

Public Utilities Department

Groundwater Sustainability Plan for the San Pasqual Valley Groundwater Basin

IRWM
Regional Advisory Committee
August 4, 2021



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Sustainable Groundwater Management Act (SGMA)

- Enacted in 2014
- Ensures sustainable use of groundwater resources
- Requires formation of a Groundwater Sustainability Agency (GSA) by local water and land use agencies

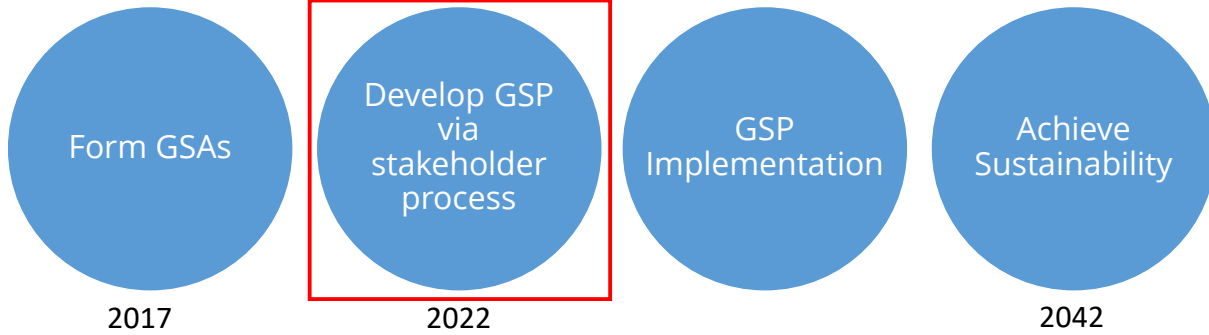


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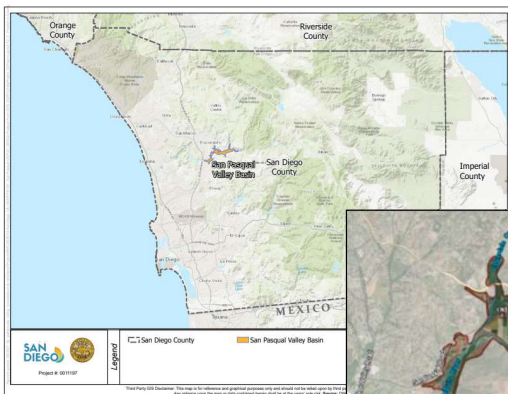
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GSA's are required to prepare a Groundwater Sustainability Plan (GSP) for each medium and high priority groundwater basin

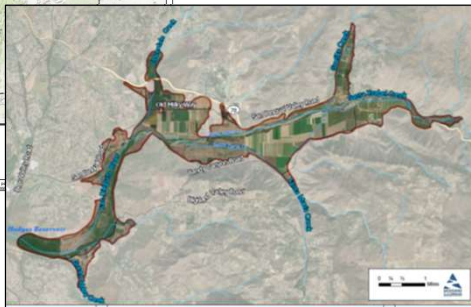


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San Pasqual Valley Groundwater Basin: Medium Priority Basin



- Basin relies entirely on groundwater
- Agricultural preserve per Council Policy



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Prior City Council Actions

- October 2016 –approval to form a GSA
- June 2017 –approved a Memorandum of Understanding (MOU) between City of San Diego (City) and County of San Diego (County) to create a GSA and to develop a GSP
- November 2017 –approved to apply for Department of Water Resources (DWR) grant to develop a GSP
- July 2019 – approved Cost Sharing Agreement between the City and the County to pay for a GSP

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San Pasqual Valley GSP Highlights

- Groundwater basin is currently sustainable
- City and County are committed to collaboratively implementing a single GSP for the Basin
- GSP considers interests of all groundwater uses and users



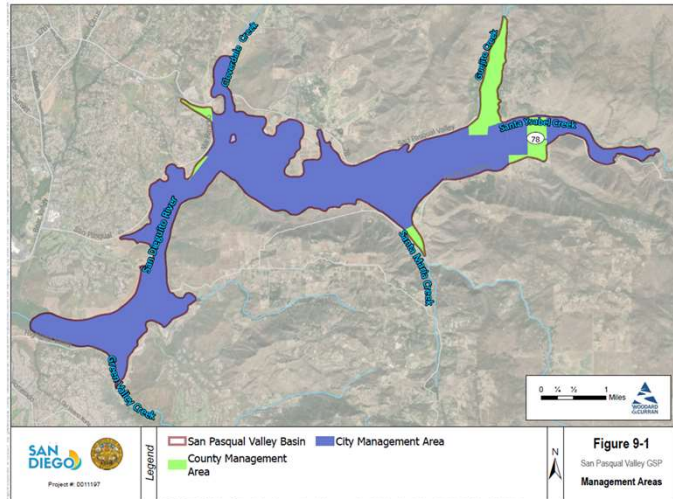
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San Pasqual Valley GSP Highlights

- Two Management Areas based on City and County jurisdictional boundaries
- Each agency will implement the GSP within its own jurisdiction



