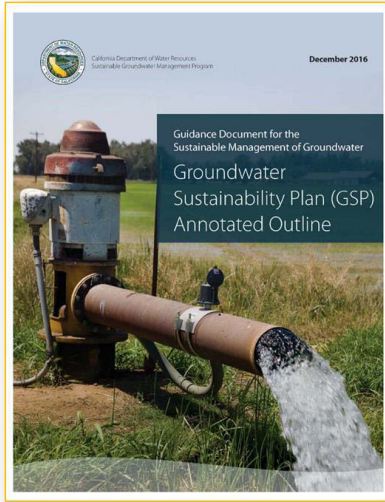


# Orientation to Groundwater Sustainability Plan Development



Petaluma Valley  
Groundwater Sustainability Agency  
Advisory Committee  
January 10, 2018

Marcus Trotta, PG, CHg  
Principal Hydrogeologist  
Sonoma County Water Agency



# Presentation Overview

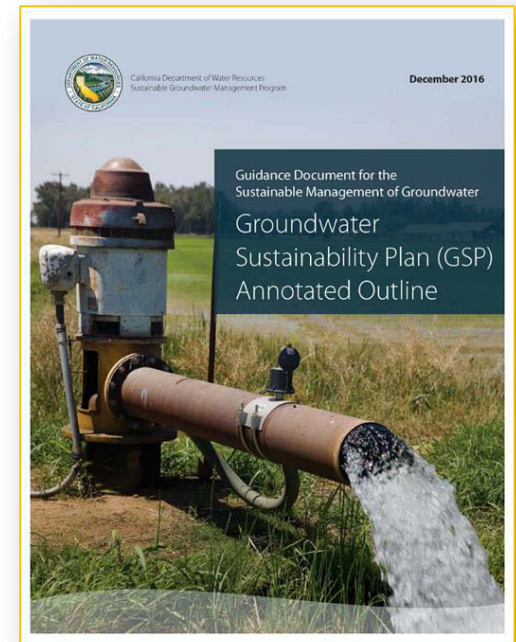
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1. Groundwater Sustainability Plan Requirements
2. GSP Grant Application Work Plan
3. Proposed Schedule/Next Steps
4. Questions & Discussion

# Groundwater Sustainability Plan Requirements

- DWR developed requirements and regulations – 2016
  - Describe who you are and the basin's geology and hydrogeology
  - Describe how you will define and measure sustainability
  - Identify programs and projects that get you to sustainability
  - Implementation information
- Ongoing development of Best Management Practices and Guidance Documents by DWR

<http://www.water.ca.gov/groundwater/sgm/gsp.cfm>



# Plan Area and Basin Setting

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## Plan Area

Largely organizational information

- Maps of cities and towns
- Land use
- Well density
- Existing groundwater management activities
- Existing general plans

## Basin Setting

Largely technical section

- Geology
  - At least 2 geologic cross-sections per basin
- Historical and current groundwater conditions and budgets
  - Groundwater recharge
  - Groundwater pumping
  - Change in storage
  - Estimate of Sustainable Yield
- Future groundwater budget
  - Include effects of climate change
- Existing monitoring programs

# Sustainable Management Criteria

Avoid “significant and unreasonable” ***undesirable results*** for the following six ***sustainability indicators***:



Lowering  
GW Levels



Reduction  
of Storage



Seawater  
Intrusion



Degraded  
Quality



Land  
Subsidence

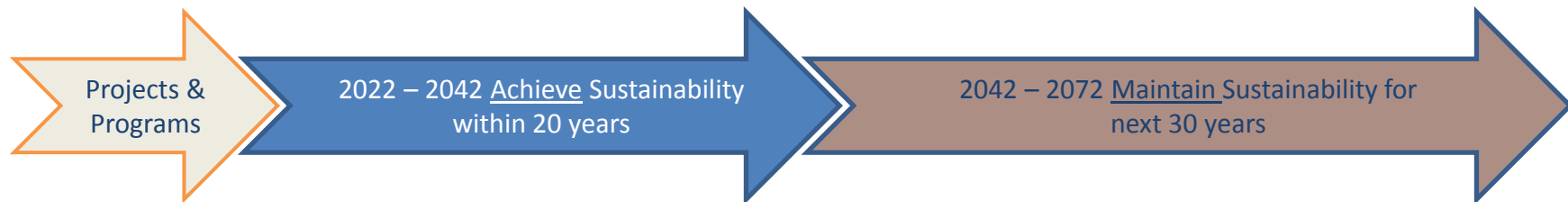


Surface Water  
Depletion

- Define basin-wide ***undesirable results*** for each applicable sustainability indicator (e.g., groundwater-levels will not fall below x% of well screens)
- Set ***measurable thresholds*** and ***measurable objectives*** for each sustainability indicator
- Iterative process that will require significant stakeholder and community input

