STATE OF CALIFORNIA
REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL COAST REGION

STAFF REPORT FOR REGULAR MEETING OF OCTOBER 13-14, 2022
Prepared on September 23, 2022

ITEM NUMBER: **12**

SUBJECT: **Los Osos Groundwater Conditions Update**

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ACTION: **Information/Discussion**

SUMMARY

This staff report provides a brief update on groundwater conditions in the Los Osos Groundwater Basin. Dan Heimel, executive director of the Los Osos Basin Management Committee, will be on hand to give a presentation and answer questions regarding the basin management component of this staff report.

DISCUSSION

Los Osos Groundwater Basin Conditions

Since 2015, the Los Osos Basin Management Committee has been monitoring and managing groundwater in the Los Osos groundwater basin (Basin). The Los Osos Groundwater Basin Plan and Basin Management Committee (BMC) were developed as part of the San Luis Obispo County Superior Court's stipulated judgment agreement among Los Osos Community Services District, Golden State Water Company, S&T Mutual Water Company, and San Luis Obispo County (BMC Parties). The BMC Parties have been implementing the Los Osos Basin Plan by monitoring basin sustainability metrics, including nitrate concentrations in the upper aquifer, groundwater elevations, and seawater intrusion in the lower aquifer. In addition, the BMC Parties have been implementing various management strategies to try to achieve basin sustainability.

To date, none of the basin sustainability metrics have been achieved. However, monitoring data indicate that groundwater conditions are trending toward sustainability. Currently, the nitrate concentration for the upper aquifer is at 17 mg/L as nitrogen (N) and is anticipated to achieve the target concentration metric of 10 mg/L as N or less by 2050. The metrics for water levels and chloride (a proxy for seawater intrusion) are also improving and are anticipated to achieve their respective metrics in approximately the same timeframe as for nitrate. Comparison of estimated basin-wide groundwater production to basin sustainable yield (referred to as the basin yield metric) indicate that

production volume is sustainable (e.g., production is less than sustainable yield). However, production still exceeds the target production volume of 20% less than the sustainable yield estimate to account for uncertainty and the Basin Plan's intent to push seawater intrusion back to its historic extents. Although these metrics appear to indicate a trend towards improving conditions, including evidence that seawater intrusion along the historic LA 10 (Rosina Dr.) and LA 14 (Palisades Ave) preferential pathway may have stalled, increasing chloride concentrations at LA 40 (Lupine St./Cuesta by the Sea) and LA 11 (Pasadena Dr.) indicate potential increasing seawater intrusion occurring in Zone E of the lower aquifer along the bay front. See Attachment 1 for a map of lower aquifer wells. The BMC is actively monitoring, and the BMC Parties are managing pumping to mitigate against these potential seawater intrusion threats, including recently completing the 8th St. upper aquifer well that will allow the Los Osos Community Services District to reduce lower aquifer pumping in this portion of the Basin.

Implementation of Los Osos Basin Plan management programs is ongoing, and the majority of the recommended programs identified in the Los Osos Basin Plan have been or are in the process of being implemented. Implementation of the remaining management activities identified in the Los Osos Basin Plan is contingent on the BMC's and the BMC Parties' ability to generate funding for the projects. The BMC is currently conducting a study to understand what funding options may be available.

Additional information is available on San Luis Obispo County's Los Osos Basin Management Committee website.[1]

Nitrate contamination at the S&T Mutual Water Company well

Despite the improving conditions indicated by the BMC's groundwater monitoring data, the western portion of the Los Osos groundwater basin is still experiencing increases in nitrate concentrations in some wells. Nitrate concentrations are elevated and increasing in S&T Mutual Water Company's well LA8 and Golden State Water Company's well LA9, which are located approximately 600 feet apart and are both screened in the lower aquifer. The most recent sampling results document nitrate concentrations of 7.2 mg/L and 6.0 mg/L as N in the LA8 and LA9 wells, respectively. See Attachment 1 for locations of these wells. Based on the trajectory of the concentration trend, it is estimated that these wells will exceed the maximum contaminant level (MCL) for nitrate of 10 mg/L as N in approximately 20-30 years. Preliminary investigations regarding the source of nitrate in the water supply wells suggest that the Cabrillo Estates neighborhood in Los Osos, which utilizes individual on-site wastewater treatment systems (OWTS) for wastewater treatment and disposal, may be a source of nitrate contamination in these wells. However, additional investigations are needed to make a definitive determination regarding the source or sources of nitrate in the wells.

