

Appendix 3G Draft Napa Valley Subbasin Groundwater Sustainability Plan Comments

The Napa County Groundwater Sustainability Agency (NCGSA) values and considers the interests of all beneficial uses and users of groundwater in the Subbasin. This appendix documents public comments received by the NCGSA on the Draft Napa Valley Subbasin Groundwater Sustainability Plan (GSP). Comments recorded here reflect comments received at a series of public meetings held in September and October 2021, at two locations in the Subbasin and one meeting by video conference. Also documented are comments received since November 12, 2021 and through December 14, 2021, reflecting comments on the version of the GSP recommended for adoption by the Groundwater Sustainability Plan Advisory Committee (GSPAC) on November 16, 2021.¹ Comments received on prior draft GSP Sections were reviewed and addressed prior to posting the draft GSP on November 12, 2021.

This document provides a record of public input consistent with the requirements of the California Water Code (CWC) and GSP Regulations contained in the California Code of Regulations (CCR), including CWC §10728.4, CCR §354.10(c), and §355.4(b)(10).

Global Comments and Responses

Comments received by the NCGSA included both technical and non-technical comments. In order to facilitate review of comments received, themes observed in multiple comments are summarized below. The following section provides a comment log with additional responses to individual comments.

Global Comment A

Various comments addressed considerations given to the interests of disadvantaged communities and diverse social, cultural, and economic interests as part of draft GSP development.

Global Response A

The draft GSP recognizes the importance of considering the interests of all beneficial uses and users of groundwater and interconnected surface waters in the Subbasin, including disadvantaged communities. Section 1.2 summarizes opportunities public participation provided during GSP development, guided by the NCGSA's 2020 Stakeholder Communication and Engagement Plan (CEP).

Section 3.6.1.6 describes available information from County, State, and federal sources on the location and estimated population of disadvantaged communities (DACs) in the Subbasin, with a description of their reliance on groundwater. **In response to comments on the draft GSP, additional information has**

¹ On December 7, 2021, during a publicly noticed meeting to consider adoption of the GSP, the NCGSA voted to extend the public comment period on the draft GSP through 5:00 pm on December 14, 2021. Prior to the close of the public comment period, staff from the San Francisco Bay Regional Water Quality Control Board contacted County staff to notify the County of their intent to provide a comment letter and that the letter likely would not be provided until after December 14. The comment letter arrived on January 7, 2022. Responses to the Regional Board comments were provided verbally by County staff on January 11, during a meeting of the NCGSA and prior to GSP adoption. Responses to the Regional Board comments are also included in this document.

been added to Section 3.6.1.6 to describe the population of and known water sources for areas mapped as disadvantaged communities, severely disadvantaged communities, and economically distressed areas. Additional information has also been added to Section 3.6.1.6 to describe outreach conducted by the NCGSA to the Chair of the Native Advisory Council at the Pepperwood Preserve during GSP development to inform development of the 2020 Stakeholder Communication and Engagement Plan (Appendix 1C) and solicit input on tribal interests during GSP development.

While no applicants to the GSP Advisory Committee (GSPAC) self-identified as representing a DAC, GSPAC membership did include representatives from the Cities of Napa, St. Helena, and Calistoga that each include areas mapped as DACs. Those representatives acknowledged their representation of DAC areas at various points during GSPAC deliberations.

To provide additional opportunities for stakeholder and public engagement during GSP development, the NCGSA held three major public meetings during September and October 2021. Notices were sent to the public through social media, the GSA's Interested Persons email list, and postcards mailed to approximately 4,300 parcels in the Subbasin within areas mapped as Disadvantaged or Severely Disadvantaged Communities.

Consistent with the 2020 CEP, the NCGSA has provided Spanish translations of the draft GSP Executive Summary and Executive Summary Abstract to facilitate engagement with non-English speaking residents who are among the underrepresented community members described in the CEP.

The draft GSP also describes that the NCGSA will continue outreach efforts as part of GSP implementation, including efforts to build relationships with social service and other organizations that have connections to DACs and underrepresented community members, as part of continued stakeholder outreach and engagement activities.

Global Comment B

Various comments addressed the geographic scope of the draft GSP, in particular the distinction between the Napa Valley Subbasin and the Napa River Watershed. Comments included questions about considerations given to the hydrologic influence of the Watershed on the Subbasin. Other comments included requests for groundwater management to be undertaken across the Watershed.

Global Response B

The Sustainable Groundwater Management Act (SGMA) provides limited authorities for GSAs to prepare GSPs and conduct groundwater management in state-defined groundwater basins or subbasins. Consistent with State granted authorities for GSAs, the NCGSA formed to manage the Napa Valley Subbasin.

Sections 1.1 and 1.1.3 of the draft GSP provide information on how the State mapped and developed a prioritization for the Napa Valley Subbasin. Additionally, Appendix 1B provides the complete documentation from DWR detailing the prioritization process and results.

While the state-defined Subbasin boundary creates an administrative distinction, the draft GSP recognizes the hydrologic connection between the Napa River Watershed and the Napa Valley Subbasin. The Basin Setting describes the Hydrogeologic Conceptual Model for the Subbasin, including the influence of the larger Watershed (see Section 4). The Water Budget quantifies the inflows to and outflows from the Subbasin, including surface water flows and subsurface flows from and to the larger Watershed (Section 8). The same Section also provides these details for a 32-year historical period and a 51-year projected period, including three distinct future scenarios that reflect projected land use and population change under historical baseline hydrologic conditions and two climate-change hydrologic projections. Historical and projected water budget data are presented for each year and for five different regions within the overall Subbasin.

As a groundwater sustainability agency formed in response to SGMA, the NCGSA only has the authority to develop and implement a GSP for the state-defined Napa Valley Subbasin.

Global Comment C

Various comments addressed the nature of GSP implementation, following adoption by the NCGSA. Questions and comments reflected concerns about the need for proactive and responsive management that reflects best available information on groundwater and interconnected surface water conditions. Some commenters requested additional detail regarding management actions and how they will be triggered in response to Subbasin conditions.

Global Response C

The NCGSA recognizes that sustainable groundwater management, as defined by SGMA, presents a high standard requiring continuous and responsive efforts. Consistent with the State's GSP Regulations, the GSPAC infused the draft GSP with a commitment to adaptive management. That commitment is stated plainly in the Subbasin Sustainability Goal, unanimously approved by the GSPAC and presented in Section 9.3:

To protect and enhance groundwater quantity and quality for all beneficial uses and users of groundwater and interconnected surface water in the Napa Valley Subbasin both now and in the future. The Napa County GSA will implement sustainable management criteria and an adaptive management approach supported by the best available information and best available science, resulting in the absence of undesirable results within 20 years from GSP adoption.

This goal recognizes that the NCGSA is not able to implement a single, static management approach with an expectation that it will remain effective indefinitely. Instead, through the Subbasin Sustainability Goal, the NCGSA commits to management that reflects best available information, while addressing known data gaps, to avoid undesirable results.

The GSPAC further embraced the principles of adaptive management in drafting the GSP by unanimously approving a motion to recommend formation of a Technical Work Group (TWG) as part of GSP implementation. The TWG will consist of members with "technical expertise relevant to the GSP, as

well as experience working in a collaborative setting on public policy implementation, and the TWG will have both the responsibility and the timely opportunity to advise the NCGSA, and the TWG will be involved with implementation of the GSP, and include, among other things, a focus on data gaps and adaptive management” (see Section 11.8.2).

Consistent with GSP Regulations, Section 11 of the draft GSP describes conditions that will trigger each of the planned projects and management actions, with the specific objective of doing so to avoid or preclude the occurrence of undesirable results. Adaptive management principles are also reflected as part of the consideration of triggers for projects and management actions. The six SGMA sustainability indicators addressed in the draft GSP vary in terms of the potential for Subbasin-wide or localized impacts. The NCGSA is also limited in how it can influence a condition or conditions causing impacts on beneficial uses and users. Given these challenges, conditions that trigger projects and management actions are well-suited to an adaptive management approach. Section 11.2.1 provides additional information on adaptive management considerations in this context, with a specific example for the sustainability indicator for depletions of interconnected surface water.

Global Comment D

Various comments addressed considerations given to environmental users of groundwater and interconnected surface waters in the Subbasin and how the interests of those beneficial uses and users were balanced with the interests of other beneficial uses and users as part of draft GSP development.

Global Response D

The draft GSP recognizes the importance of considering the interests of all beneficial uses and users of groundwater and interconnected surface waters (ISW) in the Subbasin. The interests of environmental users of groundwater and interconnected surface waters were considered throughout GSP development and the work of the GSPAC.

On February 5, 2020, the NCGSA submitted its formal Initial Notification of GSP development to DWR and included specific recognition of environmental uses and users as among the relevant interested parties in the Subbasin (see Appendix 1E). The GSPAC includes, among its 25 members, persons representing the interests of environmental uses and users in the Subbasin, some of whom have shared representation across agricultural and environmental stakeholder groups including two members who are on the Board of Directors of the local organization “Growers/Vintners for Responsible Agriculture”. In addition to representation on the GSPAC, outreach to stakeholder groups representing the interests of environmental users of groundwater and interconnected surface water included interest group meetings held by County staff and the GSP consultant team with (see Section 1.2.1.1):

1. the Sierra Club Napa Group,
2. a representative of the North Coast Stream Flow Coalition and the State Water Resources Control Board, and
3. National Marine Fisheries Service (NOAA Fisheries) and California Department of Fish and Wildlife (CDFW).

Section 3.6.1.4 of the draft GSP presents information on the occurrence of groundwater dependent ecosystems (GDEs) and species that rely on surface water that are interconnected with groundwater, including threatened and endangered species. Sources of information on those species and GDEs includes information provided as part of guidance documents and resources published by The Nature Conservancy, California Department of Fish and Wildlife, National Marine Fisheries Service (NOAA Fisheries), University of California-Davis, and Audubon California. **In response to comments on the draft GSP, additional information has been added to Section 3.6.1.4 to summarize habitat needs of groundwater dependent species, based on information in the guidance document “Critical Species Lookbook”, which had previously been included as Appendix 6H.**

Section 6.8 provides information on the current understanding of the extent and condition of GDEs in the Subbasin. Information includes updated mapping of GDE vegetation communities developed by University of California-Davis as part of a countywide vegetation mapping project completed in 2019. Additional data on the changes in GDE vegetation conditions over time from 1985 through 2018 (using the complete period of record then available through the TNC GDE Pulse dataset of remote sensing GDE data). Additional data are also presented, as recommended in guidance documents from stakeholder groups, summarizing the presence of species that rely on interconnected surface waters as documented by the CDFW and maintained in the California Natural Diversity Database (see Section 6.8.2).

Section 5 describes GSP monitoring networks for ISW, Surface Water Stage and Discharge, and GDEs that provide existing data relevant to the management of the Subbasin. Section 5 also describes known data gaps for these networks and identifies additional, planned monitoring expansion. Section 5 also describes the planned development of an ISW and GDE workplan, based on input from the GSPAC and other stakeholders, including CDFW and NOAA Fisheries. The ISW and GDE workplan will be developed with input from the TWG, Napa County Resource Conservation District, CDFW, and NOAA Fisheries and will leverage existing plans and knowledge about Subbasin conditions to provide a structured approach to evaluating the effect of groundwater conditions on ISW and GDEs. Section 12.6 described that the ISW and GDE workplan development is planned to occur in 2022 to 2023.

In response to comments, the draft GSP has been revised to reflect the South Napa Wetlands restoration area as the only managed wetland identified in DWR’s statewide crop map dataset. Revisions occur in the draft GSP in content describing the Subbasin setting and water budget (Sections 2, 3, 7, and 8).

Global Comment E

Various comments included questions about considerations given to climate change and the hydrologic influence imparted due to climate change on Subbasin water supplies, groundwater availability, and sustainability, including considerations of potential effects on interconnected surface water and beneficial uses and users.

Global Response E

The water budget analyses presented in GSP Section 8 provides the foundation for identifying potential future groundwater conditions based on projected water supplies and demands as primarily influenced by climate change, land use change, and population change.