# Project and Management Actions

- Evaluate and select projects and actions that will achieve sustainability in 20 years (e.g., recycled water, stormwater recharge, groundwater banking, demand management, etc.)
- Demonstrate sustainability will be maintained for 30 years thereafter
- Agree on how to fund these programs
- Backup or supplemental plans may be needed if preferred projects and programs are not adequate



# Phased Approach to GSP Development in the Petaluma Valley

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Seven General Phases following DWR's GSP Regulations

- I. Prepare and Submit Initial Notification of GSP Preparation**
- II. Define Plan Area and Basin Setting**
- III. Develop Sustainable Management Criteria**
- IV. Design Sustainability Progress Monitoring Program**
- V. Identify and Evaluate Proposed Project and Management Actions**
- VI. Develop GSP Implementation Costs, Detailed Schedule, and Reporting**
- VII. Compile Complete GSP and Prepare for Adoption**

Will be developed through iterative process with input from Advisory Committee, GSA Board and community members

# GSP Work Plan Objectives

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- **Meet SGMA requirements** - establish criteria and management actions to achieve and maintain sustainable groundwater.
- **Build on strong technical foundation** established through previous technical studies.
- **Provide opportunity for significant public and community engagement** and integrate the perspectives and address the needs of the many diverse users and uses of groundwater resources within the basin.
- **Leverage local resources** through continued regional coordination and information sharing.



# Key Data Needs and Challenges

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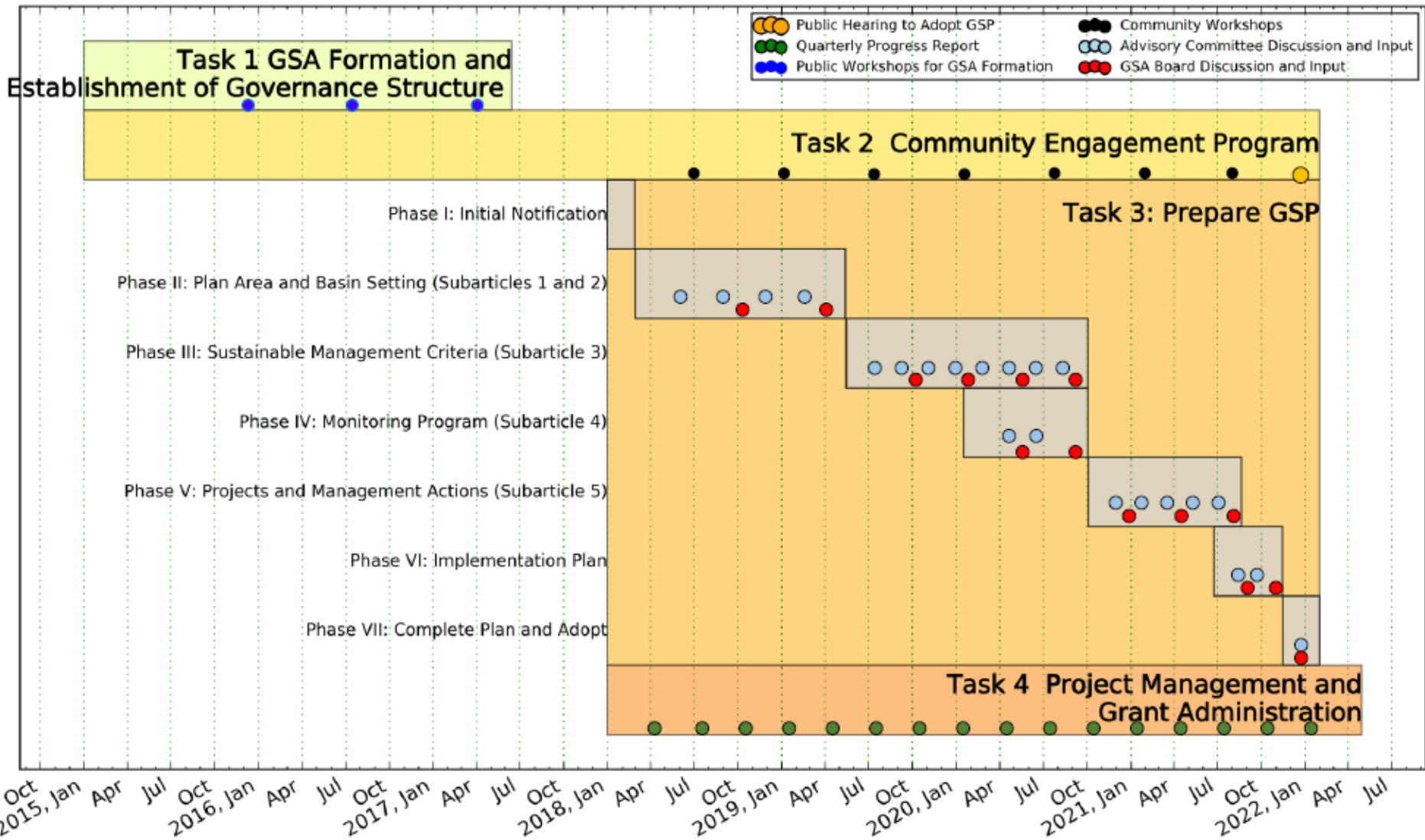
- **Improved water use estimates** for rural groundwater users (rural domestic and agriculture), which comprise the majority of the total groundwater use.
- **Depth-dependent water level and water quality data** to improve understanding of the hydrogeology and better define relationships between the shallow and deeper aquifer systems.
- **Improved information is needed about well location, lithology and construction** to better understand Basin hydrogeology and improve the groundwater model.
- **Additional modeling of future projected conditions** that simulate the impacts of climate change, land use changes, hydrology, and changes in demands.

