholders and provide a roadmap to meet them. The Coms Plan then identifies how communications activities, processes, and procedures will be managed throughout the project life cycle.

2.2. Importance

While communications are important in every project, a well-executed communications strategy will be essential to the success of the GSP(s) development and adoption process. The financial and regulatory stakes are high and communication missteps can create project risks. Further, development of a viable GSP(s) will require an on-going collaboration among all the stakeholders, both organizational and external. The plan will be comprehensive and consider multiple variables, a range of system elements and project costs and benefits. Stakeholder input will be needed to refine GSP requirements and fully

define the water management system, and potential impacts, costs and benefits that may result in managing for sustainability.

2.3. Scope

The plan focuses on formal communication elements. Other communication channels exist on informal levels and enhance those discussed within this plan. This plan is not intended to limit, but to enhance communication practices. Open, ongoing communication between stakeholders is critical to the success of the project.

2.4. Communications Goal

Development, adoption and implementation of the GSP(s) will require basin external stakeholders, other agencies, staff, managers, and the multiple GSA Boards to evaluate choices, make decisions and commit resources.

The core communications goal is to plan for and efficiently deliver clear and succinct information:

- At the right time
- To the right people
- With a resonating message

This is done to facilitate quality decision making and build accompanying public support

2.5. Communications Objectives

The Coms Plan Objectives are to present strategies and actions that are:

- Realistic and action-oriented
- Specific and measurable
- Minimal in number (a few well delivered are better than many mediocre efforts)
- Audience relevant

2.6. Strategic Approach

Three primary communications strategies have been identified for the GSP(s) development.

1) Fully leverage the activities of existing groups. This practical approach is cost effective and respectful of the limited time that stakeholders have to participate in collaborative processes.
2) Provide targeted, communications and outreach to opinion leaders in key stakeholder segments.
3) Provide user friendly information and intermittent opportunities through existing communication channels and open houses or workshops to allow interested stakeholders (internal and external) to engage commensurate with their degree of interest.

2.7. Communications Governance, Communications Team

Given the relatively large number of stakeholders, a recommendation for coordinated efforts, and the legal requirements for outreach[5], some form of communications governance is recommended. Several governance options for consideration are offered in Appendix 2. The actual form of the governance is less important than a clear understanding of the roles and responsibilities of those responsible for ensuring required communication. For the purpose of this document, an assumption is made that some form of governance will be identified and a communications team (which may be an individual or multiple individuals, and/or include the project consultants) is designated.

A driving consideration for this recommendation is the level of effort associated with required activities and the fact that communications are highly time dependent. That means that communications activities should be occurring that may happen outside of regularly scheduled GSA meetings. In this case delegation with guidance is efficient and effective.

2.8. Constraints

All projects are subject to limitations and constraints as they must be within scope and adhere to budget, scheduling, and resource requirements. These constraints can be even more challenging in projects with multiple agencies as will be the case with the development and coordination of multiple GSPs.

There are also legislative, regulatory, technology, and other organizational policy requirements which must be followed as part of communications management. These limitations must be clearly understood and communicated where appropriate. While communications management is arguably one of the most important aspects of project management, it must be done in an effective and strategic manner recognizing and balancing the multiple constraints.

All project communication activities should occur within the project's approved budget, schedule, and resource allocations. The GSP(s) project managers and the leadership of the participating GSAs should have identified roles in ensuring that communication activities are performed.

To the extent possible, to support collaboration and reduce costs, GSP(s) partners should utilize standardized formats and templates as well as project file management and collaboration tools.

[5] See Appendix 1

SITUATION ASSESSMENT

3.1. *Introduction*

The challenges of asking a community to make changes in how things are done, or forging an agreement among multiple parties are often large. Prior to preparing a Coms Plan, a neutral, 3rd party facilitator conducted a stakeholder Situation Assessment (SA).

The facilitator's role was to provide an independent evaluation of potential stakeholder's interest in coordination and governance for GSA formation and GSP development and identify any barriers or concerns that would need to be addressed for the GSA formation process and GSP(s) development to be successful.

3.2. *Situation Assessments*

An SA is an information-gathering process that informs outreach, engagement and collaboration. As part of preparing the basin communication's process, it was important to know more about:

- Stakeholder Categories
- Opinion leaders
- Regulatory and political context
- Advocates and detractors
- Attitudes and knowledge
- Other elements useful to the crafting of decisions

An assessment is also a low risk approach to education and signaling a future relationship. It facilitates the community's appraisal of its needs, wants and values. A well-crafted assessment sets the stage for the parties to better understand and interpret their situation so that they can make informed decisions for actions, in the short term and for the future.

The Delta-Mendota subbasin SA included background research and interviews. Interviews were usually with individuals but in a few cases a very small group was convened. To encourage candor, the results of the input process were bundled so those interviewed were not individually identified unless they explicitly indicated they wished to share their individual response.

3.3. *Background Research*

The facilitator worked closely with the SLDMWA and DWR to identify useful documents, plans and activities that might inform the overall communications planning process.

3.4. *Interviews and Consultations*

Using information gathered during the background research and similar GSA formation efforts throughout the state, the facilitator worked with the SLDMWA to craft interview questions. The facilitator also provided some selection criteria to the SLDWMA to help identify a representative group of interview candidates. Once selected, the SLDMWA staff and facilitation team invited the interviewees to participate. In addition to full interviews,

additional calls and in person communications were conducted to acquire amplifying information. **Figure 4** provides a quick overview.

Figure 4. Interview and Consultation Quick Facts

Selected participants were all engaged or otherwise stakeholders in some aspect of the basin GSA development process.

A project background sheet was provided in advance of each formal interview and used again during the interviewee discussions with the facilitator. Each interview followed the same format and included 16-18 questions (depending on whether or not a follow-up question was needed).

The questions covered the following topics pertaining to the GSA formations and GSP(s) development:

1. Overarching perspectives from each key stakeholder on general groundwater conditions, GSA governance; subbasin management and associated SGMA compliance
2. Preferred methods to achieve groundwater sustainability consistent with SGMA requirements
3. The level of agreement/conflict around groundwater governance across the range of stakeholder perspectives
4. Experience with facilitated processes, outreach and engagement, and the goals for such support
5. Potential configurations of governance and formations of GSAs and GSP development

3.5. *Summary of key findings*

Interview results indicate an overall positive environment for the project and project communications; however, the effort will require interactions of a large number of parties and planning for an extremely complex system. Following are the reflections, ideas and suggestions of those contacted.

3.5.1. Related to Groundwater Sources and Trends

- *Significant observed impacts associated with Weather, Water Project Deliveries and Cropping Patterns* – Participants observed a declining

groundwater situation and were able to attribute it to drought and weather (particularly timing of seasonal rainfall and periods of prolonged, higher temperatures), conversion to permanent crops, and significant changes in access to surface water.

- *Surface & Groundwater Nexus* – As noted in comments related to access to surface water, there was a clear understanding of the surface/groundwater nexus. Many believed that any realistic solution would have to include a full assessment of the region's surface water future.

- *Extremely Complex Systems* – Many of those interviewed reported that parts of the subbasin were doing fine and could, with good management, be sustainable. They described problems as being primarily in pockets of the subbasin. They also characterized some parts of the subbasin as not being managed sustainably and indicated that they believe this would have continued had SGMA not passed. While it was generally agreed that it would have been better if SGMA was not driving the change, they felt change would not occur without something like SGMA. Several of the participants were able to describe specific locations and situations that illustrated this.

  Issues related to operations of the Bureau of Reclamation, the Delta-Mendota Canal (DMC), the Mendota Pool and restoration activities are of keen interest to all the stakeholders. Everyone was familiar with issues of subsidence and with the facts and figures represented in graphics like those in **Figure 5**, prepared by the United States Geological Survey (USGS).[6]

  Many perceived that groundwater supplies for municipal uses in some parts of the basin were at risk.

- *Historic Rights and Arrangements* – Access to surface water is based on numerous historic rights and agreements as well as more contemporary agreements. As such there is no **single** description of the status of surface water availability among the many subbasin GSAs,[7] although there is a strong understanding of the rights and arrangements that do exist.[8]

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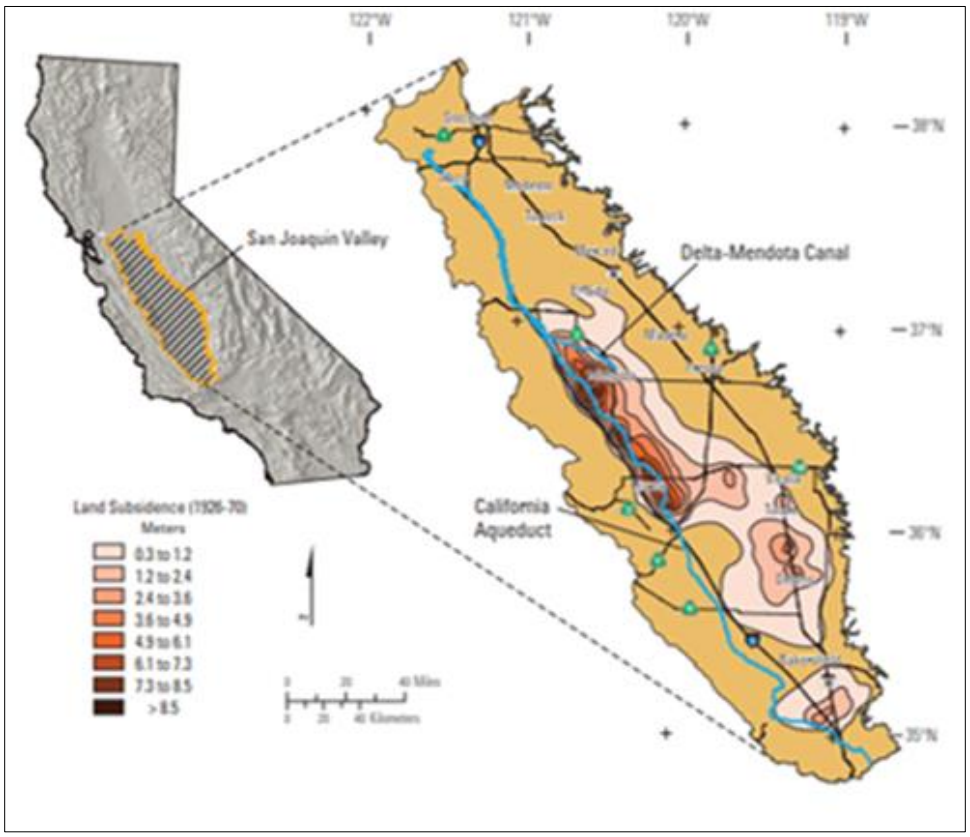
[6] U.S. Department of the Interior | U.S. Geological Survey: https://ca.water.usgs.gov/projects/central-valley/delta-mendota-canal.html, Page Last Modified: Monday, 20-Mar-2017 22:39:47 EDT

[7] A full inventory of water rights and arrangements for the subbasin GSAs is recommended to be prepared as part of the GSP planning process.

[8] In 2010 there were 1,403 water rights claimed in the San Joaquin Delta watershed, the largest number of any watershed in the State. [Source: Associated Press: Original data source is State Water Resources Control Board eWRIMS, Database

Figure 5. USGS Illustration of the DMC and Subsidence



The hierarchy of water rights as well as laws related to groundwater rights will be a significant factor in GSP negotiations.

Another historical factor related to sustainability is the character of land ownership. There was a perceived difference in the values placed on sustainability by multi-generational family farms versus investor driven agriculture and/or water development.

3.5.2. Related to GSA Governance; Subbasin Management and SGMA Compliance

- *Numbers* - The subbasin includes numerous Water Agencies (35) and other potential GSA eligible agencies including Cities and Counties (such as Dos Palos, Firebaugh, Gustine, Los Baños, Mendota, Newman, Patterson, Fresno, Madera, Merced, San Joaquin, and Stanislaus) and Community Service Districts (CSDs) including among others Grayson, Westley, and Volta, as well as multiple Resource Conservation Districts (RCDs) that for the most part were within the general boundaries of other GSA eligible authorities (Panoche, Poso and Grasslands as an example).

  By the June 30, 2017 filing deadline, 23 eligible entities had formally filed GSA formations and met SGMA requirements for subbasin coverage.

Even with this large number of GSA entities, during the SA interviews and in a follow-up survey, most agencies indicated a preference for a reduced number of GSPs and potentially just one or two.

At the time of this assessment there was not a full understanding of all of the potential requirements of being a GSA and ultimately what might be required to prepare a compliant GSP.

Table 3. Number of Subbasin Public Water Agencies

Number of Public Water Agencies		
• Merced County	• Foothill WD	• Panoche WD
• Fresno County	• Fresno Slough WD	• Patterson WD
• Broadview WD	• Grasslands WD	• Romero WD
• Centinella WD	• Hospital WD	• Salado WD
• Central California ID,	• Kern Canon WD	• San Luis Canal Company
• Davis WD	• Laguna WD	• San Luis WD
• Del Puerto WD	• Mercy Springs WD	• Santa Nella C.WD
• Eagle Field WD	• Mustang WD	• Sunflower WD
• El Solyo WD	• Oak Flat WD	• Tranquility ID
• Farmers WD	• Orestimba WD	• West Stanislaus ID
• Firebaugh Canal WD	• Oro Loma WD	• Widren WD
	• Pacheco WD	• Quinto WD

At the time of this assessment participants did not fully recognize the potential number of stakeholders and/or the requirements to conduct outreach.

- *Subbasin Governance Structures* – Many individuals and entities within the subbasin have experience working in cooperative governance and related structures. For example, the SLDMWA provides leadership for an Integrated Resource Water Management Plan (IRWMP) illustrated in **Figure 6**[9] on the following page. Many of the stakeholders are also involved with Irrigated Lands Coalitions (see **Figure 7**).[10]

  Likewise, many are also involved in efforts related to the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative (see **Figure 8**).

[9] Source : San Luis & Delta-Mendota Water Authority, Westside-San Joaquin Integrated Water Resources Plan, July 2014

[10] Source: Central Valley Regional Water Resources Control Board

Existing Cooperative / Collaborative Governance Structures with Delta Mendota Subbasin Stakeholders

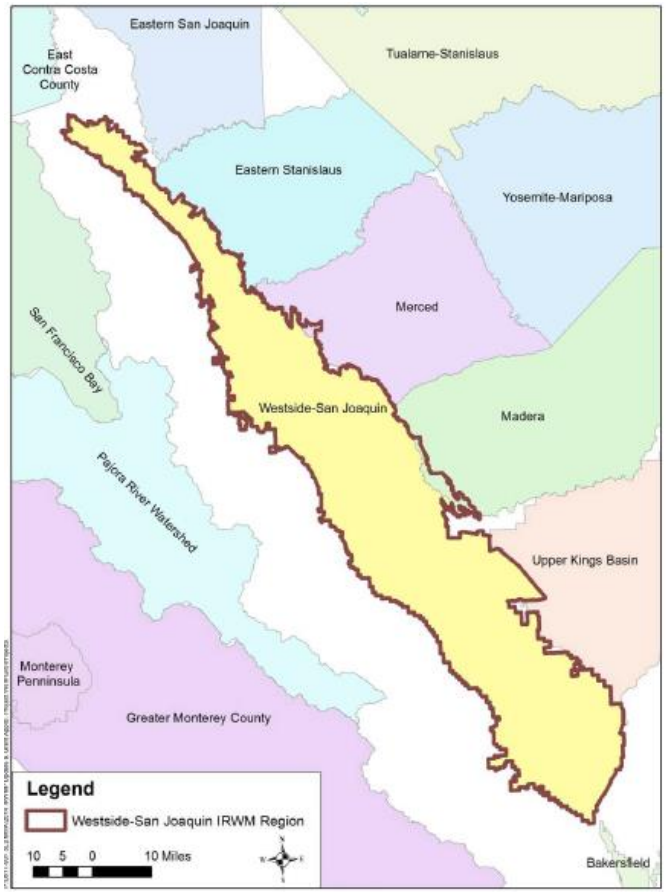


Figure 6. Integrated Regional Water Management Groups

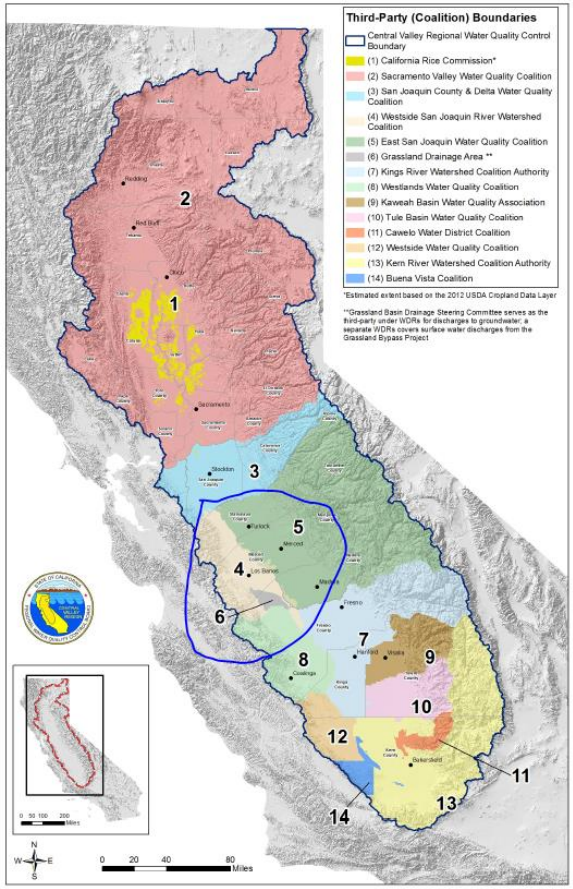


Figure 7. Irrigated Lands Coalitions

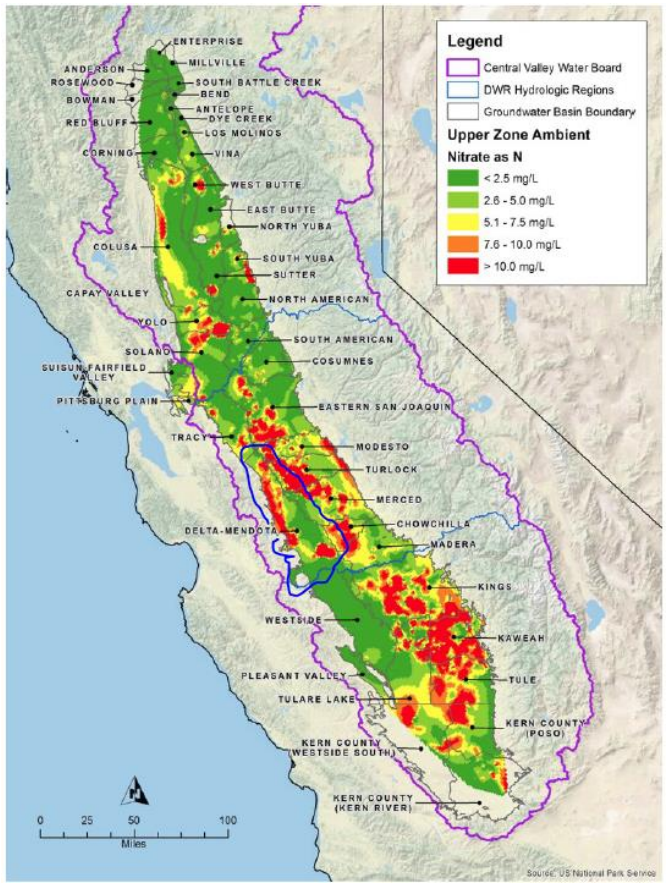


Figure 8. CV-Salts Initiative

CV-Salts was launched to develop sustainable salinity and nitrate management planning for the Central Valley. (See **Figure 8**.[11])

Finally, there are multiple arrangements in place related to surface water transfers and other previous groundwater management planning efforts.

Experience with these programs has created a capacity for collaborative planning that will be essential for GSP development. It also creates opportunities to access and leverage existing stakeholder meetings and events rather than needing to convene multiple new stakeholder processes.

3.5.3. Issues to be Addressed in Creating a Sustainability Plan

Some of the participants indicated they had an extremely good understanding of their section of the subbasin, with exact and extensive records to support their perspective. They found that making projections using historical data had been more reliable than some of the groundwater models that were in use.

In thinking about development of a GSP they felt there could be some difficulty in developing water balances due to lack of quality data for some locations. Another mild concern was the potential for disagreements about the selection of a groundwater model(s) or reconciling differences among methods.

Still another concern was the capacity of the GSAs and/or GSA members to fully participate. Some of these agencies are very lightly staffed and have varying levels of knowledge related to groundwater management. All of the participants had significant other duties prior to the passage of SGMA.

One concern, expressed after completion of the assessment, was the potential for some agencies to simply opt out of participating in the development of a GSP but still receive the benefits of the region having an approved plan without having contributed to the larger good of the subbasin.

3.5.4. Representation

The State Board lists the following as Required Interested Parties for the purpose of SGMA outreach:

- All Groundwater Users
- Holders of Overlying Rights (agriculture and domestic)
- Municipal Well Operators and Public Water Systems
- Tribes
- Counties
- Planning Departments /Land Use
- Local Landowners
- Disadvantaged communities
- Business

[11] Ibid

- Federal Government
- Environmental Uses
- Surface Water Users (if connection between surface and ground water)

All of these stakeholder categories were contacted in the interview process excepting tribes. In the case of tribes, there are no classified tribal lands in the Delta-Mendota subbasin, therefore no planning, outreach or communication needs are currently anticipated for tribes.

Due to subbasin characteristics, a primary focus of the assessment was on agricultural, disadvantaged communities (DACs) and municipal groundwater users.

- *Related to Agricultural Representation* - most respondents believed that the elected leadership of the GSA agencies would do a good job in representing agriculture and noted that many of them were growers themselves. It was also noted that farmers were busy and would be far more interested in any specifics of a GSP that would impact operations or the degree of certainty about water availability than the particulars of GSA governance.

- *Regarding DACs* - Much of the subbasin and its counties (San Joaquin, Stanislaus, Merced, and Fresno) have communities that meet the DAC definition and the region is generally considered disadvantaged. The ability of DACs to participate in GSP development was considered limited and it was thought that there would be a need for specific and direct outreach to DACs through elected leadership and via use of trusted community advocates. As part of the SA, several of those interviewed identified themselves as being able to represent a DAC perspective and one in particular was particularly concerned about the availability of Spanish language materials. As a result, Spanish language materials were included in the meeting materials of the public GSA adoption meetings and the SLDMWA provided a fluent Spanish speaker to assist with meetings.

  In the past, to promote DAC identification and involvement, the Westside-San Joaquin IRWM previously conducted an extensive survey of private and public community representatives to educate and encourage understanding of the IRWM process, to help understand the issues confronted by DACs, and to

better address the needs of minority and/or low-income communities. This effort resulted in identification of DACs in the Region and an initial list of 22 projects that would benefit DACs and low-income communities. Given known constraints on this community it is recommended that more focused DAC outreach should be coordinated with the IRWM. This effort is now in progress.

- *Regarding Municipals* - The SA outreach also included interviewing Municipal Stakeholders. A significant number of the Cities are fully dependent on wells for water supply and issues related groundwater management are of grave concern. These representatives all felt that even while it would be difficult to make time to participate in GSAs and GSP development, that they must make the time. Many had also determined that they wished to form their own GSA to reflect their specific interests in any kind of broader GSP negotiation.

- *Regarding Environmental Interests* - There appeared to be a less defined stakeholder segment representing traditional, environmentally focused issues. Outreach was made to subbasin government agencies that often serve as a surrogate for these interests and an informal consultation occurred with a representative of the Planning and Conservation League to identify any known, active stakeholders. However, no specific entity or individual was identified by those contacted. A general perception was that this community would desire engagement and would designate representatives if the GSP development was thought to potentially impact existing restoration or other environmental concerns but the formation of GSAs per-se, was of less interest. The next phase of communications should include outreach to organizations such as Audubon, the Nature Conservancy and Ducks Unlimited just to ensure due diligence. These connections will be important going forward, particularly if environmental issues are identified.

- *Regarding Industrial Users* – The region includes some industrial water users. This sector has a relatively lower percent of water use compared to other subbasins users; however, representatives of the sector pointed out how essential access to water was to their industry. The interviewees also emphasized how important these industries were to the local economies. There was a stated concern about representation since there didn't appear to be a direct way to engage, particularly with multiple GSAs being formed.

- *Regarding Counties & Planning Agencies* – All of the subbasin counties have designated representatives and all are assisting with GSA coverage for areas not otherwise covered by a GSA. All of the city and county representatives had direct engagement with the planning arms of their jurisdictions, or were staff to the planning departments. These representatives, like the municipal representatives, viewed this as critical issue even as it creates new workload for the already busy entities.

3.5.5. Communications and Facilitation Preferences

Participants were asked to describe their communications preferences. Several offered specific suggestions on written materials. Most did not believe there would be a need for a high frequency of communications directly with non-GSA stakeholders.

Several suggested using regularly scheduled activities of existing groups and gatherings to share information rather than creating stand-alone events. They listed annual meetings of the water agencies as one good venue as well as meetings related to the IRWM and Irrigated Lands. Several also thought that it would be good to go to places like Farmers Markets, particularly for the disadvantaged communities, and County Fairs.

Farm Bureau representatives also indicated a willingness to support outreach efforts. The Merced Farm Bureau, in particular, has already helped to advertise public meetings related to GSA formations.

Related to facilitation there was not a broad exposure to professional facilitators among many of the stakeholders. Even so, participants consistently listed qualities such as fairness and transparency, a good understanding of the issues, and confidence as helpful facilitator strengths. There was a sense that the GSAs would not need hand holding but that facilitation could be useful for helping the stakeholders forge decisions and making what many believed would need to be compromises.

3.5.6. Success Factors, Barriers to Success

The participants were asked to describe their view on the odds for success as well as any barriers that would prevent successful completion of a GSP.

Overall, most participants expressed a medium to high likelihood for success. They noted that the carrot (grants and technical support) and stick (significant regulatory intervention) by the State creates a dynamic that is supportive to success.

Participants stated barriers related to the capacity of the GSAs to participate and ultimately agree to, and implement changes. The much diffused governance structure of multiple GSAs amplifies this dilemma as do actions beyond the control of the subbasin entities (such as climate and water deliveries).

In addition to perceived barriers, participants outlined their thoughts on opportunities and success strategies.

- *Drought* – While the drought was unwelcome it increased awareness of the need for changes. Many felt it would be easier to move forward while the topic is prominent in everyone's minds.
- *Short and Long Game* – Several suggested it will be important to have a plan that includes long and short term strategies and activities.
- *Integrated Planning* – Many of the participants emphasized the importance of integrated planning.

3.5.7. Other Comments and Advice

Many participants expressed appreciation for being contacted and invited the facilitator to contact them again if there were questions.

3.6. *Promising messages and methods*

Three primary communications strategies have already been identified for the GSP(s) development:

- Leveraging the activities of existing groups
- Providing targeted, communications and outreach to opinion leaders in key stakeholder segments
- Providing user friendly information and intermittent opportunities for a broader range of stakeholders

The same strategies aligned with the recommendations of the SA participants. These methods will allow stakeholders to engage commensurate with their degree of interest while providing sufficient information to ensure long-term success for plan development and implementation.

AUDIENCES AND MESSAGES

GSA formation and GSP(s) development**,** like most large planning efforts, consists of a broad range of stakeholders with differing interests and influence.

4.1. Two Core Audience Segments

This Coms Plan Anticipates two core audience segments. First is the subbasin GSA Boards and the communications among and between themselves. This audience segment is significant in size given that 23 GSAs will be working to develop a GSP(s) and each GSA has its own Board and audiences.

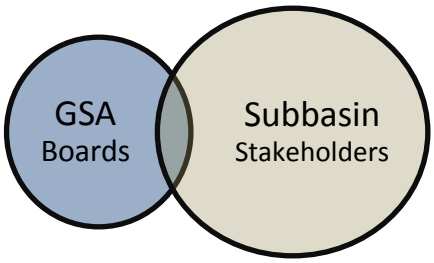


Figure 9. Two Core Audience Segments

The second audience is the subbasin stakeholders as identified in SGMA. This audience is also large. Many of the stakeholders are shared by the GSA Boards and some of the larger stakeholder segments are also represented on the GSA Boards (see **Figure 9**).

Nearly all of the communications strategies apply to both segments; however, some strategies apply to one or the other specifically and are so identified.

4.2. Communications and Change Management

The process of adopting and implementing a GSP will require significant change management. Communications planning should encompass basic change management approaches. Messages should also evolve over time and be tied to the planning process and key decision points. Then, for each audience and each major planning step, communications must do the following:

1. Describe what the actual proposed plan (change) is
2. Articulate how the change will directly impact the category of stakeholder involved
3. Outline the methods that will be used to implement the plan (change)
4. Define the costs and benefits of changing and not changing, and what future conditions will be if change does not occur
5. Consider unintended consequences and others that may also be impacted by the same change then develop a strategy to engage them
6. Offer opportunities for input and for stakeholders and others to improve the approach

The communications requirements for large changes are often underestimated. Some experts indicate that messages may need to be delivered up to 8 different times to be fully absorbed. Communications needs will also evolve as the GSP planning progresses. **Table 4** provides a sample of early communications that focus on SGMA and groundwater basics.

Table 4. Sample – Early Phase Message Elements for Subbasin Stakeholders

Element	What the Change Is	How it will affect the Stakeholder	How the change will be Implemented	Why it is a good idea
Early Phase GSP Development	• Locally governed GSAs will work together to sustainably manage ground water. • The Subbasin /Basin is required to ensure Sustainable Groundwater Management by submitting a sustainability plan by 2020. • The plan must be implemented and found to result in sustainable management by 2040.	(Unique to audience type) • Changes in the current methods of acquiring and utilizing groundwater may occur. • May affect future decisions related to crop types and decisions related to conjunctively using surface water. • May provide additional project resources to the DAC communities.	A collaborative approach is being undertaken to prepare the plan with multiple GSAs coordinating with the SLDMWA as the planning organizer.	• Sustainable and wise use of groundwater allows for the success of future generations and creates greater certainty for today's beneficial users. • Failure to act may result in negative regulatory consequences.

As part of the GSP planning process, the next phase of communications will also need to communicate the requirements for sustainability and how they are achieved in the context of the Delta-Mendota subbasin. Then, communications related to GSP specifics and adoption will require additional outreach, targeted to specific audiences.

4.3. Tied to Decision Making

Communications should also be tightly linked to decision making. For each anticipated decision, stakeholders for that decision should be identified and the following addressed.

1. Who (Is the stakeholder)
    a. An impacted party?
    b. A potential planning partner?
    c. A potential provider of services or resources?
    d. A regulator of the activity?

    (Note: Maybe more than one category.)

2. What (What is the interest of the stakeholder? How will the stakeholder be affected? What are the stakeholders' needs?)
3. Who (Who is the right messenger for the information)
4. How (How should the information be delivered? What are the best methods?)
5. When (What is the appropriate timing for the messages?)
6. Engagement and Knowledge Transfer (How do we create two-way communications?))

Table 5 illustrates some of these ideas.

Table 5. Communications Planning Questions

Who	Interest	Messenger	Delivery	Timing	Knowledge Transfer
• Impacted • Partner • Provider • Regulator	• How will decision affect? • What will stakeholder need?	• Who is a trusted information Source? • How do we ID and Partner	• What are the best delivery methods?	• When should we conduct outreach?	• What do the stakeholders know that we need to know?

4.4. GSA Boards

Due to the multiple subbasin GSAs, specific focus is needed on communications to keep them informed, provide consistent updates and information that the Boards can use in their own outreach, and support their decision making. Primary objectives for communications with the subbasin GSA Boards are to ensure:

- Consistent understanding of the requirements for a GSP and/or GSP coordination
- On-going access to current information
- Timely notice of any significant developments or decision points that may require changes to policies and/or require some other board action
- Confidence that the GSP(s) will be accepted by the GSA's stakeholders

Key communications activities involving the Board include;

1. Providing short and digestible pieces of information to ensure each Board member can quickly articulate to his/her constituents on key matters and remain sufficiently informed so that no decision points are surprises.
2. Provide user-friendly informational materials to be used with public audiences, and will support the Board with their own constituent outreach.
3. Utilize regular Board communications for routine updates and reserve specific Board agenda items for highly significant discussion items.

4.5. Primary Audiences

There are several core stakeholder groups that will require ongoing communications and tailored messaging throughout the planning process. They are:

- Agriculture
- Disadvantaged Communities
- Municipals

Other stakeholders requiring special consideration include:

- Industrial Users/ Business
- Regulators (State and Federal)
- Potential Partners
- Environmental Organizations
- Federal Agencies

While all of the stakeholder types are important to engage for development of a GSP, the first three will be most affected by any changes that might be proposed as a result of the *GSP(s)*.

The following provides an outline of key messages and activities in support of each of the audience types.

4.2.1. Agricultural

Messages about the GSP(s) development should feature the overall desirability of a sustainable management approach how the plan will contribute to management certainty and protect against regulatory oversight.

In thinking about irrigation users it is also important to remember that one size does not fit all.

4.2.2. Disadvantaged Communities

Messages developed for this sector should be tailored and specific to the community. This type of outreach is often best served by use of surrogates and trusted messengers. As identified in the SA, these messages should be aligned with activities of the IRWM, especially given the high, current dependence of many on unsustainable water sources. Messages about ways to access the increased availability of resources due to grant incentives should also be considered.

A specific outreach method to consider relates to the predominance of cells phones within the communities. According to the Pew Research Center, "over 50 percent of low-income households own a smartphone. Smartphone penetration in this demographic creates substantial opportunities for utilities to reach disadvantaged communities with software solutions like customer self-service platforms and targeted digital communications."[12]

4.2.3. Municipals

[12] Secondary Source: Water Smart. https://www.watersmart.com/rethinking-disadvantaged-community-engagement/ (accessed June 1, 2017)

Some care will be needed to address tensions related to the relative percentages of use by Municipal agencies and what constitutes highest and best beneficial uses within an agricultural region. A promising interaction with this community would involve collaboration on messaging to achieve mutually beneficial goals.

Some thought it might be possible for the municipal agencies to provide in-kind support to the GSP development process through support for project websites and mailing lists, production of meeting notices, assistance to the planning process from in-house public information professionals and offering access to physical meeting spaces.

Municipals may need assistance in making the case for the need to think at a Basin scale rather than more local terms.

4.2.4. Business and Industry Interests

Business and industry interests seek assurances about the availability of water for operations and the viability of the farming industry in the region. Messages for these audiences should focus on how the GSP(s) development will contribute to sustainability and how these audiences can participate in discussion specific to their interests.

4.2.5. Regional/Statewide Interests and Regulators

Some degree of uncertainty remains in the overall legal, legislative and regulatory environment as it relates to SGMA implementation.

It is in the interest of the subbasin stakeholders to engage state and federal agencies and regulators throughout the process. These parties may have resources to assist the subbasin and a cooperative attitude will build good will in the event that adjustments are needed to achieve SGMA compliance.

4.2.6. Potential Agency Partners

A variety of collaborations to achieve GSP(s) development goals may be possible. The GSAs should consider the potential for collaboration with non-GSA members and inter-basin (adjacent subbasin) partners, as part of plan deliberations.

4.2.7. GSP Coordinators Planning Forum

A planning forum for subbasin GSP coordinators should be established to further inform a coordination strategy. This forum would include agency representatives as well as the consultant teams and be used for the sole purpose of coordination and mutual support. It is anticipated that this body might meet on a quarterly or as needed basis. This forum would also provide a central point of contact for adjacent subbasin coordinators.

4.2.8. Environmental Community

As noted in the SA, this community will be interested in a GSP features. The focus of messaging for this group being on how the GSP(s) development will contribute to a sustainable regional water portfolio. Special effort should be made to identify specific

topics of interest. For example, as part of GSP development, a list of groundwater dependent species may be created, or impacts to wetlands may be identified. These types of lists would highlight where input from the environmental community might be needed.

4.2.9. Federal Government

Federal representatives interviewed for the assessment asked to be kept informed of subbasin SGMA activities. These agencies have a direct interest in surface water integration as well as SGMA activities that could impact wetlands restoration efforts or groundwater dependent ecosystems and species.

RISK MANAGEMENT

Risk management is the identification, assessment, and prioritization of risks (defined as *the effect of uncertainty on achieving objectives*) followed by coordinated, efficient and economical strategies and actions to minimize, monitor, and control the probability and/or impact of negative events. Strategies and actions may also be used to avert risk by leveraging strengths and opportunities.

Risks can come from uncertainty in economic factors, threats from project failures (at any phase), regulatory and legal uncertainties, natural causes and disasters (drought, flood, etc.), as well as dissention from adversaries, or events of uncertain or unpredictable circumstances. Several risk management standards have been developed. This analysis utilizes those from the Project Management Institute.

Table 6 outlines standardized risk categories and translates them to outreach risks.

Table 6. Risk Factors

RISK CATEGORY	Outreach RISK FACTORS
Technical, quality, or performance	• Realistic performance goals, scope and objectives
Project management	• Quality of outreach design • Outreach deployment and change management • Appropriate allocation of time and resources • Adequate support for Outreach in project management plans
Organizational / Internal	• Executive Sponsorship • Proper prioritization of efforts • Conflicts with other functions • Distribution of workload between organizational and consultant teams
Historical	• Past experiences with similar projects • Organizational relations with stakeholders • Policy and data adequacy • Media and stakeholder fatigue*
External	• Legal and regulatory environment • Changing priorities • Risks related to political dynamics

5.1. Technical, quality, or performance

The subbasin is fortunate to have a high level of water knowledge and skilled personnel available to assist with GSP planning. In general, stakeholder expectations for outreach and performance goals, scope and objectives are attainable. The larger concern in this category is properly communicating the scope of the GSP(s) development and the need for extensive coordination and outreach among a number of parties. Communication of SGMA

requirements for outreach as a planning requirement should be an ongoing consideration and appears to be underestimated in emphasis.

5.2. Project management

A number of positive project management factors are present for the GSP(s) development outreach. Project managers view outreach as an important planning element. The outreach design is based on best management practices and industry standards. It is not overly complicated and with technical services support from DWR and other sources, sufficient resources should be available to properly execute it. Procedures and practices are already in place that can be leveraged to achieve communication goals.

The primary concern in this category relates to GSP coordination. This type of outreach will require additional assessment as the individual GSAs will determine their own protocols for representation.

5.3. Organizational / Internal

Conflicts with other GSA member functions and/or conflicts with outreach activities by efforts that include the same stakeholders (e.g. Irrigated Lands, IRWM, and CV-Salts) should be monitored.

One additional consideration will be the distribution of workload between GSA, organizational and consultant teams. Clear roles and responsibilities must be defined and continuous interaction in place to ensure successful execution.

The GSP(s) development process will also need identified, high level spokespersons or champions. These individuals should be able to discuss subbasin planning with the media, in discussions with regulators and potentially at professional conferences.

5.4. External

The legal and regulatory environment of the GSP(s) development process is complex and evolving. Ongoing issues with surface water deliveries and changing agricultural market conditions are outside of the control of the parties. It will be important for mechanisms to be in place that allow for relatively rapid responses to changing conditions.