GSP Regulations require the development of a projected water budget based on at least 50 years of historical data to estimate changes in water supply, demand, and aquifer conditions in response to GSP implementation (23 CCR §354.18). The projected water budget of the GSP covers a 50-year period from 2020 through 2070 to estimate future demands under different future climate scenarios.

Selection of climate change scenarios used to develop model inputs for the Napa Valley Integrated Hydrologic Model was informed by discussion and coordination with the Department of Water Resources (DWR), U.S. Geological Survey (USGS), Pepperwood Preserve and Sonoma County Water Agency staff. DWR staff presented information to the GSPAC and GSP Planning Team (i.e., County staff and GSP consultants) in November 2020 regarding the requirements and resources provided by DWR for incorporating climate change data in GSPs. Pepperwood Preserve and USGS staff also presented information to the GSPAC and GSP Planning Team in November 2020 regarding current and prior work to evaluate climate change projections in North Bay watersheds including the Napa River Watershed. The GSP Technical Team (LSCE and One-Water Hydrologic staff) subsequently held multiple discussions with DWR staff, USGS staff, and Sonoma County Water Agency staff as consideration was given to the best-available climate change projections to be utilized for Napa Valley Subbasin GSP analyses and potential coordination with similar water budget analysis under development for the Sonoma Valley GSP.

As described in GSP Section 8.7, the GSP Technical Team performed a thorough and deliberative review of the climate change datasets that were available from DWR and USGS. The review included processing datasets to compare the relevant climate projections for the Napa Valley Subbasin and Napa River Watershed. The review found that data provided by DWR, particularly data for the scenario referenced by DWR as the “Dry with Extreme Warming” (DEW) scenario, projected wetter than historical precipitation for Napa Valley on an average annual basis, with almost no reductions in cumulative precipitation departure from the mean for the 50-year projection relative to historical data. This finding was in contrast to a comparison performed with DEW projections and historical data for a site in the San Joaquin Valley.

Another concern with the DWR-provided data included overprediction of historical deliveries by the State Water Project (SWP) to Napa Valley contractors.

The GSP Technical Team worked with USGS scientists to review other climate change projections based on locally-downscaled climate model outputs for the Napa River Watershed. Findings from that review included a more substantial multi-decadal drought in the HadGEM2-ES-RCP85 projection (Flint et al., 2021). The CNRM-CM5-RCP45 climate model projections available from Flint and other (2021) were also

selected, to represent the potential for relatively wetter future conditions with moderate warming, consistent with the DWR-developed “Wetter with Moderate Warming” scenario (DWR, 2018).

The Technical Team additionally evaluated and used climate model projections to provide better informed projections of water supplies from the SWP and local reservoirs. Projected surface water supplies from municipal reservoirs in the Napa River Watershed and the SWP are informed by projections developed for this GSP using historical supply and delivery data as a more accurate baseline with additional reductions applied based on projected annual precipitation totals through 2070, to reflect potential future supply reductions due to climate change. SWP and local reservoir delivery projections developed for GSP analyses were shared with staff from each municipality for their review.

Informed by the review of available climate change datasets, discussions with DWR staff, review of DWR guidance for incorporating climate change in GSP analysis (DWR, 2018), and coordinating discussions with Sonoma County Water Agency staff developing the Sonoma Valley GSP, locally downscaled results from two Global Climate Models, including related outputs from the USGS Basin Characterization Model Version 8 (Flint et al., 2021), were determined to be the best suited for evaluating the anticipated range in future climate conditions in Napa Valley for this GSP, including the potential for multi-decadal drought conditions.

Additional information was added to Section 8.7, in the draft GSP forwarded to the NCGSA on November 19, to describe considerations given to the projected water budget analysis, as previously reported by technical consultants at GSPAC meetings. Section 8.9 also recognizes, consistent with guidance from DWR, that future updates to the GSP, including updates of the projected water budget analysis, will incorporate updated climate change projections as they become available.

The HadGEM2-ES-RCP85 climate model outputs are recognized by DWR as the “dry with extreme warming scenario” and are recommended by DWR as reflective of an “extreme projection of climate change” (DWR, 2018). While the corresponding dataset supplied by DWR did not reflect drier conditions in Napa Valley, the HadGEM2-ES-RCP85 climate model outputs obtained from the USGS do include a multi-decadal drought in Napa Valley, which is reflected in the projected water budget analysis and analyses of projected Undesirable Results performed for this GSP.

The draft GSP recognizes the need for the NCGSA to coordinate with municipalities regarding future water supply and demand planning. Coordination in this regard has been underway since at least 1991 (then through coordination between the County and the municipalities). More recently, the County and municipalities have collaborated on the Napa County Drought Contingency Plan (DCP), which formalizes risk reduction and mitigation actions to address supply shortages made more likely by climate change; the DCP has been under development in parallel with the GSP. Recommended drought mitigation and response actions developed for the DCP are incorporated in the draft GSP as Appendix 11C.

Comment Log

This section provides a comment log with additional responses to individual comments. **Table 3G-1** documents comments received since November 12, 2021, reflecting comments on the version of the GSP recommended for adoption by the Groundwater Sustainability Plan Advisory Committee (GSPAC) on November 16, 2021. Comments are logged based on the date received. **Attachments A - C** document

comments received through December 14, 2021 and responses provided as part of a series of three public meetings on the draft GSP held in September and October 2021.

Table 3G-1. Draft Napa Valley Subbasin Groundwater Sustainability Plan Comment Log

| Comment Number | Commenter | Date Received | Comment | Response |
|----------------|---|---------------|--|---|
| 1.1 | <p>Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyssierraclub@gmail.com</p> | 11/15/2021 | <p><u>The sub-basin is not the valley; it's a lagging indicator of water sustainability.</u> Napa Valley is a classic long narrow valley. It is comprised of a watershed that is bounded on three sides by tall hills that guide surface and groundwater migration toward the long narrow center of the valley, where the sub-basin and the Napa River interactively migrate the water toward San Pablo Bay. The area designated as the sub-basin is a very small area relative to the watershed. It is a small area relative to the area used for groundwater. It is a very small contributor to domestic water supply. A GSP that deals solely with the sub-basin is not protecting the groundwater in the sub-basin because it inadequately monitors the flows that supply the sub-basin or the use, and increasing use, of water that would normally flow into the valley floor and sub-basin. It does not adequately represent the needs of all communities, as there are obvious scenarios in which all communities will become directly dependent on sub-basin water supplies. It is the responsibility of the GSPAC to fully appreciate the unique attributes of the system of which the sub-basin is a component. It is the responsibility of the GSPAC to understand and document the communities involved in the system and the interdependencies involved. It is not the responsibility of the GSPAC to draw the boundaries of discussion, management, and planning so tightly that most of the affected communities are left by the sidelines while the primary focus becomes compliance with the smallest area of concern. This draft plan has missed the most significant opportunity given to it - establishing sustainability measures and management in the era of climate change and uncertainty carried with it.</p> | Please see Global Response B. |
| 1.2 | <p>Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyssierraclub@gmail.com</p> | 11/15/2021 | <p>The GSP recognizes the inadequacy of the climate scenarios required by the state. From Draft Section 8.9, page 8-36: The HadGEM2-ES-RCP85 model does not project extreme drought conditions in the Napa Valley which could influence future planning and mitigation. This finding is significant. The authors of the GSP recognize that the climate scenarios required by the state are inadequate yet spend significant resource drafting a plan based on those weak scenarios. They could develop a set of scenarios that anticipate prolonged drought, rainfall patterns that result in less percolation, and other patterns that are increasingly likely in the era of climate change. They did not do this. They built a plan on a knowingly weak foundation. We offer one simple and likely scenario: a sustained mega drought. The City of Napa currently obtains about half of its water from the State Water Project, augmented by two reservoirs. In this scenario, the State Water Project allocation is likely to go to 0, and the city will consume its reservoir reserves. Where does the city go next? Groundwater. The significant number of households and small holdings that get water from wells outside of the sub-basin will see their wells go dry. They will request Napa City and County for trucked-in water, as will many agricultural businesses that were not designed to dry farm. There will be much more demand on sub-basin groundwater. A sudden run on sub-basin groundwater is inevitable, and the resource that appears to be stable will experience a sudden demand from all communities. This, while the amount currently drawn from the sub-basin is essentially unknown, as there are no meters on wells, even the large corporate winery wells. We will quickly be in water wars, with everyone demanding a fair share of a resource without known capacity. We might see the adverse conditions listed in the GSP suddenly appear, with no viable action plan to forestall continued degradation of the shared resource. Cascading failure scenarios do not arrive gently on tiptoe; they arrive as a surprise that comes in all windows and doors. As in most failure cascade scenarios, it is a surprise – an inevitable surprise. The opportunity presented</p> | <p>Please see Global Response E. Additional information was added to Section 8.7, in the draft GSP forwarded to the NCGSA on November 19, to describe considerations given to the projected water budget analysis, as previously reported by technical consultants at GSPAC meetings. Selection of climate change scenarios was informed by discussion and coordination with staff from the Department of Water Resources (DWR), United State Geological Survey (USGS), Pepperwood Preserve, and Sonoma County Water Agency (who evaluated climate change as part of the Sonoma Valley Subbasin GSP). Section 8.9 also recognizes, consistent with guidance from DWR, that future updates to the GSP, including updates of the projected water budget analysis, will incorporate update climate change projections as they become available. For this 2021 GSP, local outputs from two Global Climate Models, including related outputs from the USGS Basin Characterization Model Version 8 (Flint et al. ,2021), were determined to be the best suited for evaluating the anticipated range in future climate conditions, including the potential for multi-decade drought conditions, in Napa Valley. This decision was Informed by the review of available climate change datasets, discussions with DWR staff including input received at the November 2020 GSPAC meeting, review of DWR guidance (DWR, 2018) for incorporating climate change in GSP analysis, and coordinating discussions with Sonoma County Water Agency staff. More information on the Basin Characterization Model is available from the USGS:</p> |

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| | | | to the GSPAC was to frame the challenge according to the unique attributes of Napa Valley and to develop a sustainability plan with that full consideration. | <p>https://pubs.er.usgs.gov/publication/tm6H1</p> <p>The HadGEM2-ES-RCP85 climate model outputs are recognized by DWR as the “dry with extreme warming scenario” and is recommended by DWR as reflective of an “extreme projection of climate change” (DWR, 2018).</p> <p>The HadGEM2-ES-RCP85 climate model outputs include a multi-decade drought in Napa Valley, which are reflected in the projected water budget analysis and analyses of projected Undesirable Results performed for the GSP.</p> <p>Section 8.7 also describes how LSCE staff used historical surface water supply data and projected climate change stresses to develop projections of future supplies available from local municipal reservoirs and the State Water Project (SWP). The projected SWP supplies were developed for this GSP after a review of projected SWP delivery data supplied by DWR for use by GSAs. That review found that DWR-supplied projections indicated that even more water would be delivered in future years relative to historical deliveries. The SWP delivery projections developed for this GSP reflect supply reductions consistent with each of the climate change projections.</p> <p>In addition, municipalities in the Subbasin and throughout the county have coordinated with County staff for many decades regarding water supply planning and management. These efforts most recently included development of the Napa Valley Drought Contingency Plan, which formalizes risk reduction and mitigation actions to address supply shortages made more likely by climate change.</p> |
| 1.3 | Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyclub@gmail.com | 11/15/2021 | Process failures Missing communities Disadvantaged and minority communities were simply not represented in this process in any way. Though there was clear statement that such participation was important, it was simply overlooked in practice. There was no such representation on the GSPAC. There was no outreach. There was a proposal for involving disadvantaged communities in input from one committee member, it was ignored. | Please see Global Response A. |
| 1.4 | Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyclub@gmail.com | 11/15/2021 | Suppression of discussion The GSPAC meetings were essentially devoid of discussion. They were stuffed with presentations and reports. Whenever there was the chance that a significant discussion might break out, it was ruled out of order or out of scope. The members who were interested in framing discussions to include factors and communities outside of the sub-basin, the discussions were quickly suppressed. In fact, one member could only get a point made by writing a letter to the committee on which he sits. | GSPAC meeting summaries prepared by the GSPAC facilitation team at CONCUR Inc. and approved by the GSPAC are included in Appendix 1D of the draft GSP and provide a summarized record of comments discussions that occurred at each meeting. County staff and technical consultants shared draft schedules for GSP development throughout 2020 and 2021. GSPAC members were empowered to propose agenda items for GSPAC meetings throughout the GSP development process. Please see also Global Response B. |
| 1.5 | Nick Cheranich Napa Sierra Club Group PO Box 5531 | 11/15/2021 | Methodology failures Representative Wells | GSP Regulations define “representative monitoring as “a monitoring site within a broader network of sites that typifies one or more conditions within the basin or an area of the |

