



A Tradition of Stewardship
A Commitment to Service

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NAPA COUNTY BOARD OF SUPERVISORS Board Agenda Letter

TO: Board of Supervisors

FROM: Steven Lederer - Director of Public Works
Public Works

REPORT BY: Patrick Lowe, Natural Resources Conservation Mgr - 259-5937

SUBJECT: Napa County Groundwater Sustainability: Annual Report - Water Year 2017; and Northeast Napa Management Area: an Amendment to the 2016 Basin Analysis Report for the Napa Valley Subbasin

RECOMMENDATION

Director of Public Works requests approval of the following:

1. Receive staff report/presentation on the Napa County Groundwater Sustainability: Annual Report - Water Year 2017; Northeast Napa Management Area: An Amendment to the 2016 Basin Analysis Report (BAR) for the Napa Valley Subbasin; and
2. Board Discussion and Possible Direction to staff regarding:
 - a. Accept Annual Report/Water Year 2017 and authorize submittal to Department of Water Resources (DWR)
 - b. Approve Northeast Napa Management Area, Amendment to BAR and authorize submittal to Department of Water Resources (DWR)

EXECUTIVE SUMMARY

The Napa County Groundwater Sustainability: Annual Report - Water Year 2017 is the 4th Annual Report, with three previous Annual Reports prepared for 2014 - 2016 (LSCE, 2015; LSCE, 2016a; and LSCE, 2017a). This is the first Annual Report prepared to also meet the annual reporting requirements of the Sustainable Groundwater Management Act (SGMA). This is a technical report and includes recommendations for Board review and acceptance.

The Northeast Napa Management Area Amendment is a proposed amendment to the Napa Valley Groundwater Sustainability: 2016 Basin Analysis Report for the Napa Valley Subbasin (BAR). It is the result of the Special Study of the area and recommendations that were presented to the Board of Supervisors on October 24, 2017 and to the

Watershed Information and Conservation Council (WICC) on January 25, 2018. The Amendment provides supplemental information developed since the BAR, but the Amendment does not change the findings of the BAR. This is a BAR Amendment for Board review and approval.

PROCEDURAL REQUIREMENTS

1. Receive staff report and presentation
2. Public Comment
3. Motion, second, discussion and direction to staff
4. Vote on the Items

FISCAL IMPACT

Is there a Fiscal Impact? No

ENVIRONMENTAL IMPACT

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by California Code of Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

BACKGROUND AND DISCUSSION

Introduction

Since 2008, the County, along with the efforts of others, has been instrumental in implementing groundwater management actions to better understand groundwater conditions, establish monitoring to track conditions, conduct education and outreach, and develop programs to assess and maintain groundwater sustainability. These efforts included the adoption of Goals and Policies in Napa County's 2008 General Plan, commencing new studies of the county's groundwater resources in 2009, and creation of a Groundwater Resources Advisory Committee (GRAC; 2011 to 2014) to spearhead groundwater sustainability planning, management implementation and community outreach.

A Napa County Groundwater Monitoring Plan was prepared in 2013 (Plan)(LSCE 2013) to formalize and augment groundwater monitoring efforts conducted as part of a Comprehensive Groundwater Monitoring Program. The Plan recommended annual reports on groundwater conditions and modifications to the countywide groundwater monitoring program as needed. To date, three prior Annual Reports have been prepared (LSCE, 2015; LSCE, 2016a; and LSCE, 2017a). This is the first Annual Report that was prepared to also meet the annual reporting requirements of the Sustainable Groundwater Management Act (SGMA). In December 2016, Napa County submitted the Napa Valley Subbasin Basin Analysis Report (BAR) (LSCE, 2016c) as an alternative to a Groundwater Sustainability Plan (GSP) in accordance with the GSP Regulations developed by the California Department of Water Resources (DWR).

The Napa County Groundwater Sustainability: Annual Report, Water Year 2017, provides an update on groundwater conditions and water use in the Napa Valley Subbasin (Subbasin), as required by Section 356.2 of the GSP Regulations. This Report also provides an update on the recommended SGMA implementation actions presented in the Basin Analysis Report, as well as the Northeast Napa Groundwater Study and proposed Management Area designation.