[1] https://www.slocounty.ca.gov/Departments/Groundwater-Sustainability/Groundwater-Basins/Los-Osos-Basin-Management-Committee-(BMC).aspx

S&T Mutual Water Company has asked the Central Coast Water Board to designate groundwater in proximity to well LA8 as impaired by OWTS. This designation would invoke requirements in the San Luis Obispo County Local Agency Management Program that state that the county must intervene to mitigate OWTS contamination. The Central Coast Water Board is working with San Luis Obispo County and S&T Mutual Water Company to determine the sources of nitrate contamination observed in wells LA8 and LA9.

Per- and Polyfluoroalkyl substances (PFAS) detections in Los Osos Groundwater

In July 2020, the State Water Resources Control Board issued an order requiring publicly owned wastewater treatment facilities with flows greater than 1 million gallons per day to sample for PFAS in influent, effluent, biosolids, and groundwater and to upload the results of the sampling to GeoTracker. Sampling conducted by the Los Osos Water Reclamation Facility (LOWRF) detected PFAS compounds in influent, effluent, and all three groundwater monitoring wells associated with the LOWRF discharge. The groundwater monitoring wells sampled for PFAS are located in the Los Osos groundwater basin, downgradient from the Bayridge Estates and Broderson leachfields where the LOWRF disposes of wastewater. Concentrations for some of the PFAS compounds detected in groundwater exceeded relevant notification levels established by the Division of Drinking Water. One of the wells with concentrations that exceeded the notification level is used as a private domestic water supply well. The owner of the private domestic water supply well along with the three water purveyors in Los Osos were notified of the PFAS detections and were provided with the analytical results of the sampling. PFAS sampling has not been required for any of the public water supply wells in Los Osos.

Human Right to Water

California Water Code section 106.3, subdivision (a) states that it is the policy of the State of California “that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitation purposes.” On January 26, 2017, the Central Coast Water Board adopted Resolution No. R3-2017-0004, which affirms the realization of the human right to water and the protection of human health as the Central Coast Water Board's top priorities.

Staff is working with stakeholders to protect water quality for all users of the Los Osos groundwater basin, including any disadvantaged communities.

Environmental Justice

Environmental Justice principles call for the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income in the development, adoption, implementation, and enforcement of all environmental laws, regulations, and policies that affect every community’s natural resources and the places people live, work, play, and learn. The Central Coast Water Board implements regulatory activities and water quality projects in a manner that ensures the fair treatment of all people,

including Underrepresented Communities. Underrepresented Communities include but are not limited to Disadvantaged Communities (DACs), Severely Disadvantaged Communities (SDACs), Economically Distressed Areas (EDAs), Tribes, Environmentally Disadvantaged Communities (EnvDACs), and members of Fringe Communities.[2] Furthermore, the Central Coast Water Board is committed to providing all stakeholders the opportunity to participate in the public process and provide meaningful input to decisions that affect their communities.

According to the California Department of Water Resources DAC mapping tool,[3] only Baywood Park within the broader Los Osos area is currently listed as a DAC block group based on 2016-2020 American Community Survey (ACS) census data. However, eastern portions of the Los Osos area were previously designated as a DAC census tract and block group based on 2014-2018 ACS census data. We will continue to work with all stakeholders to ensure fair and meaningful involvement of the community.

Climate Change

The Central Coast faces the threat and the effects of climate change for the foreseeable and distant future. To proactively prepare and respond, the Central Coast Water Board has launched the Central Coast Water Board's Climate Action Initiative, which identifies how the Central Coast Water Board's work relates to climate change and prioritizes actions that improve water supply resiliency through water conservation and wastewater reuse and recycling; mitigate for and adapt to sea level rise and increased flooding; improve energy efficiency; and reduce greenhouse gas production. The Climate Action Initiative is consistent with the Governor's Executive Order B-30-15 and the State Water Board's Climate Change Resolution No. 2017-0012.

Climate change could potentially affect the Los Osos groundwater basin sustainability due to drought-induced decreases of freshwater recharge and sea level rise. Staff will

