



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: Northeast Napa Area Special Groundwater Study Report

RECOMMENDATION

Director of Public Works Requests that the Board:

1. Receive staff report/presentation on the Northeast Napa Area Special Groundwater Study; and
2. Board Discussion and Possible Direction to staff regarding Findings and Recommendations for:
 - a. Surface Water/Groundwater Monitoring Facilities;
 - b. Management Area Designation;
 - c. WAA Review for Discretionary Projects in the Management Area;
 - d. New Well Tracking in the Management Area;
 - e. New Well Pump Testing;
 - f. Groundwater Flow Model Development; and
 - g. Increased Water Conservation and Recharge.

EXECUTIVE SUMMARY

Groundwater level trends in a small portion of the Napa Valley Subbasin identified a potential area of concern located northeast of the City of Napa and west of the Milliken, Sarco, Tulocay (MST) area. This area, referred to as the northeast Napa Area, or Study Area, shows 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 groundwater basin. The Study Area contains two wells that have historical groundwater level declines of approximately 18 feet to 29 feet, but those levels have stabilized since about 2009. Land use in the Study Area is marked by agriculture (vineyards) and wineries, as well as urban and semi-agricultural land uses.

The County authorized a Special Study of this localized area in April, 2016 as a part of the Groundwater Program for 2016-17, to better understand groundwater conditions and potential factors relating to historical groundwater level

declines. Potential concerns included continued groundwater development in the area (particularly east of the Napa River), a complex hydrogeologic setting which includes mapped faults (East Valley Fault Zone, the Soda Creek Fault and other concealed faults), and the presence of the Napa River.

The study included evaluation of the potential effects from pumping in the overall Study Area; potential mutual well interference in the Petra Drive area; potential streamflow effects; assessment of the potential influence of previously documented groundwater cones of depression in the MST area; assessment of the groundwater supply sufficiency to meet current and potential future groundwater demands for the overall Study Area; and assessment of whether potential groundwater management measures or controls are warranted in the Study Area. The background, findings and recommendations are summarized below.

PROCEDURAL REQUIREMENTS

1. Receive staff report
2. Public Comment
3. Motion, second, discussion
4. Accept report and provide direction to staff

FISCAL IMPACT

Is there a Fiscal Impact? No

ENVIRONMENTAL IMPACT

ENVIRONMENTAL DETERMINATION: The proposed action is not a project as defined by 14 California Code of Regulations 15378 (State CEQA Guidelines) and therefore CEQA is not applicable.

BACKGROUND AND DISCUSSION

Groundwater level trends in a small portion of the Napa Valley Subbasin identified a potential area of concern located northeast of the City of Napa and west of the Milliken, Sarco, Tulocay (MST) area. This area, referred to as the northeast Napa Area, or Study Area, shows 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 groundwater basin. The Study Area contains two wells that have historical groundwater level declines of approximately 18 feet to 29 feet. Those levels have stabilized since about 2009, but still warrant further study. Land use in the Study Area is marked by agriculture (vineyards) and wineries, as well as urban and semi-agricultural land uses.

The County authorized a Special Study of this localized area in April, 2016 as a part of the Groundwater Program for 2016-17, to better understand groundwater conditions and potential factors relating to historical groundwater level declines. Potential concerns included continued groundwater development in the area (particularly east of the Napa River), a complex hydrogeologic setting which includes mapped faults (East Valley Fault Zone, the Soda Creek Fault and other concealed faults), and the presence of the Napa River.

The study included evaluation of the potential effects from pumping in the overall Study Area; potential mutual well interference in the Petra Drive area; potential streamflow effects; assessment of the potential influence of previously documented groundwater cones of depression in the MST area; assessment of the groundwater supply

sufficiency to meet current and potential future groundwater demands for the overall Study Area; and assessment of whether potential groundwater management measures or controls are warranted in the Study Area.

A summary (8 pages, including short "At a Glance" sections for each) of the report and its findings is provided in **Attachment A**.

The full (250 page) Northeast Napa Area Special Groundwater Study Report is provided in **Attachment B**.

For the ease of the Board and the Public, only the specific recommendations and request for direction are provided here. The recommendations are first summarized in five bullet points, and then discussed in more detail following that. Please refer to the attached summary and full report for additional details.

Recommendations and Request for Board Direction:

This Section at a Glance:

- | We need to continue to expand our monitoring; report to the Board annually, and create additional rules and restrictions should the data so indicate;
- | The area should be given an official designation as a "Management Area";
- | All new wells should do enhanced pumping tests, and new discretionary projects should do additional analysis;
- | We should expand the model we used for this area to the whole Napa Valley Basin; and
- | Additional actions to encourage conservation and recharge are warranted to ensure the area remains viable.