The Northeast Napa Management Area Amendment is a proposed amendment to the Napa Valley Groundwater

Sustainability: 2016 Basin Analysis Report (BAR) for the Napa Valley Subbasin. It is the result of the Special Study of the area and recommendations that were presented to the Board of Supervisors on October 24, 2017 and to the WICC on January 25, 2018. The Amendment provides supplemental information developed since the BAR, but does not change the findings of the BAR.

Annual Report-Water Year 2017

Results from the County's groundwater monitoring show that groundwater level trends in the Napa Valley Subbasin are stable in the majority of wells with long-term groundwater level records. While many wells showed some degree of response to recent drought conditions (i.e., 2012-2015), the water levels observed in recent years were generally higher than groundwater levels in the same wells during the 1976 to 1977 drought. Groundwater levels showed continued stable conditions or increasing levels in 2017, consistent with the very wet water year conditions. Groundwater levels recorded in 2017 were above the minimum thresholds established as sustainability criteria for the Napa Valley Subbasin for all 18 wells where data are available. Two wells where sustainability criteria have been established were not accessible in October 2017 due to wildfire damage or concerns about site safety resulting from wildfires. Groundwater level monitoring was conducted at a total of 107 sites across Napa County in 2017, including 61 wells within the Napa Valley Subbasin. The number and distribution of wells monitored in 2017 was generally consistent with monitoring conducted since 2014.

Within the primary aquifer system of the Napa Valley Subbasin the volume of groundwater in storage increased in both spring 2016 and spring 2017, relative to the prior monitoring year. The magnitude of the increase in 2016 was 1,586 acre-feet greater than the increase in 2017 despite much more precipitation occurring in water year 2017. This result is consistent with the finding that the Subbasin has been at a relatively full condition with respect to groundwater storage capacity (LSCE, 2016c). Total water use in the Napa Valley Subbasin is estimated to have been 34,793 acre-feet in water year 2016 and 34,142 acre-feet in water year 2017. Total estimated groundwater use in the Subbasin was 17,039 acre-feet in water year 2016 and 15,831 acre-feet in water year 2017. Estimates of groundwater use in 2016 and 2017 are presented along with values for 1988 – 2015 developed for the Basin Analysis Report (LSCE, 2016c). Annual groundwater storage changes were positive in both 2016 and 2017, at 6,056 acre-feet and 4,470 acre-feet, respectively. Cumulative changes in groundwater storage show a net increase of 13,702 acre-feet from water year 1988-2017.

Groundwater use in 2016 and 2017 was comparable to amounts used in recent years dating back to 2004. Over the full 30-year period, annual storage changes in the aquifer system have fluctuated between positive and negative values, generally in accordance with varying amounts of precipitation (water year type). Cumulative changes in storage have also fluctuated between positive and negative values, indicating stable groundwater storage conditions and the absence of chronic depletions of groundwater storage. Groundwater use in the Napa Valley Subbasin in 2016 and 2017 remained below the sustainable yield range of 17,000 to 20,000 acre-feet per year identified in the Basin Analysis Report (LSCE, 2016c). Together, the findings presented in this report regarding groundwater conditions at representative monitoring sites, changes in groundwater storage, and groundwater use demonstrate that the Napa Valley Subbasin has continued to be managed sustainably through 2017.

Although designated as a groundwater subarea for local planning purposes, the majority of the MST is not part of a groundwater basin as mapped by DWR. Groundwater level declines observed in the MST Subarea as early as the 1960s and 1970s have stabilized since about 2009. Groundwater level responses differ within the MST Subarea and even within the north, central, and southern sections of this subarea, indicating that localized conditions, whether geologic or anthropogenic in nature, might be the primary influence on groundwater conditions in the subarea.

