

Santa Rosa Plain Draft Groundwater Sustainability Plan

November 9, 2021

City Council of Santa Rosa

Peter Martin, Deputy Director Water Resources



SANTA ROSA PLAIN
GROUNDWATER
SUSTAINABILITY AGENCY



OUR FUTURE IN EVERY DRÖP

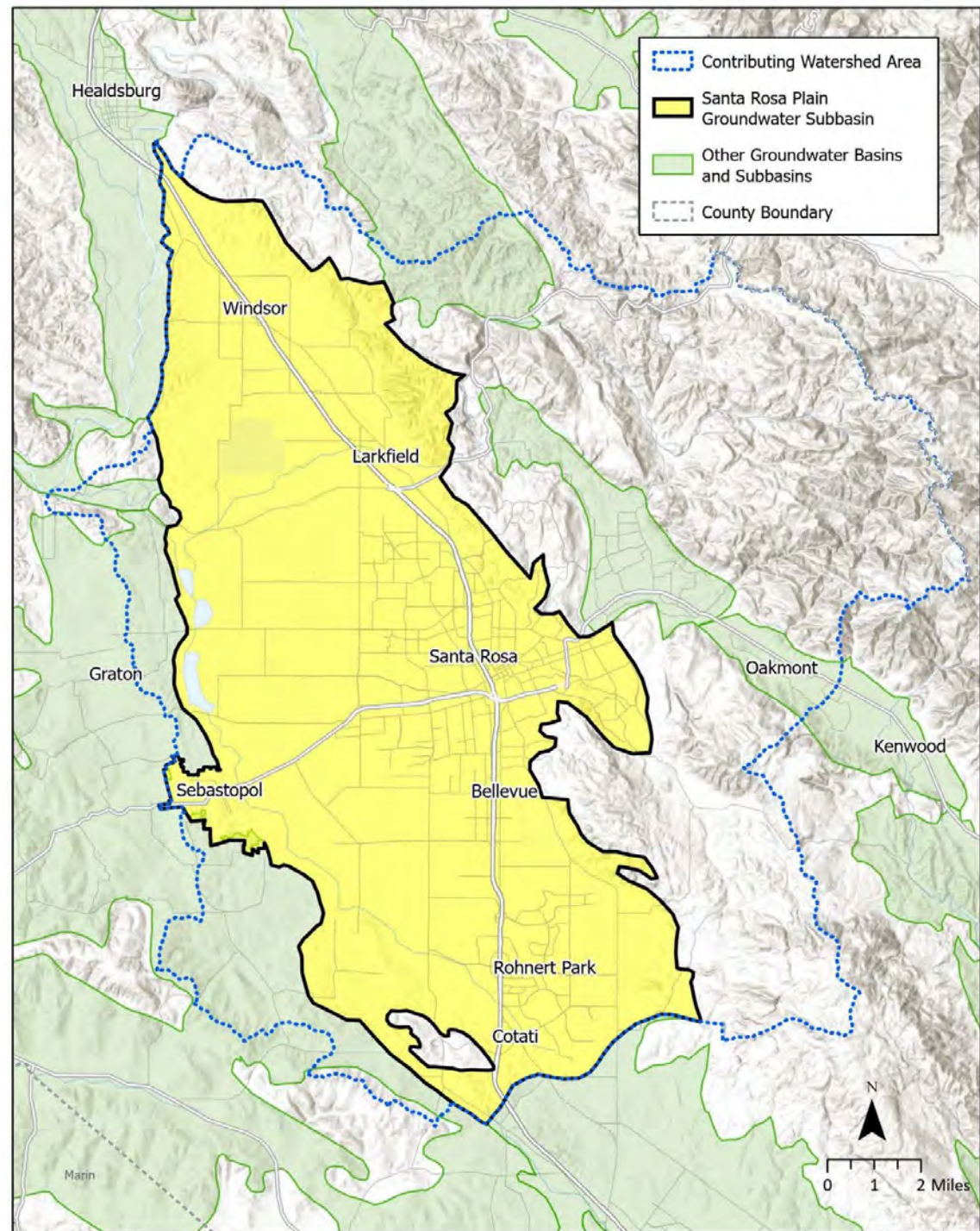
Presentation Outline

- Sustainable Groundwater Management Act (SGMA) Requirements
- Overview of the Santa Rosa Plain Groundwater Sustainability Agency
- Draft Groundwater Sustainability Plan Elements
- Public Input Process
- Next steps

What does SGMA Require?

- New law effective January 1, 2015.
- Groundwater Sustainability Agencies (GSAs) must be formed and prepare and submit Groundwater Sustainability Plans (GSPs) by:
 - January 2020, for critically overdrafted basins
 - January 2022, for remaining high and medium priority basins
- GSPs must include measurable objectives and milestones in increments of five years to achieve sustainability within 20 years of GSP adoption
- GSP Development must be open and transparent

Where is the Santa Rosa Plain Groundwater Sustainability Agency Boundary?



