
GWA
EASTERN SAN JOAQUIN
GROUNDWATER AUTHORITY
GWA Board Meeting
April 10, 2019

# Agenda

EASTERN SAN JOAQUIN GROUNDWATER AUTHORITY

- Approval of March Meeting Minutes
- Roadmap Update and Deliverables
- Water Budget Planning Estimates
  - Action: Approve Water Budget Planning Estimate
- Sustainability Indicators
  - Action: Approve Addressing all Sustainability Indicators in the GSP
- Monitoring, Measuring, and Model Refinements
  - Action: Approve Basin-scale monitoring, measuring, and model refining activities
- Project Implementation
  - Action: Approve GSA-level project development and implementation
- Outreach & Groundwater Sustainability Workgroup Update
- DWR Update
- May Agenda Items

# Roadmap Update & Deliverables

# GSP Topics & Project Schedule

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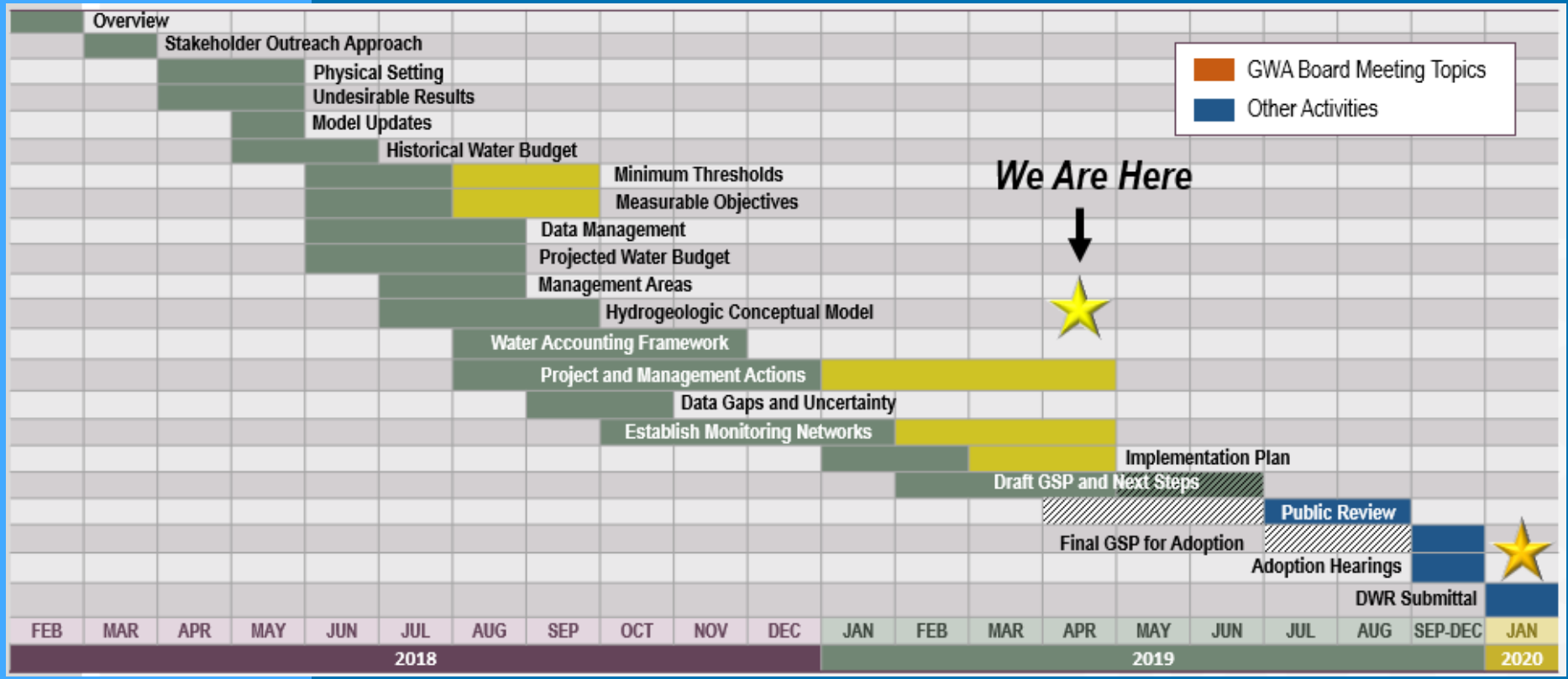

# Staff Workshop on Sustainability Management Criteria

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**GSA Staff Workshop 4/3**

**Objectives:**

- Go over the details of the sustainable management criteria and projects and management actions
- Identify policy decisions related to minimum thresholds, measurable objectives, monitoring network, and projects and management actions to be brought to Advisory Committee
- These topics will be presented to the GWA Board in May

# Water Budget Planning Estimates

# What is Sustainable Yield?

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over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing an undesirable result."