Recommendations and Request for Board Direction

Napa County's groundwater sustainability program efforts are proposed to be prioritized in the upcoming year to implement the recommendations of the Annual Report, Water Year 2017. See Chapter 8: Summary and

Recommendations (p.87-90) for details on the following recommendations:

- | 8.1.1 Data Gap Refinement (SGMA Implementation Recommendations 11, 13 and 14)
- | 8.1.2 Ongoing Water Quality Sampling (SGMA Implementation Recommendation 15)
- | 8.1.3 Improve Data Collection and Evaluation from Discretionary Permittees Required to Monitor Groundwater Conditions and Groundwater Use (SGMA Implementation Recommendations 16 and 25)
- | 8.1.4 Evaluate Strategic Recharge and Water Conservation Opportunities (SGMA Implementation Recommendation 8 and 19)
- | 8.1.5 Evaluate Distribution of Groundwater Dependent Ecosystems; Coordinate Evaluation with Guidance Developed by DWR, Nature Conservancy, California Native Plant Society or Others (SGMA Implementation Recommendations 11 and 20)
- | 8.1.6 Update the Napa County Groundwater Ordinance for the Northeast Napa Management Area (SGMA Implementation Recommendation 28)

Staff Recommendation

Discuss and provide direction to staff. Existing resources/budget are expected to address the above recommendations, and these costs will be included as a part of the Department's FY 2018-19 budget request. Grant opportunities are also being sought to support implementation priorities and supplement existing budgets. Recommend acceptance of the Annual Report - Water Year 2017 and authorize submittal to the State/Department of Water Resources (DWR).

Northeast Napa Management Area Amendment

This Amendment to the report: Napa Valley Groundwater Sustainability: A Basin Analysis Report for the Napa Valley Subbasin (Basin Analysis Report, LSCE, 2016b) would designate the Northeast Napa Management Area over approximately 1,960 acres of the 45,928-acre Subbasin. Napa County has developed this Amendment in order to support its continued implementation of the SGMA for the Napa Valley Subbasin. The Basin Analysis Report was approved by the Napa County Board of Supervisors on December 13, 2016 and submitted to the DWR as an Alternative Submittal to meet the requirements of a GSP (per Section 10733.6(b)(3), CA Water Code. This Amendment does not change the findings of the 2016 Basin Analysis Report, instead it provides additional detail about conditions in the Northeast Napa Management Area and establishes additional sustainable management criteria and management actions intended to support continued groundwater sustainability in the Napa Valley Subbasin.

In 2016, Napa County initiated a Special Groundwater Study to understand recent, historical changes in water level trends in a small portion of the Napa Valley Subbasin. The study area included a portion of the Subbasin marked by abrupt variations in the nature and quality of water-bearing geologic formations in the Subbasin. The geologic variation has been mapped as coincident with the East Napa Fault Zone, which generally follows the Napa River channel in portions of the Subbasin between the Town of Yountville and the City of Napa. The northeast Napa Study Area (Study Area) experienced historical groundwater level trends east of the Napa River that are different from and not representative of those that are typical of groundwater level trends for the overall Napa Valley Subbasin. The Study Area contains two wells that experienced historical groundwater level declines of between 20 feet and 30 feet, with groundwater levels in those same wells having stabilized since about 2009. Due to potential concerns relating to continued groundwater development in the area, and due to the complex hydrogeologic setting which includes mapped faults and the Napa River in relatively close proximity to the area of interest, the County authorized a study to better understand groundwater conditions and potential factors relating to historical groundwater levels in the northeast Napa Area. The study, conducted between 2016 and 2017, included evaluation of the potential effects from pumping in the overall Study Area, potential mutual well interference in an area of interest near Petra Drive, and potential streamflow effects.