5.5. Historical

The primary stakeholders in this process generally view interactions and meetings as productive. There is a history of cooperation and a willingness to work together to save costs and achieve better outcomes.

TACTICAL APPROACHES

Following are specific tactical approaches that may be utilized to deliver the activities, messages, and recommendations of the previous chapters. These approaches are based on best communication practices and grounded in the public participation philosophy of the International Association for Public Participation, Public Participation Spectrum as illustrated in **Table 7**.

The Spectrum represents a philosophy that outreach should match the desired level of input from both the stakeholder and the organizational entity.

Table 7. IAP2 Public Participation Spectrum

IAP2 Public Participation Spectrum

Developed by the International Association for Public Participation

INCREASING LEVEL OF PUBLIC IMPACT

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**
We will keep You informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and issues are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Tools:	**Example Tools:**	**Example Tools:**	**Example Tools:**	**Example Tools:**
• Fact sheets • Web Sites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberate polling	• Citizen Advisory Committees • Consensus-building • Participatory decision-making	• Citizen juries • Ballots • Delegated decisions

Based on the assessment findings for the GSP(s) development, most stakeholders would simply like to be INFORMED unless there is a potential for significant changes that may include that stakeholder. Tactics for this group will include fact sheets, websites, open houses, briefings, and informational items placed in publications they already read.

The next largest group of stakeholders, primarily groundwater pumpers and disadvantaged communities, wish to be CONSULTED. This group will have access to all the materials

prepared as part of the informational phase. In addition they should be invited to provide comments on written materials and planning concepts and participate in focused workshops and/or briefings. They should also be invited to attend larger public meetings.

The development of some GSP features may require a higher degree of INVOLVEMENT. This would focus on engagement of a subset of stakeholders that may experience significant impacts associated with SGMA.

COLLABORATION opportunities have also been identified; however, they are of a different character than defined in the Spectrum. Collaboration in this GSP(s) development process will focus on working with partners that have mutual goals to achieve those goals together. This will more resemble a partnership than a public engagement activity.

6.1. Communications Coordination.

Each GSA is required to perform legally mandated outreach activities and the GSP submission guidelines require a minimum level of engagement.

The subbasin GSAs should coordinate outreach activities even if there is a decision to move forward with multiple GSPs. In addition to efficiency and cost savings (the GSAs can share resources) this strategy will allow for consistency in messaging and reduce confusion for stakeholders that may not know what GSA jurisdiction they are in, and/or are in multiple GSA jurisdictions. Following are suggested options for communications coordination.

1. Website
2. Meeting calendar
3. Branded informational Flyers, Templates, PowerPoint Presentations, etc.
4. Periodic newsletter
5. GSP related mailing lists
6. Descriptions of interested parties
7. Issues and interest statements for legally mandatory interested parties
8. Public workshops
9. Message calendar
10. Press releases and guest editorials
11. Speakers Bureau
12. Existing group venues
13. Outreach documentation

6.2. Tactics

6.2.1. Website

As part of the communications plan development, a list of website concepts and draft website content was prepared. The following describes the proposed approach:

a. Centralized – Establish a centralized website for the entire subbasin.
b. Individual GSAs – Posting of material to a website is part of the SGMA requirements. Those GSAs with their own webpages can link to and from the centralized site if they wish to provide their own customized information. For those GSAs without their own website, courtesy pages would be provided as an added feature of the main site. The courtesy pages would all use a single template with the same information to facilitate easy management and updates. Individual GSAs choosing to take advantage of the courtesy pages would be responsible for ensuring that information is current. The page should include a "Last Updated" box to indicate the timeliness of the information.
c. **Basic features** – A basic website framework has already been developed along with introductory information that has prepopulated each page. **Figure 10** illustrates the basic content of the site and includes:
    1. Background information
    2. Information about getting involved, including meeting information
    3. A separate link for Spanish Language materials
    4. Frequently asked questions
    5. Links to GSAs
    6. Contact information

    Should a GSA decide to not participate in the Central website, a similar structure could be utilized.

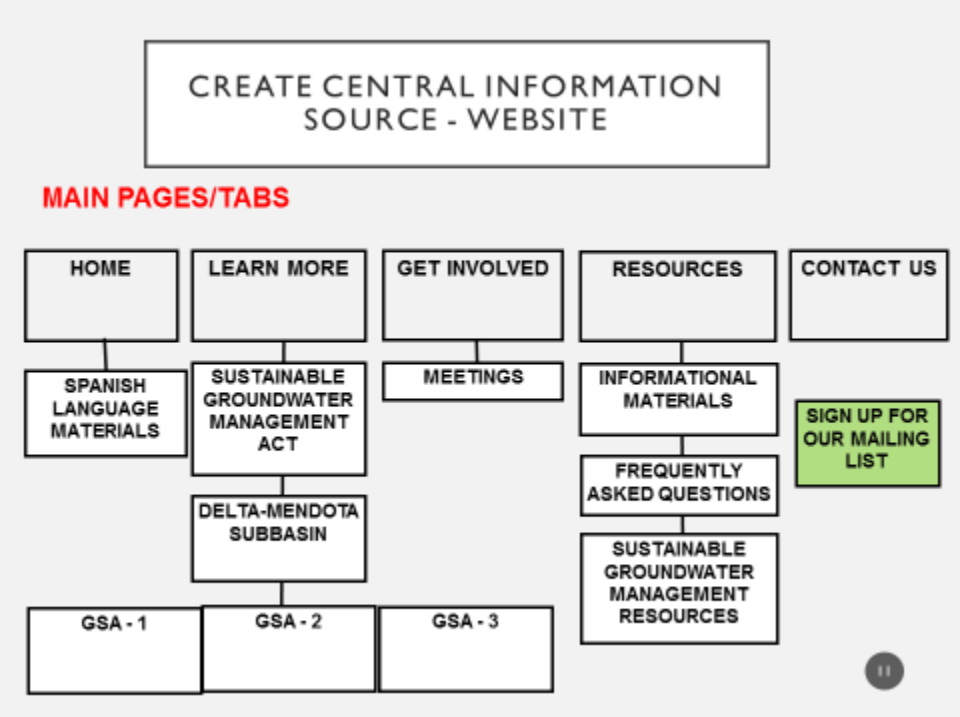


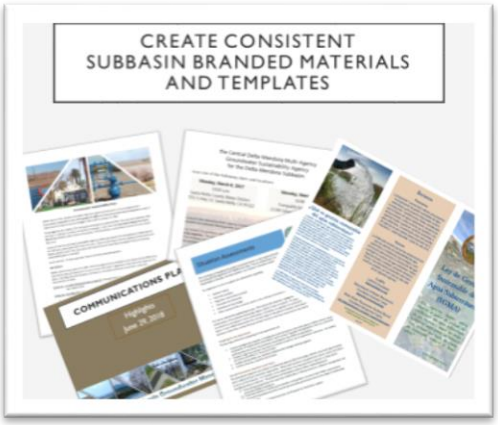
Figure 10. Website Structure

6.2.2. Meeting Calendar

A shared meeting calendar will provide a one-stop shop for stakeholders and assist in preventing meeting conflicts while creating more potential for shared activities. This calendar should include current and scheduled meetings and workshops as well as serve as the repository for agendas and meeting notes, along with copies of meeting materials and presentation.

An integrated project calendar should also be developed that links planning project milestones with communications milestones.

6.2.3. Branded Informational Flyers, Templates, PowerPoint Presentations, etc.



Subbasin level materials should have a single look and feel to create on-going consistency and visual recognition by stakeholders. Use of templates, shared presentations and flyers will create efficiencies and reinforce messaging. This communications plan incorporates some of this type of branding.

6.2.4. Periodic Newsletter

The need for regular communications cannot be overstated. One option is production of a periodic newsletter. Given the relatively short GSP(s) development process timeframe and the GSP development requirements for periodic outreach to identified stakeholders, a quarterly schedule would be realistic and achieve compliance with SGMA requirements for periodic updates to stakeholders. The newsletter should be designed so that individual GSAs can add tailored information if they choose to. For Portable Document Format (PDF) versions of the newsletter, a GSA could add a simple one or two page insert and the edition could be used as a handout or mailer. For a professional looking, email version of the newsletter, we recommend free or low cost services such as Mail Chimp or Constant Comment, which can be integrated with mailing lists.

Adding GSA specific information to an email newsletter can be done with web-links in the email to the very same PDF page prepared for the hardcopy mailer. An alternative is emailing the entire newsletter PDF as an attachment (although this format is less likely to be read than the mailer services).

6.2.5. GSP related mailing lists

Each GSA is required to develop notification lists. A central list may be utilized for GSP(s) related notifications.

6.2.6. Descriptions of Interested Parties

Each GSA is required to develop descriptions of interested parties. These lists should be updated and merged for use in the GSP(s) submittal(s). These can also be provided as background information on the website as part of constructing an administrative record. The SA in Chapter 4 provides an initial start for this documentation.

6.2.7. Issues and Interest Statements for Legally Mandatory Interested Parties

A GSP submission must include a statement of interests for listed stakeholders. As suggested earlier, this can also be included on the website.

6.2.8. Coordinated Public Workshops

SGMA requires a series of public hearings and some public workshops. Such workshops should be coordinated with other subbasin entities.

During the GSA formation process the County of Merced and a forming GSA body conducted a joint workshop to explain more about SGMA and the proposed GSA formation. Distribution of meeting flyers and notices was done concurrently, and DWR attended the event to answer questions. The GSP development process will offer similar opportunities, not only within the subbasin, but with adjacent subbasins.

6.2.9. Message Calendar

Basic messages should be associated with the planning schedule and each stage of GSP(s) development and serve as the theme for the communications materials being generated. For example, during the GSA formation period there was a need to communicate the basics of SGMA and groundwater management. During the GSP(s) initiation phase messages should focus on the basics of groundwater sustainability and the current state of the subbasin. As the GSP(s) begins to take form the specifics of the GSP(s) and what it means for each stakeholder would be the focus.

6.2.10. Press Releases and Guest Editorials

At some point in the GSP development and implementation process, it is likely that stakeholders will be asked to make changes and/or financially support a sustainability effort. It will be more productive for the GSAs and their GSP collaboration partners to frame discussions about these changes than to have others, perhaps with less knowledge, do so on their behalf. For that reason there is a need for press releases and/or guest editorials to offer the media and stakeholders accurate information offered in the context of SGMA. This type of outreach should be closely coordinated as consistency in messages is critical to stakeholder acceptance.

6.2.11. Speakers Bureau

Efforts should be made to conduct outreach at events and meetings that already occur (e.g. Farm Bureau meetings, Rotary Club, etc.). A list of knowledgeable presenters should be developed in the event an organization or other entity would like a presentation. Speakers Bureau engagements should be recorded on the planning project meeting calendar.

6.2.12. Existing Group Venues

Fully leverage the activities of existing groups.

- Maintain a roster of existing groups and typical meeting schedules with a nexus to GSP(s) development. Add the dates to the messaging calendar.
- The list of audiences, messages and existing groups should be referenced when there is a need to deploy information.
- Conduct informal outreach with the leaders of such groups to determine the best way to interact.
- Determine what communications channels these groups are using and equally leverage these, for example by placement of articles in newsletters.

6.2.13. Outreach Documentation

A central point of contact should be identified on the website and an outreach statistics inventory should be established that identifies dates, times, audiences and attendance. This information will be also be useful in conducting follow up with stakeholders as well as documenting outreach as part of GSP submittal guidelines.

6.3. Procedural and Legally Mandated Outreach

A discussion of SGMA outreach requirements was provided in Chapter 1 and a full list of requirements is contained in Appendix 1. One major feature of the requirements is a submission to DWR of the opportunities that interested parties will be given to participate in the GSP deliberations. The Situation Assessment provides an initial description that can be added to with additional outreach.

Following are the Required Interested Parties for the purpose of mandated outreach:

Table 9 provides a list of the mandated outreach and the timeframe in which is required.

Table 8. Mandated Outreach

Timeframe	Item
Prior to initiating plan development	1. Statement of how interested parties may contact the Agency and participate in development and implementation of the plan submitted to DWR.

Timeframe	Item
	2. Web posting of same information.
Prior to plan development	1. Must establish and maintain an interested persons list. 2. Must prepare a written statement describing the manner in which interested parties may participate in GSP development and implementation. Statement must be provided to: a. Legislative body of any city and/or county within the geographic area of the plan b. Public Utilities Commission if the geographic area includes a regulated public water system regulated by that Commission c. DWR d. Interested parties (see Section 10927) e. The public
Prior to and with GSP submission	1. Statements of issues and interests of beneficial users of basin groundwater, including types of parties representing the interests and consultation process 2. Lists of public meetings 3. Inventory of comments and summary of responses 4. Communication section in plan that includes: • Agency decision making process • ID of public engagement opportunities and response process • Description of process for inclusion • Method for public information related to progress in implementing the plan (status, projects, actions)
90 days prior to GSP Adoption Hearing	1. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must notify cities and/or counties of geographic area 90 days in advance.
90 days or less prior to GSP Adoption Hearing	2. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must: a. Consider and review comments b. Conduct consultation within 30 days of receipt with cities or counties so requesting
GSP Adoption or Amendment	1. GSP must be adopted or amended at Public Hearing.
60 days after plan submission	1. 60-day comment period for plans under submission to DWR. Comments will be used to evaluate the submission.
Prior to adoption of fees	1. Public meeting required prior to adoption of, or increase to fees. Oral or written presentations may be made as part of the meeting. 2. Public notice shall include: a. Time and place of meeting b. General explanation of matter to be considered

Timeframe	Item
	c. Statement of availability for data required to initiate or amend such fees d. Public posting on Agency Website and provision by mail to interested parties of supporting data (at least 20 days in advance) 3. Mailing lists for interested parties are valid for 1 year from date of request and may be renewed by written request of the parties on or before April 1 of each year. 4. Includes procedural requirements per Government Code, Section 6066.
Prior to conducting a fee adoption hearing.	1. Must publish notices in a newspaper of general circulation as prescribed. 2. Publication shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. 3. The period of notice begins the first day of publication and terminates at the end of the fourteenth day, (which includes the first day.)

6.4. Items for Future Consideration

This GSP(s) Coms Plan outlines an outreach effort based on project and stakeholder needs and preferences. This document has been prepared as a working draft living document and should be updated as new information and the GSP(s) development process needs are developed.

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MEASUREMENTS & EVALUATION

A guiding principle for evaluation and measurement of the Coms Plan's success is to provide regular, unbiased reporting of progress toward achieving goals. Success may be evaluated in several ways, including process measures, outcome measures, and an annual evaluation of accomplishments. Optional evaluation measures are described below.

As part of each outreach effort debrief the following process and outcome measures will be discussed and recorded in a check sheet. The check sheets will be prepared with the goal of continuous improvement rather than criticisms.

7.2. Process Measures

Process measures track progress toward meeting the goals of the Coms Plan. These include:

- Level of attendance at outreach meetings
- Shared understanding of the overarching aims, activities, and opportunities presented by different planning approaches and project activities
- Productive dialogue among participants at meetings and events
- Sense of authentic engagement; people understand why they have been asked to participate, and feel that they can contribute meaningfully
- Timely and accurate public reporting of planning milestones
- Feedback from Coordinating Body and GSA members, regulators, stakeholders, and interested parties about the quality and availability of information materials
- Level of stakeholder interest in the GSP(s) development process information

7.3. Outcome Measures

Outcome measures track the level of success of the Coms Plan in meeting its overall goals. Some outcome measures considered for the GSP(s) development process include the following:

- Consistent participation by key stakeholders and interested parties in essential activities. Participants should have no difficulty locating the meetings, and should be informed as to when and where they will be held.
- Response from meeting participants that the engagement methods provided for a fair and balanced exchange of information.
- Feedback from interested parties that they understand how their input is used, where to track data, and what results to expect.
- The project receives quality media coverage that is accurate, complete and fair.

7.4. Mid-cycle Evaluation of Accomplishments

A mid-cycle evaluation provides an opportunity to examine the current effectiveness of the Coms Plan and provides a chance to reevaluate strategies to meet the GSP(s) development process objectives. The evaluation tasks may include:

- Preparation of an executive-level summary detailing high-level initiatives and accomplishments of the previous cycle. This evaluation should also include positive news, best practices, goals and objectives, notable changes, timelines, and priorities.
- Identifying gaps and areas for improvement.
- Highlighting how gaps and areas for improvement in the cycle has been addressed.
- Outlining process and outcome measures and their current results.

ROLES AND RESPONSIBILITIES

The GSP(s) development Coms Plan outlines numerous strategies, activities and tactics. While none are highly complex, there is a requirement for coordination and clarity regarding who will be responsible for executing the tasks.

After the planning team evaluates the timelines and priorities for each of the communications activities a recommended next step is completion of a Responsible, Accountable, Consulted, and Informed (RACI) Chart. This Chart, as displayed in **Table 10**, outlines key tasks and the assignment of roles and responsibilities for accomplishing them.

Table 9. Sample RACI Chart

Activity TYPE	SPECIFIC PRODUCT	RESPONSIBLE	ACCOUNTABLE	CONSULTED	INFORMED
Internal Staff Communications, information materials for/briefings	Draft	Person A	Person E	Person I	
	Final Draft	Person A	Person E	Person I	Project Team
List Serves, mailing lists	Customer Contacts	Person B - Person A	Person E	Person I	Project Team
	Concurrent jurisdictions	Lisa Beutler/MWH	Person G	Person I	Project Team
	Other - identified stakeholders	Person A	Person G	Person I	Project Team
Web Content and Maintenance	Draft Content and Content Refresh	Lisa Beutler/MWH/	Person G	Person H	Project Team
	Site Administration	Person A	Person G	Person H	
General public Intro Packets, Fact Sheets and Brochures	Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Revised Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Final Draft	Person D	Person E	Person I- Subject Matter Experts	Project Team
Newsletter Content	Draft	Lisa Beutler/MWH	Person E	Person I- Subject Matter Experts	Person J
	Revised Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Final Draft	Person D	Person E	Person I- Subject Matter Experts	Project Team

Responsible
Those who do the work to achieve the task. There is at least one person with a role of *responsible*, although others can be delegated to assist in the work required.

Accountable (also approver or final approving authority)
This is the person ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. There **may only** be only one *accountable* specified for each task or deliverable.

Consulted
Those whose opinions are sought, typically subject matter experts were people that are impacted by the activity; and with whom there is two-way communication.

Informed
Those who are kept up-to-date on progress, typically on the launch and completion of the task or deliverable. This is one way communication.

Role distinction
There is a distinction between a role and the individual assigned the task. Role is a descriptor of an associated set of tasks that could be performed by just one or many people.

In the case of the RACI Chart, the team may list as many people as is logical except for the Accountable role.

Scope of Work
Completion of the RACI Chart will also support development of any future scopes of work for consultant provided communication and outreach services.

LIST OF APPENDICES

Appendix 1-Public Outreach Requirements under SGMA

Appendix 2-Communications Governance

Appendix 1. Public Outreach Requirements under SGMA

GSP Regulations

CODE	PUBLIC OUTREACH REQUIREMENT
§ 353.6. Initial Notification (a) Each Agency shall notify the Department, in writing, prior to initiating development of a Plan. The notification shall provide general information about the Agency's process for developing the Plan, including the manner in which interested parties may contact the Agency and participate in the development and implementation of the Plan. The Agency shall make the information publicly available by posting relevant information on the Agency's website.	1. Statement of how interested parties may contact the Agency and participate in development and implementation of the plan submitted to DWR. 2. Web posting of same information. **Timing**: *Prior to initiating development of a plan.*
§ 353.8. Comments (a) Any person may provide comments to the Department regarding a proposed or adopted Plan. (b) Pursuant to Water Code Section 10733.4, the Department shall establish a comment period of no less than 60 days for an adopted Plan that has been accepted by the Department for evaluation pursuant to Section 355.2. (c) In addition to the comment period required by Water Code Section 10733.4, the Department shall accept comments on an Agency's decision to develop a Plan as described in Section 353.6, including comments on elements of a proposed Plan under consideration by the Agency.	1. 60-day comment period for plans under submission to DWR. Comments will be used to evaluate the submission. 2. Parties may also comment on a GSA's (or GSAs') statements submitted under section 353.6 **Timing**: For GSP Submittal - *60 days after submission to DWR*
§ 354.10. Notice and Communication Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following: (a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties. (b) A list of public meetings at which the Plan was discussed or considered by the Agency. (c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency. (d) A communication section of the Plan that includes the following: (1) An explanation of the Agency's decision-making process. (2) Identification of opportunities for public engagement and a discussion of how public input and response will be used.	5. Statements of issues and interests of beneficial users of basin groundwater, including types of parties representing the interests and consultation process 6. Lists of public meetings 7. Inventory of comments and summary of responses 8. Communication section in plan that includes: • Agency decision making process • ID of public engagement opportunities and response process • Description of process for inclusion • Method for public information related to progress in implementing the plan (status, projects, actions) **Timing**: For GSP Submittal – *with plan* For GSP Development – *continuous. [Note: activities should be included*

CODE	PUBLIC OUTREACH REQUIREMENT
(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin. (4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.	*in the project schedule and information posted on web.]*
§ 355.2. (c) Department Review of Adopted Plan (c) The Department (DWR) shall establish a period of no less than 60 days to receive public comments on the adopted Plan, as described in Section 353.8.	1. 60 day public review period for public comment on submitted plan. **Timing**: After GSP Submittal to DWR – *60 days*
§ 355.4. & 355.10 Criteria for Plan Evaluation The basin shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the Act. The Department shall evaluate an adopted Plan for compliance with this requirement as follows: (b) (4) Whether the interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have been considered. … (10) Whether the Agency has adequately responded to comments that raise credible technical or policy issues with the Plan.	1. Required public outreach and stakeholder information is submitted, including statement of issues and interests of beneficial users. 2. Public and stakeholder comments and questions adequately addressed during planning process. **Timing**: For GSP Submittal – *with plan* For resubmittal related to corrective action – *with submittal*

California Water Code

CODE	PUBLIC OUTREACH REQUIREMENT
10720. This part shall be known, and may be cited, as the "Sustainable Groundwater Management Act." **10720.3** (a) This part applies to all groundwater basins in the state. … (c) The federal government or any federally recognized Indian tribe, appreciating the shared interest in assuring the sustainability of groundwater resources, may voluntarily agree to participate in the preparation or administration of a groundwater sustainability plan or groundwater management plan under this part through a joint powers authority or other agreement with local agencies in the basin. A participating tribe shall be eligible to participate fully in planning, financing, and management under this part, including eligibility for grants and technical assistance, if any exercise of regulatory authority, enforcement, or imposition and collection of fees is pursuant to	1. Tribes and the federal government may voluntarily participate in GSA governance and GSP development. **Timing**: *Prior to initiating development of a plan.*

CODE	PUBLIC OUTREACH REQUIREMENT
the tribe's independent authority and not pursuant to authority granted to a groundwater sustainability agency under this part.	
CHAPTER 4. Establishing Groundwater Sustainability Agencies [10723 - 10724]	
10723. a) Except as provided in subdivision (c), any local agency or combination of local agencies overlying a groundwater basin may decide to become a groundwater sustainability agency for that basin. (b) Before deciding to become a groundwater sustainability agency, and after publication of notice pursuant to Section 6066 of the Government Code, the local agency or agencies shall hold a public hearing in the county or counties overlying the basin.	1. Must hold public hearing in the county or counties overlying the basin, prior to becoming a GSA **Timing**: *Prior to becoming a GSA.*
10723.2 The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include, but are not limited to, all of the following: (a) Holders of overlying groundwater rights, including: (1) Agricultural users. (2) Domestic well owners. (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. (f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies. (g) The federal government, including, but not limited to, the military and managers of federal lands. (h) California Native American tribes. (i) Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems. (j) Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.	1. Must consider interest of all beneficial uses and users of groundwater. 2. Includes specific stakeholders as listed. **Timing**: *During development of a GSP.*
10723.4. The groundwater sustainability agency shall establish and maintain a list of persons interested in receiving notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Any person may request, in writing, to be placed on the list of interested persons.	3. Must establish and maintain an interested persons list. 4. Any person may ask to be added to the list **Timing**: *On forming a GSA.*
10723.8. (a) Within 30 days of deciding to become or form a groundwater sustainability agency, the local agency or combination of local agencies shall inform the department of its decision and its intent to undertake sustainable groundwater management. The	1. Creates notification requirements that include: a. A list of interested parties b. An explanation of how interests will be considered

CODE	PUBLIC OUTREACH REQUIREMENT
notification shall include the following information, as applicable: … (4) A list of interested parties developed pursuant to Section 10723.2 and an explanation of how their interests will be considered in the development and operation of the groundwater sustainability agency and the development and implementation of the agency's sustainability plan.	**Timing**: *On forming a GSA & with submittal of GSP*
10727.8 (a) Prior to initiating the development of a groundwater sustainability plan, the groundwater sustainability agency shall make available to the public and the department a written statement describing the manner in which interested parties may participate in the development and implementation of the groundwater sustainability plan. The groundwater sustainability agency shall provide the written statement to the legislative body of any city, county, or city and county located within the geographic area to be covered by the plan. The groundwater sustainability agency may appoint and consult with an advisory committee consisting of interested parties for the purposes of developing and implementing a groundwater sustainability plan. The groundwater sustainability agency shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin prior to and during the development and implementation of the groundwater sustainability plan. If the geographic area to be covered by the plan includes a public water system regulated by the Public Utilities Commission, the groundwater sustainability agency shall provide the written statement to the commission. (b) For purposes of this section, interested parties include entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.	2. Agencies preparing a GSP must prepare a written statement describing the manner in which interested parties may participate in its development and implementation. 3. Statement must be provided to: a. Legislative body of any city and/or county within the geographic area of the plan b. Public Utilities Commission if the geographic area includes a regulated public water system regulated by that Commission c. DWR d. Interested parties (see Section 10927) e. The public 4. GSP entities may form an advisory committee for the GSP preparation and implementation. 5. The GSP entities are to encourage active involvement of diverse social, cultural and economic elements of the affected populations. **Timing**: *On initiating GSP*
10728.4 Public Notice of Proposed Adoption, GSP Adoption Pubic Hearing A groundwater sustainability agency may adopt or amend a groundwater sustainability plan after a public hearing, held at least 90 days after providing notice to a city or county within the area of the proposed plan or amendment. The groundwater sustainability agency shall review and consider comments from any city or county that receives notice pursuant to this section and shall consult with a city or county that requests consultation within 30 days of receipt of the notice. Nothing in this section is intended to	3. GSP must be adopted or amended at Public Hearing. 4. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must: a. Notify cities and/or counties of geographic area 90 days in advance. b. Consider and review comments

CODE	PUBLIC OUTREACH REQUIREMENT
preclude an agency and a city or county from otherwise consulting or commenting regarding the adoption or amendment of a plan.	c. Conduct consultation within 30 days of receipt with cities or counties so requesting
10730 Fees. (a) A groundwater sustainability agency may impose fees, including, but not limited to, permit fees and fees on groundwater extraction or other regulated activity, to fund the costs of a groundwater sustainability program, including, but not limited to, preparation, adoption, and amendment of a groundwater sustainability plan, and investigations, inspections, compliance assistance, enforcement, and program administration, including a prudent reserve. A groundwater sustainability agency shall not impose a fee pursuant to this subdivision on a de minimis extractor unless the agency has regulated the users pursuant to this part. (b) (1) Prior to imposing or increasing a fee, a groundwater sustainability agency shall hold at least one public meeting, at which oral or written presentations may be made as part of the meeting. (2) Notice of the time and place of the meeting shall include a general explanation of the matter to be considered and a statement that the data required by this section is available. The notice shall be provided by publication pursuant to Section 6066 of the Government Code, by posting notice on the Internet Web site of the groundwater sustainability agency, and by mail to any interested party who files a written request with the agency for mailed notice of the meeting on new or increased fees. A written request for mailed notices shall be valid for one year from the date that the request is made and may be renewed by making a written request on or before April 1 of each year. (3) At least 20 days prior to the meeting, the groundwater sustainability agency shall make available to the public data upon which the proposed fee is based. (c) Any action by a groundwater sustainability agency to impose or increase a fee shall be taken only by ordinance or resolution. (d) (1) As an alternative method for the collection of fees imposed pursuant to this section, a groundwater sustainability agency may adopt a resolution requesting collection of the fees in the same manner as ordinary municipal ad valorem taxes. (2) A resolution described in paragraph (1) shall be adopted and furnished to the county auditor-controller and board of supervisors on or before August 1 of each year that the alternative collection of the fees is being requested. The resolution shall include a list of parcels and the amount to be collected for each parcel. (e) The power granted by this section is in addition to any powers a groundwater sustainability agency has under any other law.	Related to GSAs 5. Public meeting required prior to adoption of, or increase to fees. Oral or written presentations may be made as part of the meeting. 6. Public notice shall include: a. Time and place of meeting b. General explanation of matter to be considered c. Statement of availability for data required to initiate or amend such fees d. Public posting on Agency Website and provision by mail to interested parties of supporting data (at least 20 days in advance) 7. Mailing lists for interested parties are valid for 1 year from date of request and may be renewed by written request of the parties on or before April 1 of each year. 8. Includes procedural requirements per Government Code, Section 6066. **Timing**: *Prior to adopting fees.*

California Government Code

CODE	PUBLIC OUTREACH REQUIREMENT
6060 Whenever any law provides that publication of notice shall be made pursuant to a designated section of this article, such notice shall be published in a newspaper of general circulation for the period prescribed, the number of times, and in the manner provided in that section. As used in this article, "notice" includes official advertising, resolutions, orders, or other matter of any nature whatsoever that are required by law to be published in a newspaper of general circulation. **6066** Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.	4. Must publish notices in a newspaper of general circulation as prescribed. 5. Publication shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. 6. The period of notice begins the first day of publication and terminates at the end of the fourteenth day, (which includes the first day.) **Timing**: *Prior to adopting fees*

Appendix 2. Communications Governance

Given the relatively large number of stakeholders, a recommendation for coordinated efforts, and the legal requirements for outreach[13] some form of communications governance is recommended.

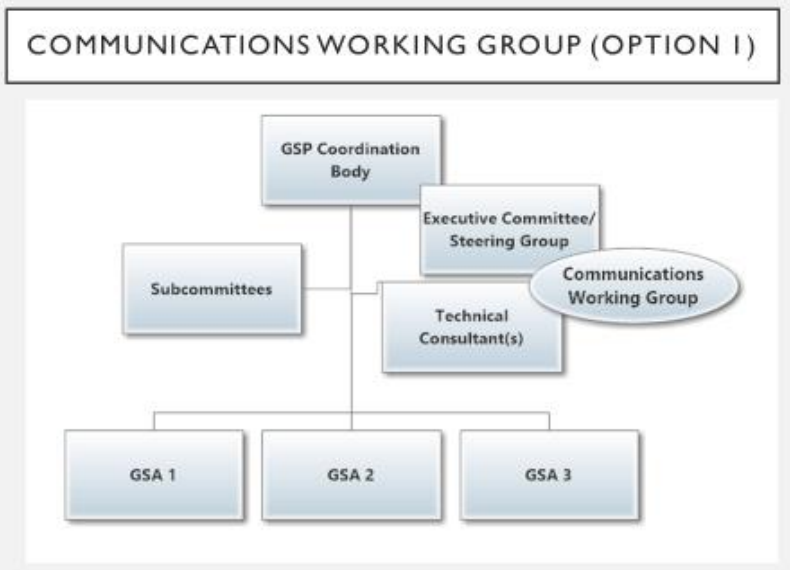
Execution of communications activities can be accomplished by an individual or multiple individuals, and/or include or be solely managed by project consultants. The actual form of the governance is less important than a clear understanding of the roles and responsibilities of those responsible for ensuring required communication. Also essential is a clear chain of command that ensures the elected representatives of GSAs are able to retain communications leadership and guidance.

A driving consideration for establishing a communications governance structure is the level of effort associated with required activities and the fact that communications are highly time dependent. That means that communications activities should be occurring that may happen outside of regularly scheduled GSA meetings. In this case delegation with guidance to a communications team is efficient and effective.

Several governance options for consideration are offered below.

Communications Option 1

Communications Option 1 is based on an overall GSP(s) development structure that includes a GSA member based leadership function that is guiding the Technical Consultants. A communications working group which might include staff, consultants and GSA elected officials, or some combination of those roles could be formed to serve as a communications working group that would ultimately report to the larger GSP coordinating body.

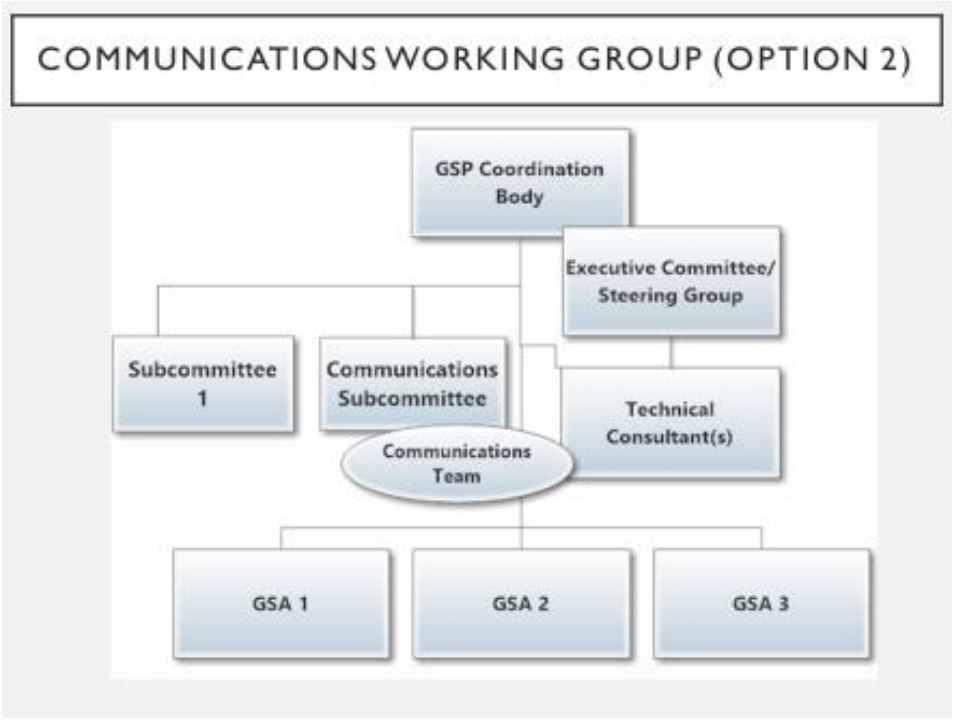


Communications Governance Option 1

Communications Option 2

[13] See Appendix 1

Communications Option 1 is based on an overall GSP(s) development structure that includes a GSA member based subcommittee guiding the Technical Consultants. A communications working group which might include staff, consultants and GSA elected officials, or some combination of those roles could be formed to serve as a communications team that is affiliated with a subcommittee and would ultimately report to the larger GSP coordinating body



Communications Governance Option 2

ATTACHMENT B. COORDINATED PUBLIC WORKSHOP SUMMARIES

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
SPRING 2018 COORDINATED WORKSHOPS

Monday, May 14, 2018, Los Banos
Wednesday, May 16, 2018, Patterson
Thursday, May 17, 2018, Mendota

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about the Sustainable Groundwater Management Act (SGMA) and introduce participants to their local Groundwater Sustainability Agency representatives. Topics covered during the workshop included what is SGMA, the Delta-Mendota Subbasin, and opportunities for public engagement.
- Workshop participants' questions and feedback are summarized as follows:
    - Are the local groundwater regulations going to be re-set on an annual basis based on the water year, snowpack, etc.?
    - Who is the governing board that will make these decisions?
    - If this is a state-wide initiative, who is the decision-making body?
    - Will the California Department of Fish and Wildlife be involved?
    - Has the State provided criteria to what is considered a "chronic loss" of groundwater?
    - Are natural springs included under SGMA?
    - What criteria will you use to measure whether or not springs are overused?
    - What is the ultimate goal of SGMA? What does it mean to us?
    - How is the water budget going to be developed?
    - The Irrigated Lands Program already has a lot of requirements for growers. Is this going to be the same level of detail and effort?
    - What is the goal SGMA is trying to achieve? How are we going to get to sustainability?
    - What will happen when the State and districts do not receive their full surface water allocation and cities keep expanding?
    - It seems to me that the biggest problem is that the State wants to export water to Southern California. How can we come up with a solution if there are factors out of our control?

- How will you know how much I am pumping?

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
FALL 2018 COORDINATED WORKSHOPS

Monday, October 22, Firebaugh
5:00 – 7:00 PM
Firebaugh Middle School MPR

Wednesday, October 24, Los Banos
4:00 – 6:00 PM
College Greens Building

Thursday, October 25, Patterson
4:00 – 6:00 PM
Patterson Senior Center

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about key Sustainable Groundwater Management Act (SGMA) topics in preparation for Groundwater Sustainability Plan (GSP) development workshops in 2019.
- The format and content of each workshop was the same. The workshops began with a 45-minute presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 45 individuals (not including GSA representatives and supporting staff) participated in the workshops. Attendance by location was as follows: Firebaugh – 5 participants; Los Banos – 23 participants; Patterson – 17 participants. Three participants requested Spanish interpretation.
- Most participants heard about the workshops through emails from their local water or irrigation district, or direct flyers and bill inserts sent to them by their water/irrigation district or municipality.
- Presentation topics included: Overview of SGMA, GSP development and implementation process, data management, hydrogeologic conceptual model, numerical and analytical models, and the water budget.
- Workshop participants' questions and feedback are summarized as follows:

    Data

    - How much historical data are the GSAs using to make their assumptions?
    - Will data from counties be used?

- Is the numerical data available on the Delta-Mendota website?
- How big will the GSAs' monitoring network be? Do the GSAs anticipate drilling new monitoring wells?
- How will the GSAs monitor water quality and subsidence? Do the GSAs already have subsidence monitoring wells and data?
- How much data have the GSAs gathered? When will the GSAs stop gathering data?
- How much data will the GSAs be collecting from individual landowners?

Models

- Will the models take into account availability of surface water supplies?
- Will the models take into account changing crops?
- Will the models take into account agricultural areas that are being converted to commercial or urban areas?

Water Budget and Sustainable Yield

- What is the sustainable yield for the Delta-Mendota Subbasin?
- It sounds like the sustainable yield will be a number that oscillates around a baseline. What is this baseline?
- How will the GSAs determine the minimum threshold for the subbasin?
- How will the water budgets account for existing and new wells?
- What are the years for the historic water budget? How was this period set?

Projects and Management Actions

- Based on what is currently known, will the GSAs be able to limit groundwater pumping in the future?
- When the GSAs come up with groundwater management policies, will the policies impact groundwater pumping on an individual level, regional level, or basin-wide level?
- Will the California Department of Water Resources (DWR) or the GSAs be the ones to limit pumping?
- Could a potential management action be limiting pumping?
- Will the GSAs be the agencies to determine if new wells can or cannot be drilled?

Integration with Other Programs/Organizations

- How much are the GSAs integrating with the Irrigated Lands Program?
- How closely do GSAs work with local farm bureaus?

Other

- Will there be an administrative fee for the GSAs to oversee GSP implementation?
- How will the costs for GSP development and implementation be covered?
- Do the GSAs know what DWR's GSP review and certification process will consist of?

