

Initiation of Groundwater Sustainability Plan for Santa Rosa Plain

**Regional Water Quality Control Board
North Coast Region**

May 17, 2018

Item 5

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Presentation Overview

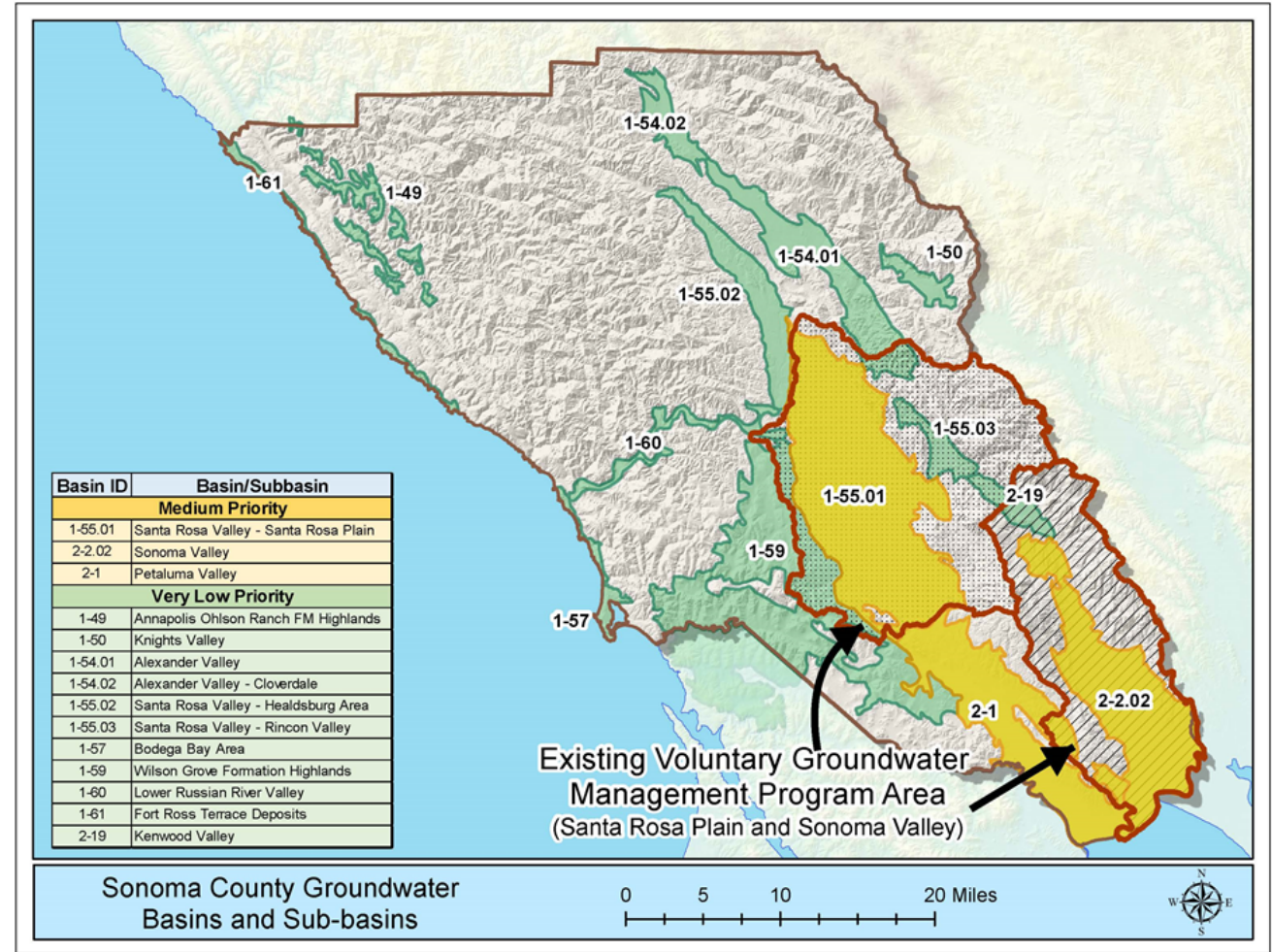
1. Background
2. Groundwater Sustainability Plan (GSP) Requirements
3. Planned Approach to Develop GSP in the Santa Rosa Plain
4. Proposed Schedule/Next Steps
5. Questions & Discussion