California Water Code Section 10721

## Undesirable Results:

- Chronic Lowering of Groundwater Levels
- Reduction in Groundwater Storage
- Seawater Intrusion
- Degraded Water Quality
- Land Subsidence
- Depletion of Interconnected Surface Water

# Sustainable Yield Modeling

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- **Modeling Objective:** Understand how much pumping reduction would be required to eliminate overdraft if no new SGMA projects are implemented
- **Modeling Process:** Develop a scenario that reflects a soft transition to no long-term annual change in GW storage over the Projected Conditions at Buildout
  - Land Use and Cropping Pattern: Lower groundwater production through reduced agricultural acreage/demand of all crops
  - Urban Demand: Reduce urban GPCD
  - Assume same reduction between ag and urban demand

# Model Sensitivity Analysis

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| Component | Uncertainty |
|---|---|
| Deep Percolation | 20% |
| Stream Seepage | 15% |
| Other Recharge | 5% |
| Groundwater Pumping | 20% |
| Boundary Flow | 10% |

# Water Budget Comparison
# Optimized GW Pumping Reduction

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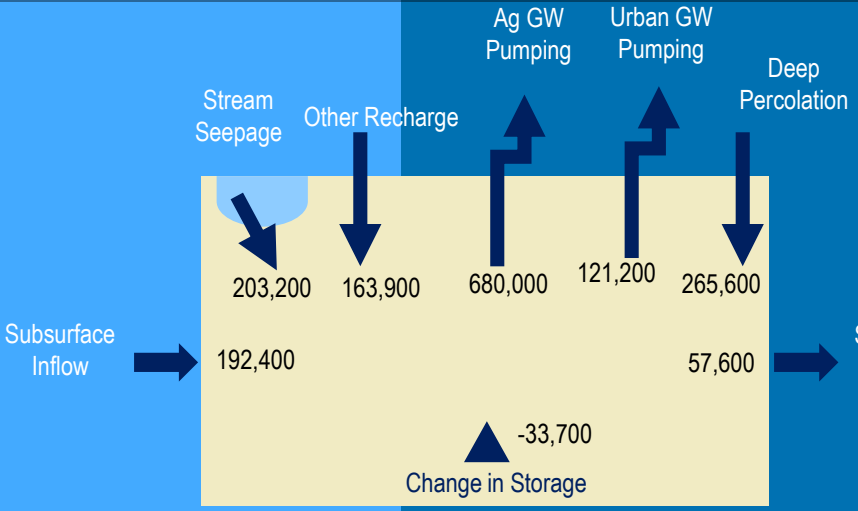
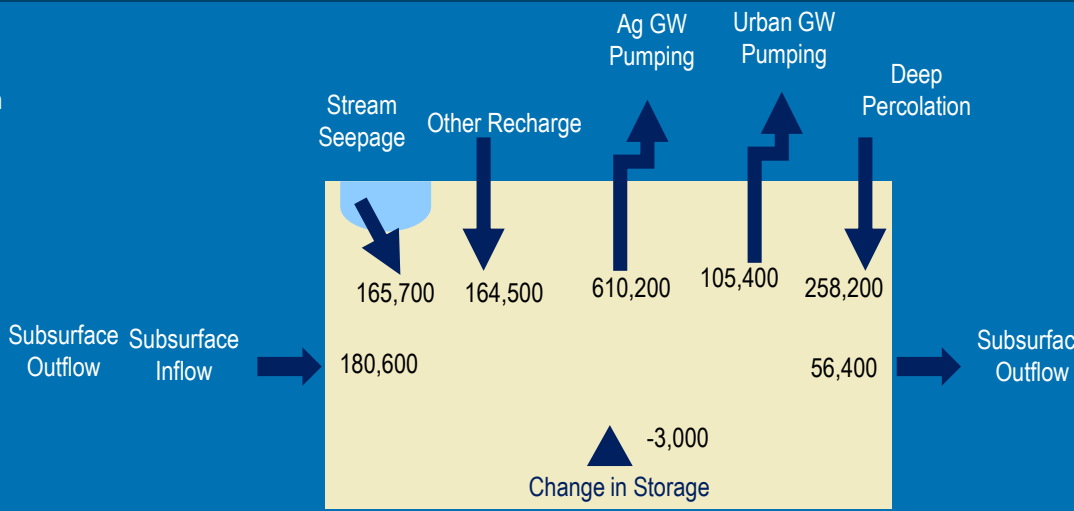



## Projected Conditions




## Sustainable Yield: Optimized GW Pumping Reduction

**Note:** All flows are rounded annual averages in acre-feet per year (AFY)

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# Sustainable Yield Results

## Optimized GW Pumping Reduction

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**Projected GW Storage Deficit: 33,700 AFY**

| | Average Conditions | Recommendation (Low-End Estimate) |
|---|---|---|
| **Projected GW Pumping** | **801,200** | **728,400** |
| Ag Pumping | 680,000 | 618,200 |
| Urban Pumping | 121,200 | 110,200 |
| **Sustainable GW Pumping** | **715,600** | **650,500** |
| Ag Pumping | 610,200 | 554,700 |
| Urban Pumping | 105,400 | 95,800 |
| **Actions / Projects Size to Achieve Sustainability** | **85,600** | **80,000** |

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# GW Sustainability Options

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1. Pumping Reduction Uniformly Basin-wide
   - Ag Land Reduction by about 10%
   - Urban GW use Reduction by about 10%

2. Pumping Reduction Under Optimized Conditions
   - Ag Land Reduction by about 15%
   - Additional Urban Conservation about 10%

# Water Budget Planning Estimates

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Action Needed: Approve the following planning assumption in GSP development:

**Groundwater Pumping Offset Needed to Meet Sustainable Conditions:**

- Low-End Estimate (80,000 AFY)

Topic was discussed by the Advisory Committee at the March 13th and April 10th meetings.

# Sustainability Indicators

# Overview of Six Sustainability Indicators

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- Chronic Lowering of Groundwater Levels
- Reduction in Groundwater Storage
- Seawater Intrusion
- Degraded Water Quality
- Land Subsidence
- Depletion of Interconnected Surface Water

# Recommendation Summary

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Address all six sustainability indicators in detail with thresholds and objectives:

- Chronic lowering of groundwater levels
- Degraded water quality
- Depletion of interconnected surface waters
- Seawater intrusion
- Reduction in groundwater storage
- Land Subsidence

# Action Item

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Action Needed: Approve addressing the six sustainability indicators in the GSP with minimum thresholds and measurable objectives.

Recommendation was made by the Advisory Committee at the March 13 meeting.

# Monitoring, Measuring and Model Refinements

# Monitoring, Measuring, and Model Refinements

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- Monitoring and reporting
- Data collection and analysis
- Administrative actions
- 5-year update
- DMS updates
- Public outreach
- Website maintenance
- Legal support
- Grant writing

# Recommendation Summary

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Recommendation: Monitoring and measuring for thresholds (including groundwater levels and groundwater quality) continue to be at the Subbasin scale as opposed to the local GSA scale. Model refinements will be needed with increased monitoring information coming in and further detail into refining water budgets for future project information. It is recommended these elements take place at the Subbasin level and a financing plan for conducting these activities be developed with appropriate cost share allocations after the final GSP is approved.

# Action Item

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Action Needed: Approve conducting monitoring, measuring, and modeling at the basin-scale subject to a financing plan that will be developed after the GSP is approved.

Recommendation was made by the Advisory Committee at the March 13 meeting.

# Project Implementation

# Project Implementation: Discussion

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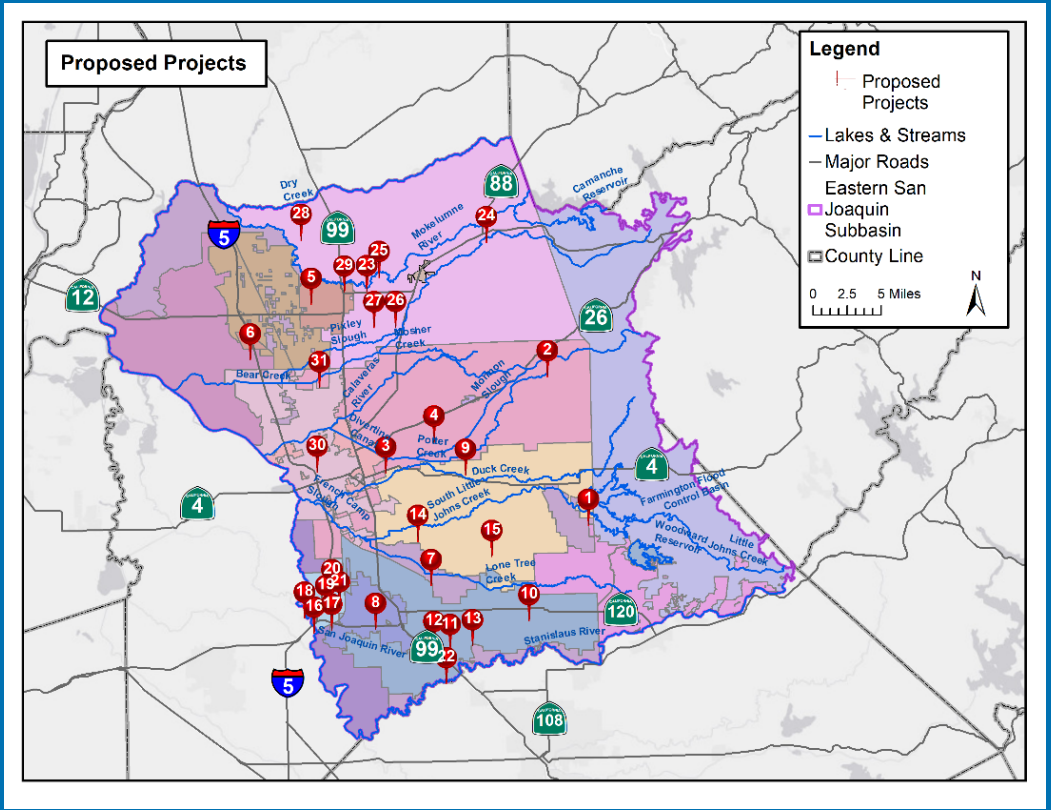

# Recommendation

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Recommendation: That projects in the GSP Implementation Plan be developed and implemented at the GSA level. This allows for GSAs to lead projects in their area and have full responsibility and authority regarding those projects as they typically do as an agency. GSAs with projects in the GSP may work with additional parties in the development of their projects.

# Project Implementation

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Action Needed: Approve development and implementation of projects in the GSP Implementation Plan at the GSA level, with the option for GSAs with projects in the GSP to work with additional parties in the development of their projects.

Recommendation was made by the Advisory Committee at the March 13 meeting.

# Outreach & Groundwater Sustainability Workgroup Update

# Groundwater Sustainability Workgroup Update

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- 6 Workgroup members and 4 members of the public attended the Groundwater Sustainability Workgroup meeting held on March 13th
- The next Workgroup meeting will be held on April 10th at 4:00pm at the San Joaquin County Public Works Department
- Notes from Workgroup meeting are available on the website, esjgroundwater.org (under ‘Agendas’ tab)
- Workgroup focused on review of potential GDE areas and marking up maps of potential GDEs

# Groundwater Sustainability Workgroup Update

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1810 E. Hazelton Avenue
P. O. Box 1810
Stockton, CA 95201

(209) 468-3089
ESJgroundwater@sjgov.org
esjgroundwater.org

Eastern San Joaquin Groundwater Authority Groundwater Sustainability Workgroup
April 10, 2019
4 – 5:30 p.m.
San Joaquin County Public Works Department
1810 E. Hazelton Ave., Stockton, CA
Conference Room A

Agenda

I. Welcome

II. Meeting Objectives

III. Interconnected Surface Water

- Discussion: Identification of current or historical undesirable results

IV. Sustainability Indicators (Seawater Intrusion, Storage, Subsidence)

- Presentation and Discussion: Walk through Minimum Thresholds and Measurable Objectives for a subset of sustainability indicators

V. Monitoring Network

- Presentation and Discussion: Understand and review the proposed monitoring network

VI. Announcements

VII. Other Topics
a. Non-agenda Items
b. Public Comment

# DWR Update

# May Agenda Items

# May Agenda Items

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- Date change TBD
- Sustainability Indicators
- Monitoring Network
- GDEs


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