- Will the GSAs in the region have influence over how surface water resources are managed on a state-wide level?
- How many GSAs were formed after SGMA passed in 2014?

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
WINTER 2019 COORDINATED WORKSHOPS

Tuesday, February 19, 2019, Los Banos
4:00 – 6:00 PM
College Greens Building

Wednesday, February 20, 2019, Patterson
4:00 – 6:00 pm
City of Patterson City Hall

Monday, March 4, 2019, Santa Nella
6:00 – 8:00 PM
Romero Elementary School

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin during February and March 2019. The purpose of the workshops was to educate stakeholders and members about the public about topics covered in the draft Groundwater Sustainability Plans (GSP) being developed for the subbasin. Topics covered during the workshop included historic and current water budgets, sustainability criteria, undesirable results, and projects and management actions.
- Workshops were promoted via emails sent to each GSA's interested parties database, flyers and utility bill inserts, and social media posts.
- The format and content of each workshop was the same. The workshops began with a short presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 30 individuals (not including GSA representatives and supporting staff) participated in the workshops. Attendance by location was as follows: Patterson – 14, Los Banos – 4, and Santa Nella – 12. Participants represented a range of beneficial users in the subbasin, including domestic well owners, agricultural water users, public water systems, and disadvantaged communities.

- Workshop participants' questions and feedback are summarized as follows:

  Water Budgets

  - Does the land surface budget include inflows from precipitation and applied water to crops?
  - Who provides the information about the inflows and outflows of the aquifer?
  - How is the aquifer recharged?
  - Do reservoirs lose water?
  - What happened between 1985 – now [regarding the historic water budget]?
  - What affect does precipitation have on the aquifer?

  Projects and Management Actions

  - Who will make the decision on who can drill wells and how much can well owners can pump?
  - Will GSAs in the subbasin be able to restrict selling of groundwater outside of the subbasin?
  - Projects and management actions should emphasize flood and stormwater capture and increased stormwater storage.
  - Will use of recycled water in new developments be considered a source of water to balance the water budget?
  - Are there percolation ponds by golf course?

  Sustainability Criteria and Undesirable Results

  - Is it the GSAs' responsibility to set the sustainability criteria for the subbasin?
  - Could this region experience seawater intrusion?
  - What's going to happen in areas like Dos Palos that have poor groundwater quality?

  Other

  - Does the GSP only cover of agricultural uses of groundwater or does it also cover residential and commercial uses of groundwater?
  - Who is doing the work to prepare the GSP?
  - How much does it cost to prepare a GSP?
  - Are there any agencies currently monitoring groundwater pumping and levels?
  - How is groundwater currently being removed from the groundwater basin?
  - How many monitoring stations have been identified? Have GSAs already identified where these monitoring pumps are?
  - Does the California Aqueduct affect the water table in the subbasin?
  - What is the rationale for the North-Central GSP group's boundaries? The north and south areas of the North-Central GSP group are very different.
  - Do water agencies in the subbasin send water to the Santa Clara Valley Water District?
  - Where are the coordinated meetings are held? What time are these meetings?
  - Will this raise our water rates?
  - The community of Tranquillity is currently experiencing land subsidence.

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
SPRING 2019 COORDINATED WORKSHOPS

Monday, May 20, 2019, Patterson
4:00 – 6:00 pm
City of Patterson City Hall

Tuesday, May 21, 2019, Los Banos
4:00 – 6:00 PM
College Greens Building

Wednesday, May 22, 2019, Santa Nella
6:30 – 8:30 PM
Romero Elementary School

Thursday, May 23, 2019, Mendota
6:00 – 8:00 PM
Mendota Library

WORKSHOP SUMMARY

- Four workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about topics covered in the draft Groundwater Sustainability Plans (GSP) being developed for the subbasin. Topics covered during the workshop included water budgets, sustainable yield, projects and management actions, and groundwater monitoring networks.
- Workshops were promoted via emails sent to each GSA's interested parties database, flyers and utility bill inserts, social media posts, and direct outreach to community stakeholders.
- The format and content of each workshop was the same. The workshops began with a short presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 30 individuals participated in the workshops. Attendance by location was as follows: Patterson – 7, Los Banos – 10, Santa Nella – 4, and Mendota – 9. Participants represented a range of beneficial users in the subbasin, including domestic well owners, agricultural water users, public water systems, and disadvantaged communities.

- Workshop participants' questions and feedback are summarized as follows:

  Water Budgets

  - Why is there a difference between the water budgets for the upper and lower aquifers?
  - Why is the change in storage negative?
  - Is there a water budget for each aquifer?
  - When the projected water budgets are finalized, will they include specific projects and management actions?
  - How was the data for the climate change factors developed?
  - Historically, California goes through periodic droughts. Do the projected water budgets account for future droughts?
  - Do the projected water budgets account for future population growth and new developments?
  - Do the water budgets account for percolation from water applied to crops?

  Projects and Management Actions

  - Will management actions include a charge for water pumping?
  - Will pumping restrictions be implemented during dry periods or drought?
  - Will the GSPs identify specific projects and management actions?
  - Will GSAs in the subbasin form a water bank?
  - If pumping restrictions are enacted, GSPs should include a provision that allows private well owners to demonstrate that they aren't overpumping or causing undesirable results.
  - The region needs more surface water storage to supplement groundwater pumping.
  - There should be restrictions on development in the region.

  Sustainable Yield

  - Does increases in groundwater demand relate to the cost of surface water supplies?

  Groundwater Monitoring

  - When local agencies monitor for groundwater, how far down do they monitor?

  GSP Adoption, Implementation and Enforcement

  - What agency approves the GSPs?
  - Will the California Department of Water Resources be the lead agency for providing oversight after the GSP is submitted?
  - Could the State Water Resources Control Board mandate pumping restrictions?
  - Will the state be looking at the drawdown of individual, private wells?
  - Where does the funding to implement GSPs come from?
  - How much will GSP implementation cost?
  - Who has to submit the annual report?

  Other

  - GSAs should be divided into even smaller units to manage projects and management actions locally.

ATTACHMENT C. EXAMPLE PUBLIC WORKSHOP PROMOTION MATERIALS

Groundwater management in our community is changing.

Learn more about how this may impact you.

Collaborating local agencies are hosting a series of public workshops about the Sustainable Groundwater Management Act. Come learn how this landmark legislation may impact our community, what we are doing about it, and how you can get involved. Representatives from local groundwater sustainability agencies will be available to answer questions. You have three opportunities to attend:

Los Banos
Monday, May 14
4:00 - 6:00 PM
San Luis & Delta-Mendota Water Authority Office
842 6th St, Los Banos

Patterson
Wednesday, May 16
4:00 - 6:00 PM
Hammon Senior Center
1033 W Las Palmas Ave, Patterson

Mendota
Thursday, May 17
4:00 - 6:00 PM
Mendota Branch Library
Mendota Meeting Room
1246 Belmont Ave, Mendota

The content of each workshop will be the same. The first thirty minutes of each workshop will consist of an informational presentation, followed by an open house until 6:00 PM. For more information, please visit our website at: www.deltamendota.org.

We look forward to seeing you there!

El manejo del agua subterránea en nuestra comunidad está cambiando.

Obtenga más información sobre como esto puede afectarlo.

Las agencias locales colaboradoras están organizando una serie de talleres públicos sobre la Ley de gestión sostenible del agua subterránea. Venga y aprenda como esta histórica legislación puede afectar a nuestra comunidad, que estamos haciendo al respecto y como puede participar. Los representantes de las agencias locales de sostenibilidad del agua subterránea estarán disponibles para responder preguntas. Tienes tres oportunidades para asistir:

Los Baños
Martes, 14 de Mayo
4:00 - 6:00 PM
San Luis & Delta-Mendota
Water Authority Office
842 6th St, Los Baños

Patterson
Miércoles, 16 de Mayo
4:00 - 6:00 PM
Hammon Senior Center
1033 W Las Palmas Ave, Patterson

Mendota
Jueves, 17 de Mayo
4:00 - 6:00 PM
Mendota Branch Library
Mendota Meeting Room
1246 Belmont Ave, Mendota

El contenido de cada taller será el mismo. Los primeros treinta minutos de cada taller serán consisten de una presentación informativa, seguida de una jornada de puertas abiertas hasta las 6:00 P.M. Para obtener más información, visite nuestro sitio web en: www.deltamendota.org.

Public Notice

Public Groundwater Meeting

Santa Nella County Water District and other local water agencies are developing plans for the future of our groundwater resources. We want to hear from you! Come to an upcoming public workshop to learn more:

Santa Nella
Monday, March 4, 6:000 - 8:00 PM
Romero Elementary School MPR
13500 Luis Ave, Gustine, CA 95322

The first forty minutes of the workshop will consist of a bilingual informational presentation. The presentation will be followed by an interactive discussion on the region's groundwater "budget" and how to define "sustainability" for our groundwater resources. This workshop is open to people with all level of knowledge about water.

Spanish-language interpreters and materials will be available.

For more information, please visit our website at www.deltamendota.org and www.sncwd.com.

For questions or comments, email DMSGMA@sldmwa.org or contact Amy Montgomery, Santa Nella County Water District, at amontgomery@sncwd.com.

We look forward to seeing you there!

Engage in the Future of Our Water Resources!

Week of May 20th

Delta-Mendota SGMA invite you to learn why your local agencies are developing groundwater sustainability plans for the future of our groundwater. Please come to one

- **Patterson**: Mon., May 20, 4:00 – 6:00pm Patterson City Hall 1 Plaza Circle
- **Los Banos**: Tue., May 21, 4:00 – 6:00pm College Greens Building 1815 Scripps Drive
- **Santa Nella**: Wed., May 22, 6:30 – 8:30pm Romero Elem. School 13500 Luis Ave.
- **Mendota**: Thu., May 23, 6:00 – 8:00pm Mendota Library 1246 Belmont Ave.

For more information please visit www.deltamendota.org, To register visit: tinyurl.com/y3bxw3yv

PROP 1 WATER BOND 2014

#DeltaMendotaSGMA | #SLDMWA | #SGMA2020

DELTA-MENDOTA SGMA

Su Opinión es Importante!

Participe en una serie de talleres sobre el futuro de sus recursos hídricos!

Semana del 20 de mayo

Agencias locales están desarrollando planes de sostenibilidad para el futuro de los recursos hídricos del agua subterránea en la región y necesitan su opinión.
Acompáñenos en uno de los siguientes talleres:

- **Patterson**: Lun.,20 de Mayo , 4–6pm Ayuntamiento de Patterson 1 Plaza Circle
- **Los Banos**: Mar., 21 de May, 4–6pm College Greens Building 1815 Scripps Dr.
- **Santa Nella**: Mie., 22 de Mayo, 6:30–8:30pm Escuela Pri. Romero 13500 Luis Ave.
- **Mendota**: Jue., 23 de Mayo, 6–8pm Biblioteca de Mendota 1246 Belmont Ave.

PROP 1 WATER BOND 2014

Para más información visite:
www.deltamendota.org
Tel: 916-418-8288
#DeltaMendotaSGMA | #SLDMWA

DELTA-MENDOTA SGMA

Contact: Kirsten Pringle, Delta-Mendota Subbasin, Stantec
(916) 418-8243, Kirsten.Pringle@stantec.com

FOR IMMEDIATE RELEASE
October 19, 2018

MEDIA ADVISORY

Sustainable Groundwater Management Act Public Workshops

What: Collaborating local agencies are hosting a series of public workshops about the Sustainable Groundwater Management Act. Learn how this landmark legislation may impact our communities, the planning process, and how people can get involved. Spanish translation will be provided.

Format: There are three workshop opportunities to attend; the content of each workshop will be the same. The first 45 minutes of each workshop will consist of an informational presentation, followed by an open house.

When:

Firebaugh – Monday, October 22, 2018
5:00 - 7:00 PM
Firebaugh Middle School MPR
1600 16th Street, Firebaugh, CA

Los Banos – Wednesday, October 24, 2018
4:00 – 6:00 PM
College Greens Building
1815 Scripps Drive, Los Banos, CA

Patterson – Thursday, October 25, 2018
4:00 – 6:00 PM
Hammon Senior Center
1033 W. Las Palmas Avenue, Patterson, CA

Who: Representatives from local groundwater sustainability agencies will be available to answer questions.

Additional Resources: The Sustainable Groundwater Management Act, www.deltamendota.org/,

Background: *The Sustainable Groundwater Management Act (SGMA) is a package of three bills (AB 1739, SB 1168, and SB 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. Recognizing that groundwater is most effectively managed at the local level, the SGMA empowers local agencies to achieve sustainability within 20 years.*

ATTACHMENT D. STAKEHOLDER AND COMMUNITY ORGANIZATIONS CONTACTED REGARDING COORDINATED PUBLIC WORKSHOPS

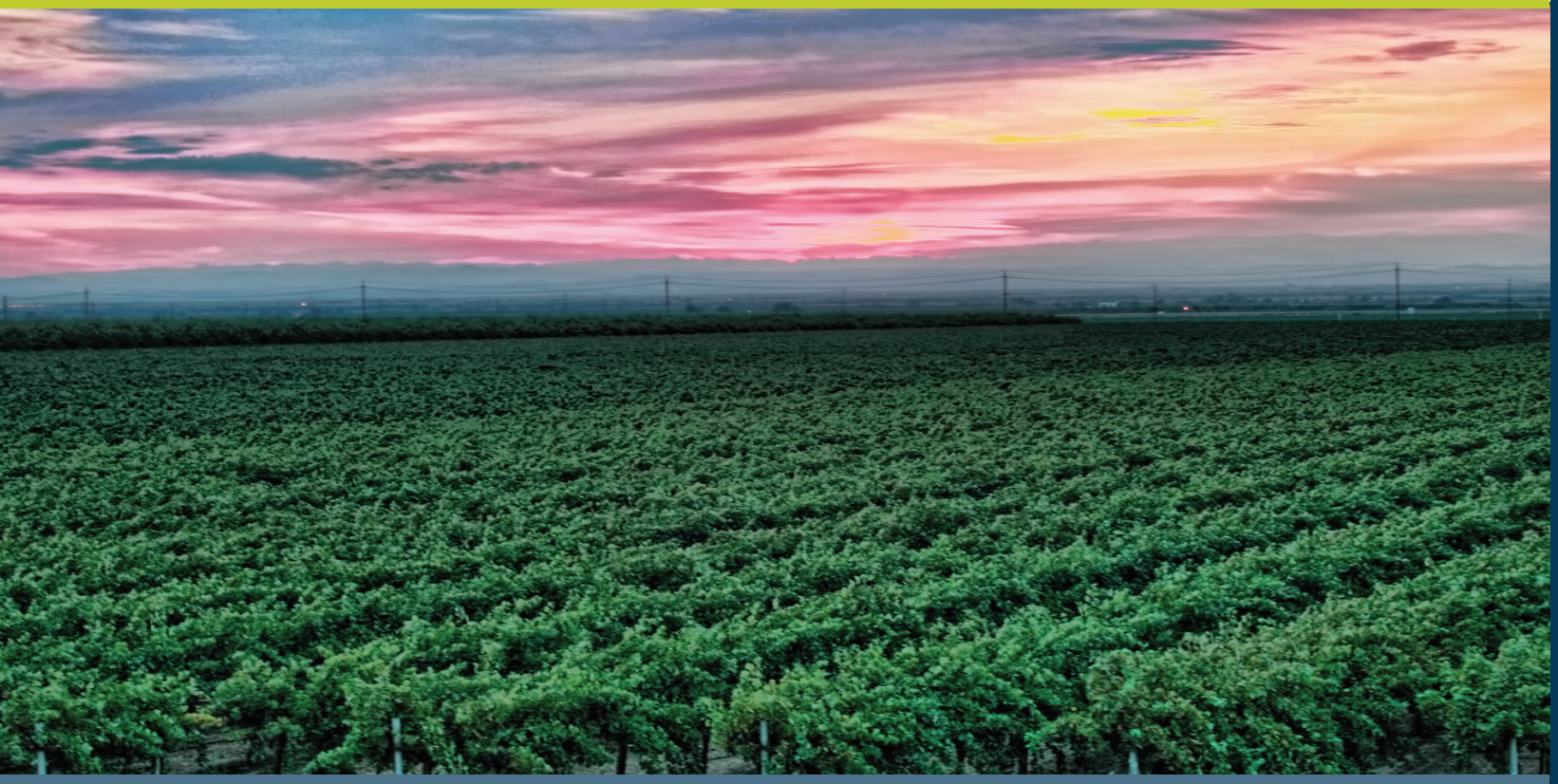
Stakeholder and Community Organizations Contacted Regarding Coordinated SGMA Workshops

Organization Name	Organization Type
Fresno County Farm Bureau	Agriculture
Merced County Farm Bureau	Agriculture
North Grassland Wildlife Foundation	Agriculture
Patterson Apricot Fiesta	Agriculture
Stanislaus County Farm Bureau	Agriculture
Asociación de Charros La Internacional del Valle de Patterson	Business
Adobe Valley Ranch	Business
Gustine Chamber of Commerce	Business
Los Banos Chamber of Commerce	Business
Patterson-Westley Chamber of Commerce	Business
Santa Nella Chamber of Commerce	Business
American Association of University Women	Civic
Gustine Rotary Club	Civic
International Association of Lions Clubs - Patterson	Civic
League of United Latin American Citizens	Civic
Los Banos Lions Club	Civic
Los Banos Rotary Club	Civic
Mendota Community Corporation	Civic
Newman Lions Club	Civic
Newman Rotary Club	Civic
Newman Women's Club	Civic
Patterson Lions Club	Civic
International Association of Lions Clubs - Mendota	Civic
International Association of the Lions Clubs - Los Banos	Civic
Italian Catholic Federation of CA Inc.	Civic
Kiwanis International	Civic
Rotary International - Los Banos	Civic
Rotary International - Patterson	Civic
Firebaugh Rotary Club Inc.	Community General Public
Casa Mobile Home Park	Community/General Public
Center for Environmental Science Accuracy & Reliability	Community/General Public
Firebaugh Senior Center	Community/General Public
Friends of Green Valley Charter	Community/General Public
Friends of the Public Library	Community/General Public
Habitat for Humanity International	Community/General Public
Los Banos Senior Center	Community/General Public
Mendota Community Center	Community/General Public
Mendota Senior Center	Community/General Public
Merced County Library - Dos Palos	Community/General Public
Merced County Library - Gustine	Community/General Public
Merced County Library - Los Banos	Community/General Public
Merced County Library - Santa Nella	Community/General Public
San Joaquin River Resource Mgmt. Coalition	Community/General Public

Santa Nella RV Park	Community/General Public
Stanislaus County Library - Newman	Community/General Public
Stanislaus County Library - Patterson	Community/General Public
Dos Palos Oro Loma Joint Unified School District	Education
Firebaugh-Las Deltas Unified School District	Education
Gustine Unified School District	Education
Los Banos Unified School District	Education
Mendota Unified School District	Education
Merced College	Education
Creekside Parent Club	Education
Academy West Insurance	Other
Academy West Insurance Firebaugh	Other
Amaral & Associates Realty	Other
American Legion	Other
American Legion Auxiliary Elijah B Hayes	Other
Andrea Brandt State Farm Insurance	Other
Benevolent & Protective Order of Elks	Other
Borelli Real Estate Services	Other
California Garden Clubs Inc.	Other
Century 21 M&M & Assoc - Los Banos	Other
Century 21 M&M & Assoc - Patterson	Other
Coldwell Banker Kaljian & Assoc	Other
Eric Rodriguez - Patterson	Other
Farmers Insurance Antonio Gonzales	Other
First Prioirty of the Central Valley	Other
Greg Nunes Real Estate	Other
Joe G. Gutierez State Farm Insurance	Other
Mendota Land Co	Other
Noah's Ark Foundation of Tracy Inc.	Other
PMZ Real Estate - Patterson	Other
PMZ Real Estate - Los Banos	Other
Rafael Ruiz - Patterson	Other
Shane P. Donion Ranch Broker	Other
The Boyd Company	Other
Valley West Properties	Other
Adventure Christian Church of Patterson	Religious
Agape Baptist Church	Religious
Bethel Community Church	Religious
Church of Christ of Patterson	Religious
Church of God of Prophecy	Religious
Connections Christian Church	Religious
Evangelical Church of Los Banos	Religious
Family Christian Center	Religious
First Baptist Church	Religious
Full Gospel Businessmen's Fellowship International	Religious
Harvest Samoan Assembly of God	Religious

Mountain House Foursquare Church	Religious
Movimiento Familiar Cristiano Catolico	Religious
Patterson Covenant Church	Religious
Patterson Christian Fellowship	Religious
Patterson Seventh Day Adventist Church	Religious

Appendix C - Checklist for GSP Submittal



Checklist for Submittal of Delta-Mendota Subbasin Coordinated GSPs

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 3. Technical and Reporting Standards				
352.2		Monitoring Protocols	• Monitoring protocols adopted by the GSA for data collection and management • Monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, inelastic surface subsidence for basins for which subsidence has been identified as a potential problem, and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin	• Section 6 – Subbasin Monitoring Program; Section 7 – Subbasin Data Collection and Management • Appendix B, Technical Memorandum (TM) #5 (Assumptions for Delta-Mendota Subbasin Monitoring Network), TM #6 (Coordination of the Delta-Mendota Subbasin Data Management System)
Article 5. Plan Contents, Subarticle 1. Administrative Information				
354.4		General Information	• Executive Summary • List of references and technical studies	• See individual GSPs • Section 9 – References and individual GSPs
354.6		Agency Information	• GSA mailing address • Organization and management structure • Contact information of Plan Manager • Legal authority of GSA • Estimate of implementation costs	• Section 2 – Delta-Mendota Subbasin Governance; Section 2.1 GSA and GSP Coordination and Governance • See individual GSPs for estimate of implementation costs
354.8(a)	10727.2(a)(4)	Map(s)	• Area covered by GSP • Adjudicated areas, other agencies within the basin, and areas covered by an Alternative • Jurisdictional boundaries of federal or State land • Existing land use designations • Density of wells per square mile	• Figure CC-1: Delta-Mendota Subbasin and GSP Regions • Figure CC-18: Land Use Planning Entities • Figure CC-19: Federal and State Lands • Figure CC-20: 2014 Land Use in the Delta-Mendota Subbasin • Figures CC-13 through CC-15: Domestic, Production, and Public Well Density in the Delta-Mendota Subbasin
354.8(b)		Description of the Plan Area	• Summary of jurisdictional areas and other features	Section 3 – Delta-Mendota Subbasin Plan Area

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 5. Plan Contents, Subarticle 1. Administrative Information (Continued)				
354.8(f)	10727.2(g)	Land Use Elements or Topic Categories of Applicable General Plans	• Summary of general plans and other land use plans • Description of how implementation of the GSP may change water demands or affect achievement of sustainability and how the GSP addresses those effects • Description of how implementation of the GSP may affect the water supply assumptions of relevant land use plans • Summary of the process for permitting new or replacement wells in the basin • Information regarding the implementation of land use plans outside the basin that could affect the ability of the Agency to achieve sustainable groundwater management	• Section 3.3 – General Plans in Plan Area • See individual GSPs for description of implementation impacts on water demands and sustainability • Section 3.4 – Existing Land Use Plans and Impacts to Sustainable Groundwater Management • Section 3.6 – County Well Construction/Destruction Standards & Permitting • Section 3.3 – General Plans in Plan Area
354.8(c) 354.8(d) 354.8(e)	10727.2(g)	Water Resource Monitoring and Management Programs	• Description of water resources monitoring and management programs • Description of how the monitoring networks of those plans will be incorporated into the GSP • Description of how those plans may limit operational flexibility in the basin • Description of conjunctive use programs	Section 3.5 – Existing Water Resources Monitoring and Management Plans; Section 3.7 – Existing and Planned Conjunctive Use Programs

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 5. Plan Contents, Subarticle 1. Administrative Information (Continued)				
354.8(g)	10727.4	Additional GSP Contents	Description of Actions related to: • Control of saline water intrusion • Wellhead protection • Migration of contaminated groundwater • Well abandonment and well destruction program • Replenishment of groundwater extractions • Conjunctive use and underground storage • Well construction policies • Addressing groundwater contamination cleanup, recharge, diversions to storage, conservation, water recycling, conveyance, and extraction projects • Efficient water management practices • Relationships with State and federal regulatory agencies • Review of land use plans and efforts to coordinate with land use planning agencies to assess activities that potentially create risks to groundwater quality or quantity • Impacts on groundwater dependent ecosystems	Section 3.8 – Plan Elements from California Water Code Section 10727.4
354.10		Notice and Communication	• Description of beneficial uses and users • List of public meetings • GSP comments and responses • Decision-making process • Public engagement • Encouraging active involvement • Informing the public on GSP implementation progress	• Section 8 – Stakeholder Outreach • Appendix B, TM #8 (Coordinated Noticing, Communication, and Outreach Activities in the Delta-Mendota Subbasin)
Article 5. Plan Contents, Subarticle 2. Basin Setting				
354.14		Hydrogeologic Conceptual Model	• Description of the Hydrogeologic Conceptual Model • Two scaled cross-sections • Map(s) of physical characteristics: topographic information, surficial geology, soil characteristics, surface water bodies, source and point of delivery for imported water supplies	• Section 4.1 – Hydrogeologic Conceptual Model • Appendix B, TM #2 (Assumptions for Hydrogeologic Conceptual Model of the Delta-Mendota Subbasin)

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 5. Plan Contents, Subarticle 2. Basin Setting (Continued)				
354.14(d)(4)	10727.2(a)(5)	Map of Recharge Areas	• Map delineating existing recharge areas that substantially contribute to the replenishment of the basin, potential recharge areas, and discharge areas	Figure CC-39: Recharge Areas, Seeps and Springs
	10727.2(d)(4)	Recharge Areas	• Description of how recharge areas identified in the plan substantially contribute to the replenishment of the basin	Section 4.1.10 – Topography, Surface Water, Recharge, and Imported Supplies
354.16	10727.2(a)(1) 10727.2(a)(2)	Current and Historical Groundwater Conditions	• Groundwater elevation data • Estimate of groundwater storage • Seawater intrusion conditions • Groundwater quality issues • Land subsidence conditions • Identification of interconnected surface water systems • Identification of groundwater-dependent ecosystems	Section 4.2 – Delta-Mendota Subbasin Groundwater Conditions
354.18	10727.2(a)(3)	Water Budget Information	• Description of inflows, outflows, and change in storage • Quantification of overdraft • Estimate of sustainable yield • Quantification of current, historical, and projected water budgets	• Section 4.3 – Delta-Mendota Subbasin Water Budgets • Appendix B, TM #3 (Assumptions for the Historic, Current and Projected Water Budgets of the Delta-Mendota Subbasin, Change in Storage Cross-Check and Sustainable Yield)
	10727.2(d)(5)	Surface Water Supply	• Description of surface water supply used or available for use for groundwater recharge or in-lieu use	Section 4.3 – Delta-Mendota Subbasin Water Budgets
354.20		Management Areas	• Reason for creation of each management area • Minimum thresholds and measurable objectives for each management area • Level of monitoring and analysis • Explanation of how management of management areas will not cause undesirable results outside the management area • Description of management areas	• Appendix B, TM #4 (Assumptions for Delta-Mendota Subbasin Management Areas, Sustainability Management Criteria) • See individual GSPs

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 5. Plan Contents, Subarticle 3. Sustainable Management Criteria				
354.24		Sustainability Goal	• Description of the sustainability goal	Section 5.2 – Coordinated Sustainability Goal and Undesirable Results
354.26		Undesirable Results	• Description of undesirable results • Cause of groundwater conditions that would lead to undesirable results • Criteria used to define undesirable results for each sustainability indicator • Potential effects of undesirable results on beneficial uses and users of groundwater	• Section 5.2 – Coordinated Sustainability Goal and Undesirable Results • Section 5.4 – Delta-Mendota Subbasin Sustainable Management Criteria (Tables CC-14 through CC-18) • Appendix B, TM #4 (Assumptions for Delta-Mendota Subbasin Management Areas, Sustainability Management Criteria)
Article 5. Plan Contents, Subarticle 3. Sustainable Management Criteria (Continued)				
354.28	10727.2(d)(1) 10727.2(d)(2)	Minimum Thresholds	• Description of each minimum threshold and how they were established for each sustainability indicator • Relationship for each sustainability indicator • Description of how selection of the minimum threshold may affect beneficial uses and users of groundwater • Standards related to sustainability indicators • How each minimum threshold will be quantitatively measured	• Section 5.4 – Delta-Mendota Subbasin Sustainable Management Criteria (Tables CC-14 through CC-18) • Appendix B, TM #4 (Assumptions for Delta-Mendota Subbasin Management Areas, Sustainability Management Criteria)
354.30	10727.2(b)(1) 10727.2(b)(2) 10727.2(d)(1) 10727.2(d)(2)	Measurable Objectives	• Description of establishment of the measurable objectives for each sustainability indicator • Description of how a reasonable margin of safety was established for each measurable objective • Description of a reasonable path to achieve and maintain the sustainability goal, including a description of interim milestones	• Section 5.4 – Delta-Mendota Subbasin Sustainable Management Criteria (Tables CC-14 through CC-18) • Appendix B, TM #4 (Assumptions for Delta-Mendota Subbasin Management Areas, Sustainability Management Criteria)

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 5. Plan Contents, Subarticle 4. Monitoring Networks				
354.34	10727.2(d)(1) 10727.2(d)(2) 10727.2(e) 10727.2(f)	Monitoring Networks	• Description of monitoring network • Description of monitoring network objectives • Description of how the monitoring network is designed to: demonstrate groundwater occurrence, flow directions, and hydraulic gradients between principal aquifers and surface water features; estimate the change in annual groundwater in storage; monitor seawater intrusion; determine groundwater quality trends; identify the rate and extent of land subsidence; and calculate depletions of surface water caused by groundwater extractions • Description of how the monitoring network provides adequate coverage of Sustainability Indicators • Density of monitoring sites and frequency of measurements required to demonstrate short-term, seasonal, and long-term trends • Scientific rational (or reason) for site selection • Consistency with data and reporting standards • Corresponding sustainability indicator, minimum threshold, measurable objective, and interim milestone • Location and type of each monitoring site within the basin displayed on a map, and reported in tabular format, including information regarding the monitoring site type, frequency of measurement, and the purposes for which the monitoring site is being used • Description of technical standards, data collection methods, and other procedures or protocols to ensure comparable data and methodologies	• Section 6 – Subbasin Monitoring Program • Appendix B, TM #5 (Assumptions for Delta-Mendota Subbasin Monitoring Network) • Section 7 – Subbasin Data Collection and Management

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
354.36		Representative Monitoring	• Description of representative sites • Demonstration of adequacy of using groundwater elevations as proxy for other sustainability indicators • Adequate evidence demonstrating site reflects general conditions in the area	• Section 6 – Subbasin Monitoring Program • Appendix B, TM #5 (Assumptions for Delta-Mendota Subbasin Monitoring Network)
Article 5. Plan Contents, Subarticle 4. Monitoring Networks (Continued)				
354.38		Assessment and Improvement of Monitoring Network	• Review and evaluation of the monitoring network • Identification and description of data gaps • Description of steps to fill data gaps • Description of monitoring frequency and density of sites	• Section 6 – Subbasin Monitoring Program • Appendix B, TM #5 (Assumptions for Delta-Mendota Subbasin Monitoring Network)
Article 5. Plan Contents, Subarticle 5. Projects and Management Actions				
354.44		Projects and Management Actions	• Description of projects and management actions that will help achieve the basin's sustainability goal • Measurable objective that is expected to benefit from each project and management action • Circumstances for implementation • Public noticing • Permitting and regulatory process • Timetable for initiation and completion, and the accrual of expected benefits • Expected benefits and how they will be evaluated • How the project or management action will be accomplished. If the projects or management actions rely on water from outside the jurisdiction of the Agency, an explanation of the source and reliability of that water shall be included. • Legal authority required • Estimated costs and plans to meet those costs • Management of groundwater extractions and recharge	See individual GSPs
354.44(b)(2)	10727.2(d)(3)		• Overdraft mitigation projects and management actions	See individual GSPs

GSP Regulations Section	Water Code Section	Requirement	Description	Section(s) or Page Number(s) in the GSP
Article 8. Interagency Agreements				
357.4	10727.6	Coordination Agreements - Shall be submitted to the Department together with the GSPs for the basin and, if approved, shall become part of the GSP for each participating Agency.	Coordination Agreements shall describe the following: • A point of contact • Responsibilities of each Agency • Procedures for the timely exchange of information between Agencies • Procedures for resolving conflicts between Agencies • How the Agencies have used the same data and methodologies to coordinate GSPs • How the GSPs implemented together satisfy the requirements of SGMA • Process for submitting all Plans, Plan amendments, supporting information, all monitoring data and other pertinent information, along with annual reports and periodic evaluation • A coordinated data management system for the basin • Coordination agreements shall identify adjudicated areas within the basin, and any local agencies that have adopted an Alternative that has been accepted by the Department	• Section 2.1.2 – Intra-Basin Coordination; Section 2.1.3 – Inter-basin Agreements • Appendix B, TM #1 (Common Datasets and Assumptions used in the Delta-Mendota Subbasin GSPs), TM #6 (Coordination of the Delta-Mendota Subbasin Data Management System), TM #7 (Adoption and Use of the Subbasin Coordination Agreement)

Appendix D - Interbasin Agreements

Inter-Basin Agreement Between Northern & Central Delta-Mendota GSP Region and Westlands Water District

DATA SHARING AGREEMENT

Westlands Water District (Westlands) and the San Luis & Delta-Mendota Water Authority, on behalf of the Northern Delta-Mendota Region GSAs and the Central Delta-Mendota Region Multi-Agency GSA (GSAs), (collectively the Parties) desire to establish a set of common assumptions on groundwater conditions on either side of the boundary between Westlands' service area and the Delta-Mendota Subbasin to be used for development of Groundwater Sustainability Plans (GSPs) related to the implementation of the Sustainable Groundwater Management Act (SGMA). To further that effort to develop a set of common assumptions, the Parties agree to provide each other with the following recorded, measured, estimated and/or simulated modeling data located within five (5) miles of the boundary between Westlands' service area and the Delta-Mendota Subbasin:

- Well location (latitude and longitude, preferably in a GIS shapefile)
- Ground surface elevation at well location, including elevation datum
- Depth to groundwater readings from 1960s to present as available per well (preferably in excel or electronic tabular format)
- Water surface elevation (if already in tabular format, otherwise it will be calculated from elevation less depth measured)
- Well driller's log (if available)
- Well information (perforated intervals, seal depth, pumping capacity, water quality, etc., if available)
- Agricultural practices (crop type, irrigation method (flood or drip), surface or groundwater application, etc., if available)
- Canal and irrigation ditch Information (location, dimension, flow direction, etc., if available)
- Tile drain (location, depth, discharge, flow direction, etc., if available)
- Subsidence data (if available)
- Historical reports and associated data, including but not limited to the Grasslands Groundwater Quality Assessment Report

The Parties understand that the requested data will be shared with their consultants, to other stakeholders in their respective basins, and that the information may be made public through the development of Westlands' and the Northern and Central Delta-Mendota Region GSA's respective GSPs and the supporting documentation for those GSPs. Other than publishing information for such purposes, neither Party will disclose the other Party's information to any third party, except if that other Party determines, at its sole discretion, the disclosure is required by law. Each Party may review preliminary results before publishing the information; provided that if a review of preliminary results is desired, the Party seeking to review will make that request in writing to the other party.

The Parties and their authorized representatives, by signatures below, agree to the Data Sharing Agreement.

Note: Return one signature copy to WWD

Westlands Water District:
By: _____
Title: CHIEF OPERATING OFFICER
Date: 4/23/18

SLDMWA on behalf of the Parties:
By: _____
Title: Assistant Executive Director
Date: 4/12/18

Note: Return one signature copy to WWD

Inter-Basin Agreement Between San Joaquin River Exchange Contractors GSP Region and Westlands Water District

DATA SHARING AGREEMENT

Westlands Water District (Westlands) and Central California Irrigation District (CCID), (collectively the Parties) desire to establish a set of common assumptions on groundwater conditions on either side of the boundary between Westlands' service area and the Delta-Mendota Subbasin to be used for development of Groundwater Sustainability Plans (GSPs) related to the implementation of the Sustainable Groundwater Management Act (SGMA). To further that effort to develop a set of common assumptions, the Parties agree to provide each other with the following recorded, measured, estimated and/or simulated modeling data located within five (5) miles of the boundary between Westlands' service area and the Delta-Mendota Subbasin:

- Well location (latitude and longitude, preferably in a GIS shapefile)
- Ground surface elevation at well location, including elevation datum
- Depth to groundwater readings from 1960s to present as available per well (preferably in excel or electronic tabular format)
- Water surface elevation (if already in tabular format, otherwise it will be calculated from elevation less depth measured)
- Well driller's log (if available)
- Well information (perforated intervals, seal depth, pumping capacity, water quality, etc., if available)
- Agricultural practices (crop type, irrigation method (flood or drip), surface or groundwater application, etc., if available)
- Canal and irrigation ditch Information (location, dimension, flow direction, etc., if available)
- Tile drain (location, depth, discharge, flow direction, etc., if available)
- Subsidence data (if available)
- Historical reports and associated data, including but not limited to the Grasslands Groundwater Quality Assessment Report

The Parties understand that the information will be shared with their consultants, to other stakeholders in their respective basins, and that the information will be made public through the development of Westlands' and CCID's GSA's respective GSPs and the supporting documentation for those GSPs. Other than publishing information for such purposes, neither Party will disclose the other Party's information to any third party, except if that other Party determines, at its sole discretion, the disclosure is required by law. Each Party may review preliminary results before publishing the information, provided that if a review of preliminary results is desired, the Party seeking to review will make that request in writing to the other party.