Sustainable Groundwater Management Act (SGMA)

Became law on
January 1, 2015

Applies statewide to
medium and high
priority basins

In Sonoma County,
affects Santa Rosa
Plain Subbasin,
Sonoma Valley
Subbasin, Petaluma
Valley Basin

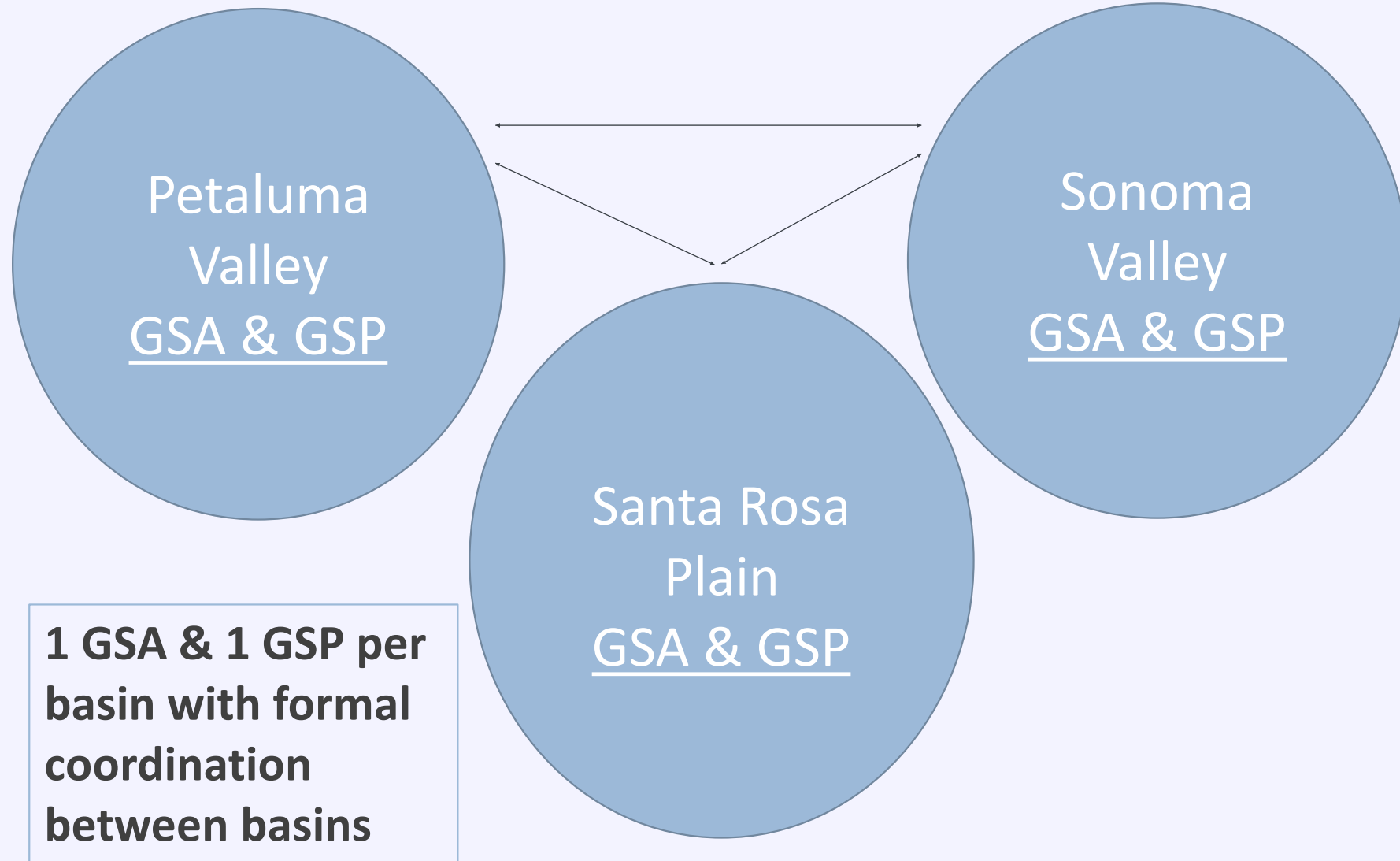


Required Steps to Groundwater Sustainability



Failure to meet any of these deadlines triggers intervention by the State Water Resources Control Board