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| | Napa, CA 94581 napavalleyclub@gmail.com | | The draft plan refers to representative wells in the sub-basin. The term “representative” is a statistical notion in which those sampled are representative of the whole. There is enough known about the population that a sample can have the same properties as the whole. An analyst can select a representative or a random sample, with evidence that it is a proper proxy for gathering data from every well. No such evidence was provided. Rather, the wells selected were the ones available and convenient. Characterizations of the sub-basin are not rigorous, as analyses and inferences are based on data which have the common property of being convenient. The draft GSP has impressive hydrogeologic information, but alas lacks a key data set: What is the level of each well, and how much is taken from each well site. Yes, dedicated sampling wells offer different kinds of information than production wells, but the combination will give better sampling opportunities, a more representative sample, and knowledge about usage and effects of one well on others. We have the opportunity to collect data from every well in the sub-basin and in the watershed to better characterize the complexity of the sub-basin and the interactions among different wells and pumping volume. We should develop models based on rigorously collected data, rather than conveniently collected data. The GSA should prioritize Supplemental Actions 11.7.1, “Active Production Well Inventory”, and 11.7.5, “Adopt Well Metering and Reporting Standards” so that the necessary data can be acquired. | basin” (CA Code of Regulations §351(cc)). Section 9 describes the criteria considered when determining the representative monitoring sites for the draft GSP. |
| 1.6 | Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyclub@gmail.com | 11/15/2021 | Modeling: insensitive to uncertainty The modeling platform used is very technically sophisticated and complex. It processes large volumes of data and many layers of computation. To avoid computational overload, there is a simplification that is done. Values that are variable or uncertain are replaced with constants. This simplification, which appears to be a common practice, renders the model less sensitive to uncertainty or interactions between variables. The modeling exercise is more likely to result in a sense of familiar security, perhaps a false sense of security. Heading into a world that has increasing uncertainty, including variability patterns not previously experienced, the County, the GSPAC, and the state should be challenging the modelers to better understand the impact of the determinative modeling tools being used, and ways to mitigate the kinds of errors that such methods produce. A very simple explanation of the problem was published here: https://www.sierraclub.org/redwood/napa/blog/2021/09/why-we-should-panic-comforting-waterforecast-roland-dumas-phd | Uncertainty and data gaps in the information used to develop the draft GSP are addressed in Section 4 (Basin Setting), Section 5 (Monitoring Networks) and Section 8 (Water Budget). Section 8.9 specifically addresses hydrologic model uncertainty and provides proposed steps and a timeline for addressing various sources of uncertainty. Please also see response to comment 1.2. Hydrologic model uncertainty, and related considerations for interpreting model results, was also the subject of a memorandum prepared by technical consultants for the GSPAC, provided in several GSPAC agenda packets including the February 11, 2021 agenda packet. The considerations provided in that memorandum, which include excerpts from guidance from DWR, were discussed at several GSPAC meetings. Memorandum link: https://services.countyofnapa.org/AgendaNet/DownloadDocument.aspx?type=GSPAC&doctype=ATTACHMENT&id=56451 |
| 1.7 | Nick Cheranich Napa Sierra Club Group PO Box 5531 Napa, CA 94581 napavalleyclub@gmail.com | 11/15/2021 | Summary We see the sub-basin as one part of a system that supports the water needs of many communities, including the flora and fauna of the valley. We see the framing of the GSP as being sub-basin only, rather than as a system under pressure from development, growth, and climate change. We see the process of creating the GSP as being overly constrained such that compliance is achieved at the expense of the welfare of the communities of Napa Valley. This process has been managed to minimize participation, collection of classes of critical data, and full appreciation of the uncertainty that climate change is bringing. We recommend that this current draft of the GSP not be accepted. | Please see the responses to Comments 1.1 through 1.6. |
| 2.1 | Gary Margadant 4042 Mount Veeder Rd Napa, CA gsmargadant@gmail.com | 11/15/2021 | Why is the GSPAC treating a WATER MANAGER so poorly? Joy Eldridge [sic] is THE WATER MANAGER for the CITY OF NAPA and she is also a member of the (GSPAC) – Groundwater Sustainability Plan Advisory Committee, currently designing a | As the commenter notes, the GSPAC received a copy of the August 31, 2021 memorandum from Ms. Eldridge as part of three GSPAC meeting packets. The Committee scheduled a presentation by Ms. Eldridge regarding her memo summarizing |

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| | | | <p>Groundwater Sustainability Plan (GSP) for the Napa County Groundwater Sustainability Agency (GSA) and the Napa County Board of Supervisors (BOS).</p> <p>Joy harbors a wealth of experience managing water sources as a Civil Engineer and Business Master and she contributed a very pertinent and concise proposal to the GSPAC on 8/31/2021. Her work arrived during a crucial time in the deliberations of the Committee as it planned to discuss Sustainable Indicators that would [sic] warn the GSA of impending problems that needed management action to avert Undesirable Results detrimental to Groundwater Aquifer: Major Factors of concern for the health of the Aquifer.</p> <p>Sadly, the committee placed Joy's presentation and discussion as the last subject of the day and was not included in the discussion of these Sustainable Indicators. This treatment was the direct opposite of treatment accorded to Public Comment which was considered at the start of each meeting. Joy is a member of the committee and her presentation should have been included in the discussion at that meeting.</p> <p>This treatment proved to be the beginning of the death kneel [sic] for her ideas and proposal. When the committee ran out of time, her proposal was not heard and was continued to the next meeting on the next day, 9/9/2021. On the 9/9/2021 meeting, Joy's presentation was again scheduled as the last item. And again, time ran out and it was not discussed that day, but continued to the meeting of 9/27/2021.</p> <p>Again, on 9/27/2021 Joy's presentation was scheduled as the last item on the Agenda, where it was squeezed tight and reduced in time, eliminating any substantial committee discussion of the merits of metering water usage could take place. Metering was the main point of her presentation, advising the committee that metering water usage was the best way to confirm volumes and consumption.</p> <p>An alternative idea to the verification procedures before the committee was at hand. In the discussion on 9/8/2021, Joy asked a question about the origins of the water volumes provided by the Hydrological Engineers from Luhdorff and Scalamini (LSCE): Where did the figures originate? The answer was 10% metered, 90% estimated.</p> <p>Joy was offering an alternative of greater accuracy, but the discussion of her presentation was not heard for another two meetings, and was cut short as it was placed as the last item of the day.</p> <p>The public notification of this presentation was also reduced and obscured by the Agendas and minutes of the Committee. Item 6E, Joy's Presentation, was listed on the Agenda for 3 meetings: 9/8/2021, 9/9/2021 and 9/27/2021 yet the item continuance was never mentioned in the minutes of 9/8/2021 and 9/9/2021, nor was the continuance described in the subsequent 6E Staff Reports concerning the history of Joy's proposal. Her ideas was not given prominence and due respect by the committee.</p> <p>The history of Joy's presentation was hard for the public to follow, and one would assume, upon reading the Agendas and Minutes that the presentation occurred [sic] on 9/8/2021 instead of 9/27/2021. Yes, it was on the Agenda for 3 meetings, but none indicated the continuance and</p> | <p>observations about current Subbasin conditions and recommendations for monitoring and management responses. Although the item was not able to be heard during the first two GSPAC meetings due to the Committee's deliberations on the development of Sustainable Management Criteria, the Committee did receive the presentation on September 27. The Meeting Summary for that meeting summarizes the Committee's discussion in response to the presentation. The GSP Planning Team considered the memo and the Committee's input and incorporated that input in the draft GSP, particularly in Section 11 (Projects and Management Actions). As recorded in the GSPAC November 16, 2021 Meeting Summary, Ms. Eldredge voted in favor of the motion to recommend the draft GSP for adoption by the NCGSA.</p> |

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| | | | <p>notified the public when it actually took place. Adherence to the Brown Act was sketchy at best, and the public very shabbily treated as a result.</p> <p>I was aghast at the Committee's treatment of the presentation. and the necessary pertinent discussion. A WATER MANAGER of Joy's history and education is valuable, extremely valuable for the health of the Groundwater Aquifer. Why did the committee provide such neglect? Was this a subject that they did not want to hear?</p> | |
| 3.1 | Ron Rhyno rcr@intrex.net | 11/22/2021 | <p>https://www.yesmagazine.org/issues/a-new-social-justice</p> <p>'The Social and Economic are nested within and dependent upon the Local and Global Environmental Ecological Envelope.' RcR</p> <p>Sustainability has been defined" the UN supported intergenerational definition: <i>"Sustainable Development is development that meets the present without compromising the ability of future generations to meet their own needs."</i> (Bruntland Commission, 1987).</p> <p>...or defined as <i>"improving the quality of human life while living within the carrying capacity of supporting eco-systems"</i> (J. Wells, 2013);</p> | Comment noted. As part of the Sustainable Groundwater Management Act of 2014 and Groundwater Sustainability Plan Regulations adopted in 2016, the State of California has defined key terms related to groundwater sustainability. These terms are presented in Section 1.1.2 and Appendix 1A of the draft GSP. They include "sustainable groundwater management" defined as "the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results" (California Water Code §10721). |
| 4.1 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p>The Draft Napa Valley Subbasin, Groundwater Sustainability Plan (GSP) is a thorough, comprehensive and a well prepared document and adoption of this Plan by Napa County Groundwater Sustainability Agency is strongly encouraged by the author.</p> <p>The following comments do not detract in any way from the validity of the GSP and are intended as additional support for the document. Given the time available, these comments are necessarily brief and preliminary in nature. They are based on the Draft Groundwater Sustainability Plan retrieved from on November 6th 2021. They include, in part, comments previously submitted to the GSPAC.</p> <p><u>Section 1-3 Comments</u> No comments</p> | Comment acknowledged. |
| 4.2 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 4. Comments</u></p> <p>Sect. 4.1.4.1; Page 4-9; line 290. Current heat flow and direct temperature data relating to the Calistoga geothermal system suggests that geothermal fluids are moving upwards, by convection, into the shallow hydrologic environment via a northwest - southeast trending fault aligned axially along the approximate center of Napa valley. This would likely result in the replacement of any water removed from the shallow environment so long as a suitable temperature differential was maintained.</p> <p>Sect. 4.1.5.1; Page 4-16; line 548. While describing the Napa Valley subbasin as a "graben" maybe be a useful geomorphic analogy it does not truly represent the current-day structural setting and could easily be misleading. A graben would infer an extensional structural setting rather than one of compression that currently exists and is evidenced by the right-lateral, strike-slip faulting dominated by the San Andreas style</p> | <p>Comments noted. Clarification related to the current stress field added to Section 4.1.5.1 with reference to USGS Water-Resources Investigations Report 03-4229 (Farrar and Metzger, 2003).</p> <p>Clarifications added related to the characterization of principal aquifers. And the planned efforts to fill data gaps regarding the status of Tertiary formations. Hydraulic properties are variable between the alluvial deposits and Tertiary formations in the calibrated Napa Valley Integrated Hydrologic Model (NVIHM) (please see Appendix 8A).</p> |