SANTA ROSA PLAIN Groundwater Sustainability Agency

Santa Rosa Plain GSA Governance



Required steps to achieving Sustainability



GSP Elements

Basin Setting and
Aquifer Description

Sustainability
Indicators &
Objectives

Groundwater
Sustainability Plan

Projects and
Management Actions

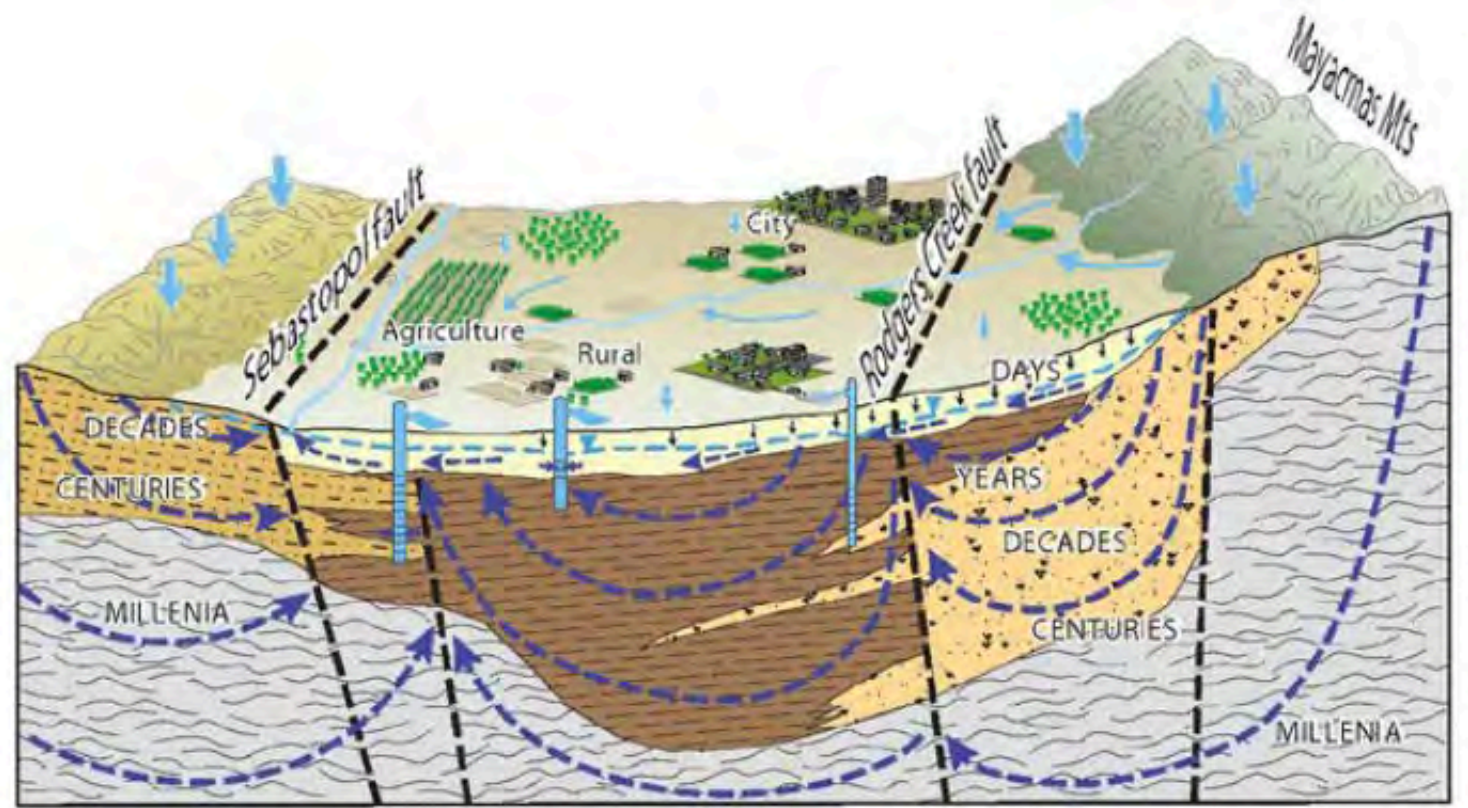
Monitoring Plan

