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November 6, 2024

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State Water Resources Control Board
P.O. Box 100
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SUBJECT: Napa County Groundwater Technical Advisory Group comments on SWRCB modeling of Napa River Subbasin

Dear Chair E. Joaquin Esquivel,

Introduction

The Napa County Groundwater Technical Advisory Group (TAG) was appointed by the Napa County Groundwater Sustainability Agency (NCGSA) in June 2022 to provide support and technical advice on implementation of the Groundwater Sustainability Plan (GSP) in the Napa Valley Subbasin. The [five-member TAG has](#) met approximately monthly since August 2022 to provide guidance on a number of technical matters. As part of our review of relevant issues, the TAG invited the State Water Resources Control Board (SWRCB) staff to present a summary of the SWRCB Supply and Demand Assessment Unit's ongoing modeling effort for the Napa River Watershed at the TAG's September 12, 2024 meeting. In response to this presentation and our further review of the PowerPoint slides presented, the TAG provides these comments in an effort to facilitate collaboration among the agencies and to improve the quality and utility of the resulting scientific outputs.

Background

Significant effort has been invested by the NCGSA to better understand the Napa Valley Subbasin, including groundwater / surface water interactions along the Napa River and its tributaries. Those efforts have included:

- Extensive data compilation (including collaboration with the Napa County Resource Conservation District [RCD] and compilation of data associated with the Stream Watch program¹).
- Compilation and review of prior scientific work establishing that groundwater has a significant contribution to low flow in the Napa River, going back at least to the U.S. Geological Survey (USGS) analysis of 1973.² Subsequent studies have consistently confirmed this finding.
- Development of the Napa Valley Integrated Hydrologic Model (NVIHM), a comprehensive model of Napa Valley Subbasin, including groundwater / surface water interactions, and constructed and calibrated consistent with best practices specified by the California Department of Water Resources (DWR).³
- Additional investigations and data collection, including identification of a monitoring network associated with surface water / groundwater interactions.

These efforts are extensively documented in the GSP, which was adopted by the NCGSA Board and subsequently approved by DWR in January 2023. While still identifying data gaps, the GSP represents a significant advancement in understanding of water balance within the Napa Valley Subbasin. A significant outcome outlined in the GSP is the role of groundwater on interconnected surface water within the Napa Valley Subbasin. In addition, consistent with DWR guidance and best practices,⁴ the NVIHM is a central tool for ongoing and future management of the Subbasin and for evaluation of sustainability indicators, including evaluation of depletion of surface water due to groundwater pumping.

As part of GSP implementation, five workplans have been prepared, including: the [Napa County Water Conservation Workplan](#), [Groundwater Pumping Reduction Workplan](#), [Stormwater Resource Plan](#), [Interconnected Surface Water \(ISW\) and Groundwater Dependent Ecosystems \(GDEs\) Workplan](#), and a [Communication and Engagement Plan](#).

As part of the GSP implementation, the NCGSA is working on additional characterization (including expansion of the Napa RCD Stream Watch program and additional groundwater / surface water monitoring) that will further refine the understanding of groundwater / surface water interactions and its representation within the NVIHM. The County is expanding its monitoring and data collection efforts. In 2023, this included the installation of 16 additional groundwater monitoring wells and eight stream gaging stations at eight sites to further assess groundwater conditions and surface water connectivity. In 2024, scientific surveys were initiated to periodically assess specialized aquatic and terrestrial habitats (e.g., fish, California Freshwater shrimp, amphibians, birds, and vegetation) as part of the ISW and GDEs Workplan implementation.

Development of the GSP and associated tools, including the NVIHM, and current implementation of the GSP, have been and continue to be a public process, with multiple opportunities for the public and stakeholders to provide comments. As part of the GSP implementation, it is critical to build trust among the stakeholders, Napa Valley community, and the public, in the technical basis for water resource

¹ [Stream Watch - Napa County RCD \(naparcd.org\)](http://naparcd.org)

² Faye, R.E. 1973. Ground-water hydrology of northern Napa Valley California. Water Resources Investigations 13-73, US Geological Survey, Menlo Park, CA, 64 p.

