



Santa Clara Valley Water District

File No.: 21-1075

Agenda Date: 11/23/2021

Item No.: *2.7.

BOARD AGENDA MEMORANDUM

SUBJECT:

Public Hearing on the 2021 Groundwater Management Plan for the Santa Clara and Llagas Subbasins, and Resolution Adopting the 2021 Groundwater Management Plan.

RECOMMENDATION:

- A. Open the public hearing to receive comments on Santa Clara Valley Water District's 2021 Groundwater Management Plan for the Santa Clara and Llagas Subbasins;
- B. Close the public hearing; and
- C. Adopt the Resolution ADOPTING THE 2021 GROUNDWATER MANAGEMENT PLAN FOR THE SANTA CLARA AND LLAGAS SUBBASINS.

SUMMARY:

The Sustainable Groundwater Management Act (SGMA) requires that groundwater sustainability agencies (GSAs) managing medium- or high-priority basins prepare and implement a groundwater sustainability plan (GSP) or an authorized alternative to a GSP under Water Code § 10733.6 (Alternative Plan). As the GSA for the Santa Clara and Llagas subbasins, Santa Clara Valley Water District (Valley Water) developed and adopted, after public hearing, its 2016 Groundwater Management Plan (GWMP) for these basins and submitted it to the Department of Water Resources (DWR) as an Alternative Plan prior to the January 2017 statutory deadline. DWR approved the Alternative Plan in 2019.

As required by SGMA, an updated Alternative Plan must be submitted to DWR by January 1, 2022. Staff has developed Valley Water's 2021 GWMP to be adopted and submitted to DWR as the updated Alternative Plan.

Like the 2016 plan, the 2021 GWMP describes Valley Water goals, strategies, activities, and metrics to ensure continued groundwater sustainability. This memo provides an overview of the major elements of the 2021 GWMP and describes notable changes and updates from the 2016 plan. On October 8, 2021, the draft 2021 GWMP was posted to Valley Water's website for public review at: <https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable>.

Although Valley Water's District Act does not specify that a public hearing is required to enact a groundwater management plan, this hearing provides an opportunity for the public to provide formal input to the Board prior to adoption of the 2021 GWMP. If the Board adopts the 2021 GWMP, it will be

submitted to DWR prior to January 1, 2022 as required by SGMA.

2021 GWMP Overview

While the organization name and purpose have evolved over time, Valley Water was originally formed as a special act district in 1929 for the purposes of managing groundwater. Historically, unsustainable pumping in Santa Clara County resulted in chronic overdraft, land subsidence, and seawater intrusion. While similar problems persist in groundwater basins throughout California, Santa Clara County is recognized as an area where these issues have been, and continue to be, successfully addressed through sustainable groundwater management.

Valley Water's comprehensive groundwater management framework has maintained sustainable conditions in the Santa Clara and Llagas subbasins over many decades. The 2021 GWMP provides detailed information describing this framework, including the following major elements:

- Valley Water history, groundwater management authority, structure, and finances
- Basin setting and conditions including geology, groundwater levels and quality, groundwater dependent ecosystems, land subsidence, and seawater intrusion
- Water supplies, demands, and the groundwater budget
- Sustainable management criteria, including goals derived from Board Ends Policy E-2, effective strategies, and outcome measures to gauge performance
- Basin management programs and activities
- Groundwater monitoring and modeling
- Potential actions to address outcome measure performance and plan recommendations

While all GWMP sections are being updated to represent current basin conditions and Valley Water activities, the fundamental structure and content of the GWMP are largely unchanged as implementation of the plan has proven to be effective in maintaining sustainable groundwater conditions.

Notable changes from the 2016 GWMP include the following, with the first three items supporting related DWR recommendations:

- New and modified outcome measures
- Identification of groundwater dependent ecosystems within the basins
- Evaluation of climate change impacts
- Evaluation of SGMA authorities, including fixed fees and pumping regulation (the latter resulting in new Valley Water policy)

- Description of seawater intrusion mechanisms and risk from sea level rise

A summary of these changes is provided below.

New and Modified Outcome Measures

DWR made several recommendations regarding the outcome measures in Valley Water's 2016 GWMP, including adding a new metric for seawater intrusion and clarifying basin conditions that represent undesirable results. The outcome measures are metrics to gauge performance in meeting sustainability goals and have been modified slightly since 2016. New to the 2021 GWMP are proposed outcome measure-lower thresholds to define undesirable results. A detailed description of the proposed outcome measures and lower thresholds is available in the 2021 GWMP, along with the related rationale.

Valley Water has a long-established history of sustainable groundwater management and will continue to proactively manage groundwater to avoid reaching the outcome measure-lower thresholds and related undesirable results. The new and modified outcome measures in the 2021 GWMP are identified in Table 1 below.