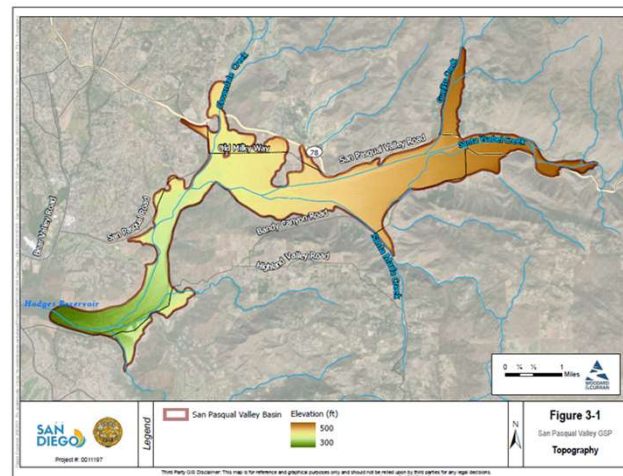
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San Pasqual Valley GSP Highlights

- Incorporates extensive information from existing reports, studies, and data
- Describes geography and land uses: primarily agricultural with some residential
- Hydrogeologic model characteristics, including the geology, topography, surface water bodies, and soils



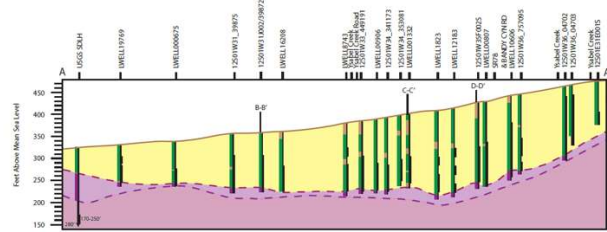
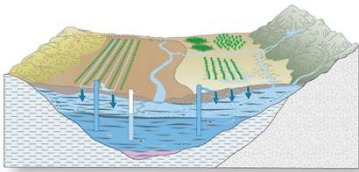
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Basin Characteristics

- Groundwater flows east to west
- Eastern part is higher in elevation
- Groundwater levels fluctuate in the eastern part in response to drought periods; recover quickly
- More groundwater is drawn from the eastern part, which has more storage



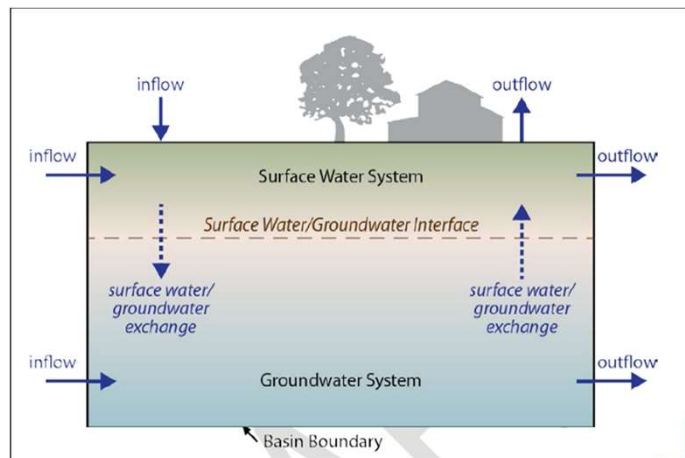
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San Pasqual Valley GSP Highlights

- Water budget is an accounting of water entering and leaving the groundwater basin
- Model projects minor depletion of groundwater storage in the eastern side of the basin









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Addresses Undesirable Results

-  Chronic lowering of groundwater levels
-  Reduction of groundwater storage
- ~~ Land subsidence~~
-  Degraded water quality
- ~~ Seawater intrusion~~
-  Depletions of interconnected surface water with impacts on beneficial uses including GDEs


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San Pasqual Valley GSP Highlights

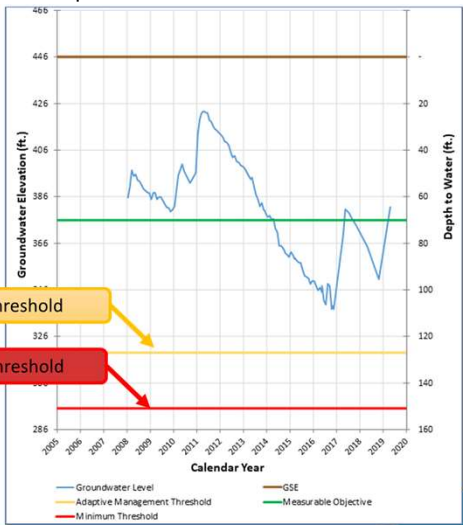
- **Planning thresholds:** act as an early warning system that allow the GSA to plan prior to reaching minimum threshold
- **Minimum thresholds:** below this threshold could lead to an undesirable result



Planning Threshold

Minimum Threshold

Example:



