



A Tradition of Stewardship
A Commitment to Service

Did you know?.....Some Answers to Frequently Asked Questions about Groundwater in Napa County

1. If groundwater conditions are so good, why did my well go dry?

- ▶ Overall groundwater levels in the main Napa Valley Subbasin have been stable for decades. Groundwater conditions outside the Napa Valley Subbasin are more variable, such as in the Milliken-Sarco-Tulucay (MST) area. In addition to the effects of the recent drought, the productivity of an individual well can depend on a number of things including the depth and serviceable life of the well, local aquifer properties, and amount and rate of nearby pumping from surrounding wells.

2. If depth to groundwater is so shallow, why do wells seem to be getting deeper to find water?

- ▶ Generally, groundwater levels across the Napa Valley Subbasin have been stable for decades. In limited areas, newer wells may be deeper to produce at dependable rates. This would include areas where seasonal variability is high, or the Northeastern Napa Subarea where water level declines in wells monitored by the County east of the Napa River were observed over approximately the decade prior to 2009, but have since stabilized.

3. Why are streams that used to flow in the summer now dry?

- ▶ Reaches of the Napa River have over many decades (since the 1930s) experienced low to no-flow conditions during the summer-to-fall period for a variety of reasons. Stream flow is very dependent on seasonal rainfall, small dams (both legal and illegal) that have been constructed to block stream flow, withdrawals of surface water (both legal and illegal) from the creeks, as well as reduced groundwater discharge into the stream channel. The duration of annual no flow days varies from year-to-year and increases during extended droughts as during recent years.

4. Why aren't the hillsides included? Aren't they important too?

- ▶ The Sustainable Groundwater Management Act (SGMA) requires that Groundwater Sustainability Plans (GSPs) or Alternatives to a GSP be developed for medium and high priority groundwater basins as delineated and ranked by the State Department of Water Resources (DWR). The hillsides do not fall within the Napa Valley Subbasin that the Basin Analysis Report addresses. Because the hillsides do not act as a basin, but instead as thousands of discrete subareas based on local geography, it is not scientifically or economically practical to "study the hillsides". However, the hillsides are included in the Napa Valley Subbasin water budget by incorporating uplands runoff and subsurface inflow.

5. What about the MST and Carneros, why aren't they included? How will we know what's going on in those areas/subbasins that are already having problems?

- ▶ The Sustainable Groundwater Management Act requires that Groundwater Sustainability Plans (GSPs) or Alternatives to a GSP be developed for medium and high priority groundwater basins as delineated and ranked by the State Department of Water Resources (DWR). The MST and Carneros Subareas are not state-defined basins, but they are subareas that Napa County has established based on watershed boundaries and the County's environmental resource planning areas for the purposes of local planning, understanding, and studies. With regards to the MST, it is one of the most monitored areas of the county, with data dating back many decades. There are significant land use controls in place in the area (the county has not approved a discretionary project in the MST that couldn't meet the "no net increase" standard since 2004), and significant effort has gone into constructing a recycled water pipeline to the area, that became operational just this year (2016). The Carneros Subarea partly overlaps with the Napa-

Sonoma Lowlands Subbasin which is a DWR-designated very low priority Subbasin for which a GSP or Alternative is not required. Updates on groundwater conditions in the MST and Carneros Subareas have been and will continue to be included in the County's Annual Groundwater Monitoring Reports.

6. What about drain tiles throughout the vineyards in the valley? Did you look at them and don't they have an impact on groundwater?

- ▶ The practice of actively draining shallow groundwater from the root zone to benefit crop health at certain stages of growth has the potential to affect the water use requirement of crops in the Napa Valley Subbasin. No public data on the location, distribution, and construction of drain tile systems in the Subbasin are available at present. Nevertheless, given the prevalence of farm ponds across the valley and the incentive to reuse water when possible, the water budget described in the Basin Analysis Report assumes that drain discharges are not discharged to streams but are retained in ponds, with negligible losses, for later application to a crop. From that assumption, the conceptual approach is that water pumped from the drain networks serves to offset groundwater pumping that would otherwise occur later in the same season. The stored drain tile water is then assumed to be groundwater extracted prior to the need for irrigation, but is nevertheless accounted for by the Root Zone Model by a portion of what it calculates as pumping demand later in the season.

7. Since surface water and groundwater are connected, isn't groundwater pumping dewatering the Napa River and threatening our remaining native fish populations?

- ▶ The Basin Analysis Report finds that overall, groundwater levels in the Napa Valley Subbasin have been stable for decades, demonstrating that current groundwater pumping has not contributed to chronic depletions of groundwater storage and that pumping has likely been below the sustainable yield for the Subbasin. Surface water and groundwater are connected; therefore, seasonal and year to year variability in precipitation and other factors have affected both surface water and groundwater. Since at least the 1930s, periods of no flow days have been observed in the Napa River system, particularly during drier years. Based on the analyses of surface water and groundwater interconnections, including the relationship of this connection to seasonal and annual groundwater elevation fluctuations, the Basin Analysis Report uses 16 wells (and other data including stream gage data) in the Subbasin to monitor groundwater level impact on the Napa River. As long as the fall water levels in these 16 wells remains above the determined level, (the "minimum threshold"), the contribution of groundwater to flow in the Napa River is determined to be no less than has occurred historically in the fall. On average, it is preferable for fall water levels in these wells to approximate their individual measureable objective, which is a level higher than the minimum threshold.