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[2] Disadvantaged Community: a community with an annual median household income that is less than 80% of the statewide annual median household income (Public Resources Code section 80002(e)); Severely Disadvantaged Community: a community with a median household income of less than 60% of the statewide average. (Public Resources Code section 80002(n)); Economically Distressed Area: a municipality with a population of 20,000 persons or less, a rural county, or a reasonably isolated and divisible segment of a larger municipality where the segment of the population is 20,000 persons or less with an annual median household income that is less than 85% of the statewide median household income and with one or more of the following conditions as determined by the department: (1) financial hardship, (2) unemployment rate at least 2% higher than the statewide average, or (3) low population density. (Water Code section 79702(k)); Tribes: federally recognized Indian Tribes and California State Indian Tribes listed on the Native American Heritage Commission's California Tribal Consultation List; EnvDACs: CalEPA designates the top 25 percent scoring census tracts as DACs. Census tracts that score the highest five percent of pollution burden scores but do not have an overall CalEnviroScreen score because of unreliable socioeconomic or health data are also designated as DACs (refer to the CalEnviroScreen 3.0 Mapping Tool or Results Excel Sheet); Fringe Community: communities that do not meet the established DAC, SDAC, and EDA definitions but can show that they score in the top 25 percent of either the Pollution Burden or Population Characteristics score using the CalEnviroScreen 3.0.

[3] https://gis.water.ca.gov/app/dacs/

continue to monitor basin management efforts and work with stakeholders to help facilitate ongoing actions that promote water supply resiliency.

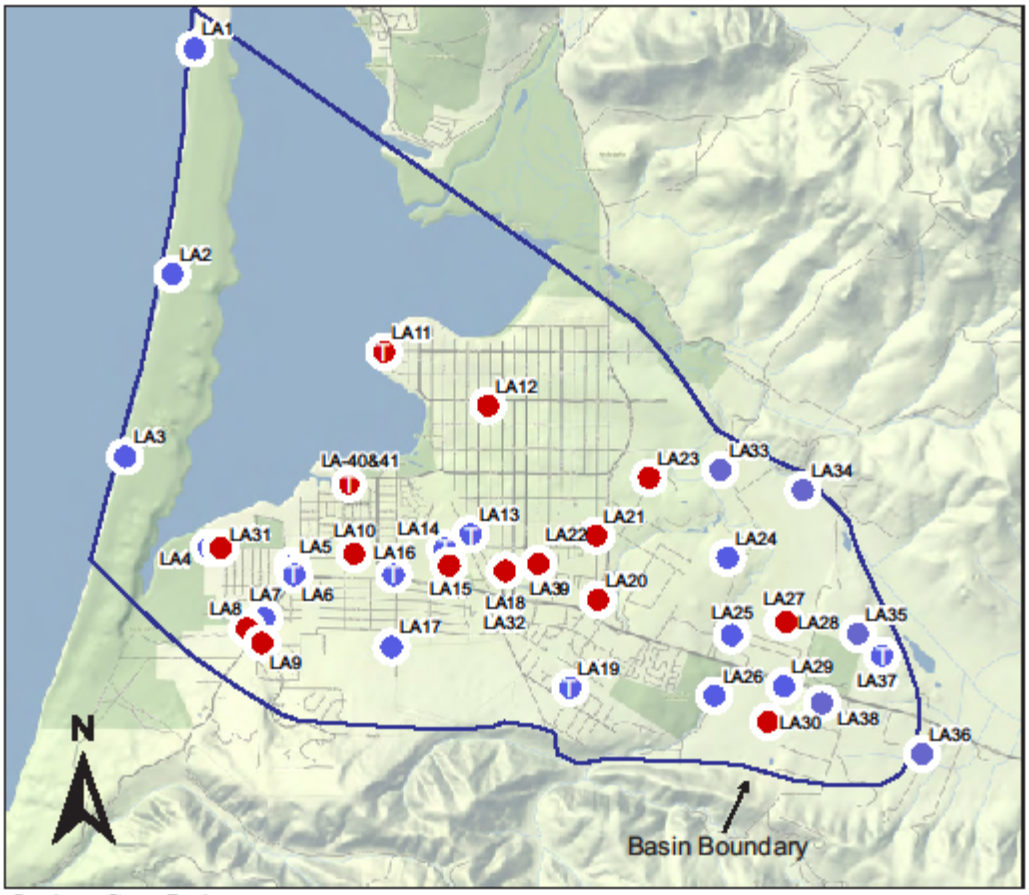
ATTACHMENT

1. Map of Lower Aquifer Wells

CONCLUSION

The Central Coast Water Board is committed to working with the BMC, BMC Parties, and community stakeholders to provide ongoing review, oversight, and coordination on the important water quality and supply issues facing the community.

Map of Lower Aquifer Wells



Note: LA24 & FW24 and LA 40 & 41 are nested wells (same borehole)

LA18 and LA32 at same site (two symbols used in 2016 Annual Report figure to indicate LA32 was a program addition).

Figure 4
Groundwater Monitoring Program
Lower Aquifer Wells
Los Osos Groundwater Basin
2021 Annual Report

Cleath-Harris Geologists