A numerical groundwater flow model was developed for the study to analyze groundwater conditions in an area covering approximately 9.5 square miles for a 28-year period from 1988 to 2015. The average annual water budget

developed for the Study Area using the numerical flow model shows the area to be in balance with inflows and outflows nearly equal over the 28-year period. The influence of groundwater pumping and climatic effects on groundwater discharge to the Napa River were analyzed using the results from the baseline calibrated model and two sensitivity scenarios: pumping restricted to 1988 pumping levels and doubled pumping relative to the estimated pumping that has occurred over the 1988 to 2015 base period. Climatic effects were found to have a much greater effect on groundwater discharge to the River for the baseline, calibrated model simulation, the 1988 pumping scenario, and the doubled pumping scenario. Additional pumping can occur in the northeast Napa Study Area; however, the Special Study Report recommends targeted management measures to ensure groundwater conditions remain sustainable and streamflow depletion caused by pumping does not become significant and unreasonable.

The findings of the Special Study show that groundwater conditions in the Napa Valley Subbasin east of the Napa River within the Study Area are significantly influenced by climatic factors, geologic features (including a relatively thin veneer of alluvial deposits overlying semi-consolidated rock) that are distinct from those of the larger Napa Valley Subbasin, and cones of depression in the adjacent MST Groundwater Subarea external to the Napa Valley Subbasin (LSCE, 2017).

On October 24, 2017, the Board of Supervisors received a presentation and report on the Northeast Napa Area: Special Groundwater Study, (Special Study Report) on groundwater conditions in this portion of the Napa Valley Subbasin. In supporting the findings and recommendations of the Special Study Report, the Board of Supervisors directed staff to develop documentation to formally establish the Northeast Napa Management Area covering approximately 1,960 acres within the 45,928-acre Napa Valley Subbasin. GSP Regulations adopted by the California Water Commission in 2016 define a management area as, “an area within a basin for which the Plan may identify different minimum thresholds, measurable objectives, monitoring, or projects and management actions based on differences in water use sector, water source type, geology, aquifer characteristics, or other factors” (Section 351). This Amendment summarizes key findings based on needs identified during the Special Study and presents additional sustainable management criteria and management actions which are relevant to the Napa Valley Subbasin and Northeast Napa Management Area. The management area designation includes seven representative monitoring sites, each with quantitative minimum thresholds and measurable objectives, established to aid the County in evaluating future groundwater conditions in the Northeast Napa Management Area.

Recommendations and Request for Board Direction

Management actions proposed with this Amendment are intended to complement the management actions in the 2016 Basin Analysis Report which will enable continued attainment of the SGMA Sustainability Goal for the Napa Valley Subbasin. Implementation will include outreach to groundwater users and other stakeholders as described in the 2016 Basin Analysis Report (LSCE, 2016b). A summary list of the management actions is provided below. See Chapter 4.0 Management Actions (p.32-36) for additional details.

- | 4.1.1 Napa Valley Subbasin Groundwater Flow Model Development
- | 4.1.2 Additional Surface Water/Groundwater Monitoring Facilities
- | 4.1.3 Discretionary Project Review in the Management Area
- | 4.1.4 New Well Tracking in the Management Area
- | 4.1.5 New Well Pump Testing to Refine Aquifer Properties Characterization
- | 4.1.6 Increased Water Conservation and Evaluation of Recharge Opportunities

Staff Recommendation

Discuss and provide direction to staff. The Northeast Napa Management Area Amendment was developed in order to support Napa County's continued implementation of SGMA for the Napa Valley Subbasin and the 2016 Basin Analysis Report (BAR). It provides additional detail about conditions in the Management Area and establishes additional sustainable management criteria and management actions intended to support continued groundwater

sustainability in the Napa Valley Subbasin. Existing resources/budget are expected to address the above recommendations, and these costs will be included as a part of the Department's FY 2018-19 budget request. Grant opportunities are also being sought to support implementation priorities and supplement existing budgets. Recommend approval of the Northeast Napa Management Area Amendment to the BAR and authorize submittal to the State/Department of Water Resources (DWR).

SUPPORTING DOCUMENTS

- A . Napa County GW Sustainability Annual Report-Water Year 2017
- B . Northeast Napa Management Area: Amendment to 2016 BAR

CEO Recommendation: Approve

Reviewed By: Bret Prebula