8. Are you doing anything about well problems in the county like the Petra Dr/Soda Canyon area?

- ▶ Water levels in northeastern Napa Subarea wells monitored by the County east of the Napa River have stabilized since 2009, though declines were observed over approximately the prior decade. To ensure continuation of the current stable groundwater levels, a further study in this area was approved by the Napa County Board of Supervisors. The study is designed to examine existing and future water use in the area, sources of groundwater recharge, and the geologic setting to address questions regarding the potential for long-term effects. The study will also investigate the potential influence of previously documented groundwater cones of depression in the MST Subarea on the Study Area both east and west of the Napa River. The County will evaluate the study results to determine if potential groundwater management measures or controls (similar to those that have been successfully implemented in the MST) or a Management Area designation are warranted.

9. Why are we doing this alternative instead of creating a GSA and then a GSP?

- ▶ Following a public hearing and at the direction of its Board of Supervisors, Napa County prepared this Basin Analysis Report, an Alternative Submittal per the requirements of the California Water Code. It provides an analysis of basin conditions and demonstrates that the basin has operated within its sustainable yield over a period of at least 10 years. The Basin Analysis Report is required to accomplish the same (or identical) goals as a GSP within the framework of SGMA. An Alternative to a GSP does not require the formation of a Groundwater Sustainability Agency, which allows for a more cost effective use of existing resources through the Board of Supervisors and WICC.
- ▶ SGMA requires submittal of an Alternative submittal, such as the Basin Analysis Report, by January 1, 2017, which is five years in advance of when a GSP is required. Following its submittal to the state, DWR will conduct a review of the Basin Analysis Report, which will allow for additional public comment. An early submission to DWR sets local groundwater thresholds and establishes required monitoring and reporting well in advance of the 2022 timeline established by SGMA for a GSP. The Basin Analysis Report must be reviewed and updated by 2022 and every five years thereafter, and annual groundwater monitoring/implementation updates are also required by DWR. If minimum thresholds are not being met, then actions will be required to ensure the long-term sustainability of the Napa Valley Subbasin.

10. Will the Basin Analysis Report be updated over time--is this a living document?

- ▶ Annually, the latest groundwater monitoring data are presented to the Board of Supervisors in a public meeting, as has been done for the past several years. This monitoring data will allow us to update and, if necessary, make changes to our planning efforts around groundwater issues. Every five years, or more often if changing conditions warrant, the County will formally prepare an updated Basin Analysis Report to assess whether the basin is in compliance with the California Water Code. The report will evaluate the sustainability of the basin in terms of sustainability indicators, corresponding measurable objectives, and minimum thresholds. The report will further provide an assessment of the adequacy of monitoring data for evaluating whether the basin has continued to be operated within its sustainable yield.

11. How will the Basin Analysis Report be used to inform and guide County policy on groundwater/water, land use and others?

- ▶ The County seeks to implement its water resources goals and policies through various Water Resources Action Items stated in the 2008 General Plan Update. Napa County regulates groundwater usage and well development through its Code of Ordinances, Title 13 Water, Sewers, and Services. The ordinances are a means to ensure that these General Plan objectives are managed effectively. The Basin Analysis Report will inform County staff in the implementation of existing County policies. In addition, the County will continue to evaluate the results of ongoing groundwater monitoring efforts and results from the study of groundwater conditions in the Petra Dr./Soda Canyon area to determine if potential groundwater management measures or controls (similar to those that have been successfully implemented in the MST) or a Management Area designation are warranted.

12. Where can I find additional information about groundwater in Napa County?

- ▶ Visit the Watershed Information & Conservation Council (WICC) website at: <http://www.napawatersheds.org/groundwater>

13. How was the hydrologic base period selected for the study of groundwater conditions?

- ▶ A base period of time must be selected so that it is a representative period of study for groundwater basin conditions, with minimal bias that might result from the selection of a wet or dry period or significant changes in

other conditions including land use and water demands. The study period selected for the Basin Analysis Report spans from water years 1988 to 2015. This period was selected on the basis of the following criteria: long-term mean annual water supply; inclusion of both wet and dry stress periods; antecedent dry conditions; adequate data availability; and inclusion of current cultural conditions and water management conditions in the basin.

14. How are projected future conditions evaluated?

- ▶ The Basin Analysis Report includes a 10-year projection of the Napa Valley Subbasin water budget. The most recent land use development trend is utilized for the projected water budget future condition. The water budget includes projects approved or in process through 2016, and considers the rate of projected development through 2025. In addition, modeled climate change from the U.S. Geological Survey Basin Characterization Model (Flint and Flint, 2013) was applied to evaluate the projected scenarios.