Groundwater Sustainability Agency (GSA) Framework Structure



Local Implementation: GSA Member Agencies

PETALUMA VALLEY	SANTA ROSA PLAIN	SONOMA VALLEY
City of Petaluma	City of Cotati	City of Sonoma
North Bay Water District	City of Rohnert Park	Valley of the Moon Water District
County of Sonoma	City of Santa Rosa	North Bay Water District
Sonoma County Water Agency	Town of Windsor	County of Sonoma
Sonoma Resource Conservation District	County of Sonoma	Sonoma County Water Agency
	Sonoma County Water Agency	Sonoma Resource Conservation District
	Sonoma Resource Conservation District	
	Gold Ridge Resource Conservation District	
	Independent Water Suppliers	

Advisory Committees

Advise GSA Board on:

- Development and implementation of Groundwater Sustainability plan
 - Sustainability goals, measurable thresholds and objectives
 - Technical and reporting standards
 - Monitoring programs
 - Modeling activities
 - Project and management actions
 - Annual work plans and reports
- Community Outreach
- Fee proposals
- Local Regulations to implement SGMA
- Inter-basin coordination
- General advisory

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

Plan Area

Largely organizational information

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

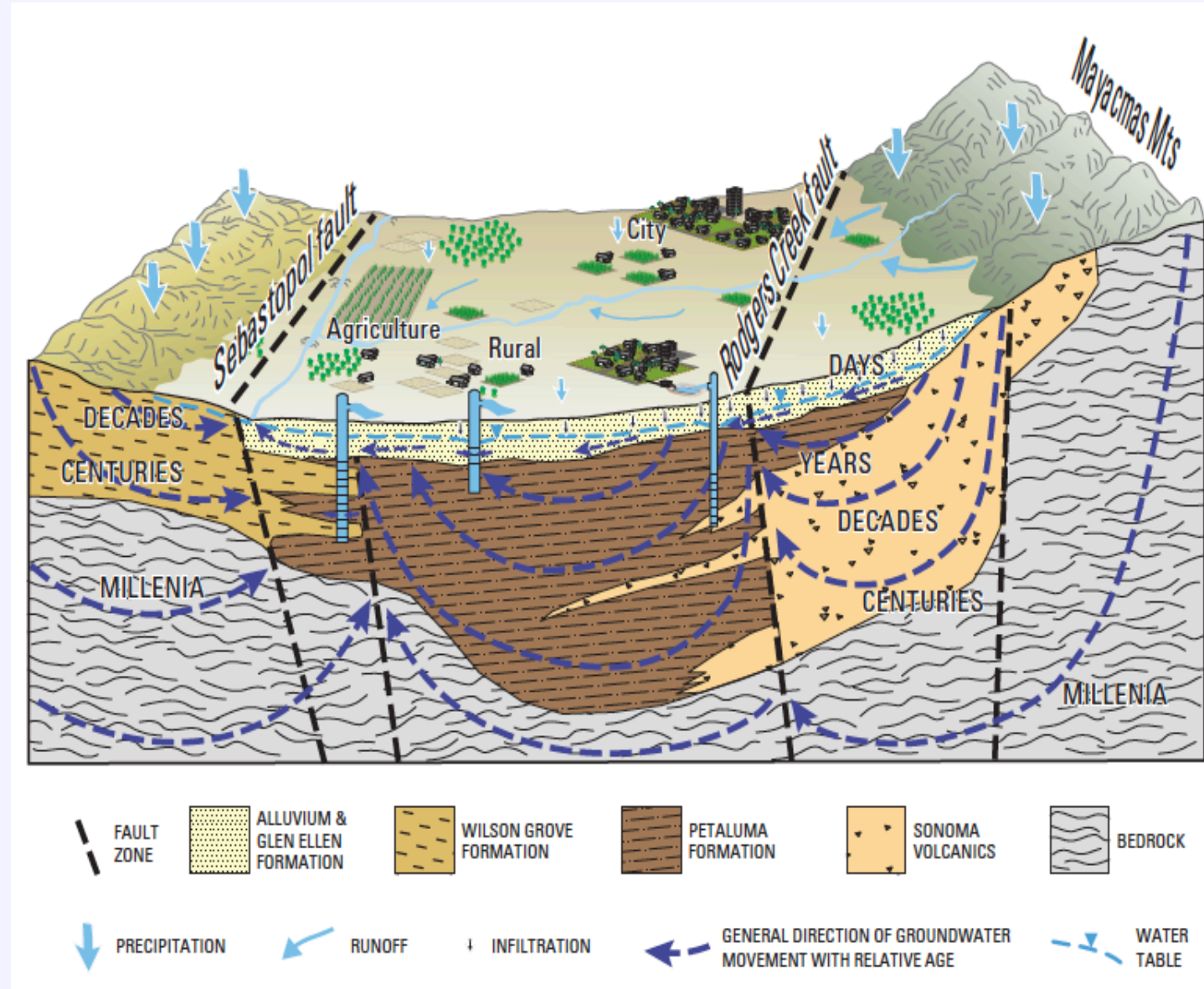
Basin Setting

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

Conceptual Model

- Precipitation and streambed infiltration primary source of recharge
- Primary discharge:
 - Pumping
 - Evapotranspiration
 - Baseflow
- Dominantly flows east to west
- Imbalance in the amount of inflows and outflows to the basin - could be exacerbated by future climate change.
- Historical areas of groundwater-level decline largely recovered due to replacing some groundwater use with surface water and recycled water supplies and conservation.



New Requirements vs Existing Information:

Plan Area and Basin Setting Example - Groundwater Conditions

Example of Required GSP Component*	Information available from existing GMP or studies	Additional GSP Requirements
Groundwater Conditions	Description of groundwater elevation trends over time, groundwater elevation hydrographs and contour maps, groundwater quality data.	Annual and cumulative change in groundwater storage based on groundwater-level changes, description and map of known groundwater contamination sites and plumes, rates and map of land subsidence (as applicable) identification of interconnected surface waters and groundwater dependent ecosystems and estimates on timing and quantity of stream depletions.

*Represents one of many required GSP components

Sustainable Management Criteria

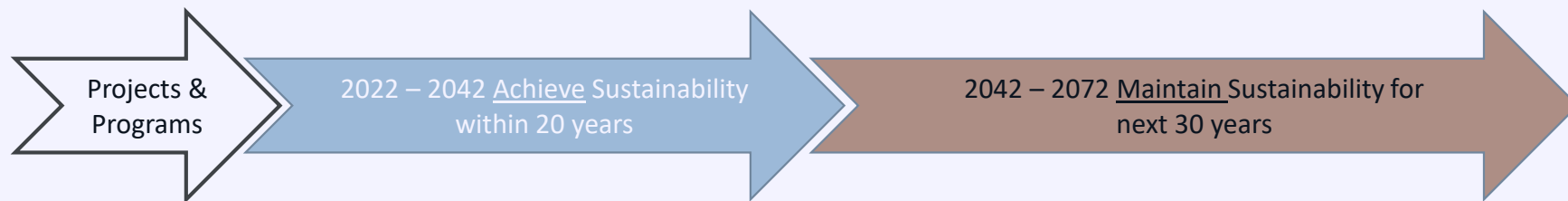
Avoid “significant and unreasonable” *undesirable results* for the following six *sustainability indicators*:



- 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
- Agree on how to fund these programs
- Backup or supplemental plans may be needed if preferred projects and programs are not adequate



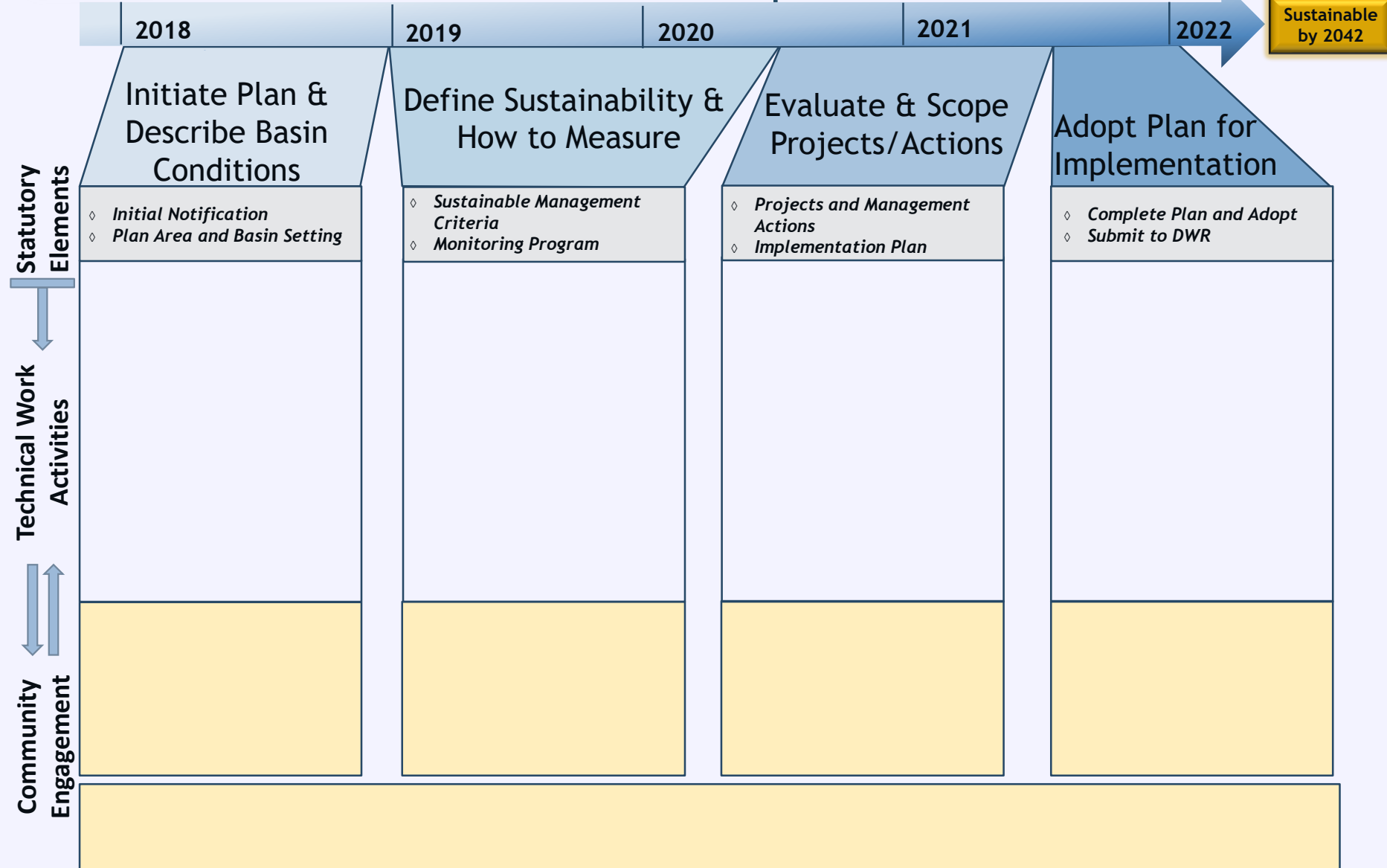
GSP Work Plan Objectives

- **Meet SGMA requirements** - establish criteria and management actions to achieve and maintain sustainable groundwater.
- **Build on strong technical foundation** established through previous technical studies and voluntary groundwater management activities.
- **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.