³ DWR Best Management Practices for Hydrogeologic Conceptual Model, Water Budget, and Modeling -- available at [Best Management Practices and Guidance Documents \(ca.gov\)](#)

⁴ DWR Guidance on Depletions of Interconnected Surface Water – available at [Best Management Practices and Guidance Documents \(ca.gov\)](#)

management decisions and associated tools used for sustainability evaluation. Specifically, the NVIHM and its outputs (such as estimated groundwater pumping and estimated depletion of surface water flow in response to pumping) are one of those tools and provide a commonly held factual basis that all stakeholders can refer to and build upon. While it is important to explicitly acknowledge its uncertainties and limitations, the NVIHM provides an essential tool with which to understand interactions among surface flows, groundwater, and pumping, thereby supporting reasoned public discourse on these important issues.

SWRCB Model

The TAG became aware of the ongoing SWRCB modeling effort for the Napa River Watershed at the TAG's September 2024 meeting, where SWRCB staff and technical team provided a presentation of the ongoing modeling effort. Based on the presentation and subsequent discussion, it appears that the SWRCB modeling effort has been undertaken with little consideration of the analyses completed for the development and implementation of the GSP and development of the NVIHM.

Concerns

The TAG has the following concerns with SWRCB ongoing modeling work of the Napa River Watershed:

SWRCB model/approach oversimplifies groundwater / surface water interactions – with groundwater represented as a simple “nob” that can be turned.

- The relationships as modeled are not consistent with historical and current understanding of the Napa River and interconnections with the groundwater subbasin.
- Groundwater discharge to surface water is a significant contribution during low flow, which is a critical time for agricultural water availability and for ecosystem processes.

SWRCB model development does not leverage previous work that has been performed in the Napa Valley Subbasin.

- Data previously compiled and critically reviewed as part of the GSP development are not leveraged in support of the SWRCB model development. For example, we understand that the SWRCB modeling uses California Irrigation Management Information System (CIMIS) evapotranspiration (ET) data to represent ET, but vetting of this and other potential ET data sources has demonstrated that ET data at the Oakville CIMIS station are unreliable due to issues with location and operation of the instruments (TAG's September 2024 meeting discussion).
- Coordination and knowledge sharing seem to have been very limited between the SWRCB technical team and the NCGSA technical team and other public agency scientific data collection efforts. For example, the SWRCB technical team does not seem to be aware of or to have used the Napa RCD Stream Watch data as part of SWRCB model calibration.

SWRCB model results will likely undermine trust in previous/other modeling efforts and in ongoing and future communication from the NCGSA to the Napa Valley community.

- The SWRCB model will provide outputs that are likely to conflict with previous results and information generated as part of the GSP development and implementation.

- The TAG has already heard concerns from knowledgeable stakeholders at the TAG's September 2024 meeting questioning the meaning of the multiple models, and other stakeholders will likely have similar questions.

SWRCB model will require additional effort from the NCGSA to explain discrepancies in outcomes and why the SWRCB model is different and has limitations for applicability to the Napa River. Ultimately, a hydrologic model that explicitly integrates surface water and groundwater interactions will be required to provide the scientific basis for informed water resources management decisions.

Recommendations

We strongly recommend holding a technical meeting between SWRCB and NCGSA technical teams prior to public release of the SWRCB model results to review the draft results and discuss potential discrepancies and concerns.

At a minimum, SWRCB should release the draft results for NCGSA review well in advance of public release so that the NCGSA can be prepared to communicate accordingly upon public release of the results.

Conclusion

This work should be an opportunity for collaboration between different public agencies with a similar goal – stewardship of our water resources. We strongly urge SWRCB to take this opportunity to work collaboratively with the NCGSA on this matter.

Signed,

Albert Filipelli
Chair, Napa County Groundwater Technical Advisory Group

Monica Cooper, Vice Chair, TAG
Julie Chambon, TAG
Matt Kondolf, TAG
Miguel Garcia, TAG

Attachments:

1. September 2024 TAG Meeting Staff Report and Powerpoint Slides

cc (by email):

Joelle Gallagher, Chair, NCGSA Board of Directors
Ryan Gregory, NCGSA Board of Directors
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