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| | | | <p>of faults that dominate the North Bay area. It would be the current stress field that would have the greatest impact on hydrogeology. A paragraph that describes the current stress field that exists today. Sect.4.1.7.2; Page 4-22; Line 744 There is no discussion of the hydrogeologic contact between the Quaternary surficial/alluvial deposits and only minor discussion of the characteristics of the lower volcanic/sedimentary aquifer. Furthermore, in many parts of the document the terms "aquifer" and "aquifers" are used suggesting these may be two separate aquifers even though the aquifer system is described as unconfined to semi confined. If this is the case and the contact zone is generally a barrier to fluid flow then recharge from surface precipitation would be limited to Quaternary deposits (the top 300 - 400 feet of the modelled sequence of 800 feet). However, if the contact allows flow to pass through then there would be the possibility of substantial more groundwater storage. Isotopic age dating of water from the volcanics would help resolve this uncertainty. (What was the hydraulic conductivity/transmissivity allocated to each of these zones of the aquifer in the modelling?)</p> <p>General comments - Section 4 Much of the geology data comes from the well drilling logs. While many of the drillers in the area have extensive experience in drilling water wells in the Napa Valley subbasin very few of the logs have been prepared by geologists and drillers are not trained geologists. For example parts of the sequence that have been described as volcanic most probably are reworked pyroclastics and best classified as part of the older alluvium. It would be important to require that future well drilling have a state Professional Geologist to either undertake or confirm well stratigraphies.</p> | Regarding the quality of geologic logs in well completion reports, LSCE has made similar observations in the past as have others (Sweetkind and Taylor, 2010). LSCE has carefully reviewed well completion reports selected for use in the geologic interpretation and NVIHM development with these considerations in mind. |
| 4.3 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 5. Comments</u></p> <p>Section 5.4.3; Table 5.3. County staff and LSE have done an excellent job in establishing a volunteer program of reporting groundwater levels throughout Napa county. This type of program is extremely helpful in broadly tracking changes in groundwater conditions. However, California Department of Water Resources BM P's (Monitoring Networks and Identification of Data Gaps - page 9) indicate that monitoring sites should be dedicated wells with known completion information. They also strongly recommend that sampling should be completed at least monthly or at least quarterly. There are only 14 wells (4 classified as unused and 10 classified as monitoring) in the groundwater levels network (Table 5-3) that comply with the requirements. It would be useful to include some text that discusses how this monitoring program will be expanded in the future to comply with the BM P's since none of the 14 wells appear to monitor groundwater in the Tertiary sequences (Sonoma volcanics/sediments) Sect. 5.4.6; pageS-17; Line 496 Are GeoTracker wells required to be abandoned under SWRCB regulation? If so, these existing monitoring wells will only be available for a limited time and some effort should be made to replace them with permanent monitoring wells.</p> | Comments noted. Clarifications added to Section 5 to convey current interpretation of well in the monitoring network screened exclusively in the Tertiary formation, based on additional review of well construction relative to the calibrated NVIHM layering. While DWR BMPs are guidance and not regulations, the preference for dedicated monitoring wells is reflected in the County's 2013 Groundwater Monitoring Plan (Appendix 5A). Additional dedicated monitoring wells are proposed in the draft GSP forwarded to the NCGSA on November 19, 2021. |
| 4.4 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 6 and 7 Comments</u> No comments.</p> | Acknowledged. |
| 4.5 | Paul Brophy EGS, inc. | 11/24/2021 | <p><u>Section 8 Comments</u></p> | Comments noted. The draft GSP includes recognition of the need to collect additional pump test data. |

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| | pbrophy@envgeo.com | | <p>Sect 8.9, page 8-37; line 1317 Absence of any substantial pump test data is a major impediment to the accurate evaluation of hydrogeologic conditions in the Napa Valley. Historically, pump testing of wells was difficult and required specialist equipment that was not always readily available. Nowadays, with the availability of downhole transducers and ultrasonic flow meters it is much simpler.</p> <p><u>Draft Technical Memorandum - Napa Valley Integrated Hydrologic Model</u></p> <p>Sect 3.1 -3.2 In setting the model layers no account has been made for low-moderate temperature geothermal system in the Calistoga area. This system accounts for approximately 8% (5 -6 square miles) of the total surface area of the subbasin and extends to a depth of at least 1200 feet, as indicated by drilling data with temperatures as high as 250°F. Given that the groundwater model used in the GSP is a single phase, isothermal package and cannot process the geothermal data, what errors can be expected from model results due to this system? Could simply zeroing out of the hydraulic conductivity improve the results and make the existing model data more valid?</p> <p>Sect 3.2.4; page 13 No flow boundaries on the west and east side of the valley infer that the only surface flow entering the subbasin from the mountain block occurs at point where rivers/creeks cross the contact. Experience indicates that most faulted boundaries can act as pathways as well as barriers for flow (even more likely in "graben" structural setting). Has any subsurface inflow been included from the mountain block outside of stream crossings?</p> <p>Sect 4.3.1; page 32; line 940 Did the values used in the NVIHM of Kh, Kv,Sv, and Ss match calculated values from pump testing? There seems to be no reporting of aquifer parameters derived from pump tests presented anywhere in the GSP.</p> <p>General Comments - Section 8 Having the Draft Technical NVIHM Memorandum within Section 8 causes problems and some confusion for readers when referring to Figure and Table No's.</p> | <p>The influence of convection in the Calistoga area is recognized in the Conceptual Model (Section 4) and absence of that mechanism may lead to local errors in groundwater flows simulated by the NVIHM, particularly at depth. However, it is not anticipated that geothermal flow would significantly influence the simulation of regional flow and groundwater storage or shallow groundwater processes (water table simulation or stream-aquifer interaction), which are the primary modeling objectives.</p> <p>The uncertainty in the distribution of mountain block recharge due to geologic structures such as faults is recognized by the modeling team. Although the true distribution of mountain block recharge is unknown, the model accounts for this uncertainty by distributing mountain block recharge along the entire shared face between each tributary watershed and the model domain shown in Figure 3-11 rather than only at stream crossings.</p> <p>Available pumping test data are unfortunately very poor and typically limited to generally short-term single well drawdown tests conducted by the well driller at the time of well construction. As a result, hydraulic parameters were estimated predominantly through literature values and constrained during model calibration. Lack of aquifer test data are recognized as a data gap that the GSA intends to address during GSP implementation to help constrain model structure and parameter estimates.</p> |
| 4.6 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 9 -10 Comments</u> No comments.</p> | Acknowledged. |
| 4.7 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 11 Comments</u></p> <p>General Comments Managed aquifer recharge (MAR) is a good candidate for management action but has only been superficially reviewed as to its practicality in the GSP. It should get a more detailed discussion. Available surface land for infiltration impoundments is severely limited in the subbasin due to extensive agricultural use and sites for injection wells require substantial subsurface evaluation prior to being considered as candidates. Two existing wells permitted as injection wells in the Calistoga area each have a capability to inject in the range of 25 - 40 gallons per minute at depths of 600 - 800 feet before fracture gradients are exceeded. This is less than 0.1 acre--feet/day of additional storage which could be used for up to 6 months each year. More preliminary information should be developed to ensure that suitable formations are available for injection.</p> | Acknowledged. |

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| 4.8 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 11/24/2021 | <p><u>Section 12 Comments</u></p> <p>Sect. 12.3.1.2 This section assumes that a Technical Work Group will be formed to oversee the implementation of the GSP, as has been recommended by GSPAC. Approval for such an action has not yet been given by the Groundwater Sustainability Agency, at least at the time of writing these comments.</p> | Acknowledged. |
| 5.1 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | In 2017, under the previous CEO of Napa County, and completed under CEO Minh Tran in 2018, a thorough process the County called a 3 year Strategic Planning Plan was undertaken to ascertain how our residents felt about the County’s governance. Multiple public meetings were held throughout the communities here In Napa. The entire process was evaluated through a process that involved hiring an outside facilitation team. What was the number one concern expressed? It was a lack of trust in our county Board of Supervisors and its decisions. Since that time, the county justified a developer who built a structure without a building permit in a stream; they permitted a custom-crush facility on Dry Creek Road even though 8 wells were drilled and the neighbors [sic] wells were negatively affected, the Rector plateau has been decimated by the stripping of its natural vegetation until it looks like a strip-mined area from the air. The county has continued to allow expansions of existing and new wineries without regard to the need for science-based water analysis and have exemplified their pro-development stance over and over; the crowning achievement being the Walt Ranch project above the Napa city’s reservoir in the eastern hills. In my opinion, the trust has been further eroded. Trust is difficult to achieve and easily lost. Certainly a pause in development is needed, as our water resources are stretched thinner, but the developments continue unabated. | Please see Global Response B. |
| 5.2 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | This brings us to the state mandated establishment of a Groundwater Sustainability Plan for Napa County. It requires a Groundwater Sustainability Agency (GSA) be established and a plan for the short and long term water sustainability here and in all the state’s water jurisdictions. In Napa County, an attempt was made to circumvent that requirement through a process called the “alternative plan.” This essentially was attempted by saying we had enough data from years of monitoring that we didn’t need to establish a GSA because “ all is just fine here” with water resources in our valley. The state turned this “alt- plan down.” On December 18, just prior to Christmas, the next non-transparent step was for our Board of Supervisors (BOS) to name themselves the groundwater agency. None of the BOS are hydrologists or scientists with expertise in water issues. This turned this from an environmental issue into a political one and was a clear power play to keep all the authority within the elected officials running the county. | <p>The reference to establishment of a “Groundwater Sustainability Plan for Napa County” is incorrect. There is no state mandate for a countywide groundwater sustainability plan. Neither does SGMA provide the authority for a GSA, absent existing authorities, to undertake management in areas outside of a state-defined groundwater basin or subbasin.</p> <p>As part of SGMA, the state legislature provided that local agencies managing basins and subbasins subject to the legislation could choose to develop GSPs or one of several GSP Alternatives. Importantly, neither approach is founded on a presumption that “all is just fine here”. Both approaches require meeting the objectives of sustainable groundwater management, as defined by SGMA. Both approaches include equivalent requirements for ongoing monitoring, reporting, and management.</p> <p>Requirements for GSA formation are established in the state Water Code. They include a requirement that GSAs can only be formed by one or more local public agencies with existing water management responsibilities. The County of Napa acted to form a GSA, consistent with public noticing requirements also provided in the Water Code, upon learning in late 2019 that a GSP would be required for the Subbasin. Other local agencies which could have formed a GSA at any point since 2015 had not done so. In deciding to form a GSA, the County specifically cited Water Code Section 10724, titled “Presumption</p> |

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| | | | | <p>that County will Manage Areas Not Covered by a Groundwater Sustainability Agency”. DWR immediately approved the County’s decision to form a GSA for the Subbasin.</p> <p>If the County had not formed a GSA when it did, then groundwater management in the Subbasin would have, within a matter of months, been directly administered by the State Water Resources Control Board.</p> |
| 5.3 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | The BOS then hand-picked the majority of the new Groundwater Sustainability Plan Advisory Committee (25 members total) and then selected the rest from those that applied. This process was biased and flawed. None were chosen from disadvantaged communities, as mandated by the state and none from Napa Vision 2050, a local land use advocacy group. The lack of transparency and exclusion of members of color and the disadvantaged community was a clear violation of the intent fostered by the state. | <p>The Napa County Groundwater Sustainability Agency, appointed the 25-member Groundwater Sustainability Plan Advisory Committee (GSPAC) at a public meeting held on June 9, 2020.</p> <p>Meeting agenda and packet: https://services.countyofnapa.org/AgendaNet/GranicusMeetingDocuments.aspx?id=6177</p> <p>Meeting minutes: https://napa.granicus.com/MinutesViewer.php?view_id=33&clip_id=4582</p> <p>Meeting recording: https://napa.granicus.com/player/clip/4582?view_id=33&redirect=true</p> <p>The NCGSA sought applicants from all Subbasin stakeholders, and directed staff to open the GSPAC membership application period in a public meeting held on March 17, 2020.</p> <p>There is no state mandate for GSPAC membership composition, as asserted by the commenter.</p> <p>All appointed members submitted applications for GSPAC service. Appointment occurred in accordance with the Committee By-laws first approved by the NCGSA on March 17, 2020. Applications for 10 members were recommended by Napa County staff for the purpose of including representation consistent with the Committee By-laws for members representing municipalities and agricultural groups. The staff recommendation included five members from both of those stakeholder groups, reflecting 20% of the total Committee membership by each stakeholder type. The NCGSA considered and agreed with the staff recommendation and appointed 15 additional members to represent other stakeholder interests consistent with the NCGSA’s February 5, 2020 GSP Initial Notification submitted to DWR (GSP Appendix 1E).</p> <p>Additional information detailing efforts to reflect the interests of disadvantaged communities and diverse social and cultural stakeholders is provided in Global Response A.</p> |
| 5.4 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | This is the atmosphere under which the 18 meetings of the GSPAC were run. Utilizing historical data and multi-year running averages, which meeting guests from NOAA and DFW cautioned as a poor methodology, the team from Luhdorff and Scalmanini (LSCE) fashioned presentations and conclusions to convince the GSPAC members that we currently and in the future have a water balance that will continue to prove sustainable. The hydrological models informed the members | Please see Section 6, Section 7, and Section 8 of the draft GSP. Section 6 provides dozens of tables and figures detailing annual and seasonal groundwater and surface water conditions, including streamflow data dating back to 1929, peer-reviewed analyses of streamflow conditions in the Napa River and its tributaries, and reports by the U.S. |