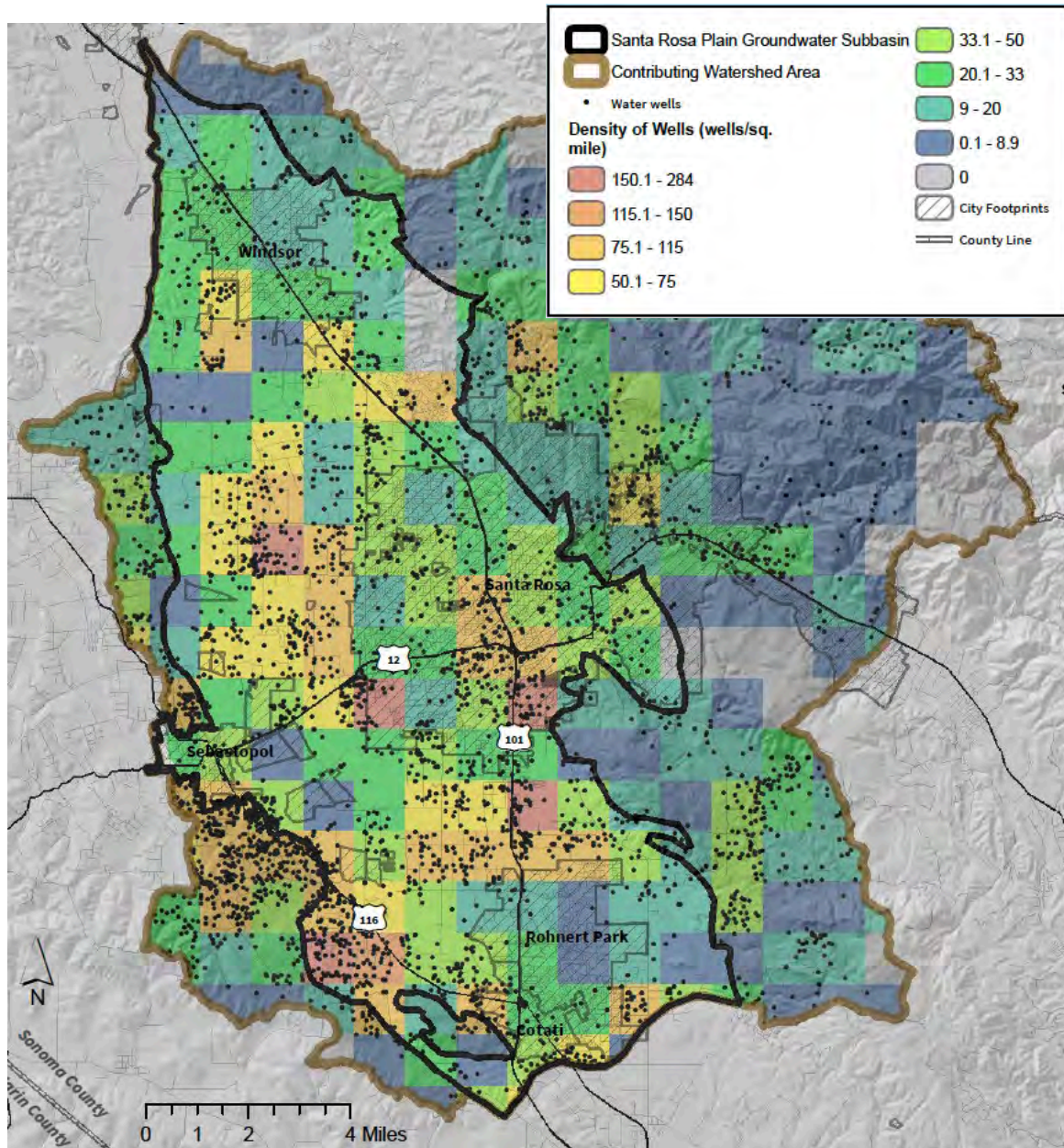
Basin and Aquifer Description

- Geology and groundwater in the basin is complex
- Faults and geology affect groundwater occurrence and flow directions
- Land uses can affect water quantity and quality

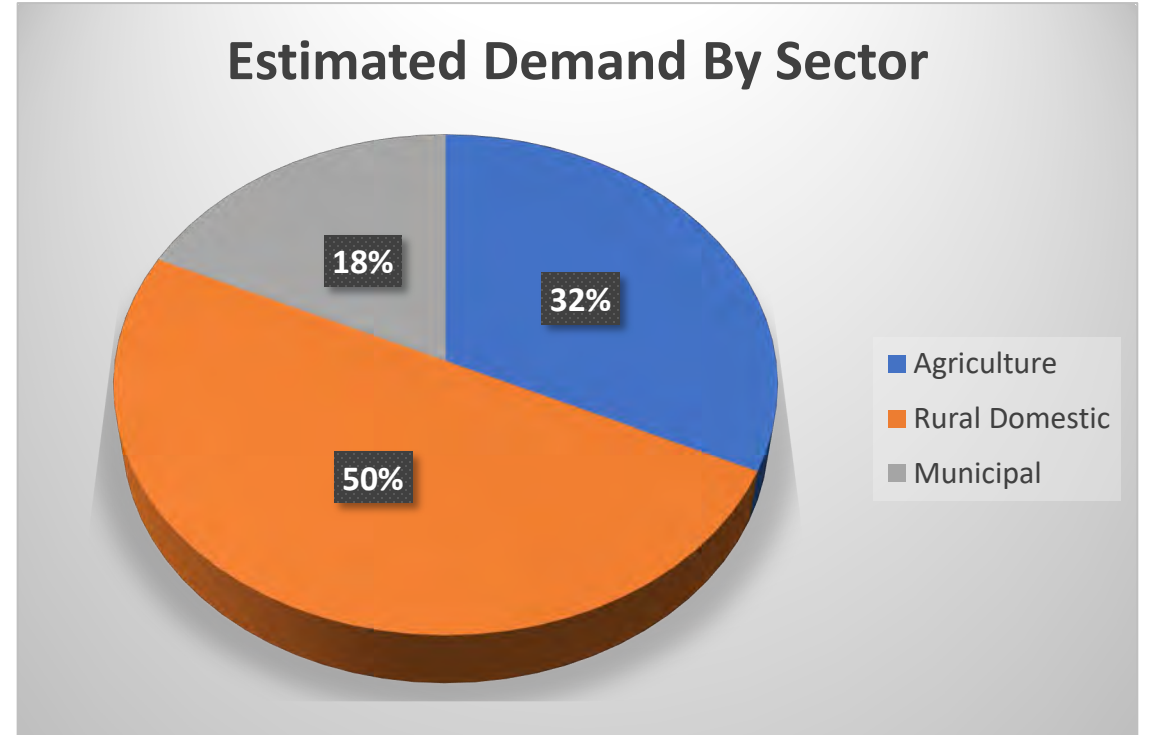
Shallow Aquifer: Approximately 200 feet deep or less