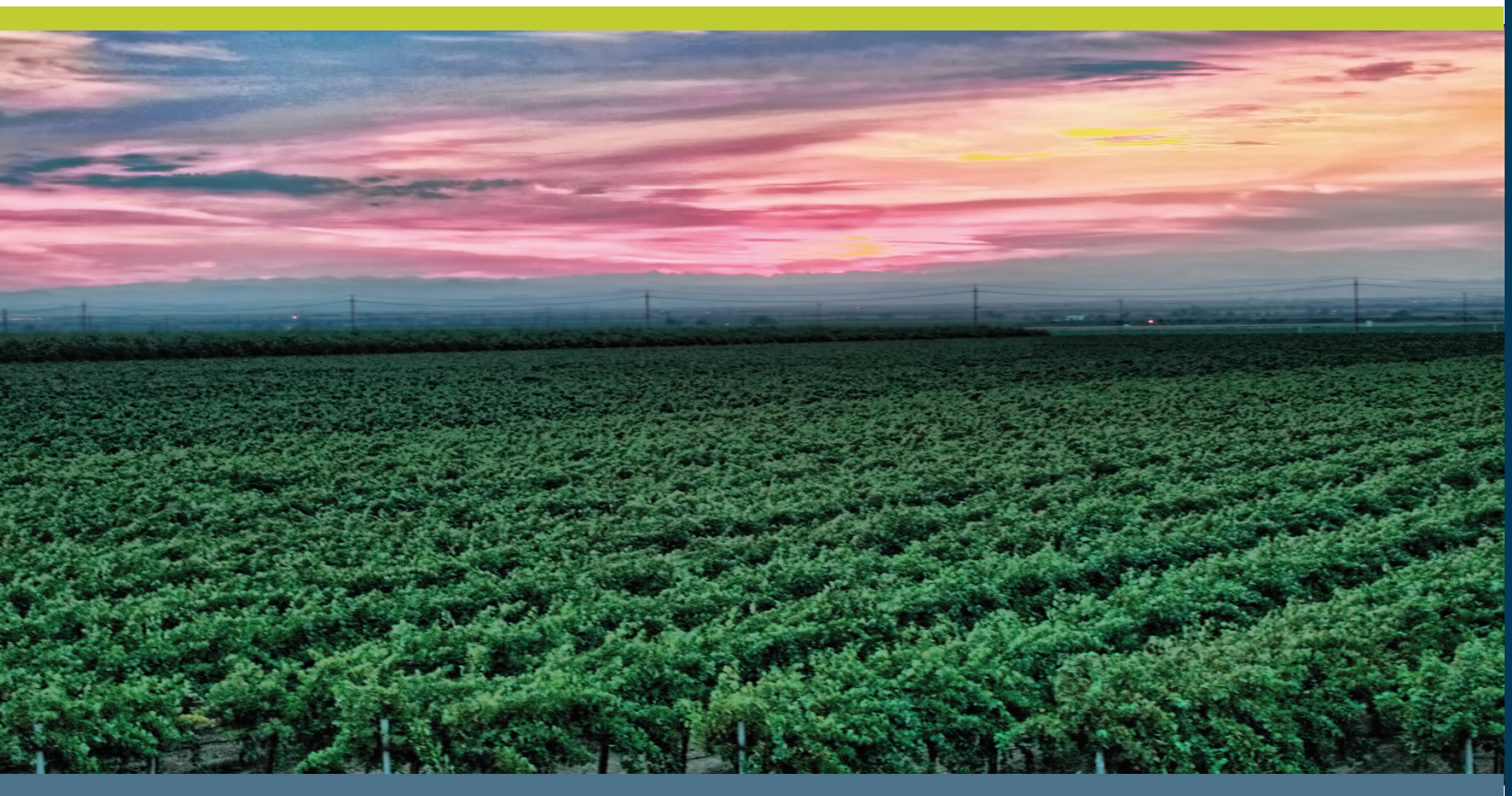
The Parties and their authorized representatives, by signatures below, agree to the Data Sharing Agreement.

Westlands Water District:
By: _____
Title: CHIEF OPERATING OFFICER
Date: May 16, 2018

Central California Irrigation District:
By: _____
Title: General Manager
Date: 5-14-18

Note: Return one signature copy to WWD

Appendix E - Delta-Mendota Subbasin Communications Plan



Delta Mendota Subbasin Groundwater Management

Sustainable Groundwater Management Act Communications Plan

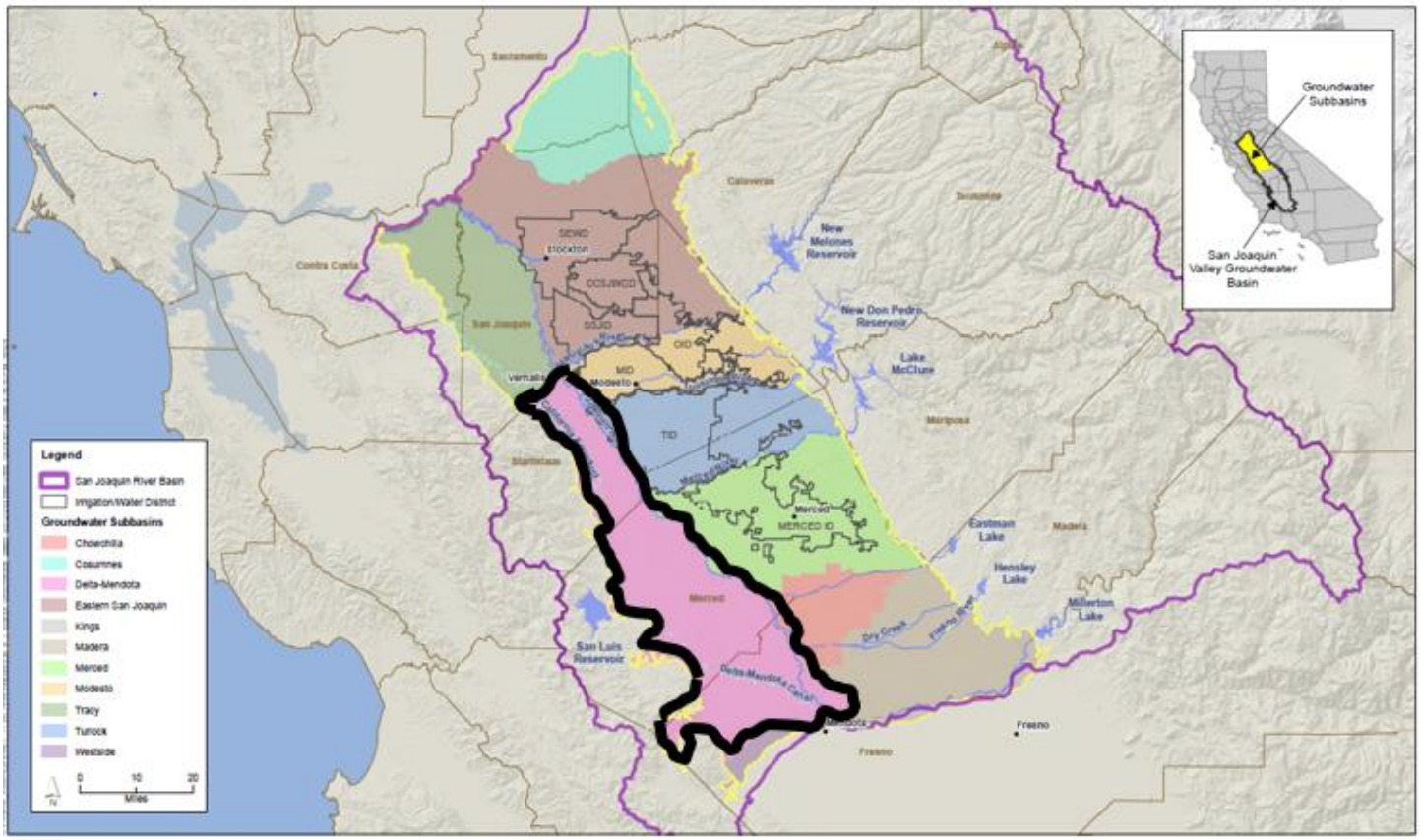


Figure 9-1
Vicinity Map of Groundwater Subbasins

Prepared by:
Lisa Beutler, MWH/Stantec,
Via CA Dept. of Water Resources,
Facilitation Services Technical Assistance

June 2017

Forward: How to use this Plan

This Communication Plan provides a high-level overview of near and long-term outreach and engagement strategies, tactics and tools. Its purpose is to assist the Groundwater Sustainability Agencies (GSAs) of the Delta Mendota Subbasin with stakeholder outreach and other related actions as required by the Sustainable Groundwater Management Act (SGMA) of 2014. It is presented as a working public draft, and should be considered a living document that is continuously refined and updated as circumstances suggest.

Chapter 1*: Introduction and Background* provides text and information about SGMA and the Delta Mendota Subbasin that can be repurposed directly into websites or printed materials by agencies and/or entities with an interest in SGMA and how it will affect the subbasin. This section also describes the communications activities mandated by SGMA.

Chapter 2: *Communications Plan Overview* provides communications planning goals and objectives as well as the scope. This section can be used in support of project management activities.

Chapter 3: *Situation Assessment* provides some of the context for communications activities. This section can be used in developing required assessments of stakeholder issues and interests. It also informs project management activities.

Chapter 4: *Audiences and Messages* identifies key subbasin audiences and message points for specific audience segments. The goal of this chapter is to provide information that can be used by the subbasin GSAs in preparing to work with key stakeholders.

Chapter 5: *Risk Management* is the summary of a communications risk assessment that considers subbasin communications strengths and weakness and proposes on-going adjustments based on best communication management practices. This section informs project management activities and provides a context for some of the recommended communications tactics.

Chapter 6: *Tactical Approaches* offers a communications to do list with specific communications activities relevant for project phases and subbasin audiences.

Chapter 7: *Measurements and Evaluation* outlines methods to determine the effectiveness of outreach and engagement.

Chapter 8: *Roles and Responsibilities* provides a sample list of tasks and illustrates the types of communications roles and responsibilities which might be assigned. This section should be incorporated into project management plans.

Subbasin GSAs should feel free to repurpose any or all parts of the document that will assist them in meeting SGMA requirements.

This document was developed with technical support provided by the California Department of Water Resources' (DWR) SGMA Facilitation Support Services Program and completed by the Communication and Engagement Group of MWH/Stantec.

Delta Mendota Subbasin
Sustainable Groundwater Management Act
Communications Plan
Working Draft

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List of Acronyms and Abbreviations

Item	Description
Basin	Groundwater Basin or Subbasin
Coms Plan	Delta Mendota Subbasin, Sustainable Groundwater Management Act, Working Draft Communications Plan
CSD	Community Service District(s):
CV-SALTS	Central Valley Salinity Alternatives for Long-Term Sustainability
DAC	Disadvantaged Communities
DMC	Delta-Mendota Canal
DWR	California Department of Water Resources
GSA	Groundwater Sustainability Agency
GSP	Groundwater Sustainability Plan
IRWMP	Integrated Resource Water Management Plan
PDF	Portable Document Format
RCD	Resource Conservation District(s)
SGMA	Sustainable Groundwater Management Act
SLDMWA	San Luis Delta- Mendota Water Authority
State Board	State Water Resources Control Board

Item	Description
SA	Situation Assessment
USGS	United States Geological Survey

Revision History

Table 1. Revision History

Revision History			
Revision/Dock Title #	Date of Release	Author	Summary of Changes

INTRODUCTION AND BACKGROUND

The purpose of this Communication Plan is to assist the Groundwater Sustainability Agencies (GSAs) of the Delta Mendota Subbasin with stakeholder outreach and other related actions as required by the Sustainable Groundwater Management Act (SGMA) of 2014. Its chapters identify key stakeholders and provide a high-level overview of near and long-term outreach and engagement strategies, tactics and tools. The plan was developed with technical support provided by the California Department of Water Resources' (DWR) SGMA Facilitation Support Services Program.

1.1. SGMA Basics[1]

After decades of debate, in 2014 California lawmakers adopted SGMA. This far-reaching law seeks to bring the State's critically important groundwater basins into a sustainable regime of pumping and recharge. The change in water management laws has created new obligations for residents and water managers in the Delta-Mendota Groundwater Subbasin. The San Luis Delta- Mendota Water Authority (SLDMWA) is assisting its members in implementation of this law.

SGMA requires, **by June 30, 2017**, the formation of locally-controlled GSAs in many of the State's groundwater basins and subbasins (basins). A GSA is responsible for developing and implementing a **groundwater sustainability plan** (GSP). These plans assist the basins in meeting sustainability goals. The primary goal is to maintain sustainable yields without causing undesirable results.

1.1.1. GSAs & GSPs

Any local public agency that has water supply, water management, or land use responsibilities in a basin can decide to become a GSA. A single local agency can decide to become a GSA, or a combination of local agencies can decide to form a GSA by using either a Joint Power Authority (JPA), a memorandum of agreement (MOA), or other legal agreement. If no agency assumes this role the GSA responsibility defaults to the County; however, the County may decline.

A GSP may be any of the following *(Water Code § 10727(b)):*

- A single plan covering the entire basin developed and implemented by one GSA.
- A single plan covering the entire basin developed and implemented by multiple GSAs.

[1] Sections on SGMA are largely drawn, in whole or in part, from publicly available materials from the Department of Water Resources. For more see: http://www.water.ca.gov/groundwater/sgm

- Subject to Water Code Section 10727.6, multiple plans implemented by multiple GSAs and coordinated pursuant to a single coordination agreement that covers the entire basin.

If local agencies are unable to form an approved GSA and/or prepare an approved GSP in the required timeframe, then the basin or subbasin would be considered unmanaged. Unmanaged groundwater basins and subbasins are subject to State Water Resources Control Board (State Board) oversight. This is true even if the vast majority of the subbasin is covered by a plan. Should intervention occur, the State Board is authorized to recover its costs from the GSAs.

1.2. SGMA Communications and Engagement Requirements

SGMA includes specific requirements for communications and engagement by each planning phase. **Figure 1** (next page) illustrates the requirements and provides water code references. The GSP submittal guidelines also describe the outreach and engagement documentation to be submitted with the plan. **Table 2** describes the submittal requirements. A full list of codes and requirements is also provided in **Appendix 1**.

Table 2. GSP Submittal Requirements[2]

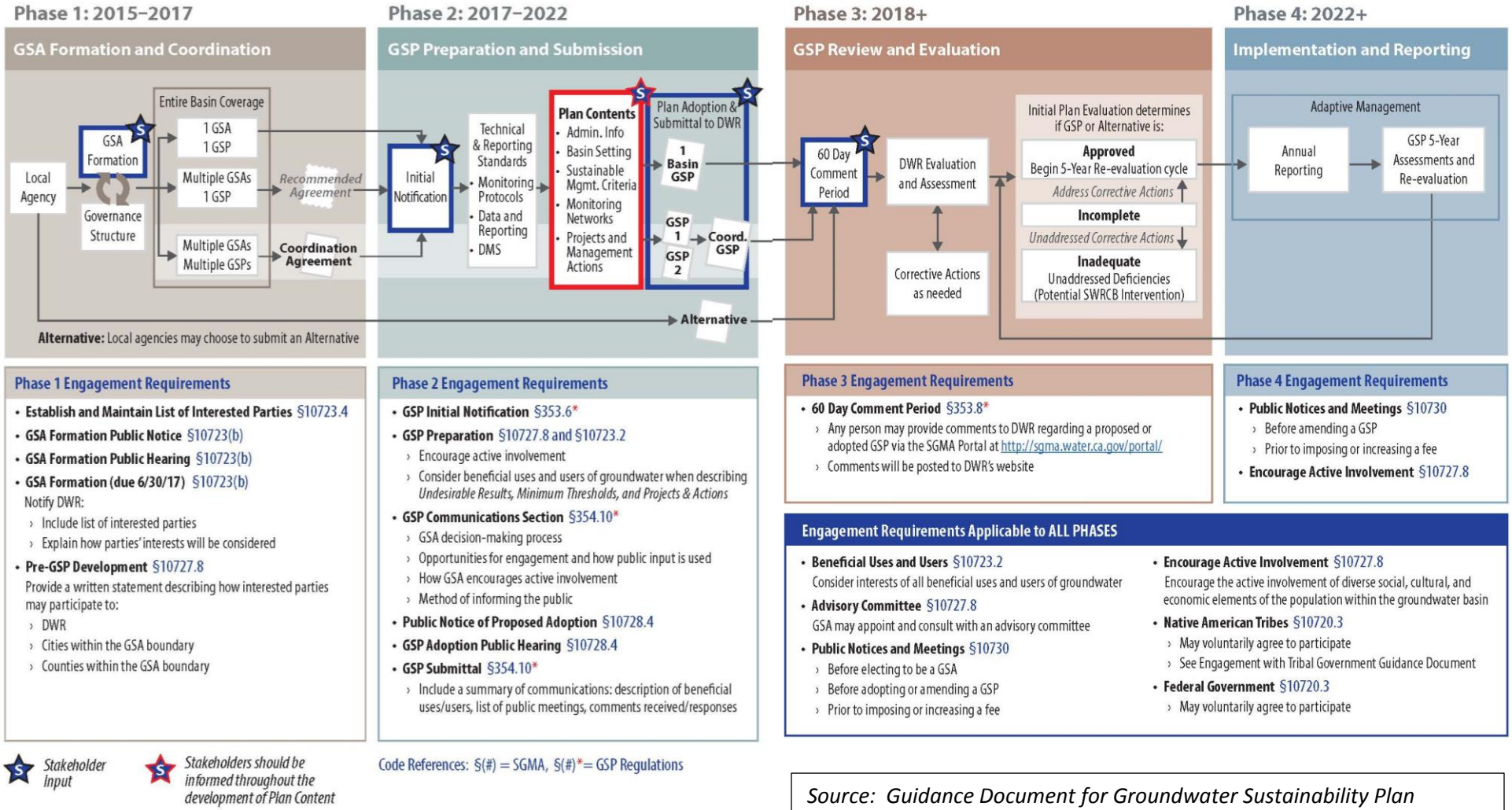
GSP Regulations Section	Requirement	Description
Article 5. Plan Contents, Sub-article 1. Administrative Information		
354.10	Notice and Communication	• Description of beneficial uses and users • List of public meetings with dates • GSP comments and responses • Decision-making process • Public engagement process • Method(s) to encouraging active involvement • Steps to inform the public on GSP implementation progress

1.3. Planning Approach

While the SLDMWA is assisting with the coordination of GSP(s) development, this Communications Plan (Coms Plan) is offered for the voluntary use of all of the GSAs of the Delta-Mendota Subbasin. A full Coms Plan schedule should be developed in conjunction with the overall GSP(s) development schedule. One additional option is for the Coordination Committee of GSAs to provide overall communications guidance. This could potentially be included in a section of the Coordination Agreement.

[2] Guidance Document for the Sustainable Management of Groundwater, Preparation Checklist for GSP Submittal, Department of Water Resources, December 2016

Figure 1. Stakeholder Engagement Requirements



Source: Guidance Document for Groundwater Sustainability Plan Stakeholder Communication and Engagement Department of Water Resources, June 2017

An important additional step will be establishing, in conjunction with the multiple GSAs, the roles and responsibilities for implementing the Coms Plan.

1.4. SGMA and the Delta Mendota Subbasin[3]

The Delta-Mendota Subbasin of the San Joaquin Valley Groundwater Basin is a long, relatively narrow groundwater basin that covers portions of five counties, from north to south, San Joaquin, Stanislaus, Merced, Madera and Fresno Counties (see **Figure 2**). The Delta-Mendota sub-basin is bounded on the west by the Tertiary and older marine sediments of the Coast Ranges. The northern boundary (from west to east) begins on the west by following the Stanislaus/San Joaquin County line, then deviates to the north to encapsulate all of the Del Puerto Water District before returning back to the Stanislaus/San Joaquin County line. The boundary continues east then deviates north again to encapsulate all of the West Stanislaus Irrigation District before returning back to the Stanislaus/San Joaquin County line. The boundary continues to follow the Stanislaus/San Joaquin County line east until it intersects with the San Joaquin River.

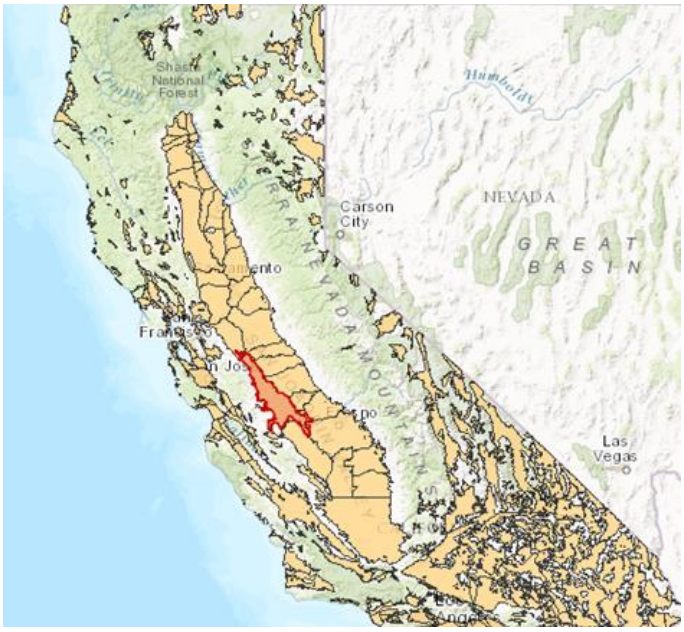


Figure 2. Delta Mendota Subbasin

The eastern boundary (from north to south) follows the San Joaquin River to within Township 11S, where it jogs eastward along the northern boundary of Columbia Canal Company and then follows the eastern boundary of Columbia Canal company until intersecting the northern boundary of the Aliso Water District. The boundary then heads east following the northern and then eastern boundary of the Aliso Water District until intersecting the Madera/Fresno County line. The boundary then heads westerly following the Madera/Fresno County line to the eastern boundary of the Farmers Water District. The boundary then heads southerly along the eastern boundary of the Farmers Water District, and continues southerly along the section line to the intersection with the northern right-of-way of the railroad. The boundary then heads east along the northern right-of-way of the railroad until intersecting with the western boundary of the Mid-Valley Water District. The boundary then heads south along the western boundary of the Mid-Valley Water District to the intersection with the northern boundary of Reclamation District 1606. The boundary then heads west and then south following the boundary of Reclamation District 1606 and James Irrigation District until its intersection with the Westlands Water District boundary.

The southern boundary (from east to west) matches the northerly boundaries of Westlands Water District legal jurisdictional boundary last revised in 2006. The boundary then

[3] Information related to the Delta Mendota subbasin is drawn directly from http://sgma.water.ca.gov/basinmod/basinrequest/preview/23.

proceeds west along the southernmost boundary of the San Luis Water District. The boundary then projects westward from this alignment until intersecting the Delta-Mendota sub-basin Western boundary described above.

1.5. Delta-Mendota Subbasin GSP Planning

The GSAs of the Delta-Mendota Subbasin intend to work together to meet Sustainable Groundwater Management Act (SGMA) requirements and prepare a Groundwater Sustainability Plan (GSP) or coordinated Sustainability Plans by June 31, 2020. The San Luis Delta- Mendota Water Authority (SLDMWA) is assisting its members and non-members in planning and implementation of this law and has been directly assisting a subset of the local GSA eligible agencies in organizing to accomplish required SGMA tasks. The SLDMWA has also hosted informal, information meetings with all of the subbasin GSAs.

While SLDMWA coordinated GSAs are confident in their ability to prepare a GSP for the areas under their jurisdiction, SGMA requires that an approved GSP or multiple coordinated GSPs are in place to provide sustainable management for the entire subbasin. The identified GSAs have been asked to determine how they wish to proceed in individual GSP development or a coordinated single GSP by July 2017 and whether or not they wish to participate in the Prop 1 Sustainable Groundwater Planning Grant as a joint request.

1.6. Delta Mendota Subbasin GSAs

Following are the DWR identified agencies (as of June 15, 2017).[4]

1. Aliso Water District
2. Central Delta-Mendota Region Multi-Agency GSA
3. City of Dos Palos
4. City of Firebaugh
5. City of Gustine
6. City of Los Baños
7. City of Mendota
8. City of Newman
9. City of Patterson
10. County of Madera—3
11. DM-II
12. Farmers Water District
13. Fresno County—Management Area 'A'
14. Fresno County—Management Area 'B'
15. Grasslands Groundwater Sustainability Agency
16. Merced County—Delta-Mendota

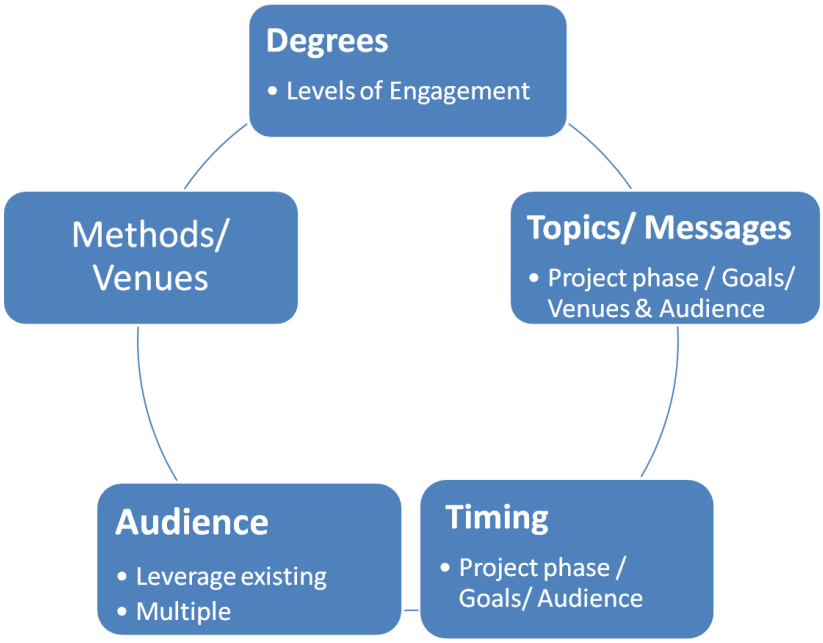
[4] See: http://sgma.water.ca.gov/portal/

17. Northwestern Delta-Mendota GSA
18. Ora Loma Water District
19. Patterson Irrigation District
20. San Joaquin River Exchange Contractors Water Authority
21. Turner Island Water District-2
22. West Stanislaus Irrigation District GSA
23. Widren Water District GSA

COMMUNICATIONS PLAN OVERVIEW

Communication is the process of transmitting ideas and information. According to the Project Management Institute, 75%-90% of a project manager's time is spent communicating. A Coms Plan provides the purpose, method, messages, timing, intensity, and audience of the communication, then describes who will do the communicating, and the frequency of the communication (see **Figure 3**.)

Figure 3. Elements of a Communications Plan



2.1. Purpose

The purpose of the Delta-Mendota Subbasin, Sustainable Groundwater Management Act, Coms Plan is to outline the information and communications needs of the project stakeholders and provide a roadmap to meet them. The Coms Plan then identifies how communications activities, processes, and procedures will be managed throughout the project life cycle.

2.2. Importance

While communications are important in every project, a well-executed communications strategy will be essential to the success of the GSP(s) development and adoption process. The financial and regulatory stakes are high and communication missteps can create project risks. Further, development of a viable GSP(s) will require an on-going collaboration among all the stakeholders, both organizational and external. The plan will be comprehensive and consider multiple variables, a range of system elements and project costs and benefits. Stakeholder input will be needed to refine GSP requirements and fully

define the water management system, and potential impacts, costs and benefits that may result in managing for sustainability.

2.3. Scope

The plan focuses on formal communication elements. Other communication channels exist on informal levels and enhance those discussed within this plan. This plan is not intended to limit, but to enhance communication practices. Open, ongoing communication between stakeholders is critical to the success of the project.

2.4. Communications Goal

Development, adoption and implementation of the GSP(s) will require basin external stakeholders, other agencies, staff, managers, and the multiple GSA Boards to evaluate choices, make decisions and commit resources.

The core communications goal is to plan for and efficiently deliver clear and succinct information:

- At the right time
- To the right people
- With a resonating message

This is done to facilitate quality decision making and build accompanying public support

2.5. Communications Objectives

The Coms Plan Objectives are to present strategies and actions that are:

- Realistic and action-oriented
- Specific and measurable
- Minimal in number (a few well delivered are better than many mediocre efforts)
- Audience relevant

2.6. Strategic Approach

Three primary communications strategies have been identified for the GSP(s) development.

1) Fully leverage the activities of existing groups. This practical approach is cost effective and respectful of the limited time that stakeholders have to participate in collaborative processes.
2) Provide targeted, communications and outreach to opinion leaders in key stakeholder segments.
3) Provide user friendly information and intermittent opportunities through existing communication channels and open houses or workshops to allow interested stakeholders (internal and external) to engage commensurate with their degree of interest.

2.7. Communications Governance, Communications Team

Given the relatively large number of stakeholders, a recommendation for coordinated efforts, and the legal requirements for outreach[5], some form of communications governance is recommended. Several governance options for consideration are offered in Appendix 2. The actual form of the governance is less important than a clear understanding of the roles and responsibilities of those responsible for ensuring required communication. For the purpose of this document, an assumption is made that some form of governance will be identified and a communications team (which may be an individual or multiple individuals, and/or include the project consultants) is designated.

A driving consideration for this recommendation is the level of effort associated with required activities and the fact that communications are highly time dependent. That means that communications activities should be occurring that may happen outside of regularly scheduled GSA meetings. In this case delegation with guidance is efficient and effective.

2.8. Constraints

All projects are subject to limitations and constraints as they must be within scope and adhere to budget, scheduling, and resource requirements. These constraints can be even more challenging in projects with multiple agencies as will be the case with the development and coordination of multiple GSPs.

There are also legislative, regulatory, technology, and other organizational policy requirements which must be followed as part of communications management. These limitations must be clearly understood and communicated where appropriate. While communications management is arguably one of the most important aspects of project management, it must be done in an effective and strategic manner recognizing and balancing the multiple constraints.

All project communication activities should occur within the project's approved budget, schedule, and resource allocations. The GSP(s) project managers and the leadership of the participating GSAs should have identified roles in ensuring that communication activities are performed.

To the extent possible, to support collaboration and reduce costs, GSP(s) partners should utilize standardized formats and templates as well as project file management and collaboration tools.

[5] See Appendix 1

SITUATION ASSESSMENT

3.1. *Introduction*

The challenges of asking a community to make changes in how things are done, or forging an agreement among multiple parties are often large. Prior to preparing a Coms Plan, a neutral, 3rd party facilitator conducted a stakeholder Situation Assessment (SA).

The facilitator's role was to provide an independent evaluation of potential stakeholder's interest in coordination and governance for GSA formation and GSP development and identify any barriers or concerns that would need to be addressed for the GSA formation process and GSP(s) development to be successful.

3.2. *Situation Assessments*

An SA is an information-gathering process that informs outreach, engagement and collaboration. As part of preparing the basin communication's process, it was important to know more about:

- Stakeholder Categories
- Opinion leaders
- Regulatory and political context
- Advocates and detractors
- Attitudes and knowledge
- Other elements useful to the crafting of decisions

An assessment is also a low risk approach to education and signaling a future relationship. It facilitates the community's appraisal of its needs, wants and values. A well-crafted assessment sets the stage for the parties to better understand and interpret their situation so that they can make informed decisions for actions, in the short term and for the future.

The Delta-Mendota subbasin SA included background research and interviews. Interviews were usually with individuals but in a few cases a very small group was convened. To encourage candor, the results of the input process were bundled so those interviewed were not individually identified unless they explicitly indicated they wished to share their individual response.

3.3. *Background Research*

The facilitator worked closely with the SLDMWA and DWR to identify useful documents, plans and activities that might inform the overall communications planning process.

3.4. *Interviews and Consultations*

Using information gathered during the background research and similar GSA formation efforts throughout the state, the facilitator worked with the SLDMWA to craft interview questions. The facilitator also provided some selection criteria to the SLDWMA to help identify a representative group of interview candidates. Once selected, the SLDMWA staff and facilitation team invited the interviewees to participate. In addition to full interviews,

additional calls and in person communications were conducted to acquire amplifying information. **Figure 4** provides a quick overview.

Figure 4. Interview and Consultation Quick Facts

Selected participants were all engaged or otherwise stakeholders in some aspect of the basin GSA development process.

A project background sheet was provided in advance of each formal interview and used again during the interviewee discussions with the facilitator. Each interview followed the same format and included 16-18 questions (depending on whether or not a follow-up question was needed).

The questions covered the following topics pertaining to the GSA formations and GSP(s) development:

1. Overarching perspectives from each key stakeholder on general groundwater conditions, GSA governance; subbasin management and associated SGMA compliance
2. Preferred methods to achieve groundwater sustainability consistent with SGMA requirements
3. The level of agreement/conflict around groundwater governance across the range of stakeholder perspectives
4. Experience with facilitated processes, outreach and engagement, and the goals for such support
5. Potential configurations of governance and formations of GSAs and GSP development

3.5. *Summary of key findings*

Interview results indicate an overall positive environment for the project and project communications; however, the effort will require interactions of a large number of parties and planning for an extremely complex system. Following are the reflections, ideas and suggestions of those contacted.

3.5.1. Related to Groundwater Sources and Trends

- *Significant observed impacts associated with Weather, Water Project Deliveries and Cropping Patterns* – Participants observed a declining

groundwater situation and were able to attribute it to drought and weather (particularly timing of seasonal rainfall and periods of prolonged, higher temperatures), conversion to permanent crops, and significant changes in access to surface water.

- *Surface & Groundwater Nexus* – As noted in comments related to access to surface water, there was a clear understanding of the surface/groundwater nexus. Many believed that any realistic solution would have to include a full assessment of the region's surface water future.

- *Extremely Complex Systems* – Many of those interviewed reported that parts of the subbasin were doing fine and could, with good management, be sustainable. They described problems as being primarily in pockets of the subbasin. They also characterized some parts of the subbasin as not being managed sustainably and indicated that they believe this would have continued had SGMA not passed. While it was generally agreed that it would have been better if SGMA was not driving the change, they felt change would not occur without something like SGMA. Several of the participants were able to describe specific locations and situations that illustrated this.

  Issues related to operations of the Bureau of Reclamation, the Delta-Mendota Canal (DMC), the Mendota Pool and restoration activities are of keen interest to all the stakeholders. Everyone was familiar with issues of subsidence and with the facts and figures represented in graphics like those in **Figure 5**, prepared by the United States Geological Survey (USGS).[6]

  Many perceived that groundwater supplies for municipal uses in some parts of the basin were at risk.

- *Historic Rights and Arrangements* – Access to surface water is based on numerous historic rights and agreements as well as more contemporary agreements. As such there is no **single** description of the status of surface water availability among the many subbasin GSAs,[7] although there is a strong understanding of the rights and arrangements that do exist.[8]

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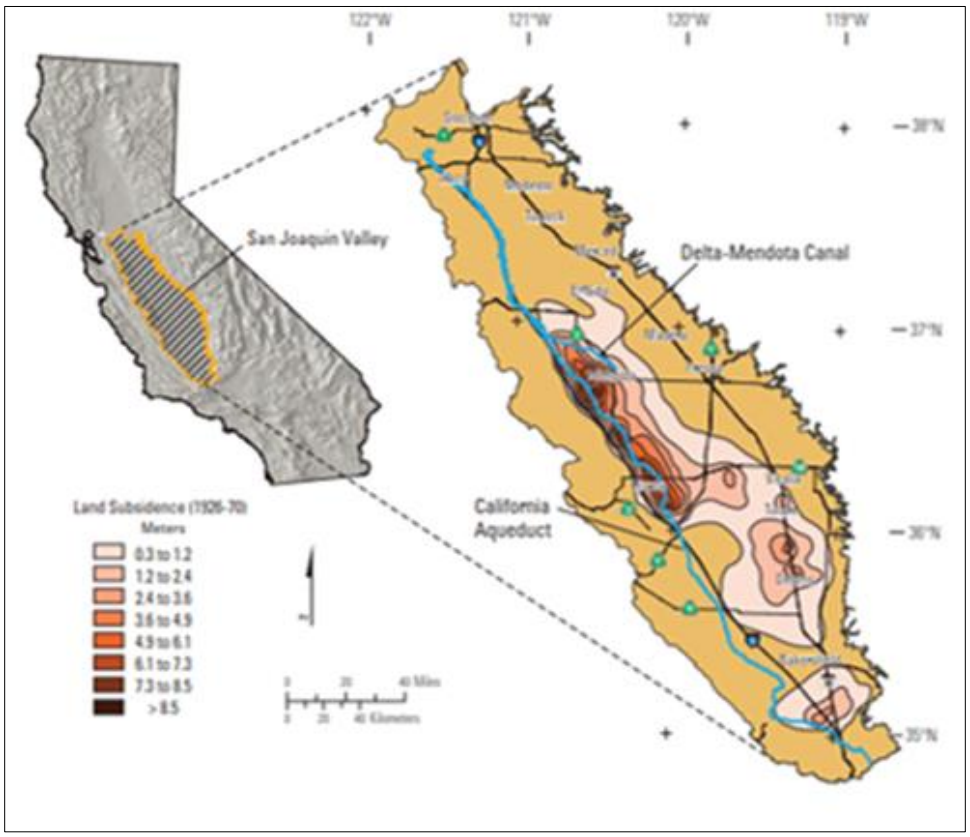
[6] U.S. Department of the Interior | U.S. Geological Survey: https://ca.water.usgs.gov/projects/central-valley/delta-mendota-canal.html, Page Last Modified: Monday, 20-Mar-2017 22:39:47 EDT

[7] A full inventory of water rights and arrangements for the subbasin GSAs is recommended to be prepared as part of the GSP planning process.

[8] In 2010 there were 1,403 water rights claimed in the San Joaquin Delta watershed, the largest number of any watershed in the State. [Source: Associated Press: Original data source is State Water Resources Control Board eWRIMS, Database

Figure 5. USGS Illustration of the DMC and Subsidence



The hierarchy of water rights as well as laws related to groundwater rights will be a significant factor in GSP negotiations.

Another historical factor related to sustainability is the character of land ownership. There was a perceived difference in the values placed on sustainability by multi-generational family farms versus investor driven agriculture and/or water development.

3.5.2. Related to GSA Governance; Subbasin Management and SGMA Compliance

- *Numbers* - The subbasin includes numerous Water Agencies (35) and other potential GSA eligible agencies including Cities and Counties (such as Dos Palos, Firebaugh, Gustine, Los Baños, Mendota, Newman, Patterson, Fresno, Madera, Merced, San Joaquin, and Stanislaus) and Community Service Districts (CSDs) including among others Grayson, Westley, and Volta, as well as multiple Resource Conservation Districts (RCDs) that for the most part were within the general boundaries of other GSA eligible authorities (Panoche, Poso and Grasslands as an example).

  By the June 30, 2017 filing deadline, 23 eligible entities had formally filed GSA formations and met SGMA requirements for subbasin coverage.

Even with this large number of GSA entities, during the SA interviews and in a follow-up survey, most agencies indicated a preference for a reduced number of GSPs and potentially just one or two.

At the time of this assessment there was not a full understanding of all of the potential requirements of being a GSA and ultimately what might be required to prepare a compliant GSP.

Table 3. Number of Subbasin Public Water Agencies

Number of Public Water Agencies		
• Merced County	• Foothill WD	• Panoche WD
• Fresno County	• Fresno Slough WD	• Patterson WD
• Broadview WD	• Grasslands WD	• Romero WD
• Centinella WD	• Hospital WD	• Salado WD
• Central California ID,	• Kern Canon WD	• San Luis Canal Company
• Davis WD	• Laguna WD	• San Luis WD
• Del Puerto WD	• Mercy Springs WD	• Santa Nella C.WD
• Eagle Field WD	• Mustang WD	• Sunflower WD
• El Solyo WD	• Oak Flat WD	• Tranquility ID
• Farmers WD	• Orestimba WD	• West Stanislaus ID
• Firebaugh Canal WD	• Oro Loma WD	• Widren WD
	• Pacheco WD	• Quinto WD

At the time of this assessment participants did not fully recognize the potential number of stakeholders and/or the requirements to conduct outreach.

- *Subbasin Governance Structures* – Many individuals and entities within the subbasin have experience working in cooperative governance and related structures. For example, the SLDMWA provides leadership for an Integrated Resource Water Management Plan (IRWMP) illustrated in **Figure 6**[9] on the following page. Many of the stakeholders are also involved with Irrigated Lands Coalitions (see **Figure 7**).[10]

  Likewise, many are also involved in efforts related to the Central Valley Salinity Alternatives for Long-Term Sustainability (CV-SALTS) initiative (see **Figure 8**).