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| | | | <p>that all is well, in spite of the visual evidence to the contrary. This year, for the first time in recorded history, the length of the Napa River was bone dry. Wells throughout the county were failing throughout the sub basin and a massive water trucking industry was born. Still, the process went on, with a blind eye to the critical shortages of supply due to drought conditions and likely over extraction from the approximate 10,000 wells in the valley floor, called the sub basin for agency purposes. A side note here: the county measures only 40 wells out of this total, and only 21 are production wells. This is woefully inadequate and is at the crux of the decisions from the environmental members to vote no on the completed plan. Section 12 of the plan calls for only four additional wells by fall of 2021; not accomplished.</p> | <p>Geological Survey and San Francisco Estuary Institute describing the historical occurrence of dry or no-flow conditions in the Napa River and its tributaries. Sections 7 and 8 report annual data on water use from all sources and by all water use sectors, including native vegetation, self-supplied domestic users, agriculture, municipal, and small public water systems.</p> <p>Please see Global Response E for additional information regarding the development of projected water budgets and considerations given to the effects of climate change.</p> <p>Please see Section 2.3 that provides a summary of the estimate of production wells in the Subbasin, determined from available Well Completion Reports submitted by well drillers to the Department of Water Resources and current land use data from Napa County and the Department of Water Resources. As reported in Section 2.3, the total number of production wells in the Subbasin is estimated to be 2,627. Also reported in Section 2.3, a 2019 estimate of production wells in the Subbasin developed by DWR using more limited data, indicated a total of 2,037 production wells. Section 11.7.1 also describes that the NCGSA will refine current estimates by conducting an inventory of active production wells as a GSP implementation supplemental action, consistent with recommendations made by DWR in its review of other GSPs.</p> <p>Well Completion Reports published by the Department of Water Resources, show that new domestic and irrigation wells constructed in the Subbasin averaged 27 per year from 2010 through 2021, with an average of 19 per year in 2020 and 2021 (source: https://storymaps.arcgis.com/stories/f2b252d15a0d4e49887ba94ac17cc4bb).</p> <p>The commenter incorrectly states the number of wells monitored throughout the Subbasin. Please see Table 5-18 for a summary of current and proposed monitoring sites. The draft GSP forwarded to the NCGSA on November 19, 2021 also reflects a total of 16 proposed monitoring wells, four additional surface water quality monitoring sites, and 10 upgraded surface water stage and flow monitoring sites (See Section 5 and Section 12.6).</p> <p>GSP monitoring networks are detailed in Section 5 of the draft GSP. The draft GSP builds on successful past efforts by Napa County including the 2013 Groundwater Monitoring Plan and DWR-approved 2014 CASGEM Monitoring Plan, by describing nine monitoring networks to provide for data collection addressing the six SGMA sustainability indicators at locations across the Subbasin. The draft GSP additionally recognizes that the monitoring networks will be expanded and refined over time as new data and conditions warrant. Neither SGMA nor GSP regulations require that all wells be monitored as part of GSP implementation.</p> |

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| 5.5 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | It is difficult for anyone awake to accept that we have sustainable water supply when the climate crisis induced water shortages are already evident. The modeling had significant uncertainties and were overly optimistic. Many troublesome factors reared up during the meetings. Initially, PBES Director Morrison spoke of the need to study the effects from the frontal range recharge, the direct influence on the sub basin's water availability because two-thirds of the water used for crop irrigation in the valley floor comes from the hillsides. The forests that blanket our ag watershed and open space wildlands provide the aquifer recharge, flows into the reservoirs and the tributaries to the Napa River. However, as ludicrous as this sounds, Morrison later limited the discussion on the watersheds because the "watersheds are not in the scope of the plan." In reality, the water that is collected and slowly released is directly related to the water available in the valley floor. And the county continues to allow deforestation for vineyards and wineries in this AWOS land. It is impossible to figure out sustainability in the future while ignoring the value of this recharge data. | <p>Comment noted. As discussed at many GSPAC meetings, hydrologic inputs from the watershed to the Subbasin are directly accounted for in the water budget analysis. Specifically, runoff and groundwater recharge occurring in the Napa River Watershed are accounted for by the U.S. Geological Survey's Basin Characterization Model. Those watershed runoff and recharge processes contribute to the Subbasin water budget as described in Section 8 and Appendix 8A.</p> <p>More information on the Basin Characterization Model is available from the USGS: https://pubs.er.usgs.gov/publication/tm6H1</p> <p>Please also see Global Response B.</p> |
| 5.6 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | During a later meeting, when discussing the need to examine the interconnection of surface water and groundwater, and the effects of groundwater dependent ecosystems (GDE's), it became apparent to all members that we have woefully inadequate stream monitors along the 30 miles of the Napa River. When push came to shove, the representatives from the grape growers spoke about just using one because "we don't need to complicate the measuring." Ideally, we need stream monitors throughout the tributaries, above and below the reservoirs. Was this obfuscation to the truth that over extraction of groundwater for viticulture is de-watering the Napa River? It seems so. | <p>The draft GSP forwarded to the NCGSA on November 19, 2021, includes recommendations for expanded and refined surface water monitoring in the Subbasin to fill data gaps, based in part on an analysis of stream gage data gaps published by The Nature Conservancy (see Sections 5.10.5 ad 5.10.6).</p> <p>The state of knowledge and understanding of interconnected surface water was the subject of technical presentations and GSPAC deliberations at several GSPAC meetings. Data gaps and limitations of current understanding were acknowledged by County staff and technical consultants.</p> <p>In November 2020, County staff and technical consultants made an open-ended invitation to the GSPAC, reiterated at subsequent meetings, for input and recommendations on GSP monitoring networks, including surface monitoring networks. The commenter did not respond to that request.</p> |
| 5.7 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | This same member, lobbying for the monoculture industry here, demanded that undesirable results (UR's) must be encountered THREE (3) consecutive years before a trigger is met requiring real action. Additionally, 20% of the RMS wells levels must be below the minimum threshold for three consecutive years. This is not satisfactory knowing we already are in a climate change induced water shortage. | <p>This comment misrepresents the definitions for Undesirable Results that were under consideration by the GSPAC and the definitions ultimately approved by the required two-thirds majority of the Committee. Conditions representing Undesirable Results are defined based on best available information on the groundwater reliance of beneficial uses and users and on the best available information about the vulnerability of those users to changes in groundwater conditions. A fundamental aspect of sustainable groundwater management, as defined by SGMA and as presented to the GSPAC, is to avoid conditions that rise to the level of Undesirable Results. The draft GSP does not propose that Undesirable Results must be experienced for even a single year before the NCGSA undertakes action to avoid such conditions. On the contrary, the draft GSP describes that the NCGSA will manage the Subbasin to avoid Undesirable Results before such conditions occur (see Section 11).</p> |

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| 5.8 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | As Dr. Manfree wrote recently, “ If monitoring is inadequate, the clarity is impossible to ascertain as the triggers will not be activated when they should and the projected management actions (PMA’s) won’t happen, and can we please stop digging the hold deeper or can we back out just a bit.” From the environmental perspective, it is just buying a bit of time before the predictable and unfortunate end result is reached. This summer, Dr. Manfree and a field team spent three months collecting data on the state of the county’s tributaries and river. Their resultant information, called the Refugia Project was available to the GSPAC, but was ignored by the county and Luhdorff and Scalmanini. | <p>Please see the response to Comment 5.6 regarding the acknowledgement of data gaps related to interconnected surface waters. The draft GSP also describes data gaps and proposed actions to fill data gaps related to Groundwater Dependent Ecosystems in the Subbasin (see Sections 5.11.5 and 5.11.6).</p> <p>Contrary to the commenter’s assertion, LSCE did review Refugia Project information during development of the draft GSP, at the request of GSPAC members. The data collection effort referenced by the commenter is understood to have been a survey of potential fish passage barriers in the Napa River Watershed. Documentation, including survey reports, for most of the surveys conducted at sites in the Subbasin remains unavailable. However, the limited documentation that is available indicates a focus on impediments to fish passage resulting from physical streambed modifications such as at bridges and culverts. Groundwater management efforts by the NCGSA may be supportive of fish passage objectives. The degree to which fish passage may be affected by depletions of surface waters due to groundwater extraction is among the considerations that will be given as part of efforts to fill data gaps related to interconnected surface waters and GDEs.</p> |
| 5.9 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | Many specific items were brought to the attention of the county, but “kick the can down the road” attitudes prevailed. The plan projects a net decrease in available water supply of nearly 2,000 AFY by 2051, but does nothing to provide an overall approach for addressing that. This at the same time we continue to allow demands to increase from development and increased water extraction. Model uncertainties only confuse the subject. LSCE acknowledge that the conditions we have encountered in the last two years are outside the realm of the climate scenarios used in the modeling. This should be cause for significant alarm and action. The “warmer,drier” scenario only looks at precipitation reductions of 6.1%, which is unlikely, while the “wetter” scenario assumes an increase of 20%, again highly improbable. | <p>Regarding the projected water budget and future scenario results indicating a cumulative reduction in groundwater storage, Section 8.7.7 notes that “annual average changes in (groundwater) storage in all three projected scenarios are less than the historical average of 300 AFY; however, cumulative changes in storage in all three scenarios remain within the range of annual variability.” This context is important. A projected cumulative reduction in groundwater storage over a 51-year period that is well within the range of annual storage changes does not represent a depletion of supply.</p> <p>The approach for addressing potential future Subbasin conditions is the subject of Section 11 (Projects and Management Actions). While the exact sequence of conditions experienced in 2020 and 2021 may be beyond the scope of acute drought conditions reflected in the two global climate model-based scenarios, the 1976-1977 drought conditions reflected in the historically-based scenario are within the realm of conditions experienced the last two years.</p> <p>Please also see Global Response E.</p> |
| 5.10 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | In 2014 the Sustainable Groundwater Management Act was introduced by the state. This began a shift towards looking into the future with a keen eye on the warming and drying influence from climate change and mega-droughts. The cumulative monthly rainfall for the year 2020-2021 was the driest year on record and with the exception of 2016-2017 is indicative of the last decade of this trend. Yet using historical data projected into the future, LSCE’s model projects precipitation to hold generally steady into the decade. The projected climate model shows more than average rainfall as far out at 2070! To those environmental constituents involved in the GSPAC process, the county and LSCE have followed the minimum requirements and have set a low bar. The Napa River is the most intact | <p>Please see Global Response E.</p> <p>Please also see response to comment 12.6.</p> |