Table 1. Proposed 2021 GWMP Outcome Measures

Sustainability Indicator	Outcome Measure	Outcome Measure - Lower Threshold
Groundwater Storage	Projected end of year groundwater storage is greater than 278,000 acre-feet (AF) in the Santa Clara Plain, 5,000 AF in the Coyote Valley, and 17,000 AF in the Llagas Subbasin.	Projected end of year countywide groundwater storage is greater than Stage 5 (150,000 AF) of the Water Shortage Contingency Plan.
Subsidence	Groundwater levels are above subsidence thresholds at the Santa Clara Subbasin subsidence index wells.	Groundwater levels are above the historical low water levels at the majority of the Santa Clara Subbasin subsidence index wells.
Groundwater Quality	For Santa Clara Subbasin water supply wells, at least 95% meet primary drinking water standards, and at least 90% have stable or decreasing trends for total dissolved solids (TDS).	At least 70% of water supply wells have stable or decreasing trends for nitrate and TDS.
Groundwater Quality	For Llagas Subbasin water supply wells, at least 95% meet primary drinking water standards, and at least 90% have stable or decreasing trends for total dissolved solids (TDS).	At least 70% of water supply wells have stable or decreasing trends for nitrate and TDS.

Seawater Intrusion	In the Santa Clara Subbasin shallow aquifer, the 100 milligram per liter chloride isocontour area is less than the historical maximum extent area (57 square miles).	In the Santa Clara Subbasin shallow aquifer, the 100 milligram per liter chloride isocontour area is less than 81 square miles, which represents a one-mile radial buffer of the historical maximum extent area.
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Groundwater Dependent Ecosystems (GDEs)

Using guidance developed by The Nature Conservancy and supported by extensive Valley Water biologist field surveys, the 2021 GWMP presents maps of likely, transition, and possible GDEs for the Santa Clara and Llagas subbasins. As shown in the GWMP, most GDEs are located along stream reaches and in known wetlands. Some GDEs are supported by groundwater only, while others are supported by a combination of groundwater and surface water. The GWMP also provides additional information on groundwater/surface water interaction and notes that staff is not aware of any areas where groundwater pumping has a significant or unreasonable effect on interconnected surface water.

Evaluation of Climate Change Impacts

Using downscaled data from global climate models, model simulations were conducted to project the future groundwater budget, with a focus on how climate change may affect natural recharge. Projected natural recharge in the subbasins ranges from 8 to 19% higher in 2045 compared to the average from 2010 to 2019. Valley Water has initiated a study to evaluate climate change impacts on imported water supply that will consider projected changes in snowpack, streamflow, and sea-level rise beyond Santa Clara County. Results from this new study will be integrated in the next five-year update of the GWMP.

Evaluation of SGMA Authorities and New Valley Water Policy Regarding Pumping Regulation

Following extensive stakeholder engagement through meetings of the Board's Water Conservation and Demand Management Committee (Committee), in February 2018 the Board adopted Resolution 18-04, setting forth the process to regulate pumping under SGMA, if needed. The resolution notes that collaboration will continue to be the preferred approach to address observed or projected undesirable results, and that pumping regulation will only be considered if there is no viable alternative. The process identified in the resolution includes the following basic steps: identification of the issue and potential mitigation; consultation with affected stakeholders to develop an action plan; pumping regulation if voluntary action is not taken or is not successful; and implementation, monitoring and reporting.

In 2018, Valley Water in conjunction with its retail customers explored the idea of implementing a fixed (base) charge that would complement its volumetric groundwater charge, in order to minimize the revenue impact associated with water use decreases such as in a drought. Retail customers generally strongly opposed a fixed charge component for various reasons. As a result, staff recommended suspending the effort to implement a fixed charge component at the full Board meeting on November 27, 2018. Subsequently, the Committee reviewed the reasons for retailer opposition at its March 25, 2019 meeting and agreed with staff's recommendation to not proceed with further development of a fixed charge component at that time. However, implementation of a fixed

charge component remains a potential option for Valley Water in the future.

Seawater Intrusion

In addition to establishing an outcome measure related to seawater intrusion, the 2021 GWMP provides additional analysis and description of seawater intrusion mechanisms. Shallow aquifers near southern San Francisco Bay have been affected by seawater intrusion, primarily due to leakage of saltwater through tidal creeks (as opposed to the more “classic” case of intrusion due to direct hydraulic connection between ocean water and fresh water). The principal aquifer is protected by extensive clays and silts and Valley Water managed recharge that maintains hydraulic gradients toward the Bay.

Outreach and Next Steps

Throughout development of the 2021 GWMP, regular updates have been provided to the Board’s Water Conservation and Demand Management Committee, water retailers, and interested stakeholders. Valley Water hosted a well-attended virtual public meeting on August 12, 2021. As noted above, the draft 2021 GWMP was posted to <https://www.valleywater.org/your-water/where-your-water-comes/groundwater/sustainable> for public review on October 8, 2021. An overview of the 2021 GWMP was provided at the October 25, 2021 Committee meeting.

If the Board adopts the 2021 GWMP, it will be submitted to DWR by January 1, 2022 as Valley Water’s five-year update to the approved Alternative, as required by SGMA.

FINANCIAL IMPACT:

There is no financial impact associated with this item. Activities described in the 2021 GWMP are addressed as part of the annual budget approved by the Board. Water utility projects supporting the protection and augmentation of water supplies are funded through the Water Utility Enterprise fund, which includes revenue from groundwater production charges, treated water charges, and other sources.

CEQA:

This project is exempt from CEQA Guidelines Section 15262 which exempts planning studies.

ATTACHMENTS:

- Attachment 1: Notice of Public Hearing
- Attachment 2: Resolution
- Attachment 3: PowerPoint
- Attachment 4: 2021 Groundwater Management Plan
- *Handout 2.7-A: D. Muirhead
- *Handout 2.7-B: Green Foothills
- *Handout 2.7-C: Open Space Authority
- *Handout 2.7-D: Change List

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