[9] Source : San Luis & Delta-Mendota Water Authority, Westside-San Joaquin Integrated Water Resources Plan, July 2014

[10] Source: Central Valley Regional Water Resources Control Board

Existing Cooperative / Collaborative Governance Structures with Delta Mendota Subbasin Stakeholders

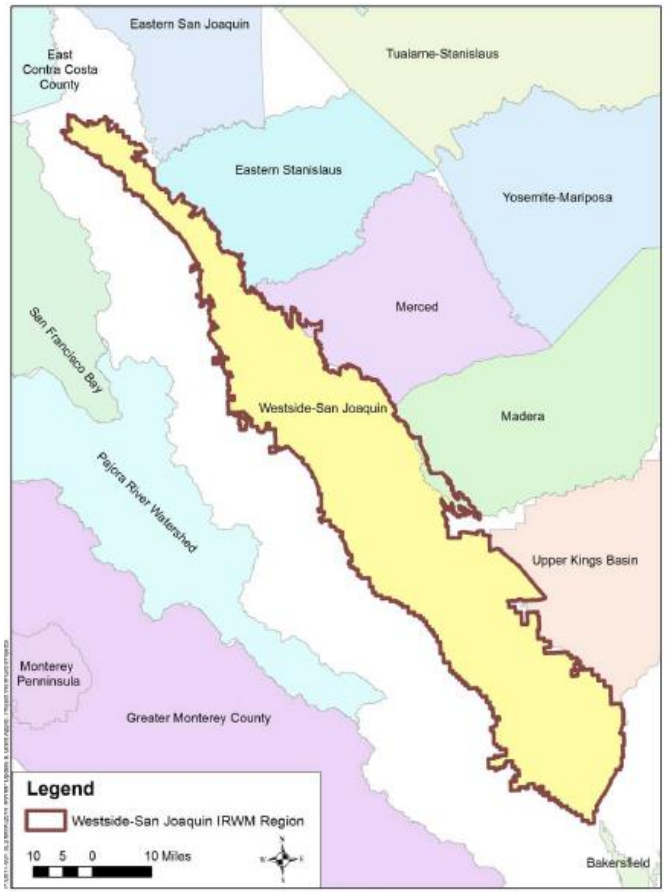


Figure 6. Integrated Regional Water Management Groups

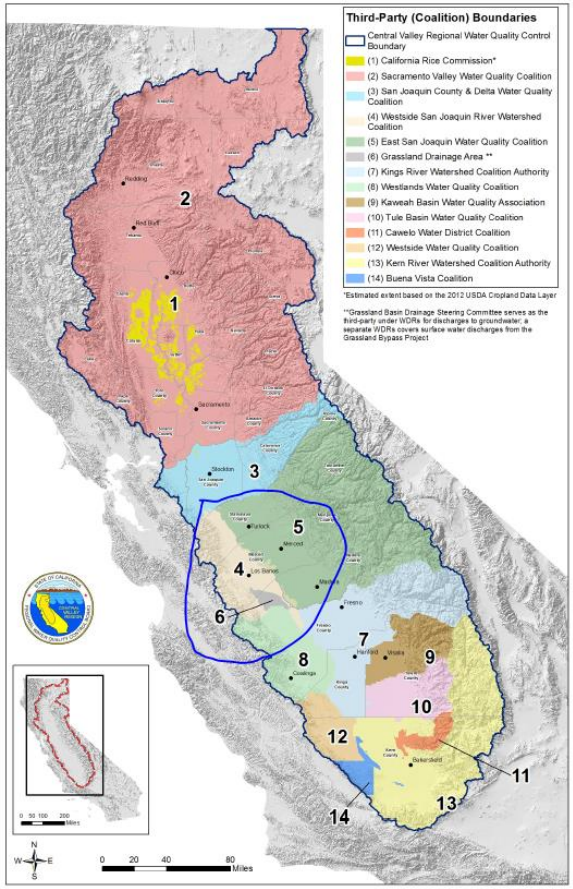


Figure 7. Irrigated Lands Coalitions

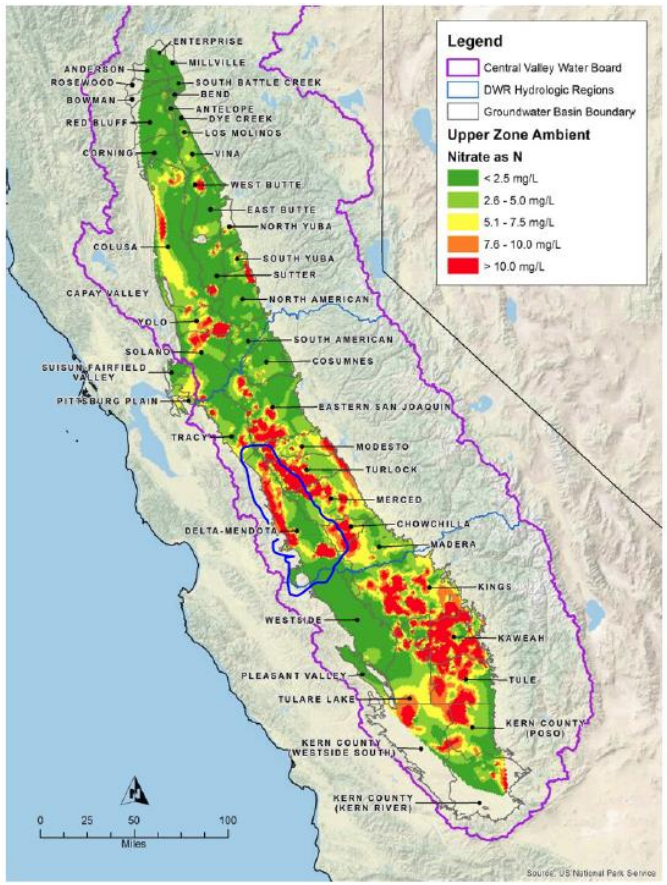


Figure 8. CV-Salts Initiative

CV-Salts was launched to develop sustainable salinity and nitrate management planning for the Central Valley. (See **Figure 8**.[11])

Finally, there are multiple arrangements in place related to surface water transfers and other previous groundwater management planning efforts.

Experience with these programs has created a capacity for collaborative planning that will be essential for GSP development. It also creates opportunities to access and leverage existing stakeholder meetings and events rather than needing to convene multiple new stakeholder processes.

3.5.3. Issues to be Addressed in Creating a Sustainability Plan

Some of the participants indicated they had an extremely good understanding of their section of the subbasin, with exact and extensive records to support their perspective. They found that making projections using historical data had been more reliable than some of the groundwater models that were in use.

In thinking about development of a GSP they felt there could be some difficulty in developing water balances due to lack of quality data for some locations. Another mild concern was the potential for disagreements about the selection of a groundwater model(s) or reconciling differences among methods.

Still another concern was the capacity of the GSAs and/or GSA members to fully participate. Some of these agencies are very lightly staffed and have varying levels of knowledge related to groundwater management. All of the participants had significant other duties prior to the passage of SGMA.

One concern, expressed after completion of the assessment, was the potential for some agencies to simply opt out of participating in the development of a GSP but still receive the benefits of the region having an approved plan without having contributed to the larger good of the subbasin.

3.5.4. Representation

The State Board lists the following as Required Interested Parties for the purpose of SGMA outreach:

- All Groundwater Users
- Holders of Overlying Rights (agriculture and domestic)
- Municipal Well Operators and Public Water Systems
- Tribes
- Counties
- Planning Departments /Land Use
- Local Landowners
- Disadvantaged communities
- Business

[11] Ibid

- Federal Government
- Environmental Uses
- Surface Water Users (if connection between surface and ground water)

All of these stakeholder categories were contacted in the interview process excepting tribes. In the case of tribes, there are no classified tribal lands in the Delta-Mendota subbasin, therefore no planning, outreach or communication needs are currently anticipated for tribes.

Due to subbasin characteristics, a primary focus of the assessment was on agricultural, disadvantaged communities (DACs) and municipal groundwater users.

- *Related to Agricultural Representation* - most respondents believed that the elected leadership of the GSA agencies would do a good job in representing agriculture and noted that many of them were growers themselves. It was also noted that farmers were busy and would be far more interested in any specifics of a GSP that would impact operations or the degree of certainty about water availability than the particulars of GSA governance.

- *Regarding DACs* - Much of the subbasin and its counties (San Joaquin, Stanislaus, Merced, and Fresno) have communities that meet the DAC definition and the region is generally considered disadvantaged. The ability of DACs to participate in GSP development was considered limited and it was thought that there would be a need for specific and direct outreach to DACs through elected leadership and via use of trusted community advocates. As part of the SA, several of those interviewed identified themselves as being able to represent a DAC perspective and one in particular was particularly concerned about the availability of Spanish language materials. As a result, Spanish language materials were included in the meeting materials of the public GSA adoption meetings and the SLDMWA provided a fluent Spanish speaker to assist with meetings.

  In the past, to promote DAC identification and involvement, the Westside-San Joaquin IRWM previously conducted an extensive survey of private and public community representatives to educate and encourage understanding of the IRWM process, to help understand the issues confronted by DACs, and to

better address the needs of minority and/or low-income communities. This effort resulted in identification of DACs in the Region and an initial list of 22 projects that would benefit DACs and low-income communities. Given known constraints on this community it is recommended that more focused DAC outreach should be coordinated with the IRWM. This effort is now in progress.

- *Regarding Municipals* - The SA outreach also included interviewing Municipal Stakeholders. A significant number of the Cities are fully dependent on wells for water supply and issues related groundwater management are of grave concern. These representatives all felt that even while it would be difficult to make time to participate in GSAs and GSP development, that they must make the time. Many had also determined that they wished to form their own GSA to reflect their specific interests in any kind of broader GSP negotiation.

- *Regarding Environmental Interests* - There appeared to be a less defined stakeholder segment representing traditional, environmentally focused issues. Outreach was made to subbasin government agencies that often serve as a surrogate for these interests and an informal consultation occurred with a representative of the Planning and Conservation League to identify any known, active stakeholders. However, no specific entity or individual was identified by those contacted. A general perception was that this community would desire engagement and would designate representatives if the GSP development was thought to potentially impact existing restoration or other environmental concerns but the formation of GSAs per-se, was of less interest. The next phase of communications should include outreach to organizations such as Audubon, the Nature Conservancy and Ducks Unlimited just to ensure due diligence. These connections will be important going forward, particularly if environmental issues are identified.

- *Regarding Industrial Users* – The region includes some industrial water users. This sector has a relatively lower percent of water use compared to other subbasins users; however, representatives of the sector pointed out how essential access to water was to their industry. The interviewees also emphasized how important these industries were to the local economies. There was a stated concern about representation since there didn't appear to be a direct way to engage, particularly with multiple GSAs being formed.

- *Regarding Counties & Planning Agencies* – All of the subbasin counties have designated representatives and all are assisting with GSA coverage for areas not otherwise covered by a GSA. All of the city and county representatives had direct engagement with the planning arms of their jurisdictions, or were staff to the planning departments. These representatives, like the municipal representatives, viewed this as critical issue even as it creates new workload for the already busy entities.

3.5.5. Communications and Facilitation Preferences

Participants were asked to describe their communications preferences. Several offered specific suggestions on written materials. Most did not believe there would be a need for a high frequency of communications directly with non-GSA stakeholders.

Several suggested using regularly scheduled activities of existing groups and gatherings to share information rather than creating stand-alone events. They listed annual meetings of the water agencies as one good venue as well as meetings related to the IRWM and Irrigated Lands. Several also thought that it would be good to go to places like Farmers Markets, particularly for the disadvantaged communities, and County Fairs.

Farm Bureau representatives also indicated a willingness to support outreach efforts. The Merced Farm Bureau, in particular, has already helped to advertise public meetings related to GSA formations.

Related to facilitation there was not a broad exposure to professional facilitators among many of the stakeholders. Even so, participants consistently listed qualities such as fairness and transparency, a good understanding of the issues, and confidence as helpful facilitator strengths. There was a sense that the GSAs would not need hand holding but that facilitation could be useful for helping the stakeholders forge decisions and making what many believed would need to be compromises.

3.5.6. Success Factors, Barriers to Success

The participants were asked to describe their view on the odds for success as well as any barriers that would prevent successful completion of a GSP.

Overall, most participants expressed a medium to high likelihood for success. They noted that the carrot (grants and technical support) and stick (significant regulatory intervention) by the State creates a dynamic that is supportive to success.

Participants stated barriers related to the capacity of the GSAs to participate and ultimately agree to, and implement changes. The much diffused governance structure of multiple GSAs amplifies this dilemma as do actions beyond the control of the subbasin entities (such as climate and water deliveries).

In addition to perceived barriers, participants outlined their thoughts on opportunities and success strategies.

- *Drought* – While the drought was unwelcome it increased awareness of the need for changes. Many felt it would be easier to move forward while the topic is prominent in everyone's minds.
- *Short and Long Game* – Several suggested it will be important to have a plan that includes long and short term strategies and activities.
- *Integrated Planning* – Many of the participants emphasized the importance of integrated planning.

3.5.7. Other Comments and Advice

Many participants expressed appreciation for being contacted and invited the facilitator to contact them again if there were questions.

3.6. *Promising messages and methods*

Three primary communications strategies have already been identified for the GSP(s) development:

- Leveraging the activities of existing groups
- Providing targeted, communications and outreach to opinion leaders in key stakeholder segments
- Providing user friendly information and intermittent opportunities for a broader range of stakeholders

The same strategies aligned with the recommendations of the SA participants. These methods will allow stakeholders to engage commensurate with their degree of interest while providing sufficient information to ensure long-term success for plan development and implementation.

AUDIENCES AND MESSAGES

GSA formation and GSP(s) development**,** like most large planning efforts, consists of a broad range of stakeholders with differing interests and influence.

4.1. Two Core Audience Segments

This Coms Plan Anticipates two core audience segments. First is the subbasin GSA Boards and the communications among and between themselves. This audience segment is significant in size given that 23 GSAs will be working to develop a GSP(s) and each GSA has its own Board and audiences.

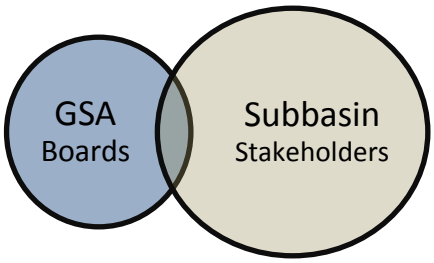


Figure 9. Two Core Audience Segments

The second audience is the subbasin stakeholders as identified in SGMA. This audience is also large. Many of the stakeholders are shared by the GSA Boards and some of the larger stakeholder segments are also represented on the GSA Boards (see **Figure 9**).

Nearly all of the communications strategies apply to both segments; however, some strategies apply to one or the other specifically and are so identified.

4.2. Communications and Change Management

The process of adopting and implementing a GSP will require significant change management. Communications planning should encompass basic change management approaches. Messages should also evolve over time and be tied to the planning process and key decision points. Then, for each audience and each major planning step, communications must do the following:

1. Describe what the actual proposed plan (change) is
2. Articulate how the change will directly impact the category of stakeholder involved
3. Outline the methods that will be used to implement the plan (change)
4. Define the costs and benefits of changing and not changing, and what future conditions will be if change does not occur
5. Consider unintended consequences and others that may also be impacted by the same change then develop a strategy to engage them
6. Offer opportunities for input and for stakeholders and others to improve the approach

The communications requirements for large changes are often underestimated. Some experts indicate that messages may need to be delivered up to 8 different times to be fully absorbed. Communications needs will also evolve as the GSP planning progresses. **Table 4** provides a sample of early communications that focus on SGMA and groundwater basics.

Table 4. Sample – Early Phase Message Elements for Subbasin Stakeholders

Element	What the Change Is	How it will affect the Stakeholder	How the change will be Implemented	Why it is a good idea
Early Phase GSP Development	• Locally governed GSAs will work together to sustainably manage ground water. • The Subbasin /Basin is required to ensure Sustainable Groundwater Management by submitting a sustainability plan by 2020. • The plan must be implemented and found to result in sustainable management by 2040.	(Unique to audience type) • Changes in the current methods of acquiring and utilizing groundwater may occur. • May affect future decisions related to crop types and decisions related to conjunctively using surface water. • May provide additional project resources to the DAC communities.	A collaborative approach is being undertaken to prepare the plan with multiple GSAs coordinating with the SLDMWA as the planning organizer.	• Sustainable and wise use of groundwater allows for the success of future generations and creates greater certainty for today's beneficial users. • Failure to act may result in negative regulatory consequences.

As part of the GSP planning process, the next phase of communications will also need to communicate the requirements for sustainability and how they are achieved in the context of the Delta-Mendota subbasin. Then, communications related to GSP specifics and adoption will require additional outreach, targeted to specific audiences.

4.3. Tied to Decision Making

Communications should also be tightly linked to decision making. For each anticipated decision, stakeholders for that decision should be identified and the following addressed.

1. Who (Is the stakeholder)
    a. An impacted party?
    b. A potential planning partner?
    c. A potential provider of services or resources?
    d. A regulator of the activity?

    (Note: Maybe more than one category.)

2. What (What is the interest of the stakeholder? How will the stakeholder be affected? What are the stakeholders' needs?)
3. Who (Who is the right messenger for the information)
4. How (How should the information be delivered? What are the best methods?)
5. When (What is the appropriate timing for the messages?)
6. Engagement and Knowledge Transfer (How do we create two-way communications?))

Table 5 illustrates some of these ideas.

Table 5. Communications Planning Questions

Who	Interest	Messenger	Delivery	Timing	Knowledge Transfer
• Impacted • Partner • Provider • Regulator	• How will decision affect? • What will stakeholder need?	• Who is a trusted information Source? • How do we ID and Partner	• What are the best delivery methods?	• When should we conduct outreach?	• What do the stakeholders know that we need to know?

4.4. GSA Boards

Due to the multiple subbasin GSAs, specific focus is needed on communications to keep them informed, provide consistent updates and information that the Boards can use in their own outreach, and support their decision making. Primary objectives for communications with the subbasin GSA Boards are to ensure:

- Consistent understanding of the requirements for a GSP and/or GSP coordination
- On-going access to current information
- Timely notice of any significant developments or decision points that may require changes to policies and/or require some other board action
- Confidence that the GSP(s) will be accepted by the GSA's stakeholders

Key communications activities involving the Board include;

1. Providing short and digestible pieces of information to ensure each Board member can quickly articulate to his/her constituents on key matters and remain sufficiently informed so that no decision points are surprises.
2. Provide user-friendly informational materials to be used with public audiences, and will support the Board with their own constituent outreach.
3. Utilize regular Board communications for routine updates and reserve specific Board agenda items for highly significant discussion items.

4.5. Primary Audiences

There are several core stakeholder groups that will require ongoing communications and tailored messaging throughout the planning process. They are:

- Agriculture
- Disadvantaged Communities
- Municipals

Other stakeholders requiring special consideration include:

- Industrial Users/ Business
- Regulators (State and Federal)
- Potential Partners
- Environmental Organizations
- Federal Agencies

While all of the stakeholder types are important to engage for development of a GSP, the first three will be most affected by any changes that might be proposed as a result of the *GSP(s)*.

The following provides an outline of key messages and activities in support of each of the audience types.

4.2.1. Agricultural

Messages about the GSP(s) development should feature the overall desirability of a sustainable management approach how the plan will contribute to management certainty and protect against regulatory oversight.

In thinking about irrigation users it is also important to remember that one size does not fit all.

4.2.2. Disadvantaged Communities

Messages developed for this sector should be tailored and specific to the community. This type of outreach is often best served by use of surrogates and trusted messengers. As identified in the SA, these messages should be aligned with activities of the IRWM, especially given the high, current dependence of many on unsustainable water sources. Messages about ways to access the increased availability of resources due to grant incentives should also be considered.

A specific outreach method to consider relates to the predominance of cells phones within the communities. According to the Pew Research Center, "over 50 percent of low-income households own a smartphone. Smartphone penetration in this demographic creates substantial opportunities for utilities to reach disadvantaged communities with software solutions like customer self-service platforms and targeted digital communications."[12]

4.2.3. Municipals

[12] Secondary Source: Water Smart. https://www.watersmart.com/rethinking-disadvantaged-community-engagement/ (accessed June 1, 2017)

Some care will be needed to address tensions related to the relative percentages of use by Municipal agencies and what constitutes highest and best beneficial uses within an agricultural region. A promising interaction with this community would involve collaboration on messaging to achieve mutually beneficial goals.

Some thought it might be possible for the municipal agencies to provide in-kind support to the GSP development process through support for project websites and mailing lists, production of meeting notices, assistance to the planning process from in-house public information professionals and offering access to physical meeting spaces.

Municipals may need assistance in making the case for the need to think at a Basin scale rather than more local terms.

4.2.4. Business and Industry Interests

Business and industry interests seek assurances about the availability of water for operations and the viability of the farming industry in the region. Messages for these audiences should focus on how the GSP(s) development will contribute to sustainability and how these audiences can participate in discussion specific to their interests.

4.2.5. Regional/Statewide Interests and Regulators

Some degree of uncertainty remains in the overall legal, legislative and regulatory environment as it relates to SGMA implementation.

It is in the interest of the subbasin stakeholders to engage state and federal agencies and regulators throughout the process. These parties may have resources to assist the subbasin and a cooperative attitude will build good will in the event that adjustments are needed to achieve SGMA compliance.

4.2.6. Potential Agency Partners

A variety of collaborations to achieve GSP(s) development goals may be possible. The GSAs should consider the potential for collaboration with non-GSA members and inter-basin (adjacent subbasin) partners, as part of plan deliberations.

4.2.7. GSP Coordinators Planning Forum

A planning forum for subbasin GSP coordinators should be established to further inform a coordination strategy. This forum would include agency representatives as well as the consultant teams and be used for the sole purpose of coordination and mutual support. It is anticipated that this body might meet on a quarterly or as needed basis. This forum would also provide a central point of contact for adjacent subbasin coordinators.

4.2.8. Environmental Community

As noted in the SA, this community will be interested in a GSP features. The focus of messaging for this group being on how the GSP(s) development will contribute to a sustainable regional water portfolio. Special effort should be made to identify specific

topics of interest. For example, as part of GSP development, a list of groundwater dependent species may be created, or impacts to wetlands may be identified. These types of lists would highlight where input from the environmental community might be needed.

4.2.9. Federal Government

Federal representatives interviewed for the assessment asked to be kept informed of subbasin SGMA activities. These agencies have a direct interest in surface water integration as well as SGMA activities that could impact wetlands restoration efforts or groundwater dependent ecosystems and species.

RISK MANAGEMENT

Risk management is the identification, assessment, and prioritization of risks (defined as *the effect of uncertainty on achieving objectives*) followed by coordinated, efficient and economical strategies and actions to minimize, monitor, and control the probability and/or impact of negative events. Strategies and actions may also be used to avert risk by leveraging strengths and opportunities.

Risks can come from uncertainty in economic factors, threats from project failures (at any phase), regulatory and legal uncertainties, natural causes and disasters (drought, flood, etc.), as well as dissention from adversaries, or events of uncertain or unpredictable circumstances. Several risk management standards have been developed. This analysis utilizes those from the Project Management Institute.

Table 6 outlines standardized risk categories and translates them to outreach risks.

Table 6. Risk Factors

RISK CATEGORY	Outreach RISK FACTORS
Technical, quality, or performance	• Realistic performance goals, scope and objectives
Project management	• Quality of outreach design • Outreach deployment and change management • Appropriate allocation of time and resources • Adequate support for Outreach in project management plans
Organizational / Internal	• Executive Sponsorship • Proper prioritization of efforts • Conflicts with other functions • Distribution of workload between organizational and consultant teams
Historical	• Past experiences with similar projects • Organizational relations with stakeholders • Policy and data adequacy • Media and stakeholder fatigue*
External	• Legal and regulatory environment • Changing priorities • Risks related to political dynamics

5.1. Technical, quality, or performance

The subbasin is fortunate to have a high level of water knowledge and skilled personnel available to assist with GSP planning. In general, stakeholder expectations for outreach and performance goals, scope and objectives are attainable. The larger concern in this category is properly communicating the scope of the GSP(s) development and the need for extensive coordination and outreach among a number of parties. Communication of SGMA

requirements for outreach as a planning requirement should be an ongoing consideration and appears to be underestimated in emphasis.

5.2. Project management

A number of positive project management factors are present for the GSP(s) development outreach. Project managers view outreach as an important planning element. The outreach design is based on best management practices and industry standards. It is not overly complicated and with technical services support from DWR and other sources, sufficient resources should be available to properly execute it. Procedures and practices are already in place that can be leveraged to achieve communication goals.

The primary concern in this category relates to GSP coordination. This type of outreach will require additional assessment as the individual GSAs will determine their own protocols for representation.

5.3. Organizational / Internal

Conflicts with other GSA member functions and/or conflicts with outreach activities by efforts that include the same stakeholders (e.g. Irrigated Lands, IRWM, and CV-Salts) should be monitored.

One additional consideration will be the distribution of workload between GSA, organizational and consultant teams. Clear roles and responsibilities must be defined and continuous interaction in place to ensure successful execution.

The GSP(s) development process will also need identified, high level spokespersons or champions. These individuals should be able to discuss subbasin planning with the media, in discussions with regulators and potentially at professional conferences.

5.4. External

The legal and regulatory environment of the GSP(s) development process is complex and evolving. Ongoing issues with surface water deliveries and changing agricultural market conditions are outside of the control of the parties. It will be important for mechanisms to be in place that allow for relatively rapid responses to changing conditions.

5.5. Historical

The primary stakeholders in this process generally view interactions and meetings as productive. There is a history of cooperation and a willingness to work together to save costs and achieve better outcomes.

TACTICAL APPROACHES

Following are specific tactical approaches that may be utilized to deliver the activities, messages, and recommendations of the previous chapters. These approaches are based on best communication practices and grounded in the public participation philosophy of the International Association for Public Participation, Public Participation Spectrum as illustrated in **Table 7**.

The Spectrum represents a philosophy that outreach should match the desired level of input from both the stakeholder and the organizational entity.

Table 7. IAP2 Public Participation Spectrum

IAP2 Public Participation Spectrum

Developed by the International Association for Public Participation

INCREASING LEVEL OF PUBLIC IMPACT

INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
Public Participation Goal:	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**	**Public Participation Goal:**
To provide the public with balanced and objective information to assist them in understanding the problems, alternatives and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions.	To work directly with the public throughout the process to ensure that public issues and concerns are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision-making in the hands of the public.
Promise to the Public:	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**	**Promise to the Public:**
We will keep You informed.	We will keep you informed, listen to and acknowledge concerns and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and issues are directly reflected in the alternatives developed and provide feedback on how public input influenced the decision.	We will look to you for direct advice and innovation in formulating solutions and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.
Example Tools:	**Example Tools:**	**Example Tools:**	**Example Tools:**	**Example Tools:**
• Fact sheets • Web Sites • Open houses	• Public comment • Focus groups • Surveys • Public meetings	• Workshops • Deliberate polling	• Citizen Advisory Committees • Consensus-building • Participatory decision-making	• Citizen juries • Ballots • Delegated decisions

Based on the assessment findings for the GSP(s) development, most stakeholders would simply like to be INFORMED unless there is a potential for significant changes that may include that stakeholder. Tactics for this group will include fact sheets, websites, open houses, briefings, and informational items placed in publications they already read.

The next largest group of stakeholders, primarily groundwater pumpers and disadvantaged communities, wish to be CONSULTED. This group will have access to all the materials

prepared as part of the informational phase. In addition they should be invited to provide comments on written materials and planning concepts and participate in focused workshops and/or briefings. They should also be invited to attend larger public meetings.

The development of some GSP features may require a higher degree of INVOLVEMENT. This would focus on engagement of a subset of stakeholders that may experience significant impacts associated with SGMA.

COLLABORATION opportunities have also been identified; however, they are of a different character than defined in the Spectrum. Collaboration in this GSP(s) development process will focus on working with partners that have mutual goals to achieve those goals together. This will more resemble a partnership than a public engagement activity.

6.1. Communications Coordination.

Each GSA is required to perform legally mandated outreach activities and the GSP submission guidelines require a minimum level of engagement.

The subbasin GSAs should coordinate outreach activities even if there is a decision to move forward with multiple GSPs. In addition to efficiency and cost savings (the GSAs can share resources) this strategy will allow for consistency in messaging and reduce confusion for stakeholders that may not know what GSA jurisdiction they are in, and/or are in multiple GSA jurisdictions. Following are suggested options for communications coordination.

1. Website
2. Meeting calendar
3. Branded informational Flyers, Templates, PowerPoint Presentations, etc.
4. Periodic newsletter
5. GSP related mailing lists
6. Descriptions of interested parties
7. Issues and interest statements for legally mandatory interested parties
8. Public workshops
9. Message calendar
10. Press releases and guest editorials
11. Speakers Bureau
12. Existing group venues
13. Outreach documentation

6.2. Tactics

6.2.1. Website

As part of the communications plan development, a list of website concepts and draft website content was prepared. The following describes the proposed approach:

a. Centralized – Establish a centralized website for the entire subbasin.
b. Individual GSAs – Posting of material to a website is part of the SGMA requirements. Those GSAs with their own webpages can link to and from the centralized site if they wish to provide their own customized information. For those GSAs without their own website, courtesy pages would be provided as an added feature of the main site. The courtesy pages would all use a single template with the same information to facilitate easy management and updates. Individual GSAs choosing to take advantage of the courtesy pages would be responsible for ensuring that information is current. The page should include a "Last Updated" box to indicate the timeliness of the information.
c. **Basic features** – A basic website framework has already been developed along with introductory information that has prepopulated each page. **Figure 10** illustrates the basic content of the site and includes:
    1. Background information
    2. Information about getting involved, including meeting information
    3. A separate link for Spanish Language materials
    4. Frequently asked questions
    5. Links to GSAs
    6. Contact information

    Should a GSA decide to not participate in the Central website, a similar structure could be utilized.

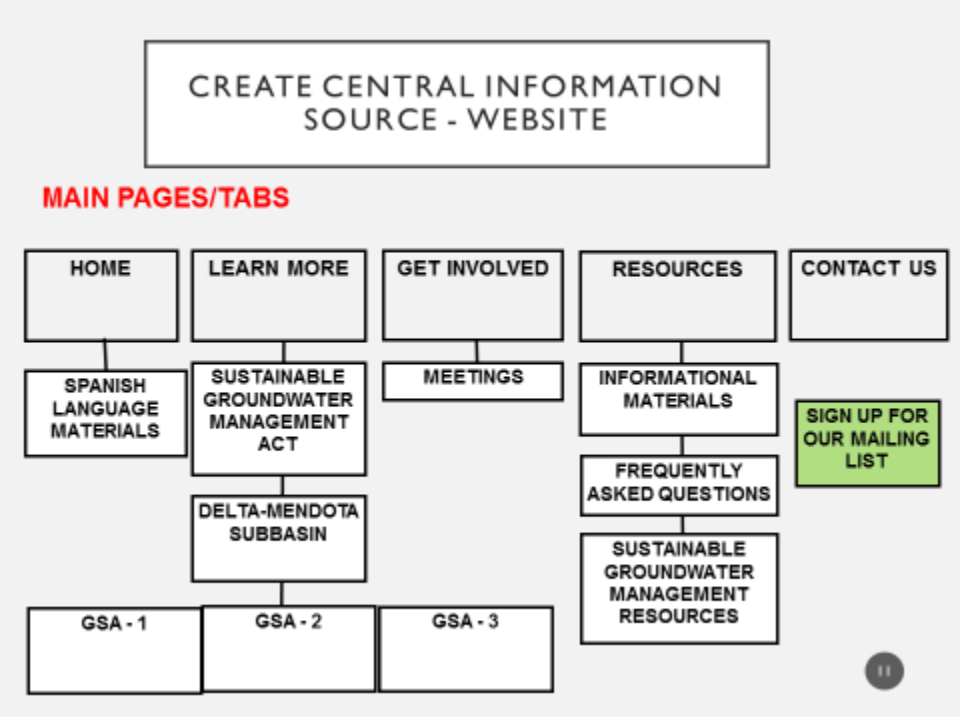


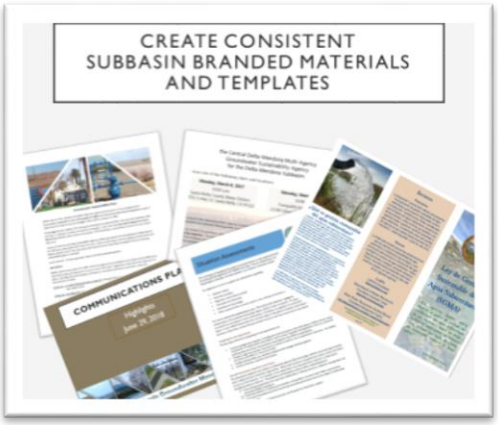
Figure 10. Website Structure

6.2.2. Meeting Calendar

A shared meeting calendar will provide a one-stop shop for stakeholders and assist in preventing meeting conflicts while creating more potential for shared activities. This calendar should include current and scheduled meetings and workshops as well as serve as the repository for agendas and meeting notes, along with copies of meeting materials and presentation.

An integrated project calendar should also be developed that links planning project milestones with communications milestones.

6.2.3. Branded Informational Flyers, Templates, PowerPoint Presentations, etc.



Subbasin level materials should have a single look and feel to create on-going consistency and visual recognition by stakeholders. Use of templates, shared presentations and flyers will create efficiencies and reinforce messaging. This communications plan incorporates some of this type of branding.

6.2.4. Periodic Newsletter

The need for regular communications cannot be overstated. One option is production of a periodic newsletter. Given the relatively short GSP(s) development process timeframe and the GSP development requirements for periodic outreach to identified stakeholders, a quarterly schedule would be realistic and achieve compliance with SGMA requirements for periodic updates to stakeholders. The newsletter should be designed so that individual GSAs can add tailored information if they choose to. For Portable Document Format (PDF) versions of the newsletter, a GSA could add a simple one or two page insert and the edition could be used as a handout or mailer. For a professional looking, email version of the newsletter, we recommend free or low cost services such as Mail Chimp or Constant Comment, which can be integrated with mailing lists.

Adding GSA specific information to an email newsletter can be done with web-links in the email to the very same PDF page prepared for the hardcopy mailer. An alternative is emailing the entire newsletter PDF as an attachment (although this format is less likely to be read than the mailer services).

6.2.5. GSP related mailing lists

Each GSA is required to develop notification lists. A central list may be utilized for GSP(s) related notifications.

6.2.6. Descriptions of Interested Parties

Each GSA is required to develop descriptions of interested parties. These lists should be updated and merged for use in the GSP(s) submittal(s). These can also be provided as background information on the website as part of constructing an administrative record. The SA in Chapter 4 provides an initial start for this documentation.

6.2.7. Issues and Interest Statements for Legally Mandatory Interested Parties

A GSP submission must include a statement of interests for listed stakeholders. As suggested earlier, this can also be included on the website.

6.2.8. Coordinated Public Workshops

SGMA requires a series of public hearings and some public workshops. Such workshops should be coordinated with other subbasin entities.

During the GSA formation process the County of Merced and a forming GSA body conducted a joint workshop to explain more about SGMA and the proposed GSA formation. Distribution of meeting flyers and notices was done concurrently, and DWR attended the event to answer questions. The GSP development process will offer similar opportunities, not only within the subbasin, but with adjacent subbasins.

6.2.9. Message Calendar

Basic messages should be associated with the planning schedule and each stage of GSP(s) development and serve as the theme for the communications materials being generated. For example, during the GSA formation period there was a need to communicate the basics of SGMA and groundwater management. During the GSP(s) initiation phase messages should focus on the basics of groundwater sustainability and the current state of the subbasin. As the GSP(s) begins to take form the specifics of the GSP(s) and what it means for each stakeholder would be the focus.

6.2.10. Press Releases and Guest Editorials

At some point in the GSP development and implementation process, it is likely that stakeholders will be asked to make changes and/or financially support a sustainability effort. It will be more productive for the GSAs and their GSP collaboration partners to frame discussions about these changes than to have others, perhaps with less knowledge, do so on their behalf. For that reason there is a need for press releases and/or guest editorials to offer the media and stakeholders accurate information offered in the context of SGMA. This type of outreach should be closely coordinated as consistency in messages is critical to stakeholder acceptance.

6.2.11. Speakers Bureau

Efforts should be made to conduct outreach at events and meetings that already occur (e.g. Farm Bureau meetings, Rotary Club, etc.). A list of knowledgeable presenters should be developed in the event an organization or other entity would like a presentation. Speakers Bureau engagements should be recorded on the planning project meeting calendar.

6.2.12. Existing Group Venues

Fully leverage the activities of existing groups.

- Maintain a roster of existing groups and typical meeting schedules with a nexus to GSP(s) development. Add the dates to the messaging calendar.
- The list of audiences, messages and existing groups should be referenced when there is a need to deploy information.
- Conduct informal outreach with the leaders of such groups to determine the best way to interact.
- Determine what communications channels these groups are using and equally leverage these, for example by placement of articles in newsletters.

6.2.13. Outreach Documentation

A central point of contact should be identified on the website and an outreach statistics inventory should be established that identifies dates, times, audiences and attendance. This information will be also be useful in conducting follow up with stakeholders as well as documenting outreach as part of GSP submittal guidelines.

6.3. Procedural and Legally Mandated Outreach

A discussion of SGMA outreach requirements was provided in Chapter 1 and a full list of requirements is contained in Appendix 1. One major feature of the requirements is a submission to DWR of the opportunities that interested parties will be given to participate in the GSP deliberations. The Situation Assessment provides an initial description that can be added to with additional outreach.

Following are the Required Interested Parties for the purpose of mandated outreach:

Table 9 provides a list of the mandated outreach and the timeframe in which is required.

Table 8. Mandated Outreach

Timeframe	Item
Prior to initiating plan development	1. Statement of how interested parties may contact the Agency and participate in development and implementation of the plan submitted to DWR.

Timeframe	Item
	2. Web posting of same information.
Prior to plan development	1. Must establish and maintain an interested persons list. 2. Must prepare a written statement describing the manner in which interested parties may participate in GSP development and implementation. Statement must be provided to: a. Legislative body of any city and/or county within the geographic area of the plan b. Public Utilities Commission if the geographic area includes a regulated public water system regulated by that Commission c. DWR d. Interested parties (see Section 10927) e. The public
Prior to and with GSP submission	1. Statements of issues and interests of beneficial users of basin groundwater, including types of parties representing the interests and consultation process 2. Lists of public meetings 3. Inventory of comments and summary of responses 4. Communication section in plan that includes: • Agency decision making process • ID of public engagement opportunities and response process • Description of process for inclusion • Method for public information related to progress in implementing the plan (status, projects, actions)
90 days prior to GSP Adoption Hearing	1. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must notify cities and/or counties of geographic area 90 days in advance.
90 days or less prior to GSP Adoption Hearing	2. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must: a. Consider and review comments b. Conduct consultation within 30 days of receipt with cities or counties so requesting
GSP Adoption or Amendment	1. GSP must be adopted or amended at Public Hearing.
60 days after plan submission	1. 60-day comment period for plans under submission to DWR. Comments will be used to evaluate the submission.
Prior to adoption of fees	1. Public meeting required prior to adoption of, or increase to fees. Oral or written presentations may be made as part of the meeting. 2. Public notice shall include: a. Time and place of meeting b. General explanation of matter to be considered

Timeframe	Item
	c. Statement of availability for data required to initiate or amend such fees d. Public posting on Agency Website and provision by mail to interested parties of supporting data (at least 20 days in advance) 3. Mailing lists for interested parties are valid for 1 year from date of request and may be renewed by written request of the parties on or before April 1 of each year. 4. Includes procedural requirements per Government Code, Section 6066.
Prior to conducting a fee adoption hearing.	1. Must publish notices in a newspaper of general circulation as prescribed. 2. Publication shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. 3. The period of notice begins the first day of publication and terminates at the end of the fourteenth day, (which includes the first day.)