The groundwater study recommendations and staff recommended actions for Board consideration:

- a. **Surface Water/Groundwater Monitoring Facilities** - It is recommended that the County construct shallow nested groundwater monitoring wells (like the recently installed Local Groundwater Assistance Surface Water/Groundwater monitoring facilities) east of the Napa River in the vicinity of Petra Drive. This will provide data to improve the understanding of the effect of pumping on potential streamflow depletion.

Staff Recommendation: New groundwater monitoring facilities have been included as a part of a current Wildlife Conservation Board (WCB) Proposition 1 grant proposal with matching funding to be proposed for next year's 2018-19 budget.

- b. **Management Area Designation** - It is recommended that a Sustainable Groundwater Management Act (SGMA) Management Area be designated for a portion of the Study Area, i.e., Northeast Napa Area/East of the Napa River (Figure 5-1). SGMA defines a "management area" as an area within a basin for which a Groundwater Sustainability Plan (in this case, the Napa Valley Subbasin Basin Analysis Report) 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 (GSP Regulations Article 21, Section 351) (LSCE, 2016c). The northeast Napa Study Area east of the Napa River meets the criteria for management area designation due to geologic features and aquifer parameters that are distinct from those of the larger Napa Valley Subbasin. This approach was described in the 2016 Basin Analysis Report for the Napa Valley Subbasin and is consistent with the findings of that report.

Staff Recommendation: Public Works will bring this back to the Board in March 2018 along with the Annual GW Monitoring Update, which will include with the 1st Annual Basin Analysis (BA) Report Update to the Department of Water Resources (DWR).

- c. **WAA Review for Discretionary Projects in the Management Area** - For discretionary projects, it is recommended that additional project-specific analyses (Napa County Water Availability Analysis (WAA) (2015)-Tier 2) be conducted to ensure that the proposed project location or planned use of groundwater does not cause an undesirable result (e.g., locate proposed wells at appropriate distances from surface water [or consider well construction approaches that avoid streamflow effects] and avoid mutual well interference to neighboring wells).

Staff Recommendation: PBES will bring GW and Well Ordinance updates back to the Board in 2018 along with related WAA updates to be provided by Public Works.

- d. **New Well Tracking in the Management Area** - As a precautionary measure, it is recommended that the County track new non-discretionary groundwater wells constructed in this area, including their planned usage and location.

Staff Recommendation: PBES will track and provide new well data/GIS layer to Public Works/Water Resources.

- e. **New Well Pump Testing** - It is recommended that pumping test data be collected when new production wells are constructed in areas where the distribution of hydraulic conductivities is less known, including the northeast Napa Area east of the Napa River and in deeper geologic units throughout the rest of the Napa Valley Subbasin. Because older and less productive geologic formations occur near ground surface in the northeast Napa Area east of the Napa River, it is recommended that a pump test be performed for all new production wells in that area (Figure 5-1). Test results will not only provide valuable information regarding aquifer properties; true pump testing will provide well owners with more meaningful information about well capacity than the typical tests of well yield reported on historical well completion reports. Similar pump testing is recommended for non-domestic production wells completed in deeper units below the Quaternary alluvium throughout the Napa Valley Subbasin.

Staff Recommendation: PBES will bring GW and Well Ordinance updates back to the Board in early 2018 along with related WAA updates to be provided by Public Works.

- f. **Groundwater Flow Model Development** - It is recommended that a similar model be created for the entire Napa Valley Subbasin. The development of a Napa Valley Subbasin-wide modeling tool would help facilitate the examination of water resources management scenarios, including the effects of climate change and other stresses on surface and groundwater resources. With the updated hydrogeologic conceptualization for the Napa Valley Subbasin and the implementation of SGMA, it is recommended for regional groundwater analyses and assessment of streamflow depletion that a groundwater flow model be developed.

Staff Recommendation: Groundwater flow model development has been included as a part of a current WCB grant proposal with matching funding to be proposed for next year's 2018-19 budget.

- g. **Increased Water Conservation and Recharge** - It is recommended that countywide goals to promote sustainable use and management of water, maintain or improve ecosystem health, and increase climate resiliency receive extra attention in the northeast Napa Area. This should include evaluating approaches to retaining and using stormwater and/or tile drain water to increase water conservation, examining opportunities to reduce pumping and streamflow diversions, potentially lessening streamflow effects during drier years or drier periods of the year, and creating additional climate resiliency through targeted recharge strategies.

Staff Recommendation: A project has been developed and included as a part of a current WCB grant proposal with matching funding to be proposed for next year's 2018-19 budget.

SUPPORTING DOCUMENTS

- A . Groundwater Study Report Findings-Recommendations Summary
- B . Northeast Napa Area Special Groundwater Study - Sept 2017 Report
- C . Water Budget Components/GWSW/Active Model Area
- D . PowerPoint Presentation

CEO Recommendation: Approve

Reviewed By: Bret Prebula