GSP Initiation
March 2018

Process for Santa Rosa Plain GSP Development

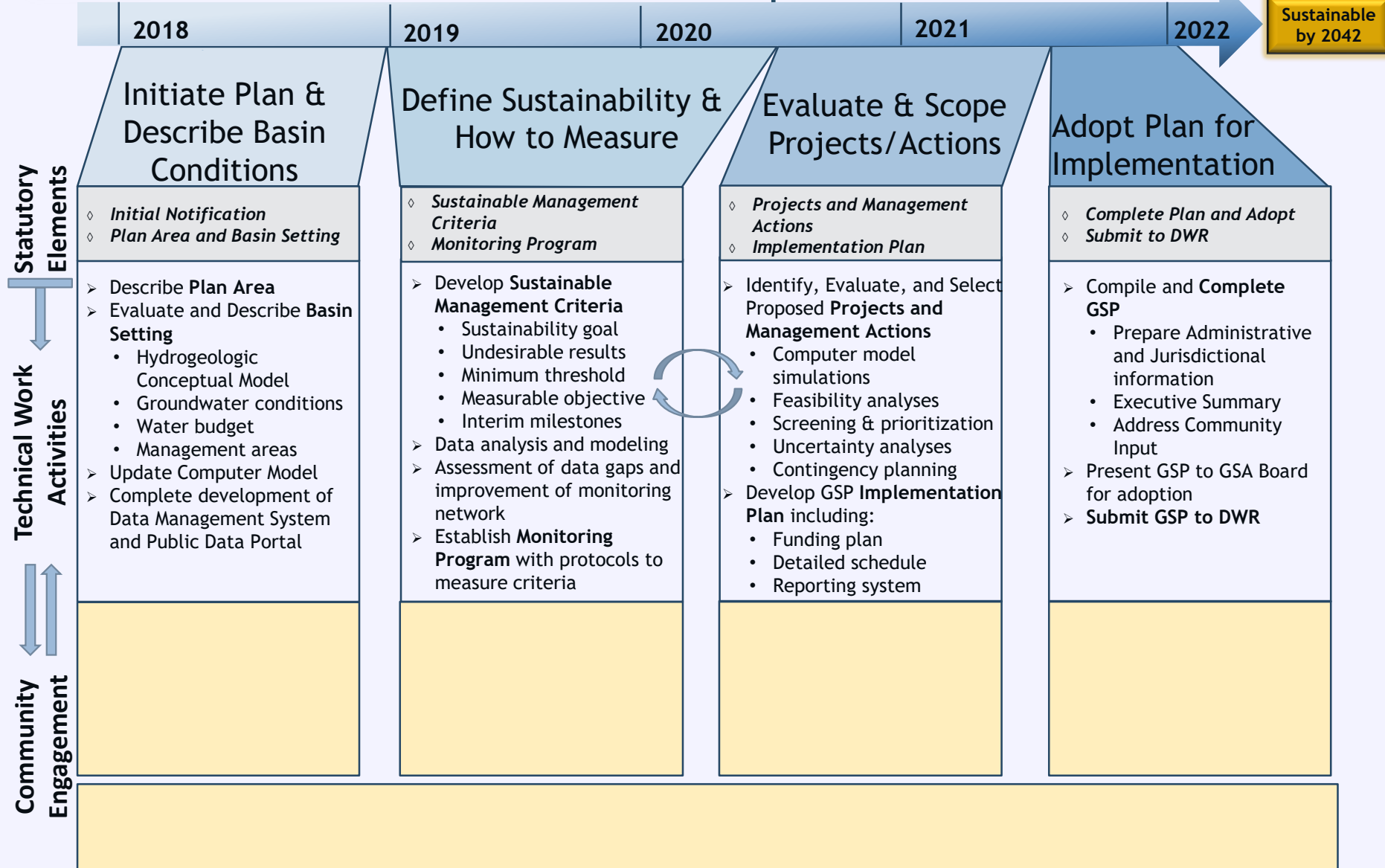
GSP submittal
January 2022



GSP Initiation
March 2018

Process for Santa Rosa Plain GSP Development

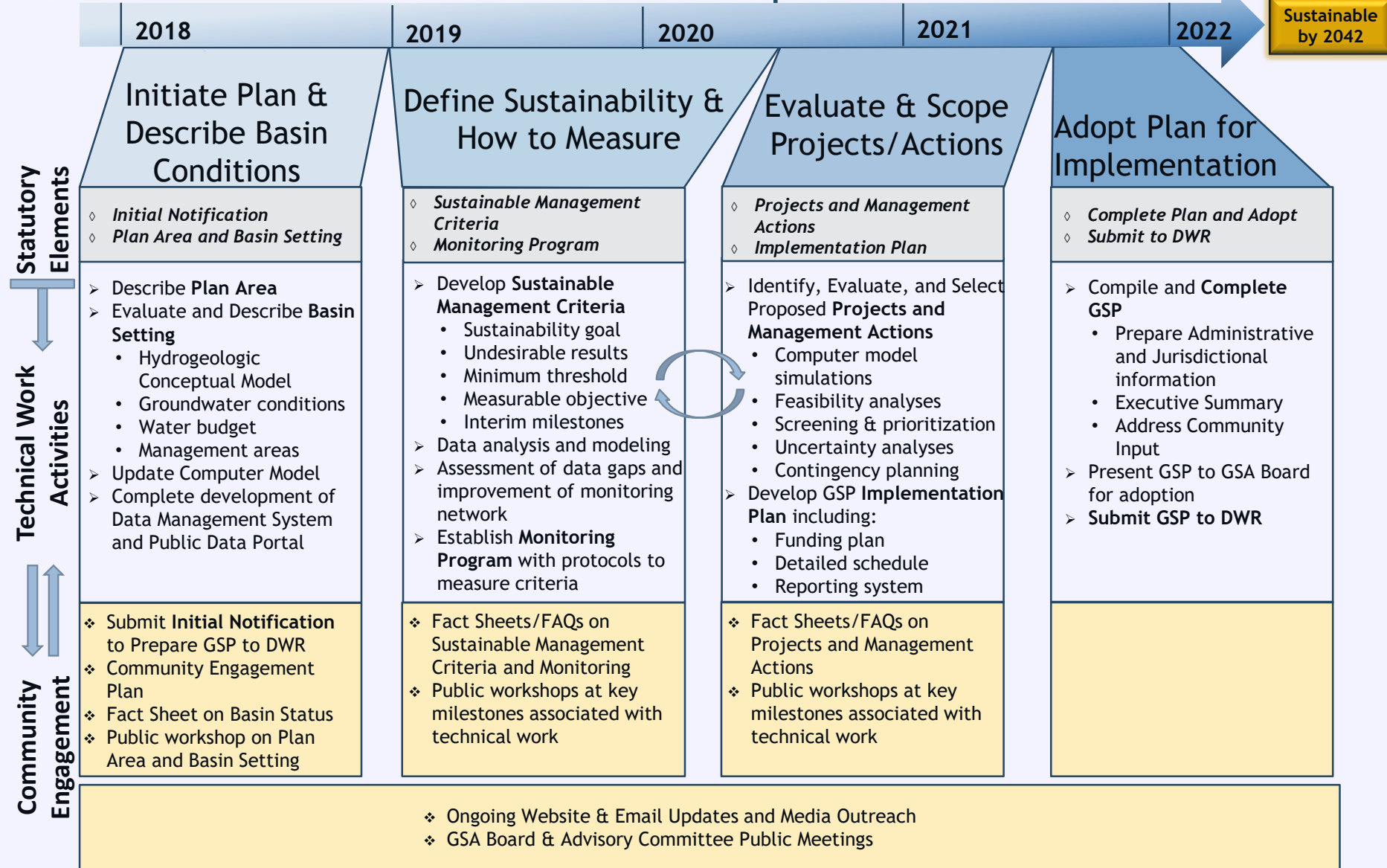
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Process for Santa Rosa Plain GSP Development

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Key Data Needs and Challenges

- **Improved water use estimates** for rural groundwater users (rural domestic and agriculture), which comprise an estimated 80% 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

- **More information to address potential depletion of interconnected surface water from groundwater pumping** – unique challenge for Santa Rosa Plain due to strong interconnection between surface water and groundwater and the many related policies, regulatory programs and diverse interests.
- **Identifying undesirable results** as defined in SGMA and **establishing quantifiable thresholds.**
- Transitioning from a voluntary groundwater management plan to a new plan with regulatory authority will require **extensive public outreach and community engagement.**

Next Steps

Summer 2018

- Contracting with DWR for grant funding
- Plan Area Information
 - Land Use and Well Density Maps
 - Summary of local land use planning
- Review of Hydrogeologic Conceptual Model (HCM) requirements
- Input on HCM and Groundwater Conditions materials, including
 - Geologic cross sections
 - Groundwater level contour maps and hydrographs
 - Maps of interconnected surface water and groundwater-dependent ecosystems
 - Groundwater quality information

Fall/Winter 2018

- Hydrogeologic Conceptual Model and Groundwater Conditions
- Review of Water Budget components and discussion of uncertainty
- Input on Water Budget materials and assumptions
 - Water demands
 - Historical, baseline and projected water budget calculations/simulations
- Recommendations on Management Areas

Questions and Discussion



<http://www.sonomacountygroundwater.org>