Deep Aquifer: More than 200 feet deep





There are an estimated 7,000 wells in the basin, including rural domestic, mutual water companies, agricultural, and municipal supply



Water Budget and Hydrogeologic Model

Inventory of all inflows (supply) and outflows (demand)

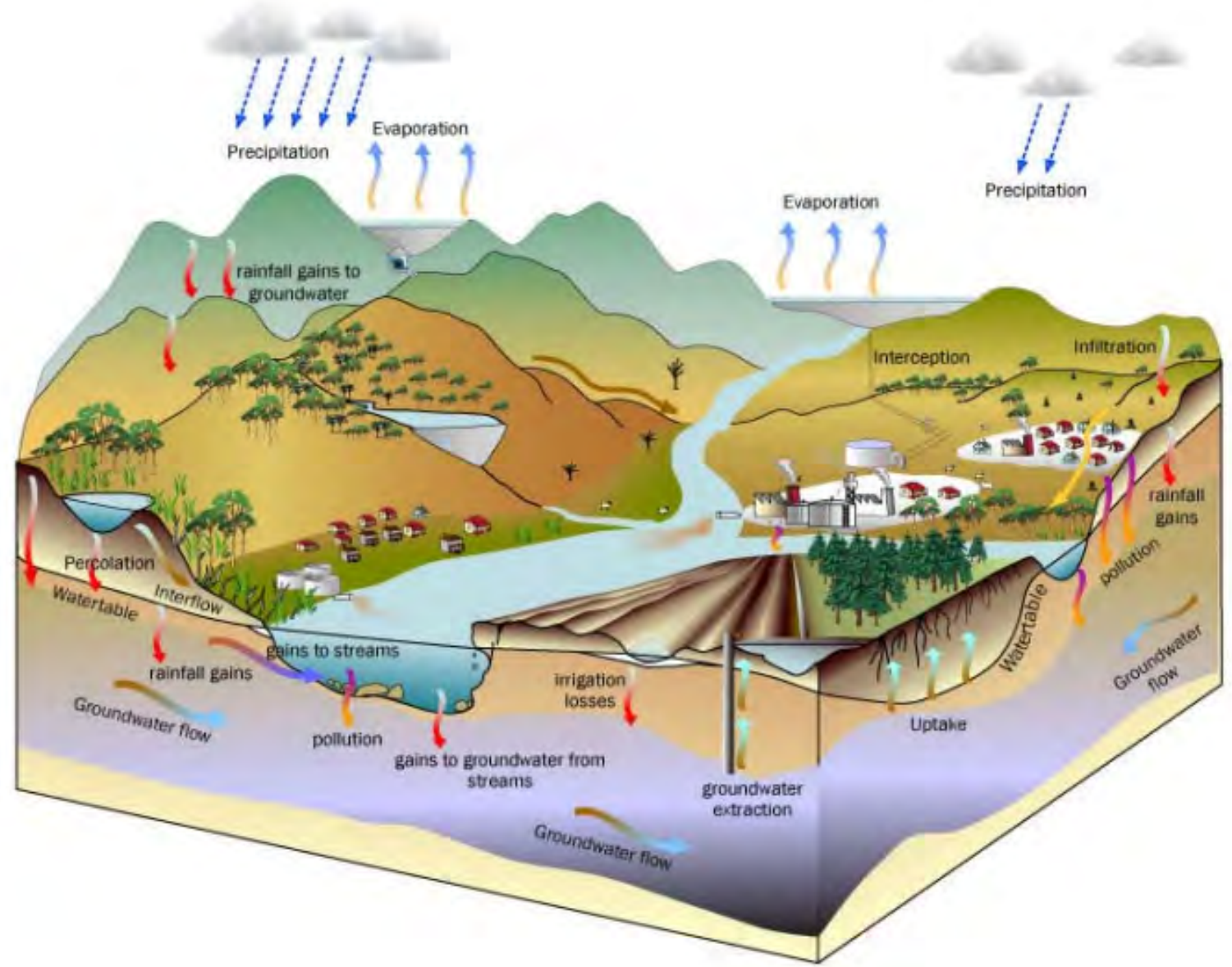
Summary of both surface water and groundwater budgets

Evaluation of changes of groundwater in storage

Estimation of groundwater overdraft (if applicable)

Estimation of sustainable yield

Inflows – Outflows = Water Budget



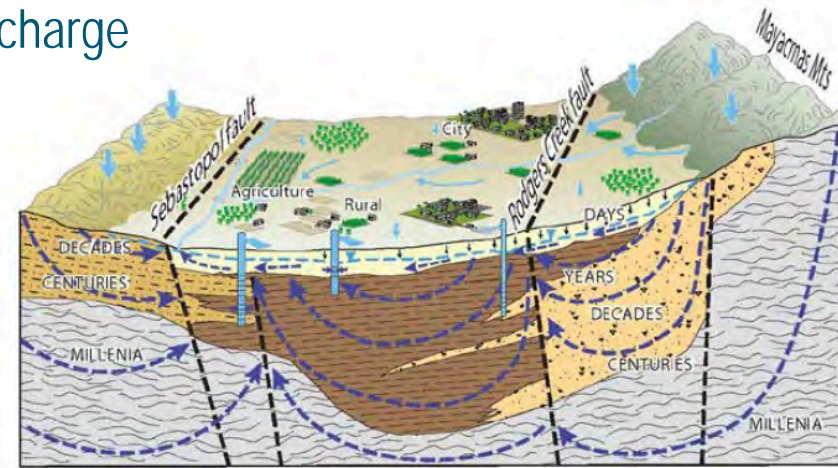
There are multiple sources of inflows and outflows in the Santa Rosa Plain Groundwater Budget