6.4. Items for Future Consideration

This GSP(s) Coms Plan outlines an outreach effort based on project and stakeholder needs and preferences. This document has been prepared as a working draft living document and should be updated as new information and the GSP(s) development process needs are developed.

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MEASUREMENTS & EVALUATION

A guiding principle for evaluation and measurement of the Coms Plan's success is to provide regular, unbiased reporting of progress toward achieving goals. Success may be evaluated in several ways, including process measures, outcome measures, and an annual evaluation of accomplishments. Optional evaluation measures are described below.

As part of each outreach effort debrief the following process and outcome measures will be discussed and recorded in a check sheet. The check sheets will be prepared with the goal of continuous improvement rather than criticisms.

7.2. Process Measures

Process measures track progress toward meeting the goals of the Coms Plan. These include:

- Level of attendance at outreach meetings
- Shared understanding of the overarching aims, activities, and opportunities presented by different planning approaches and project activities
- Productive dialogue among participants at meetings and events
- Sense of authentic engagement; people understand why they have been asked to participate, and feel that they can contribute meaningfully
- Timely and accurate public reporting of planning milestones
- Feedback from Coordinating Body and GSA members, regulators, stakeholders, and interested parties about the quality and availability of information materials
- Level of stakeholder interest in the GSP(s) development process information

7.3. Outcome Measures

Outcome measures track the level of success of the Coms Plan in meeting its overall goals. Some outcome measures considered for the GSP(s) development process include the following:

- Consistent participation by key stakeholders and interested parties in essential activities. Participants should have no difficulty locating the meetings, and should be informed as to when and where they will be held.
- Response from meeting participants that the engagement methods provided for a fair and balanced exchange of information.
- Feedback from interested parties that they understand how their input is used, where to track data, and what results to expect.
- The project receives quality media coverage that is accurate, complete and fair.

7.4. Mid-cycle Evaluation of Accomplishments

A mid-cycle evaluation provides an opportunity to examine the current effectiveness of the Coms Plan and provides a chance to reevaluate strategies to meet the GSP(s) development process objectives. The evaluation tasks may include:

- Preparation of an executive-level summary detailing high-level initiatives and accomplishments of the previous cycle. This evaluation should also include positive news, best practices, goals and objectives, notable changes, timelines, and priorities.
- Identifying gaps and areas for improvement.
- Highlighting how gaps and areas for improvement in the cycle has been addressed.
- Outlining process and outcome measures and their current results.

ROLES AND RESPONSIBILITIES

The GSP(s) development Coms Plan outlines numerous strategies, activities and tactics. While none are highly complex, there is a requirement for coordination and clarity regarding who will be responsible for executing the tasks.

After the planning team evaluates the timelines and priorities for each of the communications activities a recommended next step is completion of a Responsible, Accountable, Consulted, and Informed (RACI) Chart. This Chart, as displayed in **Table 10**, outlines key tasks and the assignment of roles and responsibilities for accomplishing them.

Table 9. Sample RACI Chart

Activity TYPE	SPECIFIC PRODUCT	RESPONSIBLE	ACCOUNTABLE	CONSULTED	INFORMED
Internal Staff Communications, information materials for/briefings	Draft	Person A	Person E	Person I	
	Final Draft	Person A	Person E	Person I	Project Team
List Serves, mailing lists	Customer Contacts	Person B - Person A	Person E	Person I	Project Team
	Concurrent jurisdictions	Lisa Beutler/MWH	Person G	Person I	Project Team
	Other - identified stakeholders	Person A	Person G	Person I	Project Team
Web Content and Maintenance	Draft Content and Content Refresh	Lisa Beutler/MWH/	Person G	Person H	Project Team
	Site Administration	Person A	Person G	Person H	
General public Intro Packets, Fact Sheets and Brochures	Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Revised Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Final Draft	Person D	Person E	Person I- Subject Matter Experts	Project Team
Newsletter Content	Draft	Lisa Beutler/MWH	Person E	Person I- Subject Matter Experts	Person J
	Revised Draft	Person D	Person E	Person I- Subject Matter Experts	Person J
	Final Draft	Person D	Person E	Person I- Subject Matter Experts	Project Team

Responsible
Those who do the work to achieve the task. There is at least one person with a role of *responsible*, although others can be delegated to assist in the work required.

Accountable (also approver or final approving authority)
This is the person ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible. There **may only** be only one *accountable* specified for each task or deliverable.

Consulted
Those whose opinions are sought, typically subject matter experts were people that are impacted by the activity; and with whom there is two-way communication.

Informed
Those who are kept up-to-date on progress, typically on the launch and completion of the task or deliverable. This is one way communication.

Role distinction
There is a distinction between a role and the individual assigned the task. Role is a descriptor of an associated set of tasks that could be performed by just one or many people.

In the case of the RACI Chart, the team may list as many people as is logical except for the Accountable role.

Scope of Work
Completion of the RACI Chart will also support development of any future scopes of work for consultant provided communication and outreach services.

LIST OF APPENDICES

Appendix 1-Public Outreach Requirements under SGMA

Appendix 2-Communications Governance

Appendix 1. Public Outreach Requirements under SGMA

GSP Regulations

CODE	PUBLIC OUTREACH REQUIREMENT
§ 353.6. Initial Notification (a) Each Agency shall notify the Department, in writing, prior to initiating development of a Plan. The notification shall provide general information about the Agency's process for developing the Plan, including the manner in which interested parties may contact the Agency and participate in the development and implementation of the Plan. The Agency shall make the information publicly available by posting relevant information on the Agency's website.	1. Statement of how interested parties may contact the Agency and participate in development and implementation of the plan submitted to DWR. 2. Web posting of same information. **Timing**: *Prior to initiating development of a plan.*
§ 353.8. Comments (a) Any person may provide comments to the Department regarding a proposed or adopted Plan. (b) Pursuant to Water Code Section 10733.4, the Department shall establish a comment period of no less than 60 days for an adopted Plan that has been accepted by the Department for evaluation pursuant to Section 355.2. (c) In addition to the comment period required by Water Code Section 10733.4, the Department shall accept comments on an Agency's decision to develop a Plan as described in Section 353.6, including comments on elements of a proposed Plan under consideration by the Agency.	1. 60-day comment period for plans under submission to DWR. Comments will be used to evaluate the submission. 2. Parties may also comment on a GSA's (or GSAs') statements submitted under section 353.6 **Timing**: For GSP Submittal - *60 days after submission to DWR*
§ 354.10. Notice and Communication Each Plan shall include a summary of information relating to notification and communication by the Agency with other agencies and interested parties including the following: (a) A description of the beneficial uses and users of groundwater in the basin, including the land uses and property interests potentially affected by the use of groundwater in the basin, the types of parties representing those interests, and the nature of consultation with those parties. (b) A list of public meetings at which the Plan was discussed or considered by the Agency. (c) Comments regarding the Plan received by the Agency and a summary of any responses by the Agency. (d) A communication section of the Plan that includes the following: (1) An explanation of the Agency's decision-making process. (2) Identification of opportunities for public engagement and a discussion of how public input and response will be used.	5. Statements of issues and interests of beneficial users of basin groundwater, including types of parties representing the interests and consultation process 6. Lists of public meetings 7. Inventory of comments and summary of responses 8. Communication section in plan that includes: • Agency decision making process • ID of public engagement opportunities and response process • Description of process for inclusion • Method for public information related to progress in implementing the plan (status, projects, actions) **Timing**: For GSP Submittal – *with plan* For GSP Development – *continuous. [Note: activities should be included*

CODE	PUBLIC OUTREACH REQUIREMENT
(3) A description of how the Agency encourages the active involvement of diverse social, cultural, and economic elements of the population within the basin. (4) The method the Agency shall follow to inform the public about progress implementing the Plan, including the status of projects and actions.	*in the project schedule and information posted on web.]*
§ 355.2. (c) Department Review of Adopted Plan (c) The Department (DWR) shall establish a period of no less than 60 days to receive public comments on the adopted Plan, as described in Section 353.8.	1. 60 day public review period for public comment on submitted plan. **Timing**: After GSP Submittal to DWR – *60 days*
§ 355.4. & 355.10 Criteria for Plan Evaluation The basin shall be sustainably managed within 20 years of the applicable statutory deadline consistent with the objectives of the Act. The Department shall evaluate an adopted Plan for compliance with this requirement as follows: (b) (4) Whether the interests of the beneficial uses and users of groundwater in the basin, and the land uses and property interests potentially affected by the use of groundwater in the basin, have been considered. … (10) Whether the Agency has adequately responded to comments that raise credible technical or policy issues with the Plan.	1. Required public outreach and stakeholder information is submitted, including statement of issues and interests of beneficial users. 2. Public and stakeholder comments and questions adequately addressed during planning process. **Timing**: For GSP Submittal – *with plan* For resubmittal related to corrective action – *with submittal*

California Water Code

CODE	PUBLIC OUTREACH REQUIREMENT
10720. This part shall be known, and may be cited, as the "Sustainable Groundwater Management Act." **10720.3** (a) This part applies to all groundwater basins in the state. … (c) The federal government or any federally recognized Indian tribe, appreciating the shared interest in assuring the sustainability of groundwater resources, may voluntarily agree to participate in the preparation or administration of a groundwater sustainability plan or groundwater management plan under this part through a joint powers authority or other agreement with local agencies in the basin. A participating tribe shall be eligible to participate fully in planning, financing, and management under this part, including eligibility for grants and technical assistance, if any exercise of regulatory authority, enforcement, or imposition and collection of fees is pursuant to	1. Tribes and the federal government may voluntarily participate in GSA governance and GSP development. **Timing**: *Prior to initiating development of a plan.*

CODE	PUBLIC OUTREACH REQUIREMENT
the tribe's independent authority and not pursuant to authority granted to a groundwater sustainability agency under this part.	
CHAPTER 4. Establishing Groundwater Sustainability Agencies [10723 - 10724]	
10723. a) Except as provided in subdivision (c), any local agency or combination of local agencies overlying a groundwater basin may decide to become a groundwater sustainability agency for that basin. (b) Before deciding to become a groundwater sustainability agency, and after publication of notice pursuant to Section 6066 of the Government Code, the local agency or agencies shall hold a public hearing in the county or counties overlying the basin.	1. Must hold public hearing in the county or counties overlying the basin, prior to becoming a GSA **Timing**: *Prior to becoming a GSA.*
10723.2 The groundwater sustainability agency shall consider the interests of all beneficial uses and users of groundwater, as well as those responsible for implementing groundwater sustainability plans. These interests include, but are not limited to, all of the following: (a) Holders of overlying groundwater rights, including: (1) Agricultural users. (2) Domestic well owners. (b) Municipal well operators. (c) Public water systems. (d) Local land use planning agencies. (e) Environmental users of groundwater. (f) Surface water users, if there is a hydrologic connection between surface and groundwater bodies. (g) The federal government, including, but not limited to, the military and managers of federal lands. (h) California Native American tribes. (i) Disadvantaged communities, including, but not limited to, those served by private domestic wells or small community water systems. (j) Entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.	1. Must consider interest of all beneficial uses and users of groundwater. 2. Includes specific stakeholders as listed. **Timing**: *During development of a GSP.*
10723.4. The groundwater sustainability agency shall establish and maintain a list of persons interested in receiving notices regarding plan preparation, meeting announcements, and availability of draft plans, maps, and other relevant documents. Any person may request, in writing, to be placed on the list of interested persons.	3. Must establish and maintain an interested persons list. 4. Any person may ask to be added to the list **Timing**: *On forming a GSA.*
10723.8. (a) Within 30 days of deciding to become or form a groundwater sustainability agency, the local agency or combination of local agencies shall inform the department of its decision and its intent to undertake sustainable groundwater management. The	1. Creates notification requirements that include: a. A list of interested parties b. An explanation of how interests will be considered

CODE	PUBLIC OUTREACH REQUIREMENT
notification shall include the following information, as applicable: … (4) A list of interested parties developed pursuant to Section 10723.2 and an explanation of how their interests will be considered in the development and operation of the groundwater sustainability agency and the development and implementation of the agency's sustainability plan.	**Timing**: *On forming a GSA & with submittal of GSP*
10727.8 (a) Prior to initiating the development of a groundwater sustainability plan, the groundwater sustainability agency shall make available to the public and the department a written statement describing the manner in which interested parties may participate in the development and implementation of the groundwater sustainability plan. The groundwater sustainability agency shall provide the written statement to the legislative body of any city, county, or city and county located within the geographic area to be covered by the plan. The groundwater sustainability agency may appoint and consult with an advisory committee consisting of interested parties for the purposes of developing and implementing a groundwater sustainability plan. The groundwater sustainability agency shall encourage the active involvement of diverse social, cultural, and economic elements of the population within the groundwater basin prior to and during the development and implementation of the groundwater sustainability plan. If the geographic area to be covered by the plan includes a public water system regulated by the Public Utilities Commission, the groundwater sustainability agency shall provide the written statement to the commission. (b) For purposes of this section, interested parties include entities listed in Section 10927 that are monitoring and reporting groundwater elevations in all or a part of a groundwater basin managed by the groundwater sustainability agency.	2. Agencies preparing a GSP must prepare a written statement describing the manner in which interested parties may participate in its development and implementation. 3. Statement must be provided to: a. Legislative body of any city and/or county within the geographic area of the plan b. Public Utilities Commission if the geographic area includes a regulated public water system regulated by that Commission c. DWR d. Interested parties (see Section 10927) e. The public 4. GSP entities may form an advisory committee for the GSP preparation and implementation. 5. The GSP entities are to encourage active involvement of diverse social, cultural and economic elements of the affected populations. **Timing**: *On initiating GSP*
10728.4 Public Notice of Proposed Adoption, GSP Adoption Pubic Hearing A groundwater sustainability agency may adopt or amend a groundwater sustainability plan after a public hearing, held at least 90 days after providing notice to a city or county within the area of the proposed plan or amendment. The groundwater sustainability agency shall review and consider comments from any city or county that receives notice pursuant to this section and shall consult with a city or county that requests consultation within 30 days of receipt of the notice. Nothing in this section is intended to	3. GSP must be adopted or amended at Public Hearing. 4. Prior to Public Hearing for adoption or amendment of the GSP, the GSP entities must: a. Notify cities and/or counties of geographic area 90 days in advance. b. Consider and review comments

CODE	PUBLIC OUTREACH REQUIREMENT
preclude an agency and a city or county from otherwise consulting or commenting regarding the adoption or amendment of a plan.	c. Conduct consultation within 30 days of receipt with cities or counties so requesting
10730 Fees. (a) A groundwater sustainability agency may impose fees, including, but not limited to, permit fees and fees on groundwater extraction or other regulated activity, to fund the costs of a groundwater sustainability program, including, but not limited to, preparation, adoption, and amendment of a groundwater sustainability plan, and investigations, inspections, compliance assistance, enforcement, and program administration, including a prudent reserve. A groundwater sustainability agency shall not impose a fee pursuant to this subdivision on a de minimis extractor unless the agency has regulated the users pursuant to this part. (b) (1) Prior to imposing or increasing a fee, a groundwater sustainability agency shall hold at least one public meeting, at which oral or written presentations may be made as part of the meeting. (2) Notice of the time and place of the meeting shall include a general explanation of the matter to be considered and a statement that the data required by this section is available. The notice shall be provided by publication pursuant to Section 6066 of the Government Code, by posting notice on the Internet Web site of the groundwater sustainability agency, and by mail to any interested party who files a written request with the agency for mailed notice of the meeting on new or increased fees. A written request for mailed notices shall be valid for one year from the date that the request is made and may be renewed by making a written request on or before April 1 of each year. (3) At least 20 days prior to the meeting, the groundwater sustainability agency shall make available to the public data upon which the proposed fee is based. (c) Any action by a groundwater sustainability agency to impose or increase a fee shall be taken only by ordinance or resolution. (d) (1) As an alternative method for the collection of fees imposed pursuant to this section, a groundwater sustainability agency may adopt a resolution requesting collection of the fees in the same manner as ordinary municipal ad valorem taxes. (2) A resolution described in paragraph (1) shall be adopted and furnished to the county auditor-controller and board of supervisors on or before August 1 of each year that the alternative collection of the fees is being requested. The resolution shall include a list of parcels and the amount to be collected for each parcel. (e) The power granted by this section is in addition to any powers a groundwater sustainability agency has under any other law.	Related to GSAs 5. Public meeting required prior to adoption of, or increase to fees. Oral or written presentations may be made as part of the meeting. 6. Public notice shall include: a. Time and place of meeting b. General explanation of matter to be considered c. Statement of availability for data required to initiate or amend such fees d. Public posting on Agency Website and provision by mail to interested parties of supporting data (at least 20 days in advance) 7. Mailing lists for interested parties are valid for 1 year from date of request and may be renewed by written request of the parties on or before April 1 of each year. 8. Includes procedural requirements per Government Code, Section 6066. **Timing**: *Prior to adopting fees.*

California Government Code

CODE	PUBLIC OUTREACH REQUIREMENT
6060 Whenever any law provides that publication of notice shall be made pursuant to a designated section of this article, such notice shall be published in a newspaper of general circulation for the period prescribed, the number of times, and in the manner provided in that section. As used in this article, "notice" includes official advertising, resolutions, orders, or other matter of any nature whatsoever that are required by law to be published in a newspaper of general circulation. **6066** Publication of notice pursuant to this section shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. The period of notice commences upon the first day of publication and terminates at the end of the fourteenth day, including therein the first day.	4. Must publish notices in a newspaper of general circulation as prescribed. 5. Publication shall be once a week for two successive weeks. Two publications in a newspaper published once a week or oftener, with at least five days intervening between the respective publication dates not counting such publication dates, are sufficient. 6. The period of notice begins the first day of publication and terminates at the end of the fourteenth day, (which includes the first day.) **Timing**: *Prior to adopting fees*

Appendix 2. Communications Governance

Given the relatively large number of stakeholders, a recommendation for coordinated efforts, and the legal requirements for outreach[13] some form of communications governance is recommended.

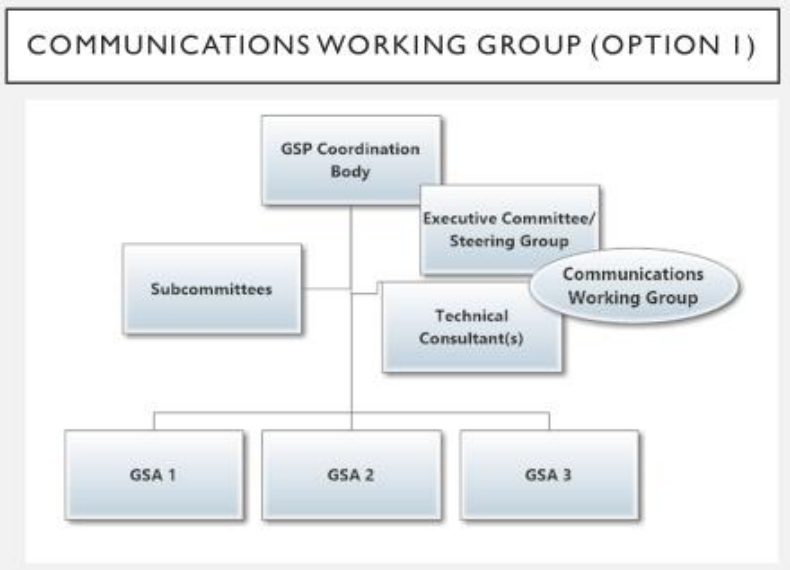
Execution of communications activities can be accomplished by an individual or multiple individuals, and/or include or be solely managed by project consultants. The actual form of the governance is less important than a clear understanding of the roles and responsibilities of those responsible for ensuring required communication. Also essential is a clear chain of command that ensures the elected representatives of GSAs are able to retain communications leadership and guidance.

A driving consideration for establishing a communications governance structure is the level of effort associated with required activities and the fact that communications are highly time dependent. That means that communications activities should be occurring that may happen outside of regularly scheduled GSA meetings. In this case delegation with guidance to a communications team is efficient and effective.

Several governance options for consideration are offered below.

Communications Option 1

Communications Option 1 is based on an overall GSP(s) development structure that includes a GSA member based leadership function that is guiding the Technical Consultants. A communications working group which might include staff, consultants and GSA elected officials, or some combination of those roles could be formed to serve as a communications working group that would ultimately report to the larger GSP coordinating body.

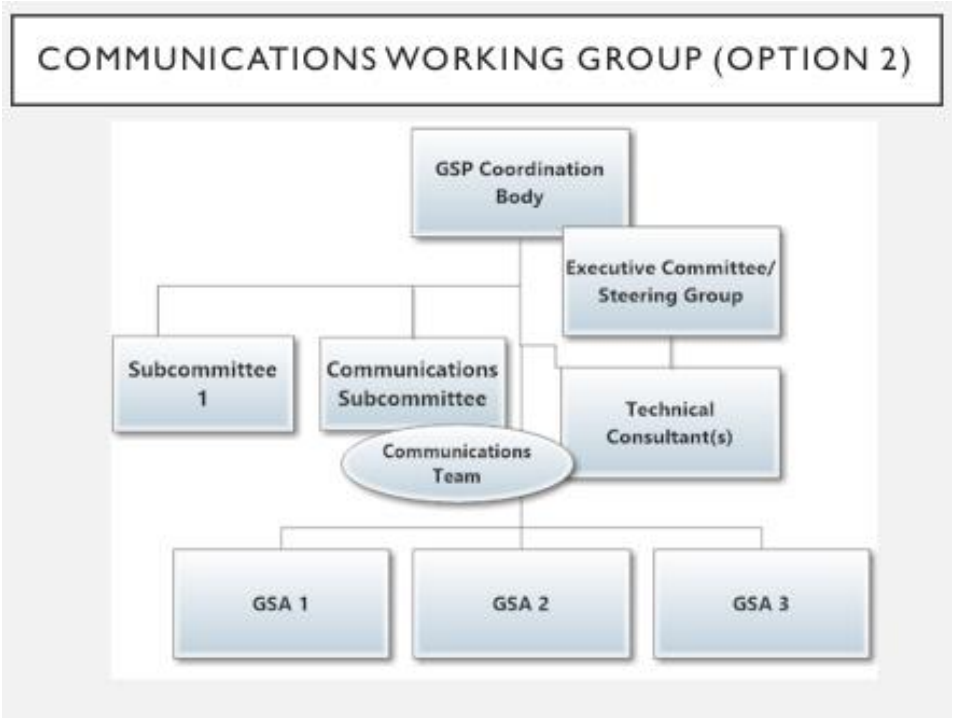


Communications Governance Option 1

Communications Option 2

[13] See Appendix 1

Communications Option 1 is based on an overall GSP(s) development structure that includes a GSA member based subcommittee guiding the Technical Consultants. A communications working group which might include staff, consultants and GSA elected officials, or some combination of those roles could be formed to serve as a communications team that is affiliated with a subcommittee and would ultimately report to the larger GSP coordinating body



Communications Governance Option 2

Appendix F - Summaries of Coordinated Workshops

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
SPRING 2018 COORDINATED WORKSHOPS

Monday, May 14, 2018, Los Banos
Wednesday, May 16, 2018, Patterson
Thursday, May 17, 2018, Mendota

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about the Sustainable Groundwater Management Act (SGMA) and introduce participants to their local Groundwater Sustainability Agency representatives. Topics covered during the workshop included what is SGMA, the Delta-Mendota Subbasin, and opportunities for public engagement.
- Workshop participants' questions and feedback are summarized as follows:
    - Are the local groundwater regulations going to be re-set on an annual basis based on the water year, snowpack, etc.?
    - Who is the governing board that will make these decisions?
    - If this is a state-wide initiative, who is the decision-making body?
    - Will the California Department of Fish and Wildlife be involved?
    - Has the State provided criteria to what is considered a "chronic loss" of groundwater?
    - Are natural springs included under SGMA?
    - What criteria will you use to measure whether or not springs are overused?
    - What is the ultimate goal of SGMA? What does it mean to us?
    - How is the water budget going to be developed?
    - The Irrigated Lands Program already has a lot of requirements for growers. Is this going to be the same level of detail and effort?
    - What is the goal SGMA is trying to achieve? How are we going to get to sustainability?
    - What will happen when the State and districts do not receive their full surface water allocation and cities keep expanding?
    - It seems to me that the biggest problem is that the State wants to export water to Southern California. How can we come up with a solution if there are factors out of our control?

- How will you know how much I am pumping?

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
FALL 2018 COORDINATED WORKSHOPS

Monday, October 22, Firebaugh
5:00 – 7:00 PM
Firebaugh Middle School MPR

Wednesday, October 24, Los Banos
4:00 – 6:00 PM
College Greens Building

Thursday, October 25, Patterson
4:00 – 6:00 PM
Patterson Senior Center

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about key Sustainable Groundwater Management Act (SGMA) topics in preparation for Groundwater Sustainability Plan (GSP) development workshops in 2019.
- The format and content of each workshop was the same. The workshops began with a 45-minute presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 45 individuals (not including GSA representatives and supporting staff) participated in the workshops. Attendance by location was as follows: Firebaugh – 5 participants; Los Banos – 23 participants; Patterson – 17 participants. Three participants requested Spanish interpretation.
- Most participants heard about the workshops through emails from their local water or irrigation district, or direct flyers and bill inserts sent to them by their water/irrigation district or municipality.
- Presentation topics included: Overview of SGMA, GSP development and implementation process, data management, hydrogeologic conceptual model, numerical and analytical models, and the water budget.
- Workshop participants' questions and feedback are summarized as follows:

    Data

    - How much historical data are the GSAs using to make their assumptions?
    - Will data from counties be used?

- Is the numerical data available on the Delta-Mendota website?
- How big will the GSAs' monitoring network be? Do the GSAs anticipate drilling new monitoring wells?
- How will the GSAs monitor water quality and subsidence? Do the GSAs already have subsidence monitoring wells and data?
- How much data have the GSAs gathered? When will the GSAs stop gathering data?
- How much data will the GSAs be collecting from individual landowners?

Models

- Will the models take into account availability of surface water supplies?
- Will the models take into account changing crops?
- Will the models take into account agricultural areas that are being converted to commercial or urban areas?

Water Budget and Sustainable Yield

- What is the sustainable yield for the Delta-Mendota Subbasin?
- It sounds like the sustainable yield will be a number that oscillates around a baseline. What is this baseline?
- How will the GSAs determine the minimum threshold for the subbasin?
- How will the water budgets account for existing and new wells?
- What are the years for the historic water budget? How was this period set?

Projects and Management Actions

- Based on what is currently known, will the GSAs be able to limit groundwater pumping in the future?
- When the GSAs come up with groundwater management policies, will the policies impact groundwater pumping on an individual level, regional level, or basin-wide level?
- Will the California Department of Water Resources (DWR) or the GSAs be the ones to limit pumping?
- Could a potential management action be limiting pumping?
- Will the GSAs be the agencies to determine if new wells can or cannot be drilled?

Integration with Other Programs/Organizations

- How much are the GSAs integrating with the Irrigated Lands Program?
- How closely do GSAs work with local farm bureaus?

Other

- Will there be an administrative fee for the GSAs to oversee GSP implementation?
- How will the costs for GSP development and implementation be covered?
- Do the GSAs know what DWR's GSP review and certification process will consist of?

- Will the GSAs in the region have influence over how surface water resources are managed on a state-wide level?
- How many GSAs were formed after SGMA passed in 2014?

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
WINTER 2019 COORDINATED WORKSHOPS

Tuesday, February 19, 2019, Los Banos
4:00 – 6:00 PM
College Greens Building

Wednesday, February 20, 2019, Patterson
4:00 – 6:00 pm
City of Patterson City Hall

Monday, March 4, 2019, Santa Nella
6:00 – 8:00 PM
Romero Elementary School

WORKSHOP SUMMARY

- Three workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin during February and March 2019. The purpose of the workshops was to educate stakeholders and members about the public about topics covered in the draft Groundwater Sustainability Plans (GSP) being developed for the subbasin. Topics covered during the workshop included historic and current water budgets, sustainability criteria, undesirable results, and projects and management actions.
- Workshops were promoted via emails sent to each GSA's interested parties database, flyers and utility bill inserts, and social media posts.
- The format and content of each workshop was the same. The workshops began with a short presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 30 individuals (not including GSA representatives and supporting staff) participated in the workshops. Attendance by location was as follows: Patterson – 14, Los Banos – 4, and Santa Nella – 12. Participants represented a range of beneficial users in the subbasin, including domestic well owners, agricultural water users, public water systems, and disadvantaged communities.

- Workshop participants' questions and feedback are summarized as follows:

  Water Budgets

  - Does the land surface budget include inflows from precipitation and applied water to crops?
  - Who provides the information about the inflows and outflows of the aquifer?
  - How is the aquifer recharged?
  - Do reservoirs lose water?
  - What happened between 1985 – now [regarding the historic water budget]?
  - What affect does precipitation have on the aquifer?

  Projects and Management Actions

  - Who will make the decision on who can drill wells and how much can well owners can pump?
  - Will GSAs in the subbasin be able to restrict selling of groundwater outside of the subbasin?
  - Projects and management actions should emphasize flood and stormwater capture and increased stormwater storage.
  - Will use of recycled water in new developments be considered a source of water to balance the water budget?
  - Are there percolation ponds by golf course?

  Sustainability Criteria and Undesirable Results

  - Is it the GSAs' responsibility to set the sustainability criteria for the subbasin?
  - Could this region experience seawater intrusion?
  - What's going to happen in areas like Dos Palos that have poor groundwater quality?

  Other

  - Does the GSP only cover of agricultural uses of groundwater or does it also cover residential and commercial uses of groundwater?
  - Who is doing the work to prepare the GSP?
  - How much does it cost to prepare a GSP?
  - Are there any agencies currently monitoring groundwater pumping and levels?
  - How is groundwater currently being removed from the groundwater basin?
  - How many monitoring stations have been identified? Have GSAs already identified where these monitoring pumps are?
  - Does the California Aqueduct affect the water table in the subbasin?
  - What is the rationale for the North-Central GSP group's boundaries? The north and south areas of the North-Central GSP group are very different.
  - Do water agencies in the subbasin send water to the Santa Clara Valley Water District?
  - Where are the coordinated meetings are held? What time are these meetings?
  - Will this raise our water rates?
  - The community of Tranquillity is currently experiencing land subsidence.

DELTA-MENDOTA SUBBASIN
SUSTAINABLE GROUNDATER MANAGEMENT ACT
SPRING 2019 COORDINATED WORKSHOPS

Monday, May 20, 2019, Patterson
4:00 – 6:00 pm
City of Patterson City Hall

Tuesday, May 21, 2019, Los Banos
4:00 – 6:00 PM
College Greens Building

Wednesday, May 22, 2019, Santa Nella
6:30 – 8:30 PM
Romero Elementary School

Thursday, May 23, 2019, Mendota
6:00 – 8:00 PM
Mendota Library

WORKSHOP SUMMARY

- Four workshops were held in the northern, central, and southern parts of the Delta-Mendota Subbasin. The purpose of the workshops was to educate stakeholders and members about the public about topics covered in the draft Groundwater Sustainability Plans (GSP) being developed for the subbasin. Topics covered during the workshop included water budgets, sustainable yield, projects and management actions, and groundwater monitoring networks.
- Workshops were promoted via emails sent to each GSA's interested parties database, flyers and utility bill inserts, social media posts, and direct outreach to community stakeholders.
- The format and content of each workshop was the same. The workshops began with a short presentation, followed by an open house period for participants to talk with their Groundwater Sustainability Agency (GSA) representative. Spanish interpretation was provided at each workshop.
- In total, approximately 30 individuals participated in the workshops. Attendance by location was as follows: Patterson – 7, Los Banos – 10, Santa Nella – 4, and Mendota – 9. Participants represented a range of beneficial users in the subbasin, including domestic well owners, agricultural water users, public water systems, and disadvantaged communities.

- Workshop participants' questions and feedback are summarized as follows:

  Water Budgets

  - Why is there a difference between the water budgets for the upper and lower aquifers?
  - Why is the change in storage negative?
  - Is there a water budget for each aquifer?
  - When the projected water budgets are finalized, will they include specific projects and management actions?
  - How was the data for the climate change factors developed?
  - Historically, California goes through periodic droughts. Do the projected water budgets account for future droughts?
  - Do the projected water budgets account for future population growth and new developments?
  - Do the water budgets account for percolation from water applied to crops?

  Projects and Management Actions

  - Will management actions include a charge for water pumping?
  - Will pumping restrictions be implemented during dry periods or drought?
  - Will the GSPs identify specific projects and management actions?
  - Will GSAs in the subbasin form a water bank?
  - If pumping restrictions are enacted, GSPs should include a provision that allows private well owners to demonstrate that they aren't overpumping or causing undesirable results.
  - The region needs more surface water storage to supplement groundwater pumping.
  - There should be restrictions on development in the region.

  Sustainable Yield

  - Does increases in groundwater demand relate to the cost of surface water supplies?

  Groundwater Monitoring

  - When local agencies monitor for groundwater, how far down do they monitor?

  GSP Adoption, Implementation and Enforcement

  - What agency approves the GSPs?
  - Will the California Department of Water Resources be the lead agency for providing oversight after the GSP is submitted?
  - Could the State Water Resources Control Board mandate pumping restrictions?
  - Will the state be looking at the drawdown of individual, private wells?
  - Where does the funding to implement GSPs come from?
  - How much will GSP implementation cost?
  - Who has to submit the annual report?

  Other

  - GSAs should be divided into even smaller units to manage projects and management actions locally.

Appendix G - Examples of Promotional Materials

Groundwater management in our community is changing.

Learn more about how this may impact you.

Collaborating local agencies are hosting a series of public workshops about the Sustainable Groundwater Management Act. Come learn how this landmark legislation may impact our community, what we are doing about it, and how you can get involved. Representatives from local groundwater sustainability agencies will be available to answer questions. You have three opportunities to attend:

Los Banos
Monday, May 14
4:00 - 6:00 PM
San Luis & Delta-Mendota Water Authority Office
842 6th St, Los Banos

Patterson
Wednesday, May 16
4:00 - 6:00 PM
Hammon Senior Center
1033 W Las Palmas Ave, Patterson

Mendota
Thursday, May 17
4:00 - 6:00 PM
Mendota Branch Library
Mendota Meeting Room
1246 Belmont Ave, Mendota

The content of each workshop will be the same. The first thirty minutes of each workshop will consist of an informational presentation, followed by an open house until 6:00 PM. For more information, please visit our website at: www.deltamendota.org.

We look forward to seeing you there!

El manejo del agua subterránea en nuestra comunidad está cambiando.

Obtenga más información sobre como esto puede afectarlo.

Las agencias locales colaboradoras están organizando una serie de talleres públicos sobre la Ley de gestión sostenible del agua subterránea. Venga y aprenda como esta histórica legislación puede afectar a nuestra comunidad, que estamos haciendo al respecto y como puede participar. Los representantes de las agencias locales de sostenibilidad del agua subterránea estarán disponibles para responder preguntas. Tienes tres oportunidades para asistir:

Los Baños
Martes, 14 de Mayo
4:00 - 6:00 PM
San Luis & Delta-Mendota
Water Authority Office
842 6th St, Los Baños

Patterson
Miércoles, 16 de Mayo
4:00 - 6:00 PM
Hammon Senior Center
1033 W Las Palmas Ave, Patterson

Mendota
Jueves, 17 de Mayo
4:00 - 6:00 PM
Mendota Branch Library
Mendota Meeting Room
1246 Belmont Ave, Mendota

El contenido de cada taller será el mismo. Los primeros treinta minutos de cada taller serán consisten de una presentación informativa, seguida de una jornada de puertas abiertas hasta las 6:00 P.M. Para obtener más información, visite nuestro sitio web en: www.deltamendota.org.

Public Notice

Public Groundwater Meeting

Santa Nella County Water District and other local water agencies are developing plans for the future of our groundwater resources. We want to hear from you! Come to an upcoming public workshop to learn more:

Santa Nella
Monday, March 4, 6:000 - 8:00 PM
Romero Elementary School MPR
13500 Luis Ave, Gustine, CA 95322

The first forty minutes of the workshop will consist of a bilingual informational presentation. The presentation will be followed by an interactive discussion on the region's groundwater "budget" and how to define "sustainability" for our groundwater resources. This workshop is open to people with all level of knowledge about water.

Spanish-language interpreters and materials will be available.

For more information, please visit our website at www.deltamendota.org and www.sncwd.com.

For questions or comments, email DMSGMA@sldmwa.org or contact Amy Montgomery, Santa Nella County Water District, at amontgomery@sncwd.com.

We look forward to seeing you there!

Engage in the Future of Our Water Resources!

Week of May 20th

Delta-Mendota SGMA invite you to learn why your local agencies are developing groundwater sustainability plans for the future of our groundwater. Please come to one

- **Patterson**: Mon., May 20, 4:00 – 6:00pm Patterson City Hall 1 Plaza Circle
- **Los Banos**: Tue., May 21, 4:00 – 6:00pm College Greens Building 1815 Scripps Drive
- **Santa Nella**: Wed., May 22, 6:30 – 8:30pm Romero Elem. School 13500 Luis Ave.
- **Mendota**: Thu., May 23, 6:00 – 8:00pm Mendota Library 1246 Belmont Ave.

For more information please visit www.deltamendota.org, To register visit: tinyurl.com/y3bxw3yv

PROP 1 WATER BOND 2014

#DeltaMendotaSGMA | #SLDMWA | #SGMA2020

DELTA-MENDOTA SGMA

Su Opinión es Importante!

Participe en una serie de talleres sobre el futuro de sus recursos hídricos!

Semana del 20 de mayo

Agencias locales están desarrollando planes de sostenibilidad para el futuro de los recursos hídricos del agua subterránea en la región y necesitan su opinión.
Acompáñenos en uno de los siguientes talleres:

- **Patterson**: Lun.,20 de Mayo , 4–6pm Ayuntamiento de Patterson 1 Plaza Circle
- **Los Banos**: Mar., 21 de May, 4–6pm College Greens Building 1815 Scripps Dr.
- **Santa Nella**: Mie., 22 de Mayo, 6:30–8:30pm Escuela Pri. Romero 13500 Luis Ave.
- **Mendota**: Jue., 23 de Mayo, 6–8pm Biblioteca de Mendota 1246 Belmont Ave.