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| | | | watershed from which anadromous fish have access to the Sacramento/San Joaquin/San Francisco Bay system. The Napa River is the largest tributary to the bay system excluding the Sacramento River and is therefore important to the entire bay area. Limiting the scope by excluding the invaluable data related to the surface/ groundwater interconnect [sic] is short-sighted. | |
| 5.11 | Mike Hackett GSPAC Member mhackett54@gmail.com | 11/27/2021 | Interestingly, the most pertinent aspects of the plan development didn't come until the end. Clearly not enough time was given to review the plan. Unacceptable time constraints necessitated additional meetings and incomplete reviews from the community. And most troubling was the clear mandate to take immediate action. Chapter 11 of the plan speaks of the need for implementation and describes a frame work under which to implement the plan. It is simply a plan to do a plan. A Technical Working Group (TWG) will be assembled to advise the GSA. The TWG will have no authority and therefore nothing will be implemented without the vote of a majority of the Board of Supervisors. Once again the decisions will be biased by the supervisor's political bias. Without mandates for specific implementation, coupled with magical thinking on the impacts from our climate crisis, with insufficient and outdated historical data, and while ignoring watershed information, and no talk about limiting well development and additional extractions, the framework for this plan is wholly insufficient. Right now there are hundreds of development projects on tap in the county. Ignoring the increased "straws" into our groundwater is nothing short of criminal. We need the truth to be told. We don't have adequate data to know our current situation and not acknowledging that our General Plan states we will develop approximately 5,000 more acres for wineries and grapes is not acceptable. | <p>County staff and technical consultants shared draft schedules for GSP development throughout 2020 and 2021. GSPAC members were empowered to propose agenda items for GSAPC meetings throughout the GSP development process. With respect to sustainable management criteria, County staff, technical consultants, and invited presenters shared background information with the GSPAC beginning with the Committee's first meeting on July 9, 2020. Following development of supporting information, such as draft GSP Sections on the Hydrogeologic Conceptual Model and Subbasin groundwater and surface water conditions, the Committee began providing specific input on the development of sustainable management criteria in February 2021, through opportunities including online surveys with open-ended questions and regular meeting agenda items. GSPAC meeting summaries prepared by the GSPAC facilitation team at CONCUR Inc. and approved by the GSPAC are included in Appendix 1D of the draft GSP.</p> <p>Please also see Global Response E.</p> <p>See response to comment 1.1, regarding considerations given to the Napa River Watershed as part of development of the draft GSP. For additional information regarding consideration of the Napa River Watershed during GSP development, please see Global Response B.</p> <p>The commenter's view regarding the Technical Work Group is noted. The commenter was among the GSPAC members in attendance at the Committee's meeting on November 8, 2021, when the Committee developed and unanimously approved the motion recommending TWG formation as part of GSP implementation. For additional information regarding GSP implementation and the role of the Technical Work Group, please see Global Response C.</p> <p>This comment misrepresents the work of the GSPAC to develop Projects and Management Actions reflected in the draft GSP. Among these are demand management measures including the Vineyard and Winery Water Conservation management action, the Pumping Reduction management action, and the Groundwater Ordinance and New Well Permit Conditions management action (see Sections 11.5.1 through 11.5.3).</p> |
| 6.1 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>1. Consider climate impacts realistically and strengthen links to PMAs</u></p> <p>Recommendation: Current information on climate and weather, including long-term climate history and megadrought, should be incorporated throughout the GSP. Climate history and the most current climate assessments should be explained in Section 1 (Introduction). Possible impacts</p> | <p>Recommendation noted.</p> <p>Projected conditions, such as Subbasin hydrologic inputs, likely to be influenced by climate change are described in varying levels of detail in many Sections of the draft GSP. Importantly, the draft GSP recognizes the heightened interest in the potential for severe</p> |

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| | | | <p>to groundwater recharge and availability should be included in sections 4 (Basin Setting), 6 (Groundwater and Surface Water Conditions), and 7 (Historical, Current, and Projected Water Supply and Demand). In Section 8 (Water Budget), climate scenarios modeled and discussed in the main body of the text should include droughts that last longer and are more severe. In Section 11 (Projects and Management Actions), responses to extended drought should be explicitly linked to individual PMAs.</p> | <p>effects due to climate change, while also striving to remain within the bounds of best-available projections. This is a very difficult balance to achieve. As described in Section 8.7, “Informed by the review of available climate change datasets, discussions with DWR staff, review of DWR guidance for incorporating climate change in GSP analysis (DWR, 2018), and coordinating discussions with Sonoma County Water Agency staff developing the Sonoma Valley GSP, locally downscaled results from two Global Climate Models, including related outputs from the Basin Characterization Model Version 8 (Flint et al., 2021), were determined to be the best suited for evaluating the anticipated range in future climate conditions, including the potential for multi-decade drought conditions, in Napa Valley for this GSP.” This includes outputs from two climate models used in the most recent statewide climate change assessment, which are also the two climate models recommended by DWR as representing the potential for extreme future climate conditions. This is in contrast to other projected climate change datasets supplied by DWR for use in GSP development, which are scenarios that represent the central tendency of projected climate. As noted in Section 8.9 and reiterated in Section 11.7.6, the draft GSP recognizes the need to incorporate updated climate projections as part of regular GSP updates and evaluations in the future. Please also see Global Response E.</p> |
| 6.2 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>2. Accurately estimate sustainable yield and future demand</u></p> <p>Recommendation: The GSP should clearly disclose the potential magnitude and range of future demand in one location in the document. The discussion should be prominent in the Plan, and should be clearly informed by the various uncertainties in modeling and available data. The GSP should also, either in a separate section or as subsections of sections 4 through 8, clearly articulate uncertainties associated with modeling and data, including the limitations of the historical baseline, and implications for projections for future groundwater availability and demand. In Section 10 (Data Management and Reporting), the GSP should commit to reporting on progress toward resolution of these uncertainties as part of each Annual Report. Data needed to resolve or substantially reduce uncertainties should be clearly defined. These data gaps would then naturally lead to monitoring and other recommendations for action in Section 11. As the data gaps would be linked back to specific uncertainties, changes in monitoring and other actions could easily be prioritized based on the potential impacts associated with each of the uncertainties/resolution of the uncertainties. Public comments related to yield and demand should be acknowledged in sections 5 and 7 of the GSP along with a plan to gather relevant information from residents, and verify it. Appropriate actions might include follow-up meetings to discuss monitoring methods and locations and requests for additional documentation of their observations, such as well logs, photos, or narrative accounts. Data gaps should be analyzed and recommendations for work should be made by the end of March, 2022, in preparation for next summer, as drought is expected to continue.</p> | <p>Recommendation noted.</p> <p>The draft GSP is a necessarily complex document. The Executive Summary (including versions in English and Spanish) was developed to provide a more concise, plain language summary of key GDP content. The Technical Work Group, which is planned to be created immediately following GSP adoption, will play an important role in advising the NCGSA on approaches to fill data gaps. The draft GSP addresses model uncertainties and provides specific recommendations and proposed timeframes for implementing those recommendations in Section 8.9. Other known monitoring data gaps are described in corresponding sub-sections throughout Section 5 (Monitoring Networks). The NCGSA is committed to reporting on efforts to fill data gaps in accordance with the requirements provided in the state’s GSP Regulations. These include requirements for annual reporting on the GSP implementation progress and Subbasin conditions. The County and NCGSA have prepared annual reports consistent with these requirements since the annual report for water year 2017. Additional reporting requirement apply for the periodic GSP evaluation reports, required at least every 5 years</p> |
| 6.3 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>3. Establish adequate monitoring of GDEs</u></p> <p>Recommendation: include all species identified by TNC in the GSP. Identify species of interest and/or umbrella species and design monitoring programs that address needs throughout their life histories. Consider habitat requirements, stress tolerance, and population dynamics at local and regional scales for freshwater-dependent species. Related factors should trigger PMAs to avoid</p> | <p>Recommendation noted.</p> <p>As reported to the GSPAC, the list of potentially groundwater dependent species provided in Section 3.6.1.4 was derived from the TNC list of freshwater species for the Subbasin. The list was constrained based on an approach described in the Critical Species Lookbook</p> |

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| | | | <p>adverse impacts. Identify key environmental processes and locations that support species of interest, such as low-flow refugia and hyporheic flows, and monitor them. Monitoring programs must have adequate spatial resolution to ensure that conditions in GDEs throughout the basin (Section 6.8.2) are known and enough temporal resolution to allow a timely response. Describe how these data will be made available in Section 10, and link to PMAs in Section 11. Monitor GDEs and species of interest, and include a plan for this work in Section 5 (Monitoring Network and Programs). Field work should begin no later than June 2022. We encourage the County to hire several educated, knowledgeable biologists - perhaps from the TWG - to annually undertake dry season stream/river investigations, monitor current riparian conditions and, if they are problematic, alert the TWG and GSA so that PMAs can be initiated. Initiate a program to collect data from private wells, stratified by Township and Range sections, to improve knowledge of groundwater supplies overall, and allow responses to localized conditions. We recommend prioritizing high-value GDEs and adding such a program to Section 5.</p> | <p>guidance document developed by state and federal resources agencies and several NGOs. In response to comments on the draft GSP, the complete list provided by TNC has been included as Appendix 3F.</p> <p>The draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs and describes a GDE and interconnected surface water (ISW) workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6). The draft GSP specifically notes, consistent with requests made of the NCGSA during GSPAC meetings and a stakeholder meeting, that the NCGSA will seek input from NOAA Fisheries, CDFW, and the Napa County Resource Conservation District during workplan development.</p> |
| 6.4 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>4. Consider environmental users of water at multiple spatial scales</u></p> <p>Recommendation: The GSP should assess the unique importance of Napa River watershed for species that depend on groundwater, as identified by TNC. Brief life histories for each species on federal or state special status lists should be included. Their habitat requirements should be linked to monitoring practices in Section 3 (Monitoring and Management Programs), and linked to PMAs in Section 11. The TNC list should be included in appendices. Additional special status native fishes from Table 1 (attached) should also be included as they have been observed in NRCD studies. Regional recovery efforts for special status species such as steelhead, Chinook, sturgeon, Western pond turtle, California freshwater shrimp, bank swallow, Sebastopol meadowfoam, and Contra Costa goldfields should be explained and related to PMAs. The most productive and valuable habitats should be identified, prioritized for early monitoring, and monitored intensively</p> | <p>Recommendation noted. Please see Global Response D. Please see the response to comments 6.3.</p> <p>In response to comments on the draft GSP, additional information has been added to Section 3.6.1.4 to summarize habitat needs of groundwater dependent species, based on information in the guidance document “Critical Species Lookbook”, which had previously been (and remains) included as Appendix 6H. As reported to the GSPAC, the list of potentially groundwater dependent species provided in Section 3.6.1.4 was derived from the TNC list of freshwater species for the Subbasin. The list was constrained based on an approach described in the Critical Species Lookbook. In response to comments on the draft GSP , the complete list provided by TNC has been included as Appendix 3F.</p> |
| 6.5 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>5. Undesirable results criterion and associated minimum thresholds and triggers for depletions of interconnected surface water</u></p> <p>Recommendation: Section 9 (Sustainable Management Criteria) for depletions in interconnected surface waters should be better-supported by monitoring. The GSA should revise the definition of an undesirable result for depletion of interconnected surface waters as being no more than two years of exceedance of the minimum thresholds. Section 11 should include triggers that relate to species requirements. Acknowledge the current severe drought conditions, and increase the pace of implementation for monitoring programs and management responses, especially in high quality habitats. We recognize that there are numerous demands on surface waters. If SGMA is to be effective for protecting environmental users of water, monitoring networks must be robust enough to enable differentiation of causes for surface water depletion. In the absence of such networks, the precautionary principle should be applied. “In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.” - Rio Declaration, 1992. It is feasible to design and implement a flow monitoring system locally that will</p> | <p>Recommendation noted. Please see the response to comments 6.3 and 6.4.</p> <p>Timely implementation of projects, management actions, and supporting actions is acknowledged in the draft GSP, with the intent of avoiding undesirable results. These include expanded monitoring described in Section 5 and summarized in Table 12-3 as part of the discussion of GSP implementation. Among other measures, the expanded monitoring includes a planned upgrades to stream gages noted in a data gap analysis conducted by The Nature Conservancy (see Section 5.10.6). The draft GSP also acknowledges, consistent with input from the GPSAC, that the sustainable management criteria (especially criteria for depletions of interconnected surface water) will be revised in the future and at least by the time of the first 5-year year GSP re-evaluation to be developed by the NCGSA. Management criteria will be based on additional data developed to improve the understanding of the effects of groundwater pumping on depletions on interconnected surface water that result in impacts to beneficial uses and users, as part of the GDE and ISW workplan.</p> |