# Key Data Needs and Challenges

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- **More information to address potential depletion of interconnected surface water from groundwater pumping**
- **Identifying undesirable results** as defined in SGMA and **establishing quantifiable thresholds.**
- Informing stakeholders and the public about groundwater management in Petaluma Valley will require **extensive public outreach and community engagement.**

# Proposed Schedule for GSP Development



# Proposed Budget for GSP Development

## Prop 1 Grant Application

<b>Project Title:</b> Petaluma Valley Groundwater Sustainability Plan Project						
Project serves the need of a DAC?: <b>Yes</b>						
Cost Share Waiver request?: <b>Yes</b>						
Tasks		Requested Grant Amount	(a)	(b)	(c)	(d)
			Historical Cost Share: Non-State Fund Source	Future Cost Share: GSA-Funded	Total Cost Share	Total Project Cost
<b>Task 1</b>	<b>Formation of GSA &amp; Establishment of Governance Structure</b>					
<b>Task 2</b>	<b>Public Outreach/Community Engagement</b>	<b>\$182,204</b>				<b>\$ 182,204</b>
<b>Task 3</b>	<b>GSP Development</b>	<b>\$817,976</b>		\$ 61,828	<b>\$ 61,828</b>	<b>\$ 879,624</b>
	<i>Phase I - Prepare and Submit Initial Notification of GSP Preparation</i>	<i>\$3,264</i>				<i>\$ 3,264</i>
	<i>Phase II - Define Plan Area and Basin Setting</i>	<i>\$204,242</i>		\$ 61,828		<i>\$ 266,070</i>
	<i>Phase III - Develop Sustainable Management Criteria</i>	<i>\$221,830</i>				<i>\$ 221,830</i>
	<i>Phase IV - Design Sustainability Progress Monitoring Program</i>	<i>\$159,810</i>				<i>\$ 159,810</i>
	<i>Phase V - Identify and Evaluate Projects and Management Actions</i>	<i>\$120,500</i>				<i>\$ 120,500</i>
	<i>Phase VI - Develop GSP Implementation Program, Costs, Detailed Schedule and Reporting</i>	<i>\$68,610</i>				<i>\$ 68,610</i>
	<i>Phase VII - Compile Complete GSP for Adoption by GSA</i>	<i>\$39,540</i>				<i>\$ 39,540</i>
<b>Task 4</b>	<b>Project Management &amp; Grant Administration</b>			\$ 35,680	<b>\$ 35,680</b>	<b>\$ 35,680</b>
	<b>Grand Total</b>	<b>\$ 1,000,000</b>		\$ 97,508	<b>\$ 97,508</b>	<b>\$ 1,097,508</b>

# Next Steps

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## January/February:

- **Prepare Notice of Intent to Develop GSP and Submit to DWR**

## February/March:

- **Learn status of Grant Application Awards from DWR**
- **Develop Detailed Schedule/Activities for initial draft GSP sections (Plan Area and Basin Setting, including Hydrogeologic Conceptual Model and Groundwater Conditions)**
- **Begin drafting initial GSP sections/materials**

## April/May:

- **Advisory Committee begin review of initial draft GSP sections/materials**

# Questions and Discussion

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<http://www.sonomacountygroundwater.org>