Eastern San Joaquin Groundwater Authority

September 13, 2017

A New Frontier

- Words of Encouragement
  - This is New for Everyone.
    - New JPA, New Board of Directors, New Legislation, New Planning Effort, New Process, New Normal, etc.
  - Innovate; Don't Reinvent the Wheel.
  - We're in This Together.

September 13th Agenda

- Discussion/Action Items:
  - Baseline Options for the Allocation GSP Costs
- Workshop/Shirtsleeve Meeting:
  - GSP Work Plan Development

Baseline Metrics for Discussion

How do we allocate the GSP's Cost?

- How do we define equitable?
- What metrics do we use?
- Groundwater usage, population, acreage, depth to groundwater?

- Acreage
- Population
- Split Evenly Among 17 GSAs
- Some Groundwater Usage Related Metric
- Other

For Discussion Purposes Only

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Workshop Ground Rules

- **Electronic courtesy**. i.e. Cell Phones and Mobile Devices.
- **Stay focused on the charge and deliverables**.
- **Sit at the table only if you are the member or alternate representing a designated agency/organization.**
- **Raise your hand if you wish to speak. Use common conversational courtesy**.
- **Treat each other with respect.**
- **All ideas and points have value**.
- **Avoid editorials**.
- **Honor time**.
- **Beware of the 3 C's Disease.**
- **Be comfortable**.
- **Humor is welcome.**

GSP Funding Opportunity

- Grants Offered
  - Category 1 – DAC Implementation
  - Category 2 – GSP Preparation
    - Tier 1 – Critically Overdrafted – $1.5M Max
    - Tier 2 – High and Medium Priority Basins – $1.0M Max
  - 50% local cost share; DAC & SDAC waivers
- Grant Solicitation
  - Open ~~August~~ September 8, 2017
  - Due to DWR ~~October~~ November 10, 2017

Revised GSP Scoping Schedule

- September 9, 2017 – DWR publishes Final Proposal Solicitation Package (9 weeks to due date)
- September 13, 2017 – Board Workshop on GSP Work Plan Development
- September 27, 2017 – Ad-Hoc Technical Group Discussion
- October 2017 – Certifications Due for UWMPs, AgWMPs, Diversions, SBx7-7, etc.
- October 11, 2017 – Board Approval for Submission of GSP Grant
  - Presentation of GSP Work Plan Costs
  - Possible early review by DWR
- October 25, 2017 – Ad-Hoc Technical Group Discussion
- November 8, 2017 – Last Meeting of the Board Prior to Grant Being Due
- November 10, 2017 – Deadline to Submit Grant Application
- February 14, 2018 – Board Approval of Agreement with DWR for Grant Funds

Keys to Staying On-Track

- Stay Rooted in SGMA Regulations and Statutory Requirements.
- Maintain a Clear Understanding of the Responsibilities and Assignments of GSAs, Staff, Consultants, and Stakeholders.
- Use the Tools Available.
  - Facilitation, GW Model, Past Studies, Historical Data, County and DWR Staff, etc.
- Commit to Engagement.