PROP 1 WATER BOND 2014

Para más información visite:
www.deltamendota.org
Tel: 916-418-8288
#DeltaMendotaSGMA | #SLDMWA

DELTA-MENDOTA SGMA

Contact: Kirsten Pringle, Delta-Mendota Subbasin, Stantec
(916) 418-8243, Kirsten.Pringle@stantec.com

FOR IMMEDIATE RELEASE
October 19, 2018

MEDIA ADVISORY

Sustainable Groundwater Management Act Public Workshops

What: Collaborating local agencies are hosting a series of public workshops about the Sustainable Groundwater Management Act. Learn how this landmark legislation may impact our communities, the planning process, and how people can get involved. Spanish translation will be provided.

Format: There are three workshop opportunities to attend; the content of each workshop will be the same. The first 45 minutes of each workshop will consist of an informational presentation, followed by an open house.

When:

Firebaugh – Monday, October 22, 2018
5:00 - 7:00 PM
Firebaugh Middle School MPR
1600 16th Street, Firebaugh, CA

Los Banos – Wednesday, October 24, 2018
4:00 – 6:00 PM
College Greens Building
1815 Scripps Drive, Los Banos, CA

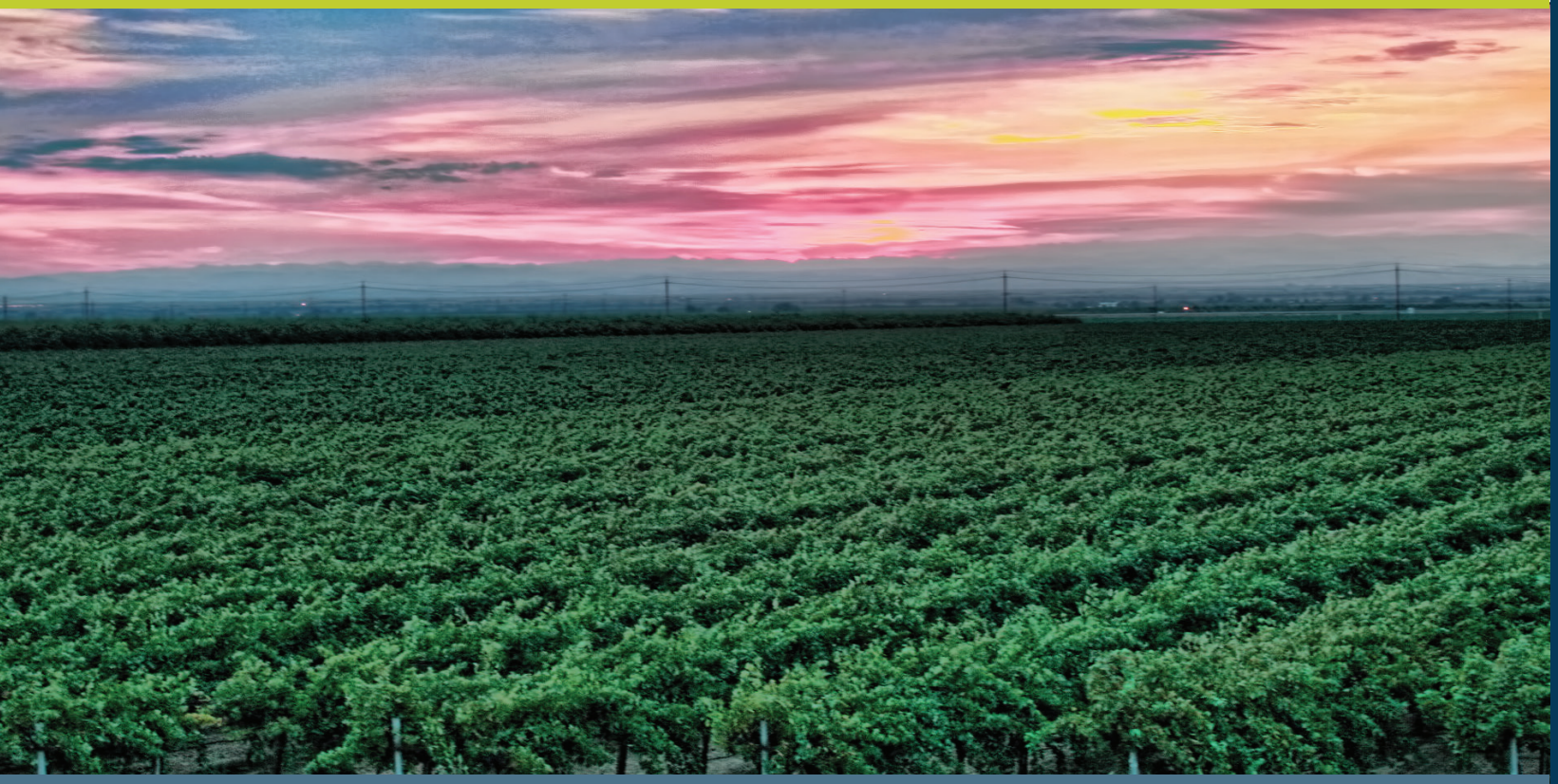
Patterson – Thursday, October 25, 2018
4:00 – 6:00 PM
Hammon Senior Center
1033 W. Las Palmas Avenue, Patterson, CA

Who: Representatives from local groundwater sustainability agencies will be available to answer questions.

Additional Resources: The Sustainable Groundwater Management Act, www.deltamendota.org/,

Background: *The Sustainable Groundwater Management Act (SGMA) is a package of three bills (AB 1739, SB 1168, and SB 1319) that provides local agencies with a framework for managing groundwater basins in a sustainable manner. Recognizing that groundwater is most effectively managed at the local level, the SGMA empowers local agencies to achieve sustainability within 20 years.*

Appendix H - List of Stakeholders and Community Organizations Contacted



Stakeholder and Community Organizations Contacted Regarding Coordinated SGMA Workshops

Organization Name	Organization Type
Fresno County Farm Bureau	Agriculture
Merced County Farm Bureau	Agriculture
North Grassland Wildlife Foundation	Agriculture
Patterson Apricot Fiesta	Agriculture
Stanislaus County Farm Bureau	Agriculture
Asociación de Charros La Internacional del Valle de Patterson	Business
Adobe Valley Ranch	Business
Gustine Chamber of Commerce	Business
Los Banos Chamber of Commerce	Business
Patterson-Westley Chamber of Commerce	Business
Santa Nella Chamber of Commerce	Business
American Association of University Women	Civic
Gustine Rotary Club	Civic
International Association of Lions Clubs - Patterson	Civic
League of United Latin American Citizens	Civic
Los Banos Lions Club	Civic
Los Banos Rotary Club	Civic
Mendota Community Corporation	Civic
Newman Lions Club	Civic
Newman Rotary Club	Civic
Newman Women's Club	Civic
Patterson Lions Club	Civic
International Association of Lions Clubs - Mendota	Civic
International Association of the Lions Clubs - Los Banos	Civic
Italian Catholic Federation of CA Inc.	Civic
Kiwanis International	Civic
Rotary International - Los Banos	Civic
Rotary International - Patterson	Civic
Firebaugh Rotary Club Inc.	Community General Public
Casa Mobile Home Park	Community/General Public
Center for Environmental Science Accuracy & Reliability	Community/General Public
Firebaugh Senior Center	Community/General Public
Friends of Green Valley Charter	Community/General Public
Friends of the Public Library	Community/General Public
Habitat for Humanity International	Community/General Public
Los Banos Senior Center	Community/General Public
Mendota Community Center	Community/General Public
Mendota Senior Center	Community/General Public
Merced County Library - Dos Palos	Community/General Public
Merced County Library - Gustine	Community/General Public
Merced County Library - Los Banos	Community/General Public
Merced County Library - Santa Nella	Community/General Public
San Joaquin River Resource Mgmt. Coalition	Community/General Public

Santa Nella RV Park	Community/General Public
Stanislaus County Library - Newman	Community/General Public
Stanislaus County Library - Patterson	Community/General Public
Dos Palos Oro Loma Joint Unified School District	Education
Firebaugh-Las Deltas Unified School District	Education
Gustine Unified School District	Education
Los Banos Unified School District	Education
Mendota Unified School District	Education
Merced College	Education
Creekside Parent Club	Education
Academy West Insurance	Other
Academy West Insurance Firebaugh	Other
Amaral & Associates Realty	Other
American Legion	Other
American Legion Auxiliary Elijah B Hayes	Other
Andrea Brandt State Farm Insurance	Other
Benevolent & Protective Order of Elks	Other
Borelli Real Estate Services	Other
California Garden Clubs Inc.	Other
Century 21 M&M & Assoc - Los Banos	Other
Century 21 M&M & Assoc - Patterson	Other
Coldwell Banker Kaljian & Assoc	Other
Eric Rodriguez - Patterson	Other
Farmers Insurance Antonio Gonzales	Other
First Prioirty of the Central Valley	Other
Greg Nunes Real Estate	Other
Joe G. Gutierez State Farm Insurance	Other
Mendota Land Co	Other
Noah's Ark Foundation of Tracy Inc.	Other
PMZ Real Estate - Patterson	Other
PMZ Real Estate - Los Banos	Other
Rafael Ruiz - Patterson	Other
Shane P. Donion Ranch Broker	Other
The Boyd Company	Other
Valley West Properties	Other
Adventure Christian Church of Patterson	Religious
Agape Baptist Church	Religious
Bethel Community Church	Religious
Church of Christ of Patterson	Religious
Church of God of Prophecy	Religious
Connections Christian Church	Religious
Evangelical Church of Los Banos	Religious
Family Christian Center	Religious
First Baptist Church	Religious
Full Gospel Businessmen's Fellowship International	Religious
Harvest Samoan Assembly of God	Religious

Mountain House Foursquare Church	Religious
Movimiento Familiar Cristiano Catolico	Religious
Patterson Covenant Church	Religious
Patterson Christian Fellowship	Religious
Patterson Seventh Day Adventist Church	Religious

Prepared by:

WOODARD &CURRAN

In association with:

PROVOST& PRITCHARD
CONSULTING GROUP

1545 River Park Dr., Suite 425
Sacramento, CA 95815
916.999.8700

Appendix C
Seepage Technical Memo

EST. 1968
PROVOST& PRITCHARD
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An Employee Owned Company

1120 W. I Street, Suite C
Los Banos, CA 93635-9952
Tel: (209) 829-1685
Fax: (209) 829-1675
www.ppeng.com

Memorandum

To:	North-Central Delta Mendota GSP Group c/o Andrew Garcia, PE - SLDMWA
From:	Joe Hopkins, PE and Keasha Blew
Subject:	SJR Seepage Rate Calculation
Date:	July 29, 2019

Summary
This memo describes the methods, assumptions and information used to analyze seepage volumes of the San Joaquin River ("SJR") to the underlying upper aquifer, that were ultimately used the Aliso Water District Groundwater Sustainability Agency ("AWDGSA") historic water budget. **Table 1** summarizes the calculated contribution of the SJR seepage losses to AWDGSA over the study period of 2003 – 2012. **Figure 1** provides a map illustrating the features and reaches discussed in this memo.

Table 1. Summary of SJR Seepage Water

Source of Seepage	Total Average Annual Seepage in reach (AF/year)	% attributed to Aliso	Total average annual SJR Seepage attributed to Aliso (AF/year)
SJR from GRF to CBP	36,357	50	18,179
SJR from CBP to San Mateo	13,221	100	13,221
Mendota Pool (San Mateo to AWDGSA Western Boundary)	3,181	100	3,181
			34,580

Background
There were four main factors that went into calculating the contribution of SJR seepage water to AWDGSA:

1. The SJR Restoration Study – Background Report, December 2002. This document supplied the graph correlating SJR flow rate at the Gravelly Ford ("GRF") gaging station to seepage losses in the SJR between GRF and the Chowchilla Bypass ("CBP") (**Figure 2**)
2. Daily flow rate measurements at the GRF gaging station as presented in the California Data Exchange Center ("CDEC")
3. Assumptions of seepage distribution (north and south of the SJR) based on input from Kenneth D. Schmidt and Associates ("KDSA") and the neighboring McMullin GSA.
4. Mendota Pool seepage estimates from the Mendota Pool Report

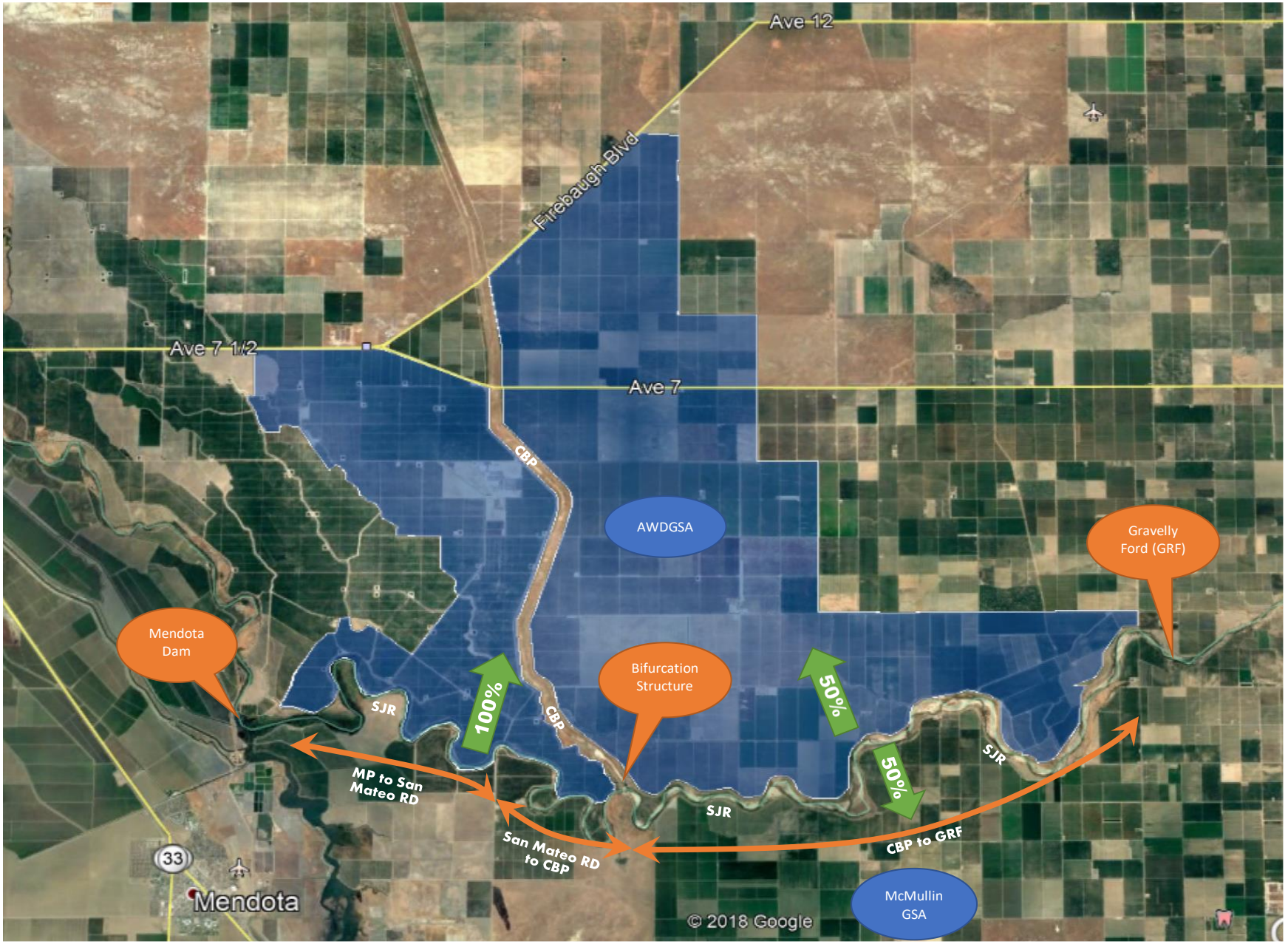


Figure 1. Illustration of Seepage Considerations

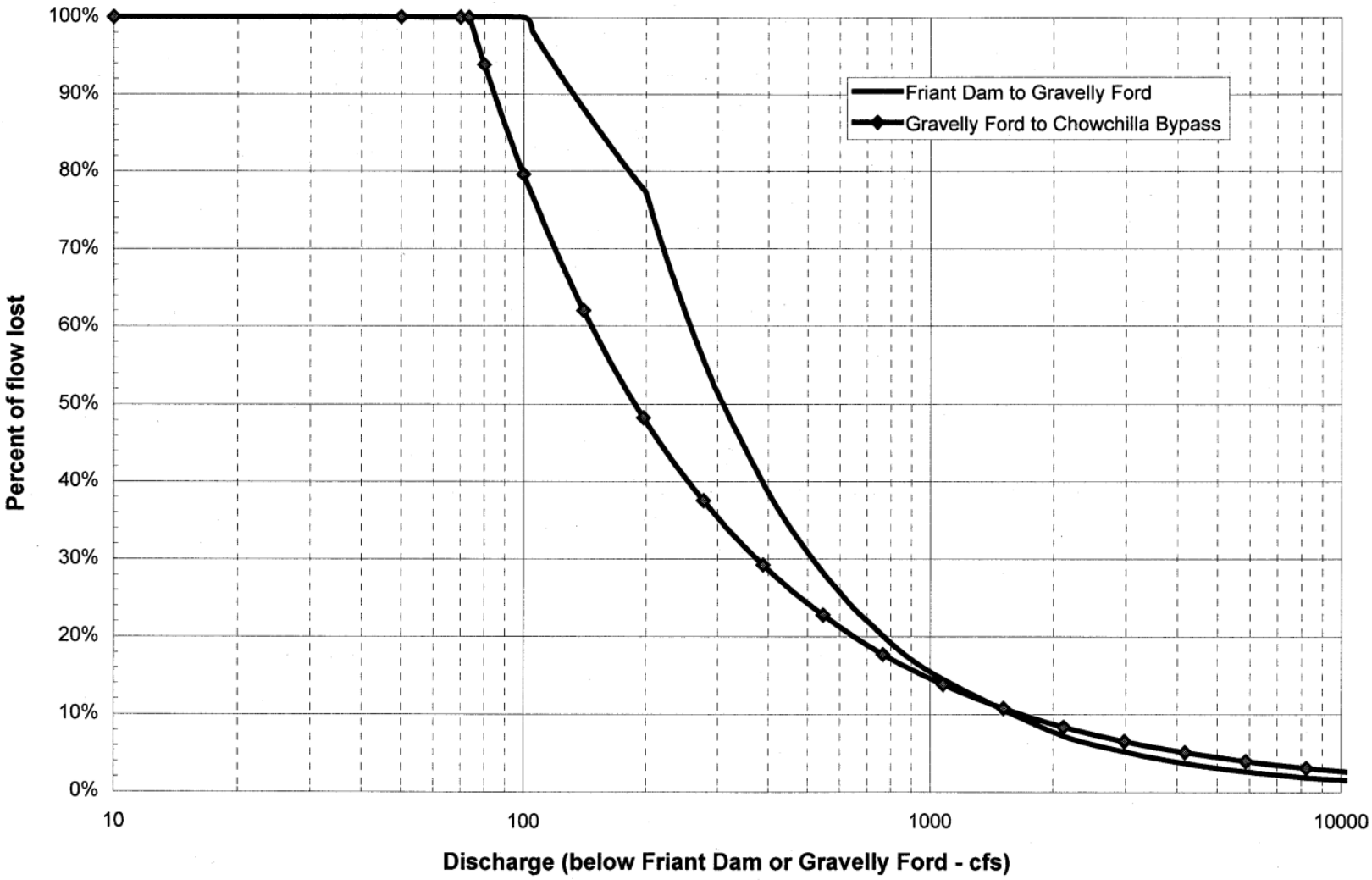


Figure 2-4. Estimated flow loss curves for the San Joaquin River between Friant Dam and Gravelly Ford, and between Gravelly Ford and the Chowchilla Bifurcation Structure.

Figure 2. San Joaquin River - Flow Loss Curve

Total San Joaquin River Seepage

A flow loss curve was developed for the Background Study that estimates percent losses as a function of discharge from GRF (**Figure 2**). The Background Study percent loss graph was modified to convert 'percent of flow lost' from a percentage to a CFS value. A logarithmic trendline was applied to the data points and an equation was developed. As expected, seepage increased with flow rate due to the changing width of the SJR channel with flow depth. The higher the flow, the wider the channel, which allows for greater soil contact resulting in increased seepage rates until the full width of the channel is reached at the higher flows.

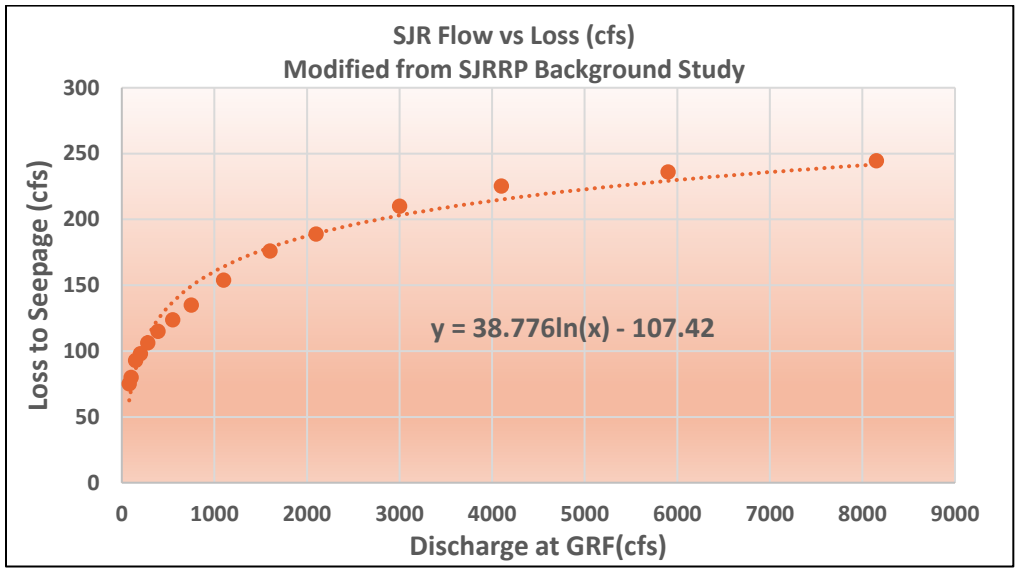


Figure 3. Modified Settlement Background Study SJR loss Curve

Next, daily flow rate readings were extracted from CDEC, and the trendline equation was applied to the daily flow rate readings to calculate seepage as CFS. The CFS value was then converted to AF, and then totaled for the year. These values are presented in **Table 2**.

Table 2. Calculated Seepage of SJR based on CDEC flow rates and Background Study Loss Curve.

Year	Total Seepage (AF)
2003	13,169
2004	10,805
2005	63,028
2006	91,691
2007	33,502
2008	27,394
2009	16,792
2010	72,985
2011	98,266
2012	68,151
Average for 2003-2012	**49,578**

The seepage value was then distributed to the neighboring GSAs.

Distribution of Seepage

Based on hydrogeologic conditions and farming practices in the area, the Seepage in the SJR adjacent to AWDGSA from the Eastern boundary to San Mateo Road was separated into two sections, listed from east to west (**Figure 1**):

1. Eastern Boundary to CBP, approximately 11 miles long.
2. CBP to San Mateo Road, approximately 4 miles long.

Eastern Boundary to CBP

Based on input from KDSA and the southerly neighbor, McMullin GSA, it was determined that the seepage should be split with McMullin GSA. Since the river channel in this reach coincides with a groundwater ridge, it is assumed that 50% of the losses flow into AWDGSA along the SJR. The remaining 50% flows to the south side of the river into the Kings Subbasin. Therefore, this reach contributes 18,179 AF annually over this study period.

$$49{,}578\ AFY * \frac{11\ miles}{15\ miles} * 50\%\ contribution = 18{,}179\ AFY$$

CBP to San Mateo Road

Based on groundwater levels historically showing a gradient across the SJR and toward AWDGSA from the Bifurcation to the Mendota Pool, it was determined that 100% of the seepage losses flow to AWDGSA along this stretch. Water in the SJR downstream of San Mateo Road is backwater from the Mendota pool, and is discussed in the following section.

$$49{,}578\ AFY * \frac{4\ miles}{15\ miles} * 100\%\ contribution = 13{,}221\ AFY$$

Mendota Pool Seepage

The Mendota Pool also contributes to seepage inflow into AWDGSA. The Mendota Pool Group calculates losses from the pool annually in the Mendota Pool Annual Report. The Mendota Pool is 1,087 acres (**Figure 1**). The established seepage rate is 80 AF/day for a loss rate of 0.0736 ft/day. The area of the pool adjacent to Aliso is about 129-acres, so the losses would be about 9.5 AF/day. Over the approximately 335 operational days of the year the Mendota Pool contributes an average of 3,181 AF/Y. For 129 acres of the Mendota Pool which borders AWDGSA, 100% of the calculated seepage contributes to the AWDGSA water budget.

$$80\frac{AF}{day} * \frac{129\ acres}{1{,}087\ acres} * 335\ days * 100\%\ contribution = 3{,}181\ AF$$

Additional Considerations

Groundwater pumping in AWDGSA cannot influence seepage. Seepage occurs on lands above the shallow A-Clay clay layer. Landowners in the District are prevented from drilling shallow wells in most lands near the river as an extension of the Herminghaus Agreement, requiring wells to be cased to 75 feet bgs at a minimum, to prevent influencing additional seepage.

Finally, increased flows at GRF due to SJR Restoration Program are not included in the forecasts for the projected water budget. the SJR Restoration Program was evolving during the 10-year hydrologic period and has not yet reached its ultimate planned flow rates. The flows that occurred during the historic period are expected to increase upon full development of the program, and therefore so will the natural and unavoidable seepage. Those adjustments can be made in future updates to the GSP as the Restoration Program progresses.

Appendix D
Section 352.4 California Code of Regulations

ARTICLE 3. Technical and Reporting Standards

§ 352. Introduction to Technical and Reporting Standards

This Article describes the monitoring protocols, standards for monitoring sites, and other technical elements related to the development or implementation of a Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Section 10733.2, Water Code.

§ 352.2. Monitoring Protocols

Each Plan shall include monitoring protocols adopted by the Agency for data collection and management, as follows:

(a) Monitoring protocols shall be developed according to best management practices.

(b) The Agency may rely on monitoring protocols included as part of the best management practices developed by the Department, or may adopt similar monitoring protocols that will yield comparable data.

(c) Monitoring protocols shall be reviewed at least every five years as part of the periodic evaluation of the Plan, and modified as necessary.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10728.2, 10729, and 10733.2, Water Code.

§ 352.4. Data and Reporting Standards

(a) The following reporting standards apply to all categories of information required of a Plan, unless otherwise indicated:

(1) Water volumes shall be reported in acre-feet.

(2) Surface water flow shall be reported in cubic feet per second and groundwater flow shall be reported in acre-feet per year.

(3) Field measurements of elevations of groundwater, surface water, and land surface shall be measured and reported in feet to an accuracy of at least 0.1 feet relative to NAVD88, or another national standard that is convertible to NAVD88, and the method of measurement described.

(4) Reference point elevations shall be measured and reported in feet to an accuracy of at least 0.5 feet, or the best available information, relative to NAVD88, or another national standard that is convertible to NAVD88, and the method of measurement described.

(5) Geographic locations shall be reported in GPS coordinates by latitude and longitude in decimal degree to five decimal places, to a minimum accuracy of 30 feet, relative to NAD83, or another national standard that is convertible to NAD83.

(b) Monitoring sites shall include the following information:

(1) A unique site identification number and narrative description of the site location.

(2) A description of the type of monitoring, type of measurement taken, and monitoring frequency.

(3) Location, elevation of the ground surface, and identification and description of the reference point.

(4) A description of the standards used to install the monitoring site. Sites that do not conform to best management practices shall be identified and the nature of the divergence from best management practices described.

(c) The following standards apply to wells:

(1) Wells used to monitor groundwater conditions shall be constructed according to applicable construction standards, and shall provide the following information in both tabular and geodatabase-compatible shapefile form:

(A) CASGEM well identification number. If a CASGEM well identification number has not been issued, appropriate well information shall be entered on forms made available by the Department, as described in Section 353.2.

(B) Well location, elevation of the ground surface and reference point, including a description of the reference point.

(C) A description of the well use, such as public supply, irrigation, domestic, monitoring, or other type of well, whether the well is active or inactive, and whether the well is a single, clustered, nested, or other type of well.

(D) Casing perforations, borehole depth, and total well depth.

(E) Well completion reports, if available, from which the names of private owners have been redacted.

(F) Geophysical logs, well construction diagrams, or other relevant information, if available.

(G) Identification of principal aquifers monitored.

(H) Other relevant well construction information, such as well capacity, casing diameter, or casing modifications, as available.

(2) If an Agency relies on wells that lack casing perforations, borehole depth, or total well depth information to monitor groundwater conditions as part of a Plan, the Agency shall describe a schedule for acquiring monitoring wells with the necessary information, or demonstrate to the Department that such information is not necessary to understand and manage groundwater in the basin.

(3) Well information used to develop the basin setting shall be maintained in the Agency's data management system.

(d) Maps submitted to the Department shall meet the following requirements:

(1) Data layers, shapefiles, geodatabases, and other information provided with each map, shall be submitted electronically to the Department in accordance with the procedures described in Article 4.

(2) Maps shall be clearly labeled and contain a level of detail to ensure that the map is informative and useful.

(3) The datum shall be clearly identified on the maps or in an associated legend.

(e) Hydrographs submitted to the Department shall meet the following requirements:

(1) Hydrographs shall be submitted electronically to the Department in accordance with the procedures described in Article 4.

(2) Hydrographs shall include a unique site identification number and the ground surface elevation for each site.

(3) Hydrographs shall use the same datum and scaling to the greatest extent practical.

(f) Groundwater and surface water models used for a Plan shall meet the following standards:

(1) The model shall include publicly available supporting documentation.

(2) The model shall be based on field or laboratory measurements, or equivalent methods that justify the selected values, and calibrated against site-specific field data.

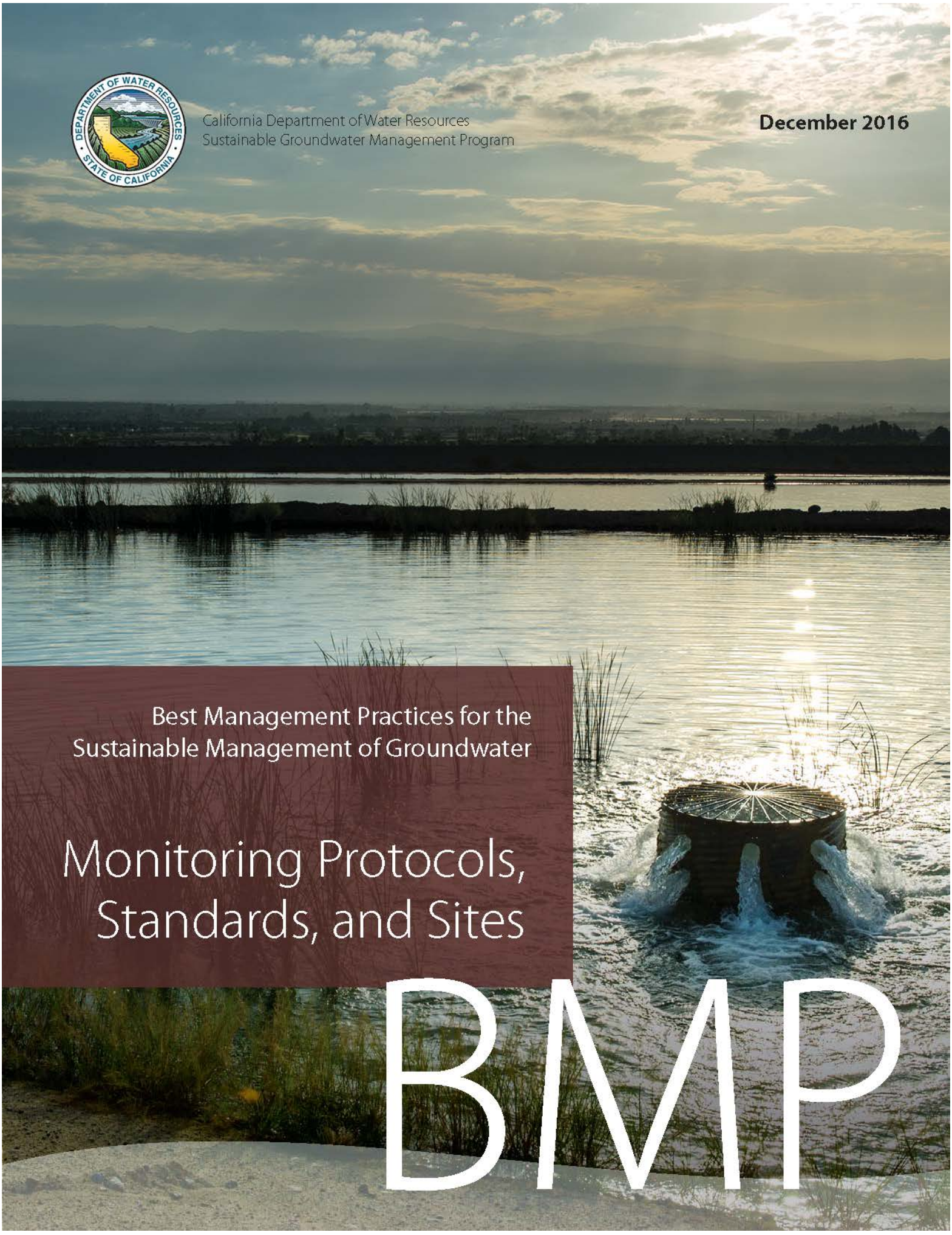
(3) Groundwater and surface water models developed in support of a Plan after the effective date of these regulations shall consist of public domain open-source software.

(g) The Department may request data input and output files used by the Agency, as necessary. The Department may independently evaluate the appropriateness of model results relied upon by the Agency, and use that evaluation in the Department's assessment of the Plan.

Note: Authority cited: Section 10733.2, Water Code.

Reference: Sections 10727.2, 10727.6, and 10733.2, Water Code.

Appendix E
Monitoring Protocols, Standards, and Sites BMP



California Department of Water Resources
Sustainable Groundwater Management Program

December 2016

Best Management Practices for the Sustainable Management of Groundwater

Monitoring Protocols, Standards, and Sites

BMP

State of California
Edmund G. Brown Jr., Governor

California Natural Resources Agency
John Laird, Secretary for Natural Resources

Department of Water Resources
Mark W. Cowin, Director

Carl A. Torgersen, Chief Deputy Director

Office of the Chief Counsel Spencer Kenner	Public Affairs Office Ed Wilson	Government and Community Liaison Anecita S. Agustinez
Office of Workforce Equality Stephanie Varrelman	Policy Advisor Waiman Yip	Legislative Affairs Office Kasey Schimke, Ass't Dir.

Deputy Directors

Gary Bardini	**Integrated Water Management**
William Croyle	**Statewide Emergency Preparedness and Security**
Mark Anderson	**State Water Project**
John Pacheco (Acting)	**California Energy Resources Scheduling**
Kathie Kishaba	**Business Operations**
Taryn Ravazzini	**Special Initiatives**

Division of Integrated Regional Water Management

Arthur Hinojosa Jr., Chief

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Prepared by:

Trevor Joseph, BMP Project Manager

Timothy Godwin
Dan McManus
Mark Nordberg
Heather Shannon
Steven Springhorn

With assistance from:

DWR Region Office Staff

Groundwater Monitoring Protocols, Standards, and Sites Best Management Practice

1. OBJECTIVE

The objective of this *Best Management Practice* (BMP) is to assist in the development of Monitoring Protocols. The California Department of Water Resources (the Department or DWR) has developed this document as part of the obligation in the Technical Assistance chapter (Chapter 7) of the Sustainable Groundwater Management Act (SGMA) to support the long-term sustainability of California's groundwater *basins*. Information provided in this BMP provides technical assistance to Groundwater Sustainability Agencies (GSAs) and other stakeholders to aid in the establishment of consistent data collection processes and procedures. In addition, this BMP can be used by GSAs to adopt a set of sampling and measuring procedures that will yield similar data regardless of the monitoring personnel. Finally, this BMP identifies available resources to support the development of monitoring protocols.

This BMP includes the following sections:

1. Objective. A brief description of how and where monitoring protocols are required under SGMA and the overall objective of this BMP.
2. Use and Limitations. A brief description of the use and limitations of this BMP.
3. Monitoring Protocol Fundamentals. A description of the general approach and background of groundwater monitoring protocols.
4. Relationship of Monitoring Protocols to other BMPs. A description of how this BMP is connected with other BMPS.
5. Technical Assistance. Technical content providing guidance for regulatory sections.
6. Key Definitions. Descriptions of definitions identified in the GSP Regulations or SGMA.
7. Related Materials. References and other materials that provide supporting information related to the development of Groundwater Monitoring Protocols.

2. USE AND LIMITATIONS

BMPs developed by the Department provide technical guidance to GSAs and other stakeholders. Practices described in these BMPs do not replace the GSP Regulations, nor do they create new requirements or obligations for GSAs or other stakeholders. In addition, using this BMP to develop a GSP does not equate to an approval determination by the Department. All references to GSP Regulations relate to Title 23 of the California Code of Regulations (CCR), Division 2, Chapter 1.5, and Subchapter 2. All references to SGMA relate to California Water Code sections in Division 6, Part 2.74.

3. MONITORING PROTOCOL FUNDAMENTALS

Establishing data collection protocols that are based on best available scientific methods is essential. Protocols that can be applied consistently across all basins will likely yield comparable data. Consistency of data collection methods reduces uncertainty in the comparison of data and facilitates more accurate communication within basins as well as between basins.

Basic minimum technical standards of accuracy lead to quality data that will better support implementation of GSPs.

4. RELATIONSHIP OF MONITORING PROTOCOL TO OTHER BMPS

Groundwater monitoring is a fundamental component of SGMA, as each GSP must include a sufficient network of data that demonstrates measured progress toward the achievement of the sustainability goal for each basin. For this reason, a standard set of protocols need to be developed and utilized.

It is important that data is developed in a manner consistent with the basin setting, planning, and projects/management actions steps identified on **Figure 1** and the GSP Regulations. The inclusion of monitoring protocols in the GSP Regulations also emphasizes the importance of quality empirical data to support GSPs and provide comparable information from basin to basin.

Figure 1 provides a logical progression for the development of a GSP and illustrates how monitoring protocols are linked to other related BMPs. This figure also shows the context of the BMPs as they relate to various steps to sustainability as outlined in the GSP Regulations. The monitoring protocol BMP is part of the Monitoring step identified in **Figure 1**.