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| | | | meet the requirements of SGMA and allow targeted management. Placing stream gages in a stream's upper reach, just above the transition from canyon to valley, and before the confluence with the mainstem Napa River would allow managers to determine what the inputs are to the Napa Valley Subbasin and whether Napa Valley Subbasin stream reaches are gaining or losing. We recommend choosing a pilot location (possibly Redwood, York, or Ritchey Creek) and setting a target of mid-summer 2022 for system installation. From there, it should be possible to set reasonable completion dates for additional monitoring. | |
| 6.6 | Mike Hackett, Amber Manfree, Susanne von Rosenberg, and Chris Sauer GSPAC Members | 12/01/2021 | <p><u>6. Diversity and inclusion</u></p> <p>Recommendation: Prioritize diversity and inclusion going forward. Committee applications should be designed to aid prospective members in identifying criteria to qualify them as representatives for diverse groups.</p> <p>People of color and members of disadvantaged communities: Engage in proactive outreach and offer financial and logistical support (e.g., targeted recruitment, childcare and transportation; pay for time away from work).</p> <p>Tribes: Mentioned for inclusion in the first draft outreach plan, but not mentioned in subsequent drafts, and not included in the process. While there are no federally recognized tribes in Napa County, there are indigenous Wappo/Onasatis people and indigenous people from throughout the Americas to include going forward.</p> <p>Well drillers: Missed opportunity; they have key insights into where and how groundwater use is changing, and are highly knowledgeable about localized groundwater productivity. Engage well drillers in future SGMA public outreach.</p> | <p>Recommendation noted. Please see Global Response A.</p> <p>Tribal outreach is described in the final, adopted 2020 NCGSA Stakeholder Communication and Engagement Plan (see Section 6 of GSP Appendix 1C). Additional information has also been added to Section 3.6.1.6 to describe outreach conducted by the NCGSA to the Chair of the Native Advisory Council at the Pepperwood Preserve during GSP development to inform development of the 2020 Stakeholder Communication and Engagement Plan (Appendix 1C) and solicit input on tribal interests during GSP development.</p> <p>Napa County and the NCGSA have sought input from drillers as part of prior groundwater resources planning efforts and incorporated information developed by well drillers as part of the ongoing tracking of groundwater conditions in the Subbasin and the County. The County and NCGSA report on new well construction annually using well completion reports prepared by drillers. Well completion reports also form the foundation of the geologic layering data used to parameterize the Napa Valley Integrated Hydrologic Model (NVIHM) and the location and construction of the active production wells included in the NVIHM.</p> |
| 7.1 | Beth Milliken GSPAC Member beth@spottswode.com | 6.1 | <p>With the understanding that the time allowed for the presentation of our Groundwater Sustainability Plan (GSP) to the GSA (the five of you) on Tuesday, December 7th will not be sufficient to allow for meaningful community input, I write to you as a member of the GSPAC to both offer my thoughts and to ask that you schedule a meeting in the future (independent of the 12/14 meeting) at which we as members of the GSPAC (and other members of the public) will be able to share their thoughts.</p> <p>The GSPAC met roughly 20 times over the last 19 months to arrive at the GSP that is before you today. All 25 members have taken their roles seriously, working hard over many presentations and hours to create a meaningful plan that will protect our scarcest shared resource, in this case the groundwater in our subbasin. You, as the GSA, created this committee and tasked it with this important work. We have diligently followed through in good faith. I and we now ask that you do the same.</p> <p>This Plan is lengthy. It is dense and it is technical. It is in the best interest of all of us in Napa County to have our Plan approved by the Department of Water Resources (DWR) so as to retain local control. We believe that the best chance for this lies in the DWR not receiving correspondence from residents of Napa County against the Plan. It will behoove us to show a united front, which can happen if the GSA chooses to act on and implement this Plan with the</p> | <p>Comment acknowledged. Public engagement efforts have occurred throughout GSP development. These efforts are described in the draft GSP in Section 1.2 and Section 3.6. Opportunities have included public meetings of the NCGSA and GSPAC including GSP content shared beginning at the March 17, 2020 NCGSA meeting. Public comments were received at those public meetings and in response to online surveys related to draft GSP Sections provided beginning in August 2020. County staff and consultants greatly appreciate efforts by the GSPAC and stakeholders to provide constructive input throughout GSP development.</p> |

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| | | | same diligence that went into its creation. | |
| 7.2 | Beth Milliken GSPAC Member beth@spottswode.com | 12/05/2021 | Both the Letter of Transmittal (authored by David Graves and Alan Galbraith, GSPAC Chair and Vice Chair, respectively) and the Executive Summary speak well to what we as the GSPAC strongly recommend. Which is simply the following: <ul style="list-style-type: none"> • That the Plan be adopted as is and submitted to the DWR • That a Technical Work Group be created immediately (by Friday, February 25th) to assist our County with its implementation <ul style="list-style-type: none"> ○ The TWG must be scientifically and technically unassailable, working to ensure that our water resources are monitored and measured, and that findings are immediately acted upon, such that we can successfully protect our groundwater resources <ul style="list-style-type: none"> ▪ Adaptive Management is a core component of the Plan that must involve upfront field testing, evaluation of results, and adjustment followed by broad scale application, followed by further revision as needed, informed by deliberation of the Technical Work Group • That the GSA will actively engage with the TWG in implementing the Plan, thus offering our subbasin the thoughtful and rigorous oversight that will ensure that our groundwater resources are stewarded well now and into the future | Comment acknowledged. These recommendations regarding GSP implementation are also reflect in the draft GSP in Sections 11 and 12. |
| 7.3 | Beth Milliken GSPAC Member beth@spottswode.com | 12/05/2021 | From a holistic level, I wish to share how crucial it is that the County follow through on this plan in good faith, with the highest level of scientific and technical expertise at its side. This is an opportunity to show our community that its citizens are valued and listened to, to show those that volunteer for committee work such as this that their time and commitment matters, and most importantly, to show that our County is serious about stewarding our scarcest shared resource well, knowing that climate change is here, its effects are apparent and being deeply felt, and that we need to work together to ensure that Napa County remains a robust community with local water supplies that support its people, its businesses (among them agriculture), and its natural environment. | Comment acknowledged. |
| 8.1 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Hydrogeologic Conceptual Model</u> Recommendation: The Department recommends revising the HCM to clearly identify and characterize the physical components of the Basin as required under SGMA regulations. (23 CCR § 354.14). The Department realizes that the GSA has indicated that “continued monitoring and evaluation of groundwater production from geologic units other than the alluvium will inform future considerations of whether designations of other principal aquifers in the subbasin is warranted” (page 4-19, line 641). The Department requests the GSA provide additional clarifying language within the plan regarding the timing and implementation of projects and monitoring protocols that will help to make these determinations. The Department also encourages the GSA to expedite this process to ensure that the groundwater resources within the basin are adequately characterized. The Department believes that the Tertiary units should be identified as a principal aquifer system and appropriately managed and characterized under SGMA guidance and regulations. | Revisions have been incorporated in Section 4 to clarify the timing of efforts to address uncertainties related to other potential principal aquifers. These efforts include actions to fill data gaps described in Section 8.9 and reiterated in Section 12.6. As the GSP monitoring networks are expanded and refined over time and as additional data become available on potential principal aquifers in addition to the Quaternary alluvium, the analyses of those other formations will be expanded accordingly. |
| 8.2 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Current and Historical Groundwater Conditions</u> Recommendation: The Draft GSP should provide groundwater level elevation contour maps and hydrographs depicting the groundwater table or potentiometric surface associated with current seasonal highs and seasonal lows and hydraulic gradients between and for each principal aquifer. The Department requests that the GSA provide additional discussion of vertical groundwater | The draft GSP provides groundwater level elevation contour maps, hydrographs, and data on vertical gradients in Section 6.3.1, based on best-available information. As noted in the response to comment 8.1, as the GSP monitoring networks are expanded and refined over time and as additional data become available on potential principal aquifers in |

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| | | | gradients and the interactions between principal aquifers and provide groundwater contour maps to meet the requirements of applicable SGMA regulations. (23 CCR §354.16 (a)(1) and (2)). | addition to the Quaternary alluvium, analyses of groundwater elevation contours and vertical gradients will also be refined. |
| 8.3 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Consideration of Groundwater Dependent Ecosystems and Public Trust Resources</u> Recommendation: The Department recommends the GSA conduct a robust analysis that considers the needs of public trust resources and impacts to those resources due to proposed groundwater management practices. Once the GSA better understands the needs of public trust resources, a range of potential protective measures to address impacts of groundwater extractions can be explored and presented in future GSP updates. Furthermore, climate change models predict longer and more frequent periods of drought for the Bay Area (Thorne, James H., Joseph Wraithwall, Guido Franco. 2018). This effects the number of low water years and the potential for a higher human need for groundwater (all of which needs to be considered as part of the analysis). The GSA should engage in a balancing of competing interests that illustrates why protecting species and habitat though contingent pumping limits, use of supply alternatives, or equivalent protective measures would be infeasible. The GSA should also evaluate potential impacts on special-status species and determine if additional measures should be implemented to avoid, minimize, or mitigate such impacts. Furthermore, the Department recommends that the GSP include further analysis which encompasses seasonality and illustrates which GDEs and species depend on groundwater during varying parts of year (e.g. dependence of riparian vegetation and groundwater discharge for temperature moderation, dependence on groundwater baseflows for habitat connectivity, etc.). | The draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs and describes a GDE and interconnected surface water workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6). The draft GSP specifically notes, consistent with requests made of the NCGSA during a stakeholder meeting, that the NCGSA will seek input from NOAA Fisheries and CDFW during workplan development. |
| 8.4 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Consideration of Groundwater Dependent Ecosystems and Public Trust Resources</u> Recommendation: The Department recommends the GSP narrowly update the methodology for classifying GDEs to reflect the maximum potential rooting depth for Valley Oak communities. For any areas of Valley Oak within the Basin, the Department recommends the GSP apply a depth to groundwater threshold of 80 feet below ground surface. The Department accepts the use of a 30-foot threshold for other potential GDE areas within the basin. | Based on historical and current groundwater level data indicating relatively shallow depths to groundwater occurring throughout the Subbasin, no depth to water criteria were applied in identifying likely GDEs for consideration in the GSP. As a result, no GDEs were removed based on depth to groundwater conditions. |
| 8.5 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Consideration of Groundwater Dependent Ecosystems and Public Trust Resources</u> Recommendation: The Department recommends the GSA obtain additional data which illustrates the adaptation of salmonids residing in the Napa River Watershed to survive warmer water temperatures at various life stages. In addition, the Department recommends the GSA consider the chronic impacts of high stream temperatures on salmonids (i.e., reproduction, varying life stages, prey availability etc.). Furthermore, the Department recommends the GSA provide additional data which illustrates the possible cooling impact of groundwater in the Napa River Watershed, particularly in the summer months. | Please see response to comment 8.3. |
| 8.6 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Use of Groundwater Elevation as a Proxy</u> Recommendation: The Department recommends the Napa GSP clarify how the minimum thresholds were developed, how they relate to the relevant sustainability indicators, and how the criteria affect the interests of beneficial users (including CESA listed species). | The groundwater level minimum thresholds (MTs) established for the depletion of interconnected surface water indicator (and other indicators where groundwater elevations are used to define MTs) reflect conditions that have occurred during the recent historical period and have been shown in the GDE and domestic well vulnerability analyses to have been protective of beneficial uses, based on best-available data. Also, please note that the use of groundwater elevations as one of two components of the depletion of interconnected surface water sustainable management criteria is additive and not a proxy to replace the required use of a rate or volume of depletion, as |

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| | | | | required by GSP Regulations. The draft GSP separately defines sustainable management criteria for depletion volumes, and additionally recognizes that a volume or rate of surface water depletion may not be protective of all beneficial users of interconnected surface water. Criteria based on groundwater elevations are also specified in order to address the potential for depletions of interconnected surface water to lead to effects on GDEs that rely on shallow groundwater in proximity to interconnected surface waters. Additional text has been added to Section 9.5 to clarify this approach. |
| 8.7 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Sustainable Management Criteria for Depletion of Interconnected Surface Waters</u> Recommendation: The Department recommends the GSA reconsider the three consecutive years of groundwater levels below MT required to constitute an undesirable result, recognizing that extended durations of groundwater inaccessibility for environmental users will likely lead to adverse impacts that cannot be easily reversed when groundwater levels recover. At a minimum, the Department recommends identifying physical triggers (e.g., declining Normalized Difference Vegetation Index signals) and associated management actions (e.g., demand reduction) to enable the GSAs to identify and mitigate localized patterns of lowering groundwater or depleted ISWs and associated negative impacts before the third year of MT exceedances yields more significant and undesirable impacts. These interim action triggers will help preempt irreversible losses and undesirable results for environmental users. | Please see the response to comment 8.6. The groundwater level minimum thresholds (MTs) established for the depletion of interconnected surface water indicator (and other indicators where groundwater elevations are used to define MTs) reflect conditions that have occurred during the recent historical period and have been shown in the GDE and domestic well vulnerability analyses to have been protective of beneficial uses, based on best-available data. The draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs and describes a GDE and interconnected surface water workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6). The draft GSP specifically notes, consistent with requests made of the NCGSA during a stakeholder meeting, that the NCGSA will seek input from NOAA Fisheries and CDFW during workplan development. |
| 8.8 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Sustainable Management Criteria for Depletion of Interconnected Surface Waters</u> Recommendation: The Department recommends use of a larger base period of record for data collection in determining summer baseflows in the Napa River at Pope Street. Use of a broader base period would better illustrate the seasonal disconnection between groundwater and surface water. | The period of record for the depletion of interconnected surface water at both locations where sustainable management criteria area set for the volume of depletion includes consideration of a recent 10-year period (2005 to 2014), which was an approach that received broad support from the GSPAC. The period considered for setting sustainable management criteria is distinct from the period of record for the USGS stream gage. As noted in Section 6.4, the USGS gage was relocated approximately 2.2. river miles upstream. Dry season hydraulic connection is variable along the Napa River (see Section 6.7, including additional information and Figures 6-123d and 6-123e provided in response to comments). |
| 8.9 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Implementation/Management Actions</u> Recommendation: The Draft GSP should outline the planned steps that will be taken to achieve the 10 percent pumping reduction, including a timeline and interim milestones to achieving this goal. | The draft GSP describes the need to develop a pumping reduction plan as part of GSP implementation, as noted in Section 11.5.2 and 12.6. |
| 8.10 | Stephanie Fong California Department of Fish and Wildlife | 12/06/2021 | <u>Implementation/Management Actions</u> Recommendation: The Department encourages the GSA to consider implementing recharge projects that facilitate floodplain inundation. These projects offer multiple benefits including downstream flood attenuation, groundwater recharge, and ecosystem restoration. Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmonids by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability. Additionally, these types of multi-benefit projects likely have more diverse grant | Comment acknowledged. Please see Section 11.4 and Section 12.6. Managed Aquifer Recharge (MAR) is recognized as a planned implementation project with potential to be implemented in a multi-benefit capacity to enhance groundwater supply reliability and maintain or improve GDE conditions. |

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| | | | funding opportunities that can lower their cost as compared to traditional off-channel recharge projects. | |
| 9.1 | Gary Woodruff | 12/06/2021 | <p>Even though we do not like to admit it, our Valley is in a water crisis. Non-stop winery and vineyard expansions over the past 30 years are now taking their tolls on streams, rivers and dry wells. All of the focus of our boards has been on our economy which has caused many other problems such as lack of affordable housing, low paying jobs, increased traffic and shrinking schools. Even though we are now in a Mega-drought (2020/2021), the current processes have been going on since 2006. This is a State crisis and does not have an easy solution. The GSA overviews were developed due to the problems that have been plaguing the Central Valley for years. Diminishing aquifers, deeper wells being dug and subsidence are occurring through-out the State. This has brought the current GSA requirements to the forefront and the formation of the community review board along with consultants to formulate a minimum standards document for submission. This is the place where our leaders have failed us. Always meeting minimum standards places the County at a disadvantage and we will never get ahead of the crisis. Delays caused by political changes, review processes along with the time allotted to create these documents puts the County at least 6 years behind the current need. Mother Nature does not wait for political processes to catch up to a problem. Climate change is teaching us that now with flooding, drought and failure of infrastructure that has not been upgraded or modified. The only thing we can do is to stretch beyond those minimum standards in order to have any chance of saving our lively hood and Valley. This is the course the Board of Directors should be taking. Go ahead and submit your minimum standards document, but put in place more well monitoring for all commercial and new installations. Stop expanding the water demands for more production of wine and vineyards which take more water to maintain. Require conversion to "Dry Farming Techniques" which will help reduce the demand for irrigation of vineyards. These are things the Board needs to address rather than more expansions of the industry which puts more demands on water. We will have less water over the next Century if Climate Change has its way. California is a desert and seems to be reverting back to that status again. We do not have a Crystal Ball to see the future, so it is better for all of us to start to change our direction while we have some time to adjust. Hopefully we are not too late.</p> | Please see Global Responses A, B, C, D, and E. |
| 10.1 | Center for Biological Diversity | 12/06/2021 | <p>I. The GSP should cover the entire watershed, not just the subbasins The Napa River Watershed is the most intact watershed from which anadromous fish have access to the Sacramento/San Joaquin/San Francisco Bay system. The Napa River is the largest tributary to the bay system excluding the Sacramento River and is therefore important to the entire bay area. It is defined by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south. The Napa River runs through the center of the watershed on the valley floor, draining numerous tributaries along a 55-mile run from the headwaters of Mt. St. Helena to the San Pablo Bay. The Napa River Watershed is home to most of the residents and developed areas in the county. It is estimated that 95% or more of the entire population of Napa County live in the Napa River Watershed. Two-thirds of the water used for crop irrigation in the valley floor comes from the hillsides. The forests and open space wildlands provide the aquifer recharge, which flows into the reservoirs and the tributaries to the Napa River. However, despite the obvious connection between the greater watershed and groundwater health and availability, the watershed is not included in the scope of the plan. This disconnect allows the county to continue to approve projects that deforest critical recharge areas for vineyards and wineries. The Plan's exclusion of surface water data and the potential impacts of pre-approved projects is unacceptable. Hundreds</p> | Please see Global Response B. |

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| | | | <p>of new developments will increase the region’s demand, yet the plan does not account for these potential new sources of water-use. In addition, the General Plan states that approximately 5,000 more acres will be developed for wineries and grapes. Not accounting for these impacts within the GSP leaves a huge gap in understanding the region’s strains on water supply and it also prevents the GSP from fully acknowledging the impact of land-use decisions on groundwater, which should be a central component of the management actions. Without significant revision and expansion of the plan’s scope to include the entire watershed, this plan will not bring about meaningful water conservation strategies and sustainable management measures.</p> | |
| 10.2 | Center for Biological Diversity | 12/06/2021 | <p>II. The County must better monitor groundwater levels to ensure management strategies reflect accurate water availability data. A fundamental oversight of the current draft is the lack of groundwater monitoring, the very resource the GSP aims to manage. The critical shortages of supply that the region is currently experiencing are a direct reflection of current drought conditions and over-extraction from the approximate 10,000 wells in the valley floor. However, the county only measures 40 wells out of this total, and only 21 are production wells. The current draft does nothing to address this problem, as seen in Section 12 of the plan, that calls for only four additional wells by fall of 2021. Groundwater-level monitoring is a fundamental way of gaining an understanding of a groundwater basin, determining directions of groundwater movement and trends in groundwater storage, and evaluating progress toward meeting water resource management goals. California Department of Water Resources (DWR) advises that, in order to be compliant with the Sustainable Water Management Act, each GSP must include a sufficient monitoring network to provide data needed to demonstrate progress toward achievement of a plan’s sustainability goal. The proposed monitoring is grossly insufficient and will ensure that the region continues to lack the necessary data to inform water conservation strategies and enforce any mandates put in place by the GSP.</p> | Please see response to comment 5.4 |
| 10.3 | Center for Biological Diversity | 12/06/2021 | <p>III. The GSP must better account for and incorporate the impacts of climate change into its future prediction models. Recent science has made clear that human-caused climate change is causing widespread harms to human society and natural systems, and climate change threats are becoming increasingly dangerous. In its 2018 Special Report on Global Warming of 1.5°C, the Intergovernmental Panel on Climate Change (“IPCC”)—the leading international scientific body for the assessment of climate change—describes the devastating harms that would occur at 2°C warming. The report highlights the necessity of limiting warming to 1.5°C to avoid catastrophic impacts to people and life on Earth.³ The report also provides overwhelming evidence that climate hazards are more urgent and more severe than previously thought, and that aggressive reductions in emissions within the next decade are essential to avoid the most devastating climate change harms. The impacts of climate change are already being felt by humans and wildlife. Thousands of studies conducted by researchers around the world have documented changes in surface, atmospheric, and oceanic temperatures; melting glaciers; diminishing snow cover; shrinking sea ice; rising sea levels; ocean acidification; and increasing atmospheric water vapor (USGCRP 2017). In California, climate change will transform our climate, resulting in impacts including, but not limited to, increased temperatures and wildfires and a reduction in snowpack and precipitation levels and water availability. Napa’s communities, businesses and wildlife will also be hit hard. A Stanford study estimated that by 2040 the amount of land in Napa suitable for premium wine grape production could shrink by half. By 2050 Napa’s current grape output could drop by two thirds or more according to a University of California study. The county can also expect higher temperatures, increased flooding from rising sea levels and increasing storm surge, more variable rain falls and</p> | Please also see Global Response E. |

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| | | | <p>water availability, deteriorating water quality and loss of biodiversity. Despite the overwhelming scientific evidence and the current reality of the existing drought, the “warmer, drier” scenario used in the GSP only looks at precipitation reductions of 6.1%, which is highly unlikely, while the “wetter” scenario assumes an increase of 20%, again highly improbable. The cumulative monthly rainfall for the year 2020-2021 was the driest year on record and with the exception of 2016-2017 is indicative of the last decade of this trend. Yet using historical data projected into the future, the model used by the GSP projects precipitation to hold generally steady into the decade and the projected climate model shows more than average rainfall as far out as 2070. This directly contradicts the scientific evidence, the current precipitation data as well as expert testimony from the National Oceanic and Atmospheric Administration (NOAA) and California’s Department of Fish and Wildlife (DFW). The models should be updated to reflect the best available science on climate change predictions.</p> | |
| 10.4 | Center for Biological Diversity | 12/06/2021 | <p>IV. The undesirable results (UR’s) threshold should be lowered to (1) year and water conservation mandates must be implemented immediately. The plan projects a net decrease in available water supply of nearly 2,000 AFY by 2051 but does nothing to provide an overall approach for addressing that. Instead, the County continues to allow demands to increase from development and increased water extraction and significantly limit the implementation of any real action. The current draft states that undesirable results (UR’s) must be encountered (3) consecutive years before a trigger is met requiring real action. Additionally, 20% of the RMS well levels must be below the minimum threshold for (3) consecutive years. This, coupled with the current draft’s insufficient monitoring network, guarantees that the region’s groundwater will continue to be depleted for private interest, while the general public continues to suffer from unsustainable management practices. Effective groundwater management requires immediate regional investment in water conservation best practices for both agriculture and urban areas. These best practices should be implemented as mandates within the GSP, if meaningful change is to be achieved. Agriculture can conserve water both by crop selection and irrigation practices. Crop selection is essential to meaningful reductions in water use by the agricultural industry. In addition to profitable water-wise crop selection, farmers should invest in ensuring that their water systems are as efficient as possible. Finally, maintaining soil health can maximize water retention and thus reduce water runoff. Urban area water conservation strategies include onsite grey water use, regional water recycling, stormwater capture and treatment, and native landscