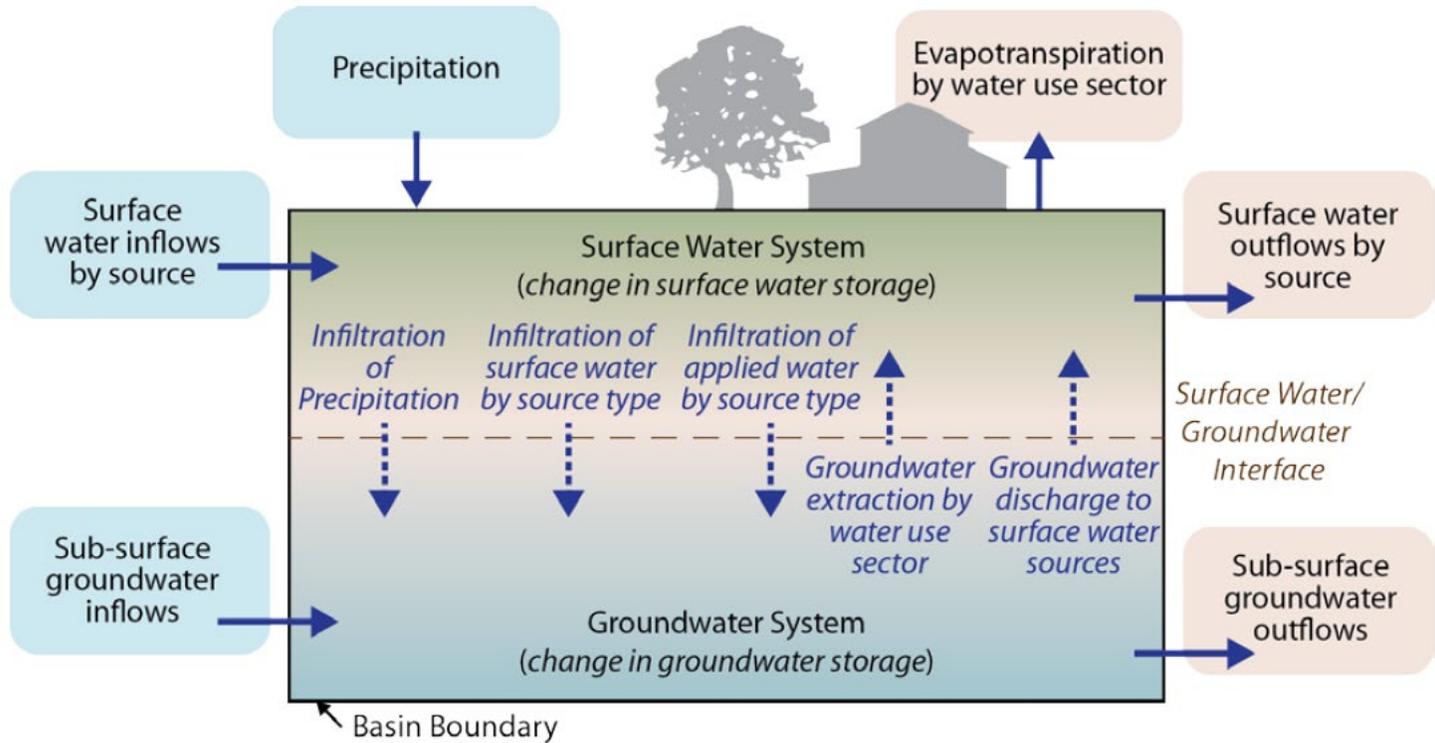
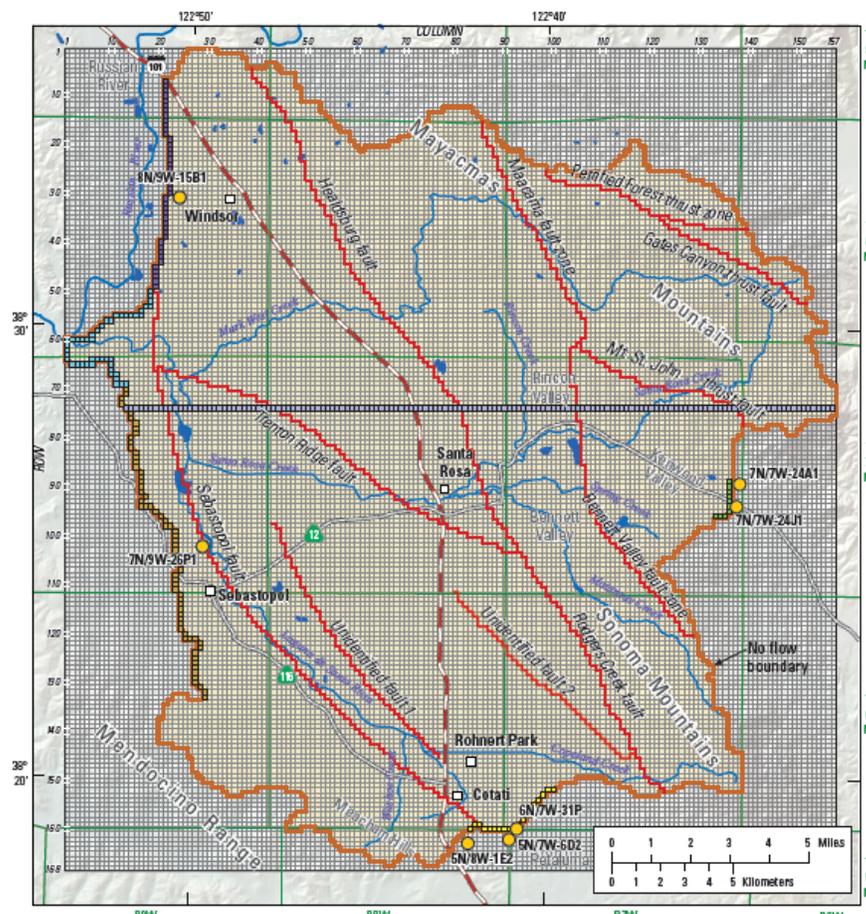


# Water Budget and Model Status Update 11/18/19



From: Water Budget BMP, California Department of Water Resources, 2016



- EXPLANATION**
- Santa Rosa Plain hydrologic model cells**
    - Active model cell
    - Inactive model cell
    - Cells along layer profile shown in figure C-2
  - General-head boundary cells**
    - Russian River
    - Russian River to Wilson Grove
    - Wilson Grove
    - Cotati
    - Kenwood
  - Simulated horizontal-flow barrier in model**
  - Santa Rosa Plain watershed and hydrologic-model boundary**
  - Well used to define general-head boundary water levels** (e.g., 5N/8W-1E2)

# Planned Use of SRPHM for GSP Development

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- Help develop Historic, Current, and Future Water Budgets
- Support Sustainable Management Criteria Development
- Evaluate projects and management actions against Sustainable Management Criteria
- Identify/Evaluate Potential Management Areas Within the Basin

# Initial Recommendations for Refinements/Modifications

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1. Improve Accuracy of Rural Pumping Estimation
  - Incorporate locally derived crop coefficients for dominant crop types to account for local conditions and irrigation practices such as regulated deficit irrigation for vineyards
  - Rural residential demand: revisit demand assumptions used, incorporate seasonal variabilities
  - Re-assess spatial distribution of pumping simulated by model
2. Evaluate and Consider Incorporation of Return Flows to Shallow Groundwater
  - System losses (e.g. pipe leakage), irrigation return flows past root zone, septic system return flows

# Tentative Planned Model Revisions Workflow

Release SRPHM 1.0+	Work on SRPHM 2.0 – collaborate with GSP Modeling Team		Finalize SRPHM 2.0 – publically release new model
<ol style="list-style-type: none"> <li>1. Revise crop demand inputs               <ol style="list-style-type: none"> <li>a. Update with most recent land use</li> <li>b. Replace crop coefficients</li> </ol> </li> <li>2. Run crop demand calculator and verify pumping estimates</li> <li>3. Refine rural residential demand               <ol style="list-style-type: none"> <li>a. Utilize parcel-based approach</li> </ol> </li> <li>4. Include return flows?</li> <li>5. Check overall model calibration, recalibrate if needed</li> </ol>	<p><b><i>Q1: GSP Model ready</i></b></p> <p><u>Water Budget</u></p> <ol style="list-style-type: none"> <li>1. Summarize historical and current water budgets</li> <li>2. Develop climate change inputs</li> <li>3. Develop projected model</li> </ol> <p><u>Run Future Scenarios to Iteratively Evaluate:</u></p> <ol style="list-style-type: none"> <li>1. Sustainable Management Criteria</li> <li>2. Projects and Actions</li> </ol>		<ol style="list-style-type: none"> <li>1. Finalize Future Scenarios for SMCs and Projects and Actions</li> <li>2. Start implementing SRPHM 2.0 for GSP 5-yr update</li> </ol>
Input on model assumptions/updates	Input on climate future, land use and future scenarios		Input on final scenarios and model plans for GSP implementation
<b>2019</b>	<b>2020</b>		<b>2021/2022</b>

# Discussion/Questions?

# Iterative Path Forward to Sustainable Management Criteria Development & GSP Preparation

## Broad Understanding

- Basin Conditions
- GSP Terminology
- GSP Concepts
- Unacceptable Conditions
- Desirable Conditions

**Fall 2019/Winter 2020**

## Initial Design

- Initial Minimum Thresholds
- Initial Measurable Objectives
- Projects & Mgmt Actions
- Scenario Modeling

**Winter/Spring 2020**

## Stepwise and Iterative Process

- May require multiple iterations

## Refinement

- Refine Minimum Thresholds
- Refine Measurable Objectives
- Initial Interim Milestones
- Refine Projects & Actions
- Scenario Modeling

**Spring 2020-Winter 2021**

## Final Design

- Final Minimum Thresholds
- Final Measurable Objectives
- Final Interim Milestones
- Final Projects & Actions
- Scenario Modeling

**Winter-Summer 2021**

# Santa Rosa Plain Groundwater Sustainability Plan

## First Draft Groundwater Sustainability Goal

### Background Information on Sustainability Goal Requirements from DWR's November 2017 Draft Best Management Practices

#### SGMA REQUIREMENT TO QUANTIFY SUSTAINABILITY

As described in SGMA, sustainable conditions within a basin are achieved when GSAs meet their sustainability goal and demonstrate the basin is being operated within its *sustainable yield*. Sustainable yield can only be reached if the basin is not experiencing undesirable results.

#### SUSTAINABILITY GOAL

The sustainability goal should succinctly state the GSA's objectives and desired conditions of the groundwater basin, how the basin will get to that desired condition, and why the measures planned will lead to success.

GSA's should consider the following when developing their sustainability goal:

- **Goal description.** The goal description should qualitatively state the GSA's objective or mission statement for the basin. The goal description should summarize the overall purpose for sustainably managing groundwater resources and reflect local economic, social, and environmental values within the basin.
- **Discussion of measures.** The sustainability goal should succinctly summarize the measures that will be implemented. This description of measures should be consistent with, but may be less detailed than, the description of projects and management actions proposed in the GSP. Examples of measures a GSA could implement include demand reduction and development of groundwater recharge projects. The goal should affirm that these measures will lead to operation of the basin within its sustainable yield.
- **Explanation of how the goal will be achieved in 20 years.** The sustainability goal should describe how implementation of the measures will result in sustainability. For example, if the measures include demand reduction and implementation of groundwater recharge projects, then the goal would explain how those measures will lead to sustainability (e.g., they will raise groundwater levels above some threshold values and eliminate or reduce future land subsidence).

Note that most of the sustainability goal can only be finalized after minimum thresholds and undesirable results have been defined, projects and management actions have been identified, and the projected impact of those projects and management actions on groundwater conditions have been evaluated. Therefore, completion of the sustainability goal will likely be one of the final components of GSP development.

## **Santa Rosa Plain Groundwater Sustainability Plan First Draft Groundwater Sustainability Goal**

### **The 2014 Santa Rosa Plain Watershed Groundwater Management Plan Goal:**

“Locally manage and protect groundwater resources by a balanced group of stakeholders through non-regulatory measures to support all beneficial uses, including human, agriculture, and ecosystems, in an environmentally sound, economical, and equitable manner for present and future generations.”

### **Proposed First Draft SRP GSA Groundwater Sustainability Plan Sustainability Goal:**

Sustainably manage, protect and enhance groundwater resources through a diverse portfolio of projects and management actions that ensure clean and plentiful groundwater for all beneficial uses and users, including human, agriculture, and ecosystems, in an environmentally sound, economical, and equitable manner for present and future generations.

## Santa Rosa Plain Groundwater Sustainability Agency

### Advisory Committee Feedback: Sustainable Management Criteria

#### Summary of Initial Feedback

At its September meeting, the Advisory Committee provided feedback to staff on Sustainable Management Criteria.

Name	Stakeholder Group Represented	Comments
Bob Anderson	Agricultural	May need management areas with minimum thresholds for each
Sebastian Bertsch	Environmental	What is the overall goal? Concerned that 2015 baseline is arbitrary and shouldn't be a benchmark. It is too low. Sustainability goals should relate to functionality
Jennifer Burke	City of Santa Rosa	Outreach will be key. Is three an opportunity for all three basins to develop minimum thresholds for all three basins? (Common minimum thresholds?) At some point in the process, the GSAs should meet and discuss.
Rue Furch	Environmental	Want to achieve sustainability in a real way. 2015 baseline is not useful. Want to be sure that GSA is coordinating with county, cities, planning commission, NCRWQCB and others re population growth and land use.
Joe Gaffney	Business community	Sustainability is only until 2042. The population growth in the cities won't have as big an effect.
Mary Grace Pawson	City of Rohnert Park	RP had to do a mini-exercise 20 years ago and was able to model sustainability pumping rate. Through conservation and conjunctive use was able to achieve sustainability. Scaling up is exciting, and it's a reasonable goal with the right tools. Hopes that everyone can agree that the minimum should be compliance.
Matt O'Conner	Gold Ridge RCD	Undesirable results and measurable objects need a compilation of data. It appears there is flexibility in setting the base year.