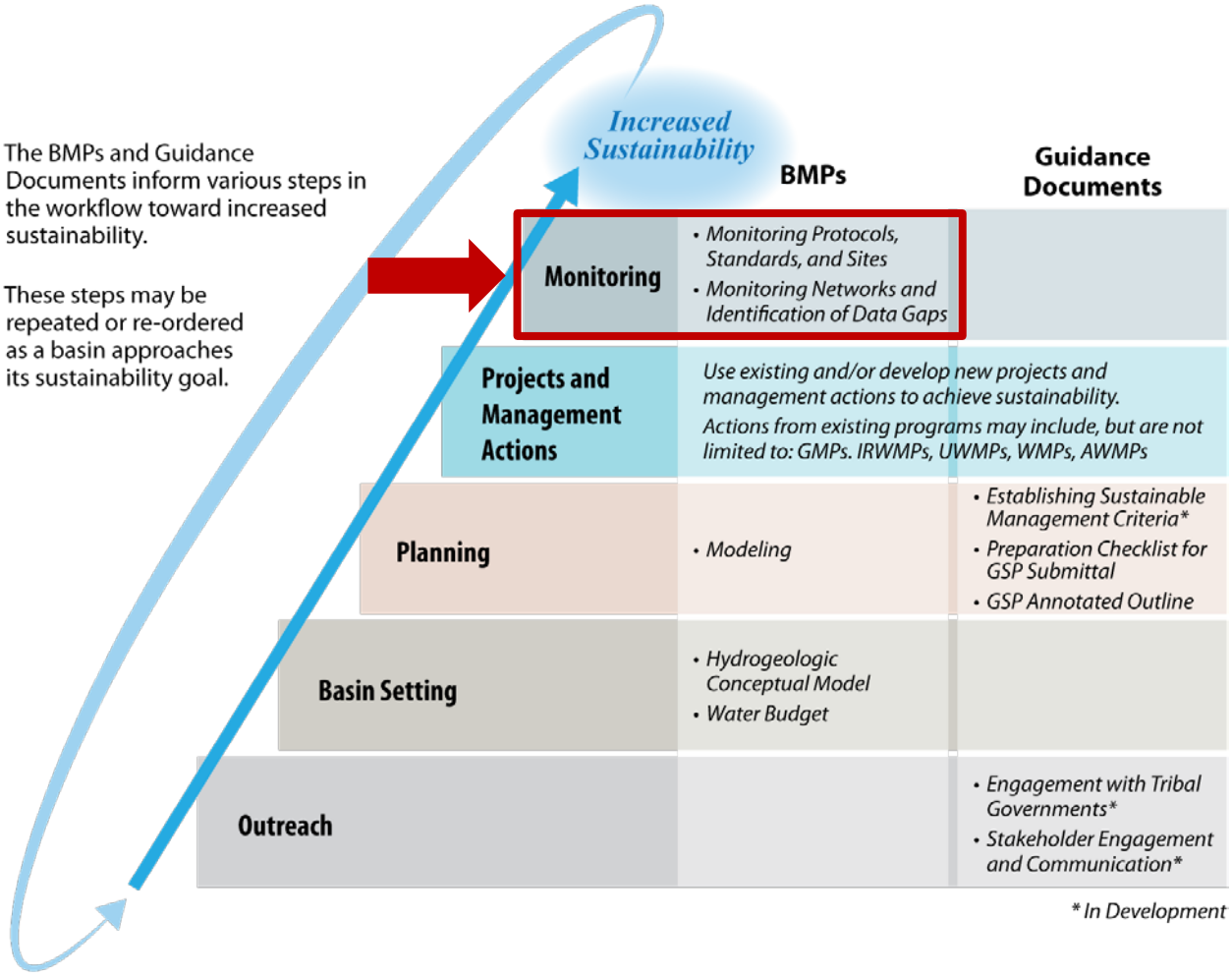

Figure 1 – Logical Progression of Basin Activities Needed to Increase Basin Sustainability

5. TECHNICAL ASSISTANCE

23 CCR §352.2. Monitoring Protocols. Each Plan shall include monitoring protocols adopted by the Agency for data collection and management, as follows:
(a) Monitoring protocols shall be developed according to best management practices.
(b) The Agency may rely on monitoring protocols included as part of the best management practices developed by the Department, or may adopt similar monitoring protocols that will yield comparable data.
(c) Monitoring protocols shall be reviewed at least every five years as part of the periodic evaluation of the Plan, and modified as necessary.

The GSP Regulations specifically call out the need to utilize protocols identified in this BMP, or develop similar protocols. The following technical protocols provide guidance based upon existing professional standards and are commonly adopted in various groundwater-related programs. They provide clear techniques that yield quality data for use in the various components of the GSP. They can be further elaborated on by individual GSAs in the form of standard operating procedures which reflect specific local requirements and conditions. While many methodologies are suggested in this BMP, it should be understood that qualified professional judgment should be used to meet the specific monitoring needs.

The following BMPs may be incorporated into a GSP's monitoring protocols section for collecting groundwater elevation data. A GSP that adopts protocols that deviate from these BMPs must demonstrate that they will yield comparable data.

PROTOCOLS FOR ESTABLISHING A MONITORING PROGRAM

The protocol for establishment of a monitoring program should be evaluated in conjunction with the *Monitoring Network and Identification of Data Gaps* BMP and other BMPs. Monitoring protocols must take into consideration the *Hydrogeologic Conceptual Model, Water Budget, and Modeling* BMPs when considering the data needs to meet GSP objectives and the sustainability goal.

It is suggested that each GSP incorporate the Data Quality Objective (DQO) process following the U.S. EPA *Guidance on Systematic Planning Using the Data Quality Objectives Process* (EPA, 2006). Although strict adherence to this method is not required, it does provide a robust approach to consider and assures that data is collected with a specific purpose in mind, and efforts for monitoring are as efficient as possible to achieve the objectives of the GSP and compliance with the GSP Regulations.

The DQO process presents a method that can be applied directly to the sustainability criteria quantitative requirements through the following steps.

1. State the problem – Define sustainability indicators and planning considerations of the GSP and sustainability goal.
2. Identify the goal – Describe the quantitative measurable objectives and minimum thresholds for each of the sustainability indicators.
3. Identify the inputs – Describe the data necessary to evaluate the sustainability indicators and other GSP requirements (i.e. water budget).
4. Define the boundaries of the study – This is commonly the extent of the Bulletin 118 groundwater basin or subbasin, unless multiple GSPs are prepared for a given basin. In that case, evaluation of the coordination plan and specifically how the monitoring will be comparable and meet the sustainability goals for the entire basin.
5. Develop an analytical approach – Determine how the quantitative sustainability indicators will be evaluated (i.e. are special analytical methods required that have specific data needs).
6. Specify performance or acceptance criteria – Determine what quality the data must have to achieve the objective and provide some assurance that the analysis is accurate and reliable.
7. Develop a plan for obtaining data – Once the objectives are known determine how these data should be collected. Existing data sources should be used to the greatest extent possible.

These steps of the DQO process should be used to guide GSAs to develop the most efficient monitoring process to meet the measurable objectives of the GSP and the sustainability goal. The DQO process is an iterative process and should be evaluated regularly to improve monitoring efficiencies and meet changing planning and project needs. Following the DQO process, GSAs should also include a data quality control and quality assurance plan to guide the collection of data.

Many monitoring programs already exist as part of ongoing groundwater management or other programs. To the extent possible, the use of existing monitoring data and programs should be utilized to meet the needs for characterization, historical record documentation, and continued monitoring for the SGMA program. However, an evaluation of the existing monitoring data should be performed to assure the data being collected meets the DQOs, regulatory requirements, and data collection protocol described in this BMP. While this BMP provides guidance for collection of various

regulatory based requirements, there is flexibility among the various methodologies available to meet the DQOs based upon professional judgment (local conditions or project needs).

At a minimum, for each monitoring site, the following information or procedure should be collected and documented:

- Long-term access agreements. Access agreements should include year-round site access to allow for increased monitoring frequency.
- A unique identifier that includes a general written description of the site location, date established, access instructions and point of contact (if necessary), type of information to be collected, latitude, longitude, and elevation. Each monitoring location should also track all modifications to the site in a modification log.

PROTOCOLS FOR MEASURING GROUNDWATER LEVELS

This section presents considerations for the methodology of collection of groundwater level data such that it meets the requirements of the GSP Regulations and the DQOs of the specific GSP. Groundwater levels are a fundamental measure of the status of groundwater conditions within a basin. In many cases, relationships of the sustainability indicators may be able to be correlated with groundwater levels. The quality of this data must consider the specific aquifer being monitored and the methodology for collecting these levels.

The following considerations for groundwater level measuring protocols should ensure the following:

- Groundwater level data are taken from the correct location, well ID, and screen interval depth
- Groundwater level data are accurate and reproducible
- Groundwater level data represent conditions that inform appropriate basin management DQOs
- All salient information is recorded to correct, if necessary, and compare data
- Data are handled in a way that ensures data integrity

General Well Monitoring Information

The following presents considerations for collection of water level data that include regulatory required components as well as those which are recommended.

- Groundwater elevation data will form the basis of basin-wide water-table and piezometric maps, and should approximate conditions at a discrete period in time. Therefore, all groundwater levels in a basin should be collected within as short a time as possible, preferably within a 1 to 2 week period.
- Depth to groundwater must be measured relative to an established Reference Point (RP) on the well casing. The RP is usually identified with a permanent marker, paint spot, or a notch in the lip of the well casing. By convention in open casing monitoring wells, the RP reference point is located on the north side of the well casing. If no mark is apparent, the person performing the measurement should measure the depth to groundwater from the north side of the top of the well casing.
- The elevation of the RP of each well must be surveyed to the North American Vertical Datum of 1988 (NAVD88), or a local datum that can be converted to NAVD88. The elevation of the RP must be accurate to within 0.5 foot. It is preferable for the RP elevation to be accurate to 0.1 foot or less. Survey grade global navigation satellite system (GNSS) global positioning system (GPS) equipment can achieve similar vertical accuracy when corrected. Guidance for use of GPS can be found at USGS http://water.usgs.gov/osw/gps/. Hand-held GPS units likely will not produce reliable vertical elevation measurement accurate enough for the casing elevation consistent with the DQOs and regulatory requirements.
- The sampler should remove the appropriate cap, lid, or plug that covers the monitoring access point listening for pressure release. If a release is observed, the measurement should follow a period of time to allow the water level to equilibrate.
- Depth to groundwater must be measured to an accuracy of 0.1 foot below the RP. It is preferable to measure depth to groundwater to an accuracy of 0.01 foot. Air lines and acoustic sounders may not provide the required accuracy of 0.1 foot.
- The water level meter should be decontaminated after measuring each well.

Where existing wells do not meet the base standard as described in the GSP Regulations or the considerations provided above, new monitoring wells may need to be constructed to meet the DQOs of the GSP. The design, installation, and documentation of new monitoring wells must consider the following:

- Construction consistent with California Well Standards as described in Bulletins 74-81 and 74-90, and local permitting agency standards of practice.
- Logging of borehole cuttings under the supervision of a California Professional Geologist and described consistent with the Unified Soil Classification System methods according to ASTM standard D2487-11.
- Written criteria for logging of borehole cuttings for comparison to known geologic formations, principal aquifers and aquitards/aquicludes, or specific marker beds to aid in consistent stratigraphic correlation within and across basins.
- Geophysical surveys of boreholes to aid in consistency of logging practices. Methodologies should include resistivity, spontaneous potential, spectral gamma, or other methods as appropriate for the conditions. Selection of geophysical methods should be based upon the opinion of a professional geologist or professional engineer, and address the DQOs for the specific borehole and characterization needs.
- Prepare and submit State well completion reports according to the requirements of §13752. Well completion report documentation should include geophysical logs, detailed geologic log, and formation identification as attachments. An example well completion as-built log is illustrated in **Figure 2.** DWR well completion reports can be filed directly at the Online System for Well Completion Reports (OSWCR) http://water.ca.gov/oswcr/index.cfm.

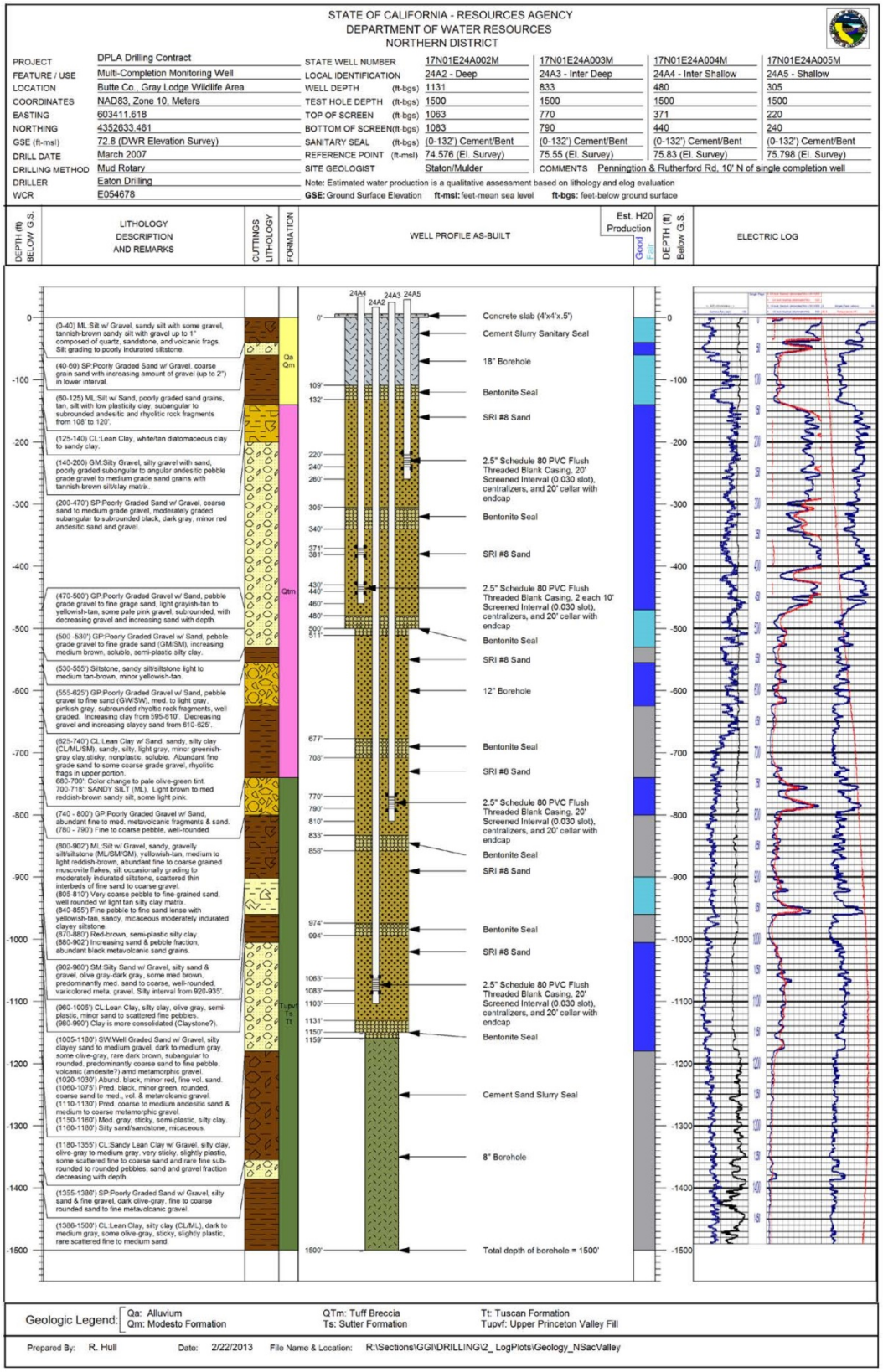

Figure 2 – Example As-Built Multi-Completion Monitoring Well Log

Measuring Groundwater Levels

Well construction, anticipated groundwater level, groundwater level measuring equipment, field conditions, and well operations should be considered prior collection of the groundwater level measurement. The USGS *Groundwater Technical Procedures* (Cunningham and Schalk, 2011) provide a thorough set of procedures which can be used to establish specific Standard Operating Procedures (SOPs) for a local agency. **Figure 3** illustrates a typical groundwater level measuring event and simultaneous pressure transducer download.

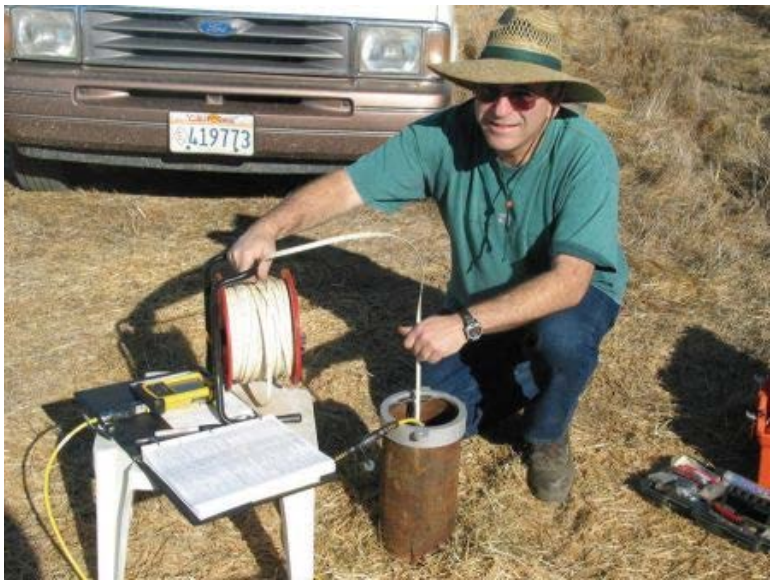

Figure 3 – Collection of Water Level Measurement and Pressure Transducer Download

The following points provide a general approach for collecting groundwater level measurements:

- Measure depth to water in the well using procedures appropriate for the measuring device. Equipment must be operated and maintained in accordance with manufacturer's instructions. Groundwater levels should be measured to the nearest 0.01 foot relative to the RP.
- For measuring wells that are under pressure, allow a period of time for the groundwater levels to stabilize. In these cases, multiple measurements should be collected to ensure the well has reached equilibrium such that no significant changes in water level are observed. Every effort should be made to ensure that a representative stable depth to groundwater is recorded. If a well does not stabilize, the quality of the value should be appropriately qualified as a

questionable measurement. In the event that a well is artesian, site specific procedures should be developed to collect accurate information and be protective of safety conditions associated with a pressurized well. In many cases, an extension pipe may be adequate to stabilize head in the well. Record the dimension of the extension and document measurements and configuration.

- The sampler should calculate the groundwater elevation as:

$$GWE = RPE - DTW$$

Where:

GWE = Groundwater Elevation
RPE = Reference Point Elevation
DTW = Depth to Water

The sampler must ensure that all measurements are in consistent units of feet, tenths of feet, and hundredths of feet. Measurements and RPEs should not be recorded in feet and inches.

Recording Groundwater Levels

- The sampler should record the well identifier, date, time (24-hour format), RPE, height of RP above or below ground surface, DTW, GWE, and comments regarding any factors that may influence the depth to water readings such as weather, nearby irrigation, flooding, potential for tidal influence, or well condition. If there is a questionable measurement or the measurement cannot be obtained, it should be noted. An example of a field sheet with the required information is shown in **Figure 4**. It includes questionable measurement and no measurement codes that should be noted. This field sheet is provided as an example. Standardized field forms should be used for all data collection. The aforementioned USGS *Groundwater Technical Procedures* offers a number of example forms.
- The sampler should replace any well caps or plugs, and lock any well buildings or covers.
- All data should be entered into the GSA data management system (DMS) as soon as possible. Care should be taken to avoid data entry mistakes and the entries should be checked by a second person for compliance with the DQOs.

STATE OF CALIFORNA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WELL DATA

STATE WELL NUMBER	COUNTY	REFERENCE POINT ELEV.	MEASURING AGENCY
			DWR

NO MEASUREMENT
0. Measurement discontinued
1. Pumping
2. Pump house locked
3. Tape hung up
4. Can't get tape in casing
5. Unable to locate well
6. Well has been destroyed
7. Special
8. Casing leaky or wet
9. Temporarily inaccessible

QUESTIONABLE MEASUREMENT
0. Caved or deepened
1. Pumping
2. Nearby pump operating
3. Casing leaky or wet
4. Pumped recently
5. Air or pressure gauge measurement
6. Other
7. Recharge operation at or nearby well
8. Oil in casing

DATE	NM	QM	TAPE AT RP	TAPE AT WS	RP to WS	OBSR VR	COMMENTS

DWR 1213

Figure 4 – Example of Water Level Well Data Field Collection Form

Pressure Transducers

Groundwater levels and/or calculated groundwater elevations may be recorded using pressure transducers equipped with data loggers installed in monitoring wells. When installing pressure transducers, care must be exercised to ensure that the data recorded by the transducers is confirmed with hand measurements.

The following general protocols must be followed when installing a pressure transducer in a monitoring well:

- The sampler must use an electronic sounder or chalked steel tape and follow the protocols listed above to measure the groundwater level and calculate the groundwater elevation in the monitoring well to properly program and reference the installation. It is recommended that transducers record measured groundwater level to conserve data capacity; groundwater elevations can be calculated at a later time after downloading.
- The sampler must note the well identifier, the associated transducer serial number, transducer range, transducer accuracy, and cable serial number.
- Transducers must be able to record groundwater levels with an accuracy of at least 0.1 foot. Professional judgment should be exercised to ensure that the data being collected is meeting the DQO and that the instrument is capable. Consideration of the battery life, data storage capacity, range of groundwater level fluctuations, and natural pressure drift of the transducers should be included in the evaluation.
- The sampler must note whether the pressure transducer uses a vented or non-vented cable for barometric compensation. Vented cables are preferred, but non-vented units provide accurate data if properly corrected for natural barometric pressure changes. This requires the consistent logging of barometric pressures to coincide with measurement intervals.
- Follow manufacturer specifications for installation, calibration, data logging intervals, battery life, correction procedure (if non-vented cables used), and anticipated life expectancy to assure that DQOs are being met for the GSP.
- Secure the cable to the well head with a well dock or another reliable method. Mark the cable at the elevation of the reference point with tape or an indelible marker. This will allow estimates of future cable slippage.
- The transducer data should periodically be checked against hand measured groundwater levels to monitor electronic drift or cable movement. This should happen during routine site visits, at least annually or as necessary to maintain data integrity.

- The data should be downloaded as necessary to ensure no data is lost and entered into the basin's DMS following the QA/QC program established for the GSP. Data collected with non-vented data logger cables should be corrected for atmospheric barometric pressure changes, as appropriate. After the sampler is confident that the transducer data have been safely downloaded and stored, the data should be deleted from the data logger to ensure that adequate data logger memory remains.

PROTOCOLS FOR SAMPLING GROUNDWATER QUALITY

The following protocols can be incorporated into a GSP's monitoring protocols for collecting groundwater quality data. More detailed sampling procedures and protocols are included in the standards and guidance documents listed at the end of this BMP. A GSP that adopts protocols that deviate from these BMPs must demonstrate that the adopted protocols will yield comparable data.

In general, the use of existing water quality data within the basin should be done to the greatest extent possible if it achieves the DQOs for the GSP. In some cases it may be necessary to collect additional water quality data to support monitoring programs or evaluate specific projects. The USGS *National Field Manual for the Collection of Water Quality Data* (Wilde, 2005) should be used to guide the collection of reliable data. **Figure 5** illustrates a typical groundwater quality sampling setup.

Figure 5 – Typical Groundwater Quality Sampling Event

All analyses should be performed by a laboratory certified under the State Environmental Laboratory Accreditation Program. The specific analytical methods are beyond the scope of this BMP, but should be commiserate with other programs evaluating water quality within the basin for comparative purposes.

Groundwater quality sampling protocols should ensure that:

- Groundwater quality data are taken from the correct location
- Groundwater quality data are accurate and reproducible
- Groundwater quality data represent conditions that inform appropriate basin management and are consistent with the DQOs
- All salient information is recorded to normalize, if necessary, and compare data
- Data are handled in a way that ensures data integrity

The following points are general guidance in addition to the techniques presented in the previously mentioned USGS *National Field Manual for the Collection of Water Quality Data.*

Standardized protocols include the following:

- Prior to sampling, the sampler must contact the laboratory to schedule laboratory time, obtain appropriate sample containers, and clarify any sample holding times or sample preservation requirements.
- Each well used for groundwater quality monitoring must have a unique identifier. This identifier must appear on the well housing or the well casing to avoid confusion.
- In the case of wells with dedicated pumps, samples should be collected at or near the wellhead. Samples should not be collected from storage tanks, at the end of long pipe runs, or after any water treatment.
- The sampler should clean the sampling port and/or sampling equipment and the sampling port and/or sampling equipment must be free of any contaminants. The sampler must decontaminate sampling equipment between sampling locations or wells to avoid cross-contamination between samples.
- The groundwater elevation in the well should be measured following appropriate protocols described above in the groundwater level measuring protocols.
- For any well not equipped with low-flow or passive sampling equipment, an adequate volume of water should be purged from the well to ensure that the groundwater sample is representative of ambient groundwater and not stagnant water in the well casing. Purging three well casing volumes is generally

considered adequate. Professional judgment should be used to determine the proper configuration of the sampling equipment with respect to well construction such that a representative ambient groundwater sample is collected. If pumping causes a well to be evacuated (go dry), document the condition and allow well to recover to within 90% of original level prior to sampling. Professional judgment should be exercised as to whether the sample will meet the DQOs and adjusted as necessary.

- Field parameters of pH, electrical conductivity, and temperature should be collected for each sample. Field parameters should be evaluated during the purging of the well and should stabilize prior to sampling. Measurements of pH should only be measured in the field, lab pH analysis are typically unachievable due to short hold times. Other parameters, such as oxidation-reduction potential (ORP), dissolved oxygen (DO) (in situ measurements preferable), or turbidity, may also be useful for meeting DQOs of GSP and assessing purge conditions. All field instruments should be calibrated daily and evaluated for drift throughout the day.
- Sample containers should be labeled prior to sample collection. The sample label must include: sample ID (often well ID), sample date and time, sample personnel, sample location, preservative used, and analytes and analytical method.
- Samples should be collected under laminar flow conditions. This may require reducing pumping rates prior to sample collection.
- Samples should be collected according to appropriate standards such as those listed in the *Standard Methods for the Examination of Water and Wastewater*, USGS *National Field Manual for the Collection of Water Quality Data*, or other appropriate guidance. The specific sample collection procedure should reflect the type of analysis to be performed and DQOs.
- All samples requiring preservation must be preserved as soon as practically possible, ideally at the time of sample collection. Ensure that samples are appropriately filtered as recommended for the specific analyte. Entrained solids can be dissolved by preservative leading to inconsistent results of dissolve analytes. Specifically, samples to be analyzed for metals should be field-filtered prior to preservation; do not collect an unfiltered sample in a preserved container.
- Samples should be chilled and maintained at 4 °C to prevent degradation of the sample. The laboratory's Quality Assurance Management Plan should detail appropriate chilling and shipping requirements.

- Samples must be shipped under chain of custody documentation to the appropriate laboratory promptly to avoid violating holding time restrictions.
- Instruct the laboratory to use reporting limits that are equal to or less than the applicable DQOs or regional water quality objectives/screening levels.

Special protocols for low-flow sampling equipment

In addition to the protocols listed above, sampling using low-flow sample equipment should adopt the following protocols derived from EPA's *Low-flow (minimal drawdown) ground-water sampling procedures* (Puls and Barcelona, 1996). These protocols apply to low-flow sampling equipment that generally pumps between 0.1 and 0.5 liters per minute. These protocols are not intended for bailers.

Special protocols for passive sampling equipment

In addition to the protocols listed above, passive diffusion samplers should follow protocols set forth in USGS Fact Sheet 088-00.

PROTOCOLS FOR MONITORING SEAWATER INTRUSION

Monitoring seawater intrusion requires analysis of the chloride concentrations within groundwater of each principal aquifer subject to seawater intrusion. While no significant standardized approach exists, the methodologies described above for degraded water quality can be applied for the collection of groundwater samples. In addition to the protocol described above, the following protocols should be followed:

- Water quality samples should be collected and analyzed at least semi-annually. Samples will be analyzed for dissolved chloride at a minimum. It may be beneficial to include analyses of iodide and bromide to aid in determination of salinity source. More frequent sampling may be necessary to meet DQOs of GSP. The development of surrogate measures of chloride concentration may facilitate cost-effective means to monitor more frequently to observe the range of conditions and variability of the flow dynamics controlling seawater intrusion.
- Groundwater levels will be collected at a frequency adequate to characterize changes in head in the vicinity of the leading edge of degraded water quality in each principal aquifer. Frequency may need to be increased in areas of known preferential pathways, groundwater pumping, or efficacy evaluation of mitigation projects.
- The use of geophysical surveys, electrical resistivity, or other methods may provide for identification of preferential pathways and optimize monitoring well placement and evaluation of the seawater intrusion front. Professional judgment

should be exercised to determine the appropriate methodology and whether the DQOs for the GSP would be met.

PROTOCOLS FOR MEASURING STREAMFLOW

Monitoring of streamflow is necessary for incorporation into water budget analysis and for use in evaluation of stream depletions associated with groundwater extractions. The use of existing monitoring locations should be incorporated to the greatest extent possible. Many of these streamflow monitoring locations currently follow the protocol described below.

Establishment of new streamflow discharge sites should consider the existing network and the objectives of the new location. Professional judgment should be used to determine the appropriate permitting that may be necessary for the installation of any monitoring locations along surface water bodies. Regular frequent access will be necessary to these sites for the development of ratings curves and maintenance of equipment.

To establish a new streamflow monitoring station special consideration must be made in the field to select an appropriate location for measuring discharge. Once a site is selected, development of a relationship of stream stage to discharge will be necessary to provide continuous estimates of streamflow. Several measurements of discharge at a variety of stream stages will be necessary to develop the ratings curve correlating stage to discharge. The use of Acoustic Doppler Current Profilers (ADCPs) can provide accurate estimates of discharge in the correct settings. Professional judgment must be exercised to determine the appropriate methodology. Following development of the ratings curve a simple stilling well and pressure transducer with data logger can be used to evaluate stage on a frequent basis. A simple stilling well and staff gage is illustrated in **Figure 6**.

Streamflow measurements should be collected, analyzed, and reported in accordance with the procedures outlined in USGS Water Supply Paper 2175, *Volume 1. – Measurement of Stage Discharge* and *Volume 2. – Computation of Discharge.* This methodology is currently being used by both the USGS and DWR for existing streamflow monitoring throughout the State.

Figure 6 – Simple Stilling Well and Staff Gage Setup

PROTOCOLS FOR MEASURING SUBSIDENCE

Evaluating and monitoring inelastic land subsidence can utilize multiple data sources to evaluate the specific conditions and associated causes. To the extent possible, the use of existing data should be utilized. Subsidence can be estimated from numerous techniques, they include: level surveying tied to known stable benchmarks or benchmarks located outside the area being studied for possible subsidence; installing and tracking changes in borehole extensometers; obtaining data from continuous GPS (CGPS) locations, static GPS surveys or Real-Time-Kinematic (RTK) surveys; or analyzing Interferometric Synthetic Aperture Radar (InSAR) data. No standard procedures exist for collecting data from the potential subsidence monitoring approaches. However, an approach may include:

- Identification of land subsidence conditions.
    - Evaluate existing regional long-term leveling surveys of regional infrastructure, i.e. roadways, railroads, canals, and levees.
    - Inspect existing county and State well records where collapse has been noted for well repairs or replacement.
    - Determine if significant fine-grained layers are present such that the potential for collapse of the units could occur should there be significant depressurization of the aquifer system.

  - Inspect geologic logs and the hydrogeologic conceptual model to aid in identification of specific units of concern.
  - Collect regional remote-sensing information such as InSAR, commonly provided by USGS and NASA. Data availability is currently limited, but future resources are being developed.
- Monitor regions of suspected subsidence where potential exists.
  - Establish CGPS network to evaluate changes in land surface elevation.
  - Establish leveling surveys transects to observe changes in land surface elevation.
  - Establish extensometer network to observe land subsidence. An example of a typical extensometer design is illustrated in **Figure 7**. There are a variety of extensometer designs and they should be selected based on the specific DQOs.

Various standards and guidance documents for collecting data include:

- Leveling surveys must follow surveying standards set out in the California Department of Transportation's Caltrans Surveys Manual.
- GPS surveys must follow surveying standards set out in the California Department of Transportation's Caltrans Surveys Manual.
- USGS has been performing subsidence surveys within several areas of California. These studies are sound examples for appropriate methods and should be utilized to the extent possible and where available:
  - http://ca.water.usgs.gov/land_subsidence/california-subsidence-measuring.html
- Instruments installed in borehole extensometers must follow the manufacturer's instructions for installation, care, and calibration.
- Availability of InSAR data is improving and will increase as programs are developed. This method requires expertise in analysis of the raw data and will likely be made available as an interpretative report for specific regions.

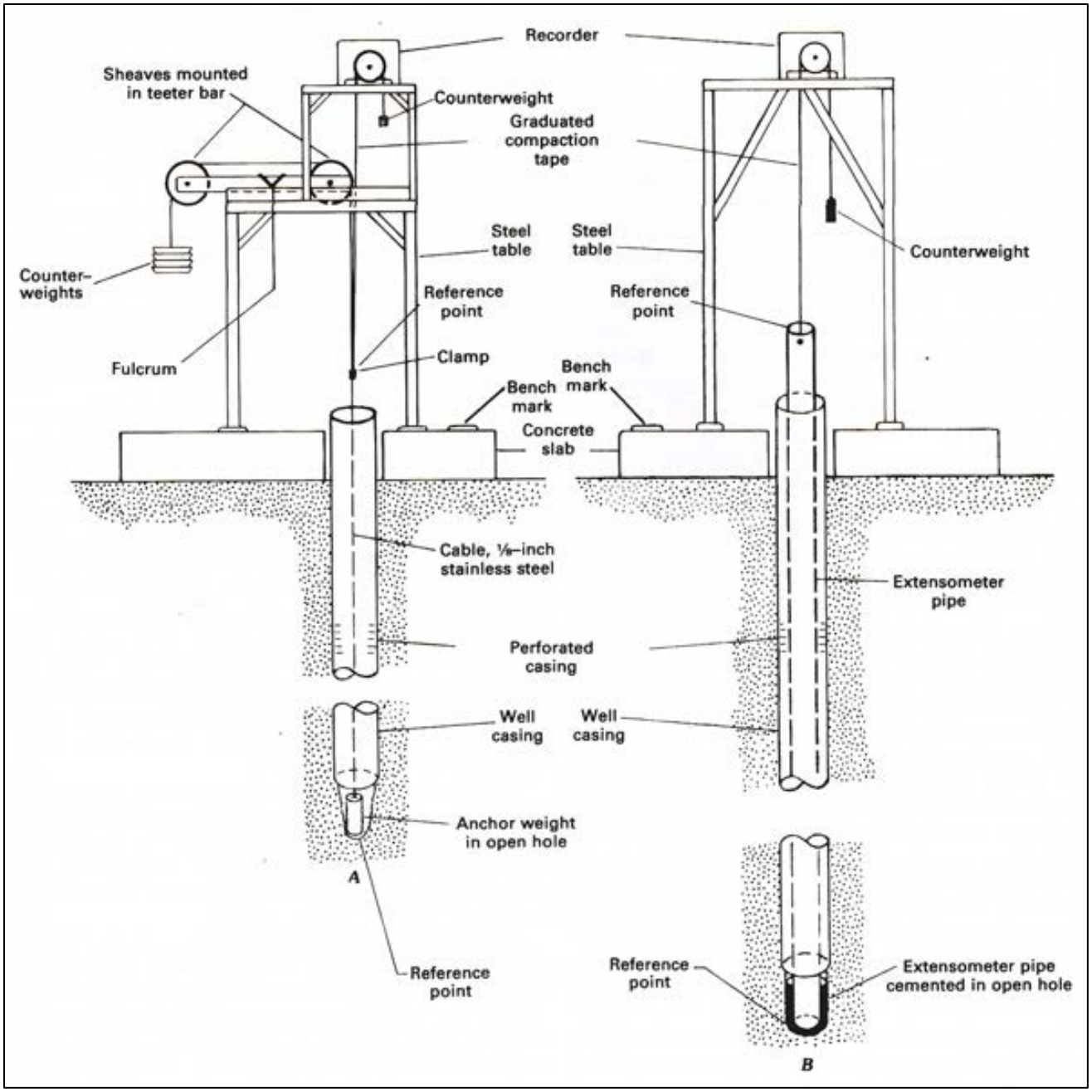

Figure 7 – Simplified Extensometer Diagram

6. KEY DEFINITIONS

The key definitions and sections related to Groundwater Monitoring Protocols, Standards, and Sites outlined in applicable SGMA code and regulations are provided below for reference.

Groundwater Sustainability Plan Regulations (California Code of Regulations §351)

- §351(h) "Best available science" refers to the use of sufficient and credible information and data, specific to the decision being made and the time frame available for making that decision, that is consistent with scientific and engineering professional standards of practice.
- §351(i) "Best management practice" refers to a practice, or combination of practices, that are designed to achieve sustainable groundwater management and have been determined to be technologically and economically effective, practicable, and based on best available science.

Monitoring Protocols Reference

§352.2. Monitoring Protocols

Each Plan shall include monitoring protocols adopted by the Agency for data collection and management, as follows:

(a) Monitoring protocols shall be developed according to best management practices.

(b) The Agency may rely on monitoring protocols included as part of the best management practices developed by the Department, or may adopt similar monitoring protocols that will yield comparable data.

(c) Monitoring protocols shall be reviewed at least every five years as part of the periodic evaluation of the Plan, and modified as necessary.

SGMA Reference

§10727.2. Required Plan Elements

(f) Monitoring protocols that are designed to detect changes in groundwater levels, groundwater quality, inelastic surface subsidence for basins for which subsidence has been identified as a potential problem, and flow and quality of surface water that directly affect groundwater levels or quality or are caused by groundwater extraction in the basin. The monitoring protocols shall be designed to generate information that promotes efficient and effective groundwater management.

7. Related Materials

CASE STUDIES

Luhdorff & Scalmanini Consulting Engineers, J.W. Borchers, M. Carpenter. 2014. *Land Subsidence from Groundwater Use in California*. Full Report of Findings prepared for California Water Foundation. April 2014. 151 p. http://ca.water.usgs.gov/land_subsidence/california-subsidence-cause-effect.html

Faunt, C.C., M. Sneed, J. Traum, and J.T. Brandt, 2015. *Water availability and land subsidence in the Central Valley, California, USA*. Hydrogeol J (2016) 24: 675. doi:10.1007/s10040-015-1339-x.
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Poland, J.F., B.E. Lofgren, R.L. Ireland, and R.G. Pugh, 1975. *Land subsidence in the San Joaquin Valley, California, as of 1972*; US Geological Survey Professional Paper 437-H; prepared in cooperation with the California Department of Water Resources, 87 p.
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Sneed, M., J.T. Brandt, and M. Solt, 2013. *Land subsidence along the Delta-Mendota Canal in the northern part of the San Joaquin Valley, California, 2003-10*; USGS Scientific Investigations Report 2013-5142, prepared in cooperation with U.S. Bureau of Reclamation and the San Luis and Delta-Mendota Water Authority.
https://pubs.er.usgs.gov/publication/sir20135142

Sneed, M., J.T. Brandt, and M. Solt, 2014. *Land subsidence, groundwater levels, and geology in the Coachella Valley, California, 1993–2010*: U.S. Geological Survey, Scientific Investigations Report 2014–5075, 62 p.
http://dx.doi.org/10.3133/sir20145075.

STANDARDS

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Appendix F
Public Noticing, Public Comments, and Adopting Resolution