Major Inflows

- Percolation of Precipitation & Applied Agricultural Water
- Basin Subsurface Flows
- Streambed Recharge

Minor Inflows

- Watershed Subsurface Inflows
- Septic Return flows



Major Outflows

- Groundwater Pumping
- Discharge to Streams
- Groundwater Evapotranspiration

Minor Outflows

- Surface Leakage
- Basin Subsurface Flows

Projected Groundwater Budget

Total groundwater storage projected to stabilize during extended wet periods and decline during long-term droughts

Projected Mean Annual Change in Storage:

Period	Mean (in Acre Feet)
Water Year 2021-2040	-200
Water Year 2021-2070	-1400

Overview of Six Sustainability Indicators

Chronic Lowering
of Groundwater
Levels



Reduction in
Groundwater
Storage



Seawater
Intrusion



Degraded Water
Quality



Land Subsidence



Depletion of
Interconnected
Surface Water



Defining Sustainability and Undesirable Results

- 1. Undesirable Results }
2. Minimum Thresholds }

- 3. Measurable Objectives }

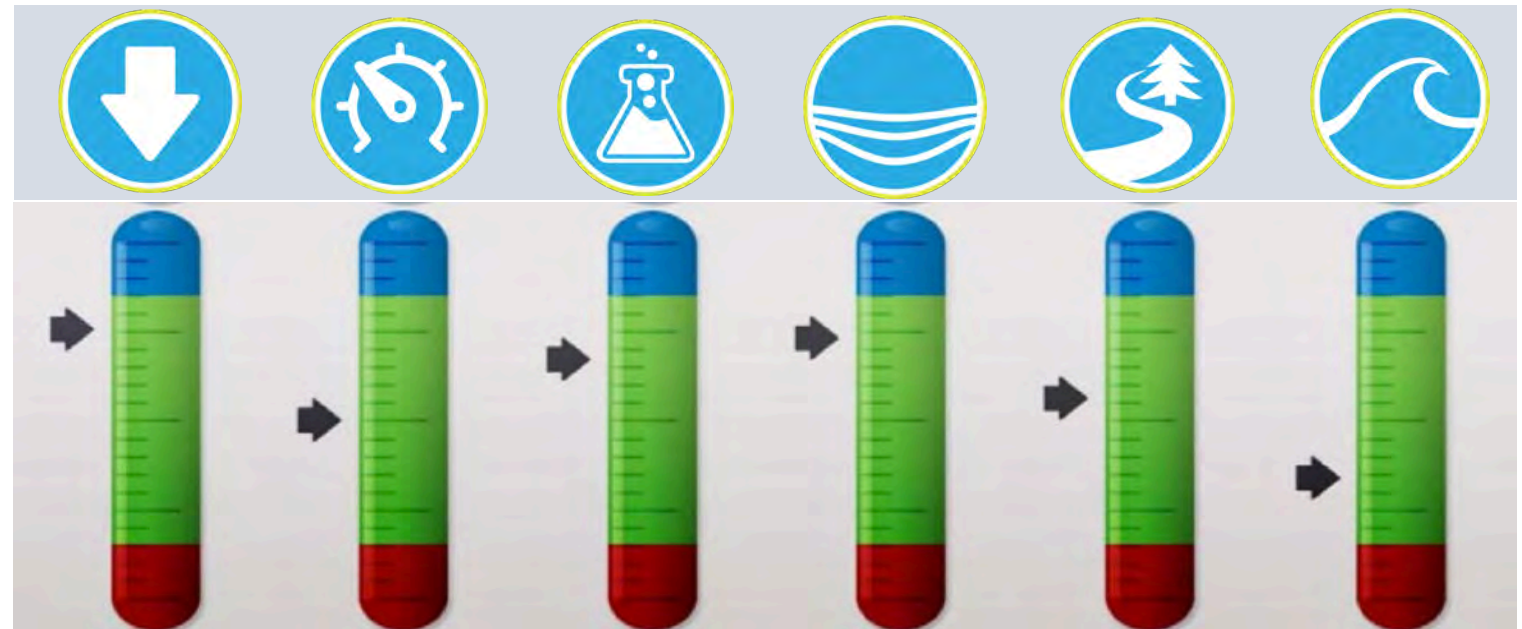
Together, these two terms define what is unacceptable within the basin and determine whether the basin is being managed sustainably.

This term defines what is desirable within the basin and the conditions which the GSA must strive to achieve

Measurable Objective



Minimum Threshold



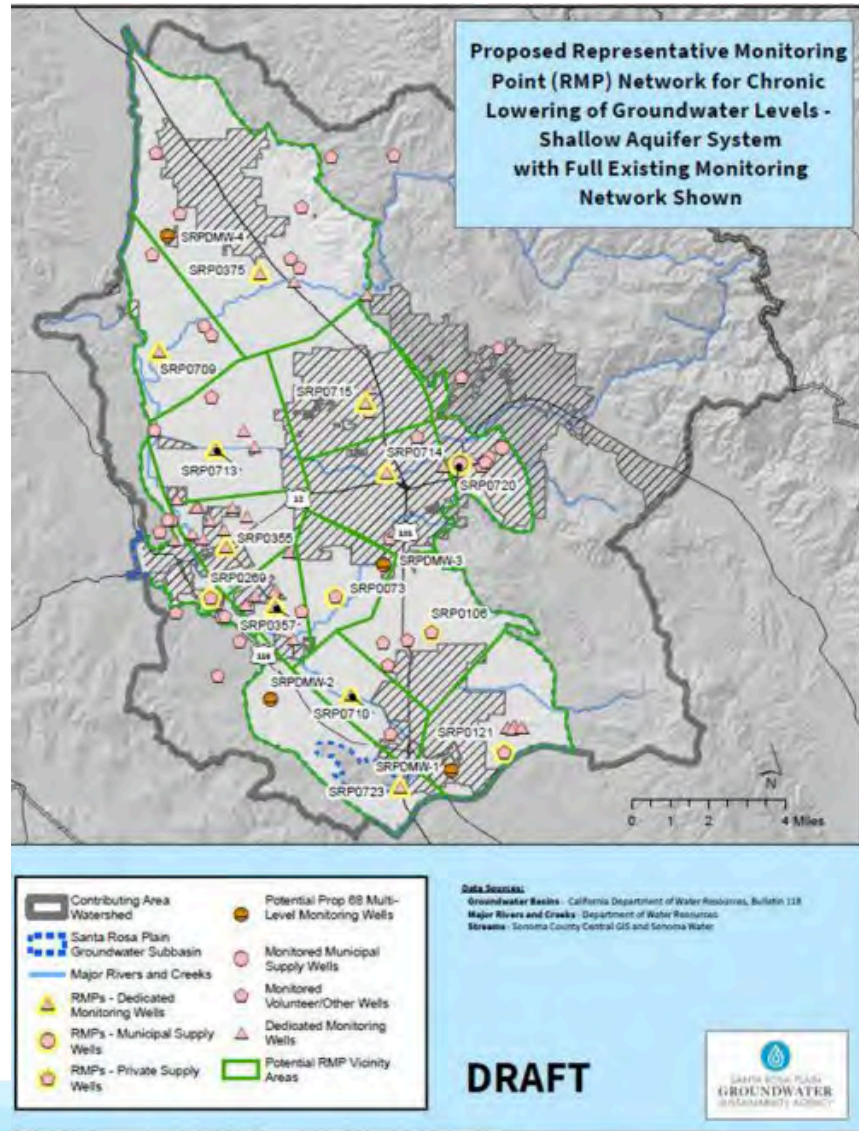


Monitoring Plan

The Groundwater Sustainability Plan must include a robust monitoring plan to ensure objectives are being met and established thresholds are not being exceeded throughout the 20-year planning horizon.

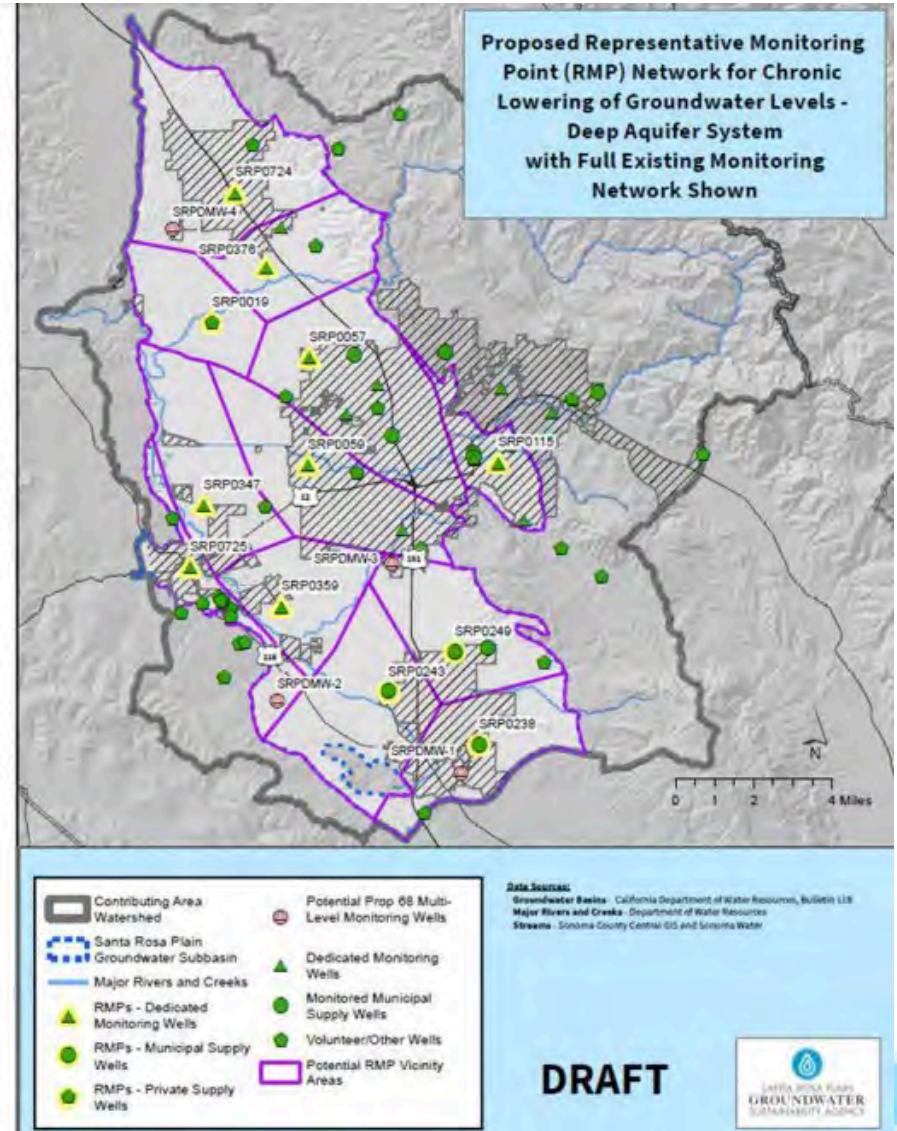
Data will be extracted utilizing networks of dedicated monitoring wells, in addition to land use and water monitoring tools.