Prop 1 GSP Grant Application

Eastern San Joaquin Groundwater Authority

September 13, 2017

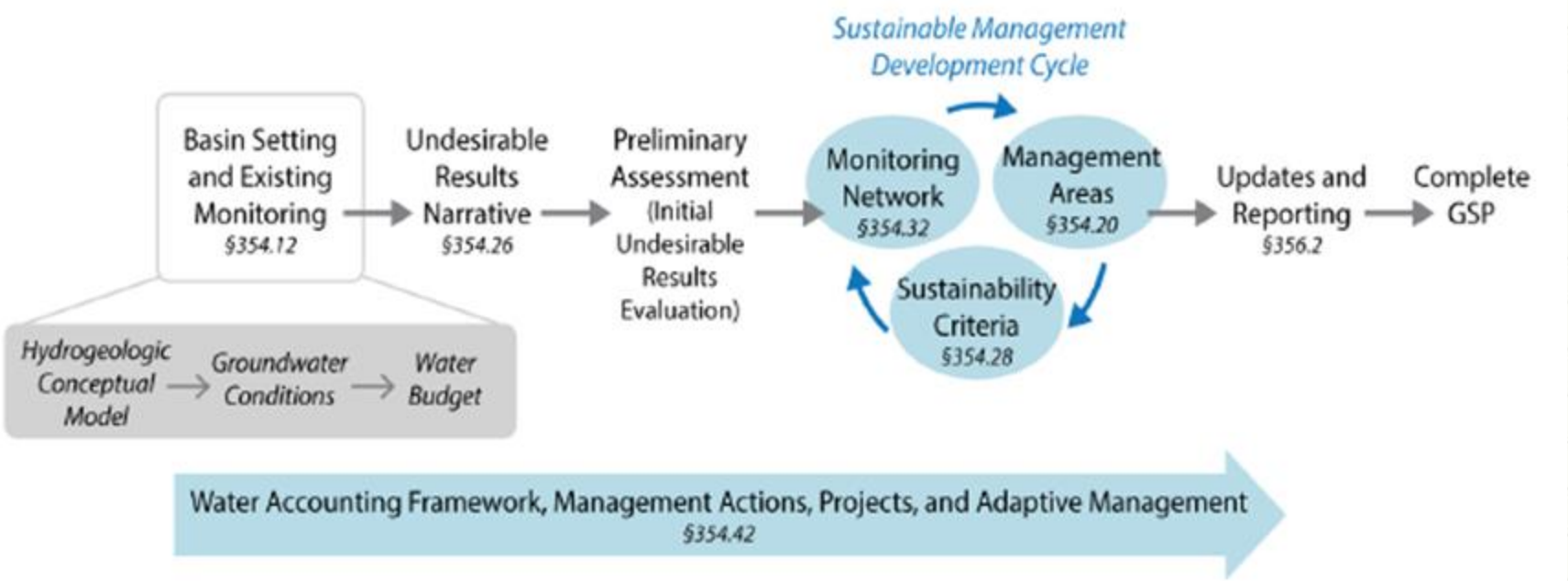
GEI Consultants

Key Tasks

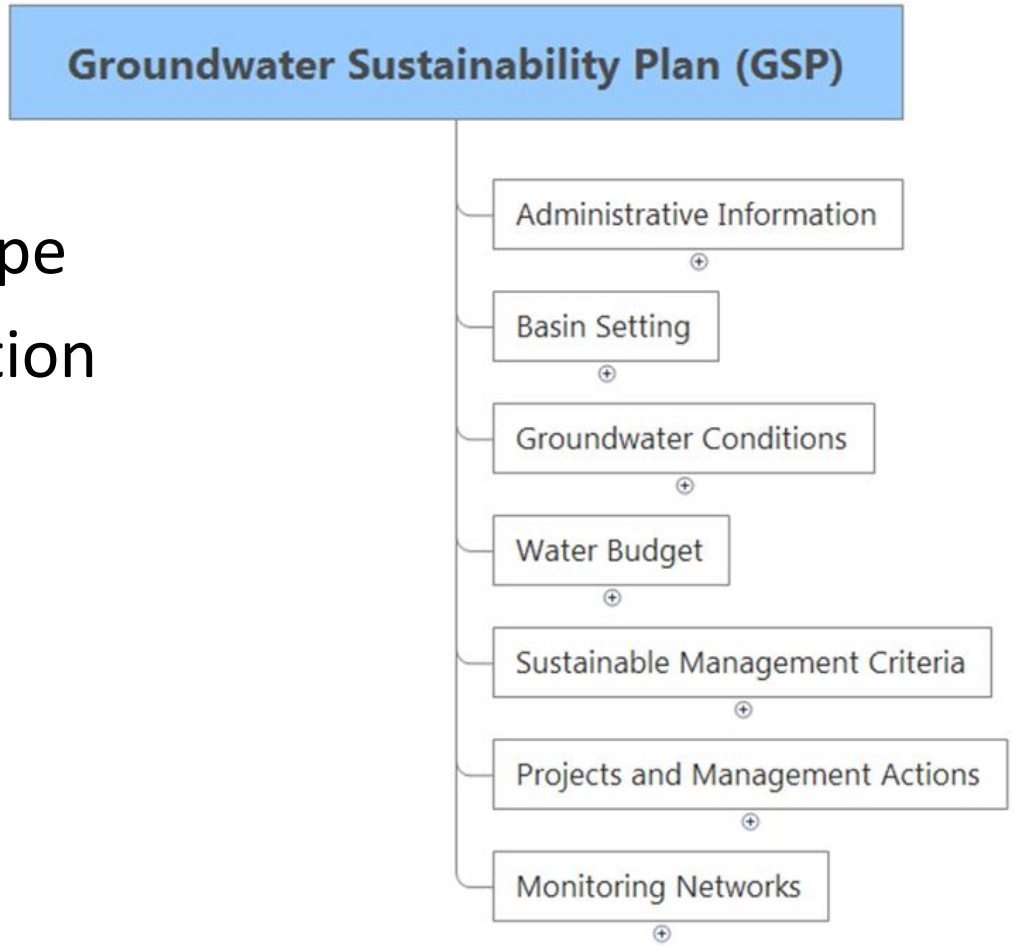
- Task 1: Project Management and Coordination
- Task 2: Grant Strategy, Eligibility, and Guideline Updates
  - Review PSP
  - Determine Eligibility
  - Recommend County-wide Strategy
- Task 3: Collect Compliance Documentation (Optional)
  - *completion of* Groundwater Management Plans
  - *inclusion in the* California Statewide Groundwater Elevation Monitoring *(CASGEM)* program
  - *completion of* Urban Water Management Plans and Agricultural Water Management Plans
  - *filing of* surface water diversion reports
  - *establishment of* water conservation (SBx7-7) targets
- Task 4: Authority Member Outreach
- Task 5: Meetings with ESJ Groundwater Authority
- Task 6: Grant Writing and Submittal