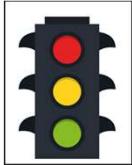
Year	Groundwater Level (ft.)	Measurable Objective (ft.)	Adaptive Management Threshold (ft.)	Minimum Threshold (ft.)
2009	400	375	330	300
2011	425	375	330	300
2013	380	375	330	300
2015	350	375	330	300
2017	320	375	330	300
2019	340	375	330	300

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Project and Management Actions

- **Tier 0** - may be implemented by the GSA at any time after GSP adoption
- **Tier 1** - may be implemented when planning thresholds are exceeded
- **Tier 2** - may be implemented when minimum thresholds for groundwater levels are exceeded



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Project and Management Actions

Tier 0 Implementation Projects and Management Actions*	Tier 1 Project and Management Actions	Tier 2 Project and Management Actions
<p>Implemented by the GSA During GSP Implementation</p> <ul style="list-style-type: none"> • Monitoring (Groundwater Levels and Quality) • Meetings (Public and Core Team) • Reporting (Annual Report and GSP 5-year Update) • Numerical Model Updates as Needed • Pursue Funding Opportunities • Groundwater Monitoring Improvements • Public Outreach and Website Maintenance • Education and Outreach for TDS / Nitrate Loading • Education and Outreach to Encourage Demand Softening • Farming Best Practices • Coordinate and Collaborate with Other Entities and Agencies to Implement Regional Projects • Support WQIP Actions to Update Agricultural Leases to include Nutrient Control Measures and Stormwater BMPs • Coordinate on the Implementation of Invasive Species Removal • Coordinate on the Construction of Infiltration Basins at San Pasqual Union Elementary • Initial Surface Water Recharge Evaluation 	<p>Implemented when Planning Thresholds are exceeded</p> <ul style="list-style-type: none"> • Well Inventory • Develop Pumping Restrictions and Enforcement Plan • Basin-wide Metering Program • Groundwater Dependent Ecosystem Study 	<p>Implemented when Minimum Thresholds are exceeded</p> <ul style="list-style-type: none"> • Implement Pumping Restrictions and Enforcement

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GSP Implementation

- Monitoring
- Reporting
- GSP updates
- Website and database maintenance
- Projects and Management Actions
- Costs, schedule, and funding sources

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Stakeholder Engagement and Outreach

- Advisory Committee – 9 local stakeholders (9 meetings)
- Technical Peer Review – 3 independent reviewers (7 meetings)
- Developed a formal conflict resolution process
- 60-day public review period prior to City Council and County Board of Supervisors adoption
- 60-day public review after GSP is submitted to DWR

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Costs and Fiscal Considerations

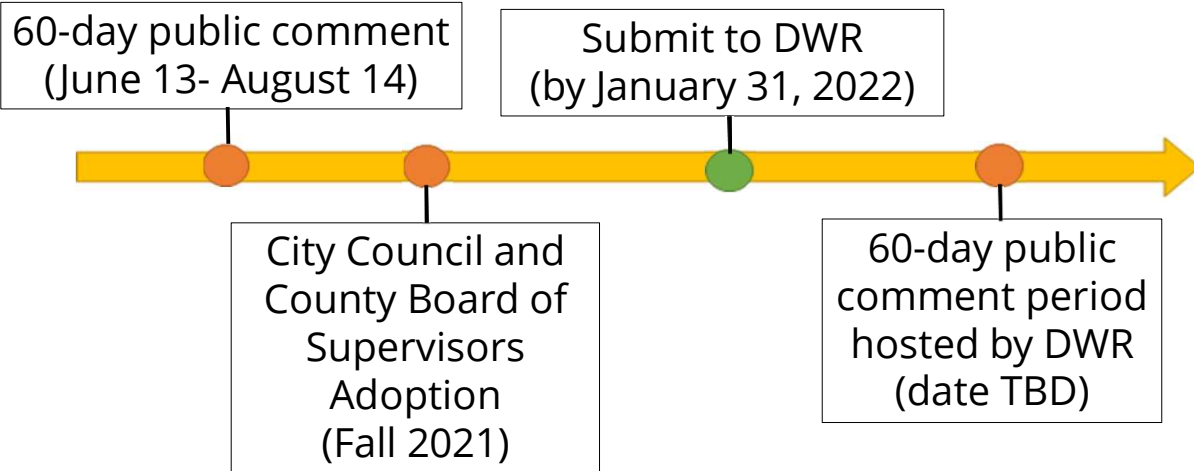
- GSP implementation costs estimated to be between \$5.9 million to \$11.3 million over a 20-year period
- Cost sharing agreement between City and County
- Exploring grant opportunities and cost recovery mechanism pursuant to SGMA

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Next Steps



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Next Steps

- Continue monitoring at representative groundwater wells in the Basin
- Maintain GSP website for future reports and updates
- Maintain stakeholder email list for announcements
- Host public workshops to present annual reports or report changing basin conditions
- Maintain online data management system with monitoring data

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Q & A



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BACKUP SLIDES

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Climate Change in Groundwater Modeling

Projection period based on *California Fourth Climate Assessment* RCP 8.5 Scenario.

- Closely tracks historical total cumulative carbon dioxide emissions and is the best match for mid-century projections of greenhouse-gas emissions

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