Monitoring points



Preliminary Recommended RMP Network

- 14 existing shallow zone wells and 12 existing deep zone
- 4 planned multi-level monitoring wells would be additional RMPs for both shallow and deep aquifers
- Total of 34 potential RMPs (18 shallow zone and 16 deep zone)
- Preliminary data gap areas also identified





Actions to Achieve Sustainability

The Groundwater Sustainability Plan must identify and describe Project Concepts and Management Actions to achieve sustainability

- Address data gaps
- Voluntary water use efficiency measures
- Stormwater recharge / farm-scale or other large-scale options
- Aquifer Storage and Recovery
- Options for mandatory actions for well users (conservation)

Stormwater Recharge

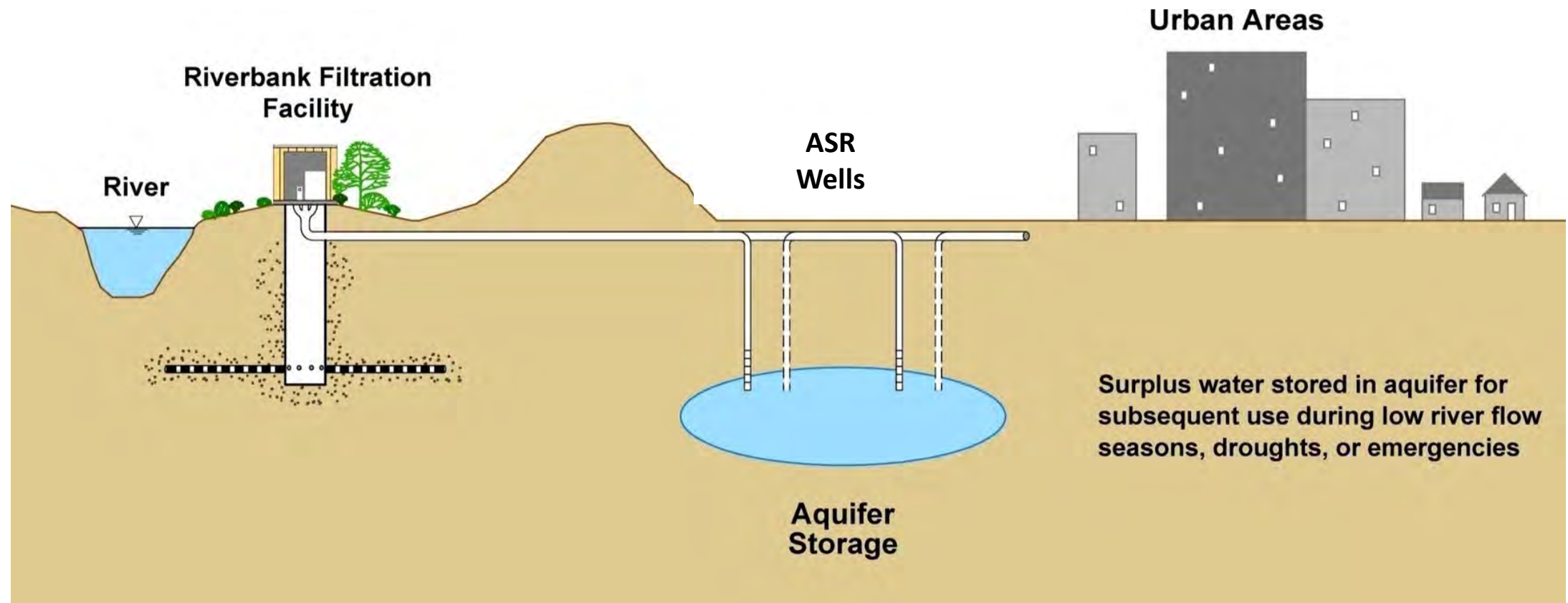


Stormwater can be used to recharge groundwater through small basins, large on- and off-stream basins and on permanent crops