Need these a month before grant submittal

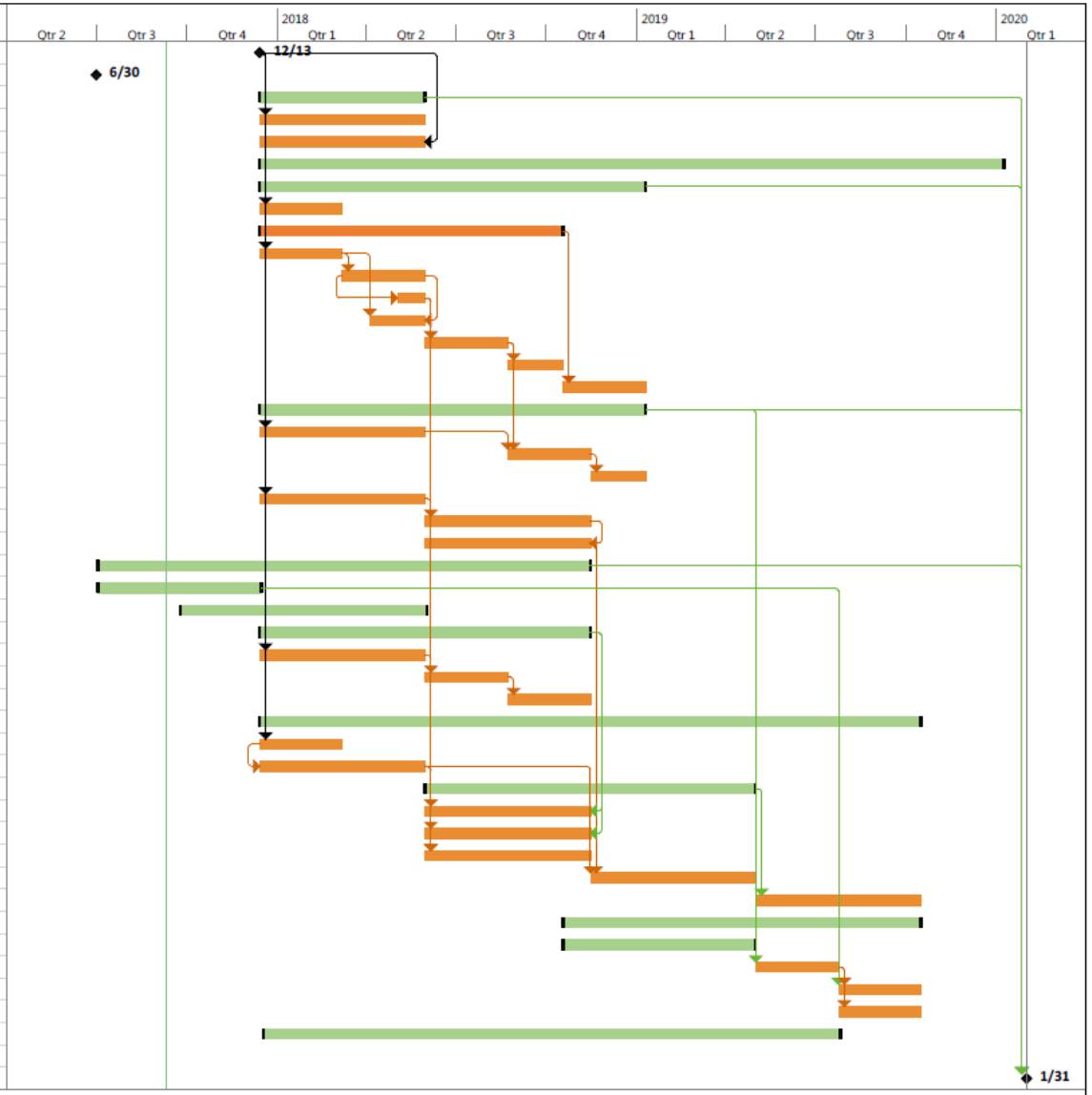
Requirements in SGMA Regulations



- Develop GSP Scope
- Prepare Application
- Submit



ID	Task Mode	Task Name
1		Approve Work Plan
2		GSAs and JPA formed
3		**ADMINISTRATIVE INFORMATION**
4		Agency Information
5		Description of Plan Area
6		**NOTIFICATIONS AND COMMUNICATIONS**
10		**BASIN SETTING**
11		Physical Setting and Characteristics
12		**Hydrogeologic Conceptual Model**
13		Physical Components
14		Regional Geologic and Structural Setting
15		Lateral Basin Boundaries
16		Definable Bottom of Basin
17		Principal Aquifers and Aquitards
18		Cross-Sections and Maps
19		Identification of Data Gaps and Uncertainty
20		**GROUNDWATER CONDITIONS**
21		Description of Current and Historical Groundwater Conditions
22		Summarize Groundwater Elevations
23		Calculate Change in Storage
24		Describe Groundwater Quality Issues
25		Describe Interconnected Surface Water Systems
26		Describe Groundwater Dependent Ecosystems
27		**WATER BUDGET**
28		**Develop Groundwater Model**
34		**Develop Historical Water Budget**
38		**Develop Projected Water Budget**
39		Estimate Future Baseline Supply, Demand and Response
40		Estimate Aquifer Response to Plan Implementation
41		Estimate Uncertainty in Supply and Response
42		**SUSTAINABLE MANAGEMENT CRITERIA**
43		Establish Sustainability Goals
44		Develop Processes and Criteria to Define Undesirable Results
45		**Establish Minimum Thresholds and Sustainability Indicators**
46		Chronic Lowering of Groundwater Levels
47		Reduction in Groundwater Storage
48		Degraded Water Quality
49		Depletions of Interconnected Surface Water
50		Define Measureable Objectives to Obtain Goals in 20 Years
51		**ESTABLISH MONITORING NETWORKS**
52		**Describe Monitoring Networks**
56		Describe Representative Monitoring
57		Assessment and Improvement of Monitoring Networks
58		Report Monitoring Data to DWR
59		**PROJECTS AND MANAGEMENT ACTIONS**
63		
64		Submit Groundwater Sustainability Plan to DWR



Key Sustainability Questions

- **Is the basin being operated sustainably?**
  Perceptions vs. reality
- **How do we know the basin is being operated sustainably?**
  How do we prove this to DWR? At what level of detail?
- **What will we do to correct any problems?**
  Implement projects? Implement management actions (e.g. pumping restrictions)?
- **How will we know if these solutions are working?**
  What are the appropriate metrics, accounting standards, monitoring programs, etc.?
- **How will we pay for sustainability?**
  Future SGMA Program costs? Revenue? From who? What funding mechanisms?

Method & Approach

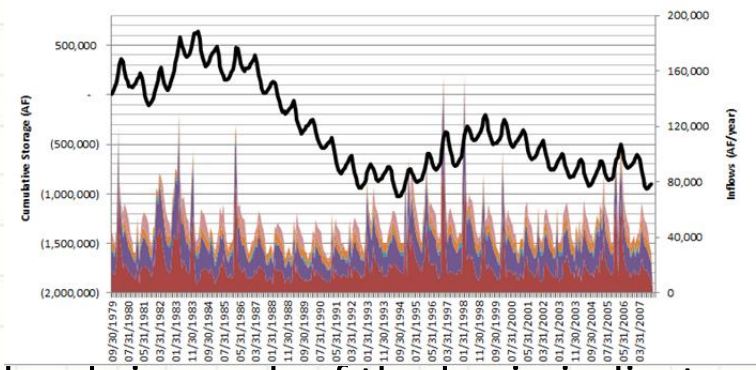
- Prop 1 GSP Grant
  - Up to $1.5M available to critically overdrafted Eastern San Joaquin Subbasin
  - 50% local cost share
  - Application due early November (early review possible)
- Need to estimate level of effort for grant work plan
- Assume $3.0M scope of work, find cost reductions
- Proposing 12 key assumptions
- Considering 7 cost reduction strategies

Key Assumptions -1

Assumptions on GSP Development Process

1. **Interactive Process**
   - Stakeholder communication and outreach will need to be intensive throughout all phases of GSP development
2. **Steady Progress**
   - A structured plan for obtaining interim agreements throughout the GSP development process is essential to meeting GSP deadlines
3. **GSA Responsibilities**
   - All GSAs will have some or all of the administration, monitoring, reporting, and enforcement responsibilities
4. **Short Implementation Horizon**
   - The GSP will achieve the sustainability goals by 2040

Key Assumptions -2



Assumptions on GSP Development Process

5. Probable Overdraft

- A reduction in storage and lowered water levels in much of the basin indicate that long-term groundwater use has been in excess of replenishment
- Recovery of water levels will require supplemental surface water supplies or pumping reductions

6. Default Solution & Surface Supply

- Absent supplemental supplies, groundwater pumping will need to be reduced
- Groundwater rechargers will be credited for existing and future recharge of surface water

7. Define Solutions & Prove They're Working

- The GSP will:
  - describe hydrologic conditions and establish goals and criteria to achieve sustainability
  - adequately define and monitor conditions to demonstrate achieving goals for the basin
  - be compatible with those of adjacent basins

Key Assumptions -3

Assumptions on GSP Development Process

8. Keep it Simple & Regional

- Water budgets will be developed and presented in the simplest form consistent with the GSP Regulations and local preference
- Simplifying assumptions should include:
  - estimating most parameters at a subbasin scale
  - applying standardized methodologies throughout the subbasin

9. Minimize Management Areas

- The number of Management Areas will be kept to a minimum
- The complexity of the water budget, Sustainability Goals, analysis and reporting will be increased by segregating the analysis into Management Areas or reporting units.

10. Consider Range of Solutions

- Sustainability solutions will consider both projects and management actions.

Key Assumptions -4

Assumptions on GSP Development Process

11. Subbasin-Wide Data Management

- A standardized Data Management System will be used in all parts of the Subbasin

12. Empirical Proof

- GSP compliance will be based on quantifiable metrics

Factors that Might Decrease or Increase the GSP Effort

1. Streamline the Stakeholder Involvement process
2. Maximize efficient use of in-kind services
3. Use updated model efforts to characterize current conditions and water budget
4. Number of Management Areas selected for the basin
5. Simplified water use accounting
6. Subbasin-wide accounting for natural recharge
7. Use representative monitoring sites

1. Streamline the Stakeholder Involvement process

- DWR is currently funding a facilitator assisting the Groundwater Authority in SGMA compliance
- Outreach and facilitation will require a coordinated team of facilitators to manage communication, education, facilitation, and documentation of decisions over the two-plus year process
- Stakeholder outreach and facilitation efforts are required in nearly all phases of GSP development
- If the Groundwater Authority membership can agree to a streamlined process for decision making, the level of effort can be reduced

2. Maximize efficient use of in-kind services

- In-kind services can be used as matching funds for the grant
- In-kind services could include staffing Authority meetings and work groups, data collection, technical writing and review
- Over the course of the project, educating new staff on the GSP process and progress may increase the level of effort required, so identifying in-kind staff likely to participate through 2020 will help moderate overall costs
- Costs since July 1, 2017 are eligible

3. Use updated model efforts to characterize current conditions and water budget

- The scope of the GSP in the grant application cannot be duplicative of existing State-funded work
- The current model update is being performed using grant funds from the Counties with Stressed Basins Grant Program
- The model will be used to characterize current groundwater conditions, and to estimate the current water budget
- Using the updated model will significantly reduce the current condition's characterization

4. Number of Management Areas

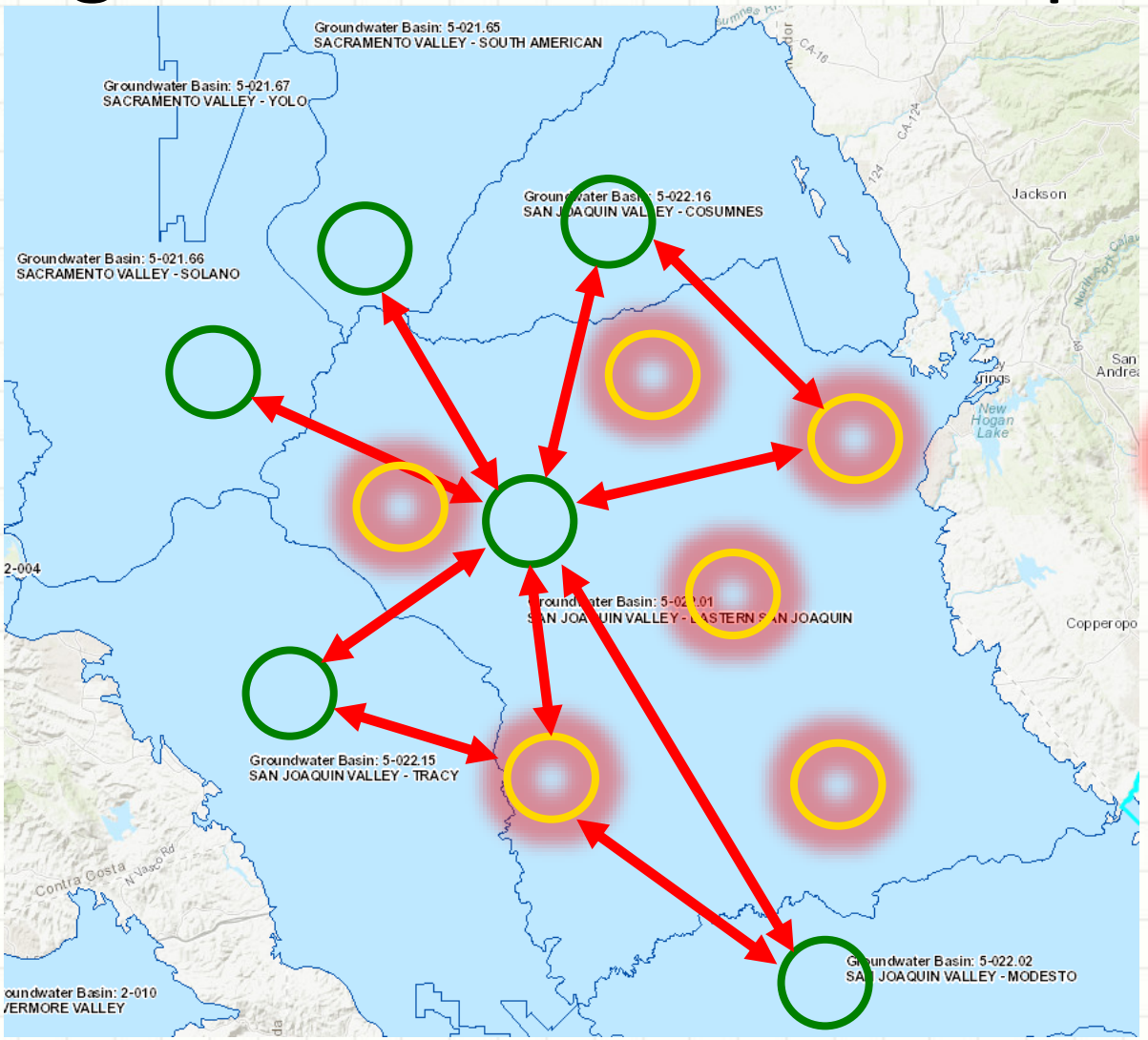
Areas to analyze Undesirable Results, establish sustainability targets, design monitoring networks, and perform water budget analysis (including flows across subbasin boundaries)

> ***23 CCR §354.34(d)-(j):***
> *(d) The monitoring network shall be designed to ensure adequate coverage of sustainability indicators. If management areas are established, the quantity and density of monitoring sites in those areas shall be sufficient to evaluate conditions of the basin setting and sustainable management criteria specific to that area.*

Options:

- Single Subbasin-wide Management Area
- Areas with Undesirable Results
  - Groundwater depletion and water quality degradation caused by movement of connate saline water. May want Management Areas in:
    - Delta margins
    - Foothill margins
- Updated model uses six reporting areas within the Subbasin, plus two reporting units to the north and to the south
- GSAs (17) may wish to be considered as Management Areas (not recommended)

Management Areas Add Complexity



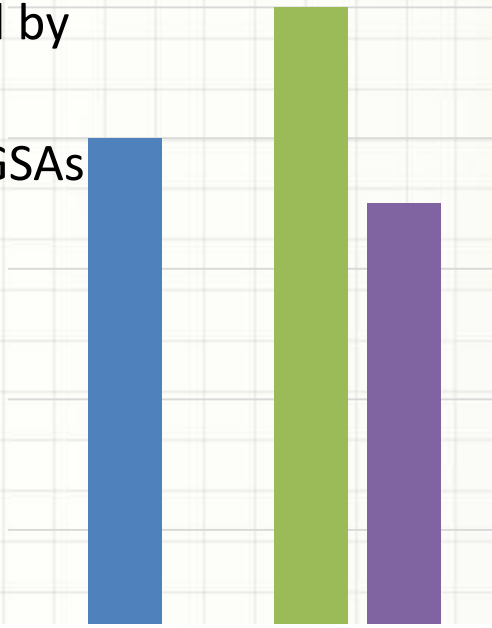
GSP

Management Area

Factors that Might Decrease or Increase the GSP Effort

5. Simplified water use accounting

- A minimum of 13 water budget parameters are required by SGMA Regulations
- Additional water budget components can be added by GSAs
  - Capture any level of complexity desired
  - If data is available (or can be acquired)
- Adding complexity where not strictly needed is not recommended



- Consider simplified accounting methods that focus on measured or easily estimated parameters
  - Similar to some adjudications
- Provide water users and GSAs the option to make more precise measurement
  - SEWD allows customers to choose between conservative approximations, or to meter extractions for a better estimate. This incentivizes metering and efficient use.

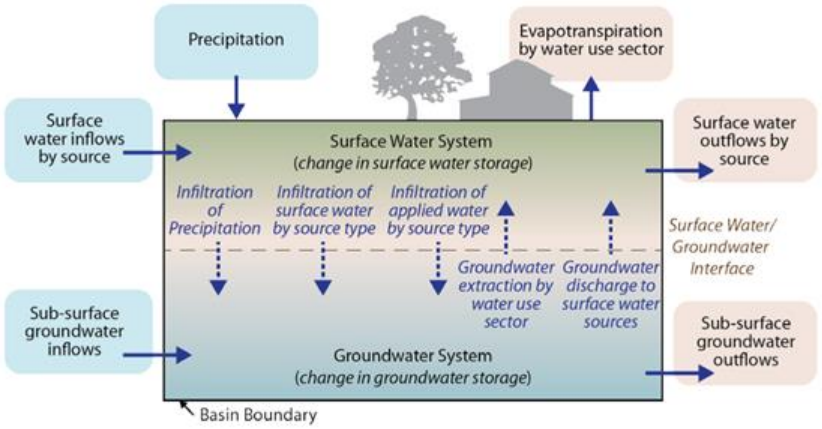


Figure 5 – Required Water Budget Components

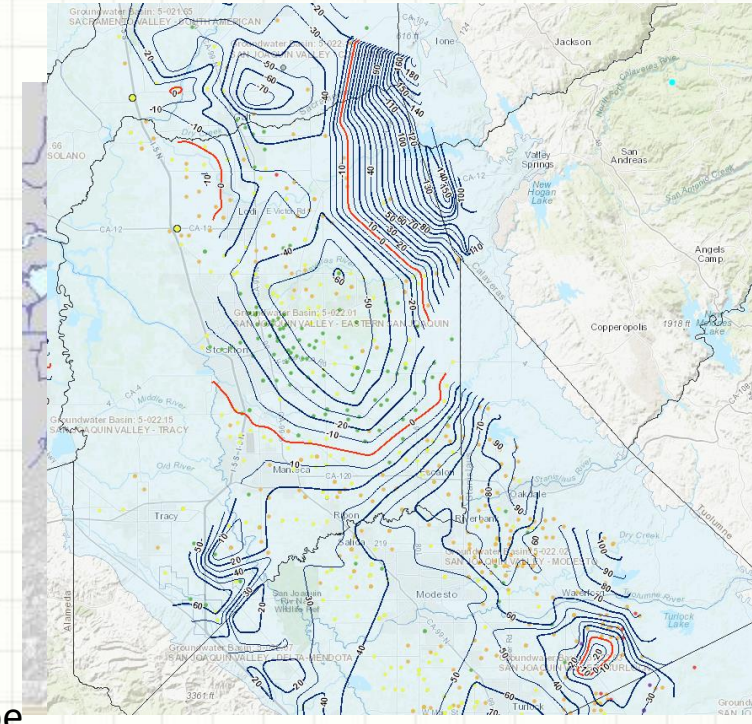
6. Subbasin-wide accounting for natural recharge

- Natural recharge includes:
  - percolation of rainfall
  - losses (or gains) to streamflow
  - mountain front recharge
  - subsurface inflow (and outflow)
- Estimating the spatial distribution of natural recharge can become quite complicated
  - e.g. infiltration of rainfall might differ by latitude, elevation, and soil type.
- Management Units can complicate the accounting
  - Underflow into (or out of) the subbasin would need to be estimated not only at the subbasin boundary, but at all boundaries of adjacent Management Units.
- It is proposed to account for natural recharge only at a subbasin-wide scale

Factors that Might Decrease or Increase the GSP Effort

7. Use representative monitoring sites

- Allowed for in SGMA
  - SGMA allows for use of carefully selected monitoring sites that are representative of water conditions within the basin
- Significantly Reduced Effort
  - Roughly 400 regularly measured wells in the basin
- Water Quality Measurements
  - Only in areas of known or suspected quality impairment
- Management Areas may increase needed monitoring
  - An adequate number of monitoring points would be needed in each Management Area to characterize each principal aquifer and the regional gradient
- Reduced effort on undesirable results and ongoing monitoring



EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

www.ESJGroundwater.org

www.GBAWater.org

www.SJWater.org

www.SJCleanWater.org

www.SJCSavewater.org

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Local Funding of Projects