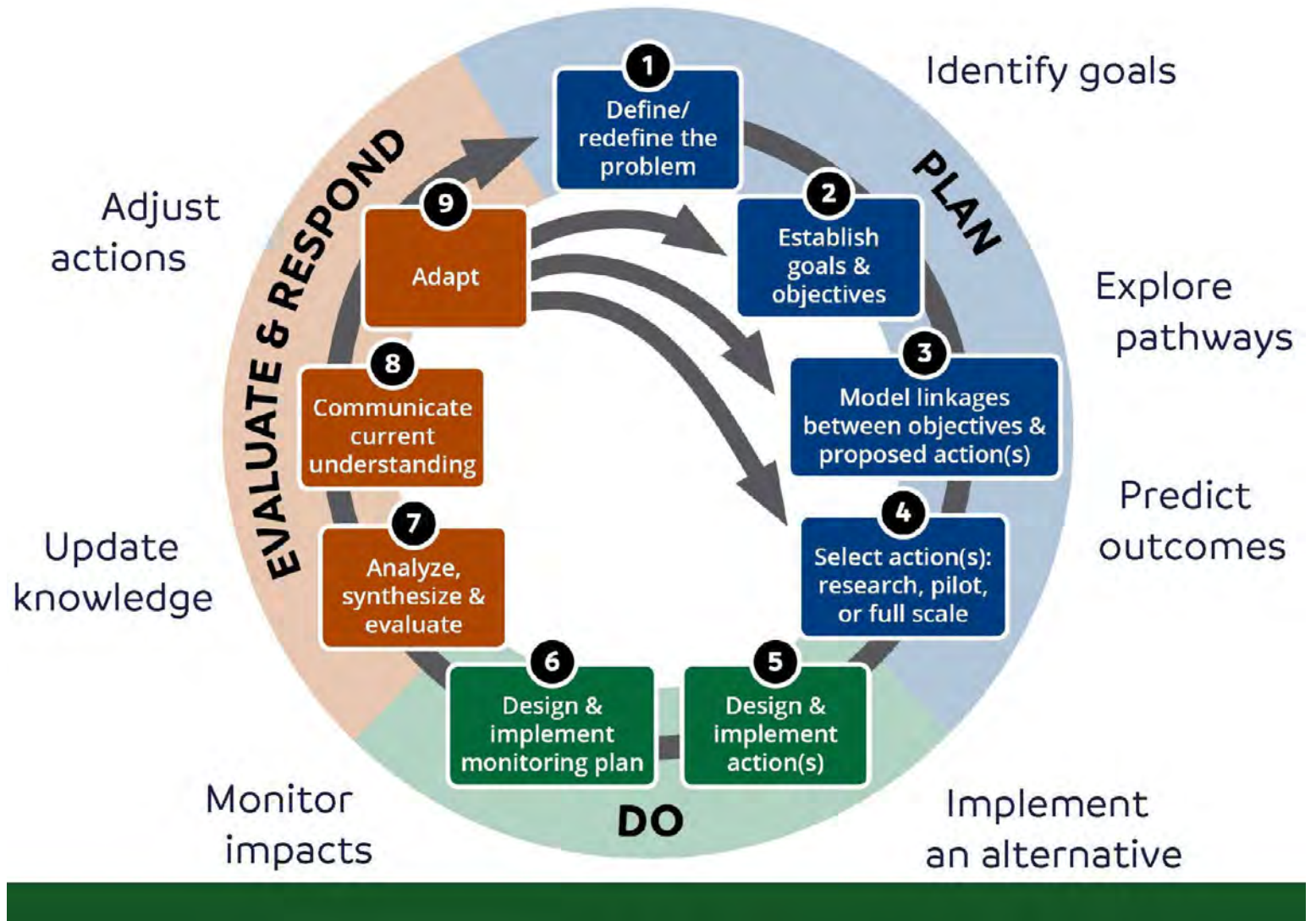
What is Aquifer Storage and Recovery (ASR)?

- Temporary storage of surface water underground
- Water is recharged through wells directly into a target aquifer zone during wet or surplus periods and pumped out for beneficial use during dry or peak need periods



Data Gaps, Uncertainty and Adaptive Management

- Continue to refine information
- Improve mapping and correlation of data
- Assess and develop plans to fill data gaps
- Adjust technical approach as more data and information are available



Effects of GSP on Santa Rosa

- **Protection of Groundwater Resources** – Ensuring reliable groundwater
- **Land Use Planning** – The City must notify GSA of any proposal to substantially amend a general plan, and must review and consider any adopted groundwater plan (including GSA comments) when amending general plan.
- **Groundwater Users** – Fees to implement of the GSP, municipal and private wells
- **Future Projects** – The plan has conceptual multi-jurisdictional projects that could be implemented to secure and the groundwater supply for the future

Next Steps

Public Comment Period has concluded

- Released October 1, 2021
- Hosted two virtual Public Workshops (May and October 2021)
- Drafts were available online and at public locations

SRP GSA Board of Directors will adopt Final Groundwater Sustainability Plan on December 9 - 1:00 pm at a publicly noticed hearing

- Staff will return to Council on November 30th - direction to City Council appointed SRP GSA Board Member (Councilmember Schwedhelm)

By law, plan must be adopted and submitted to CA Department of Water Resources by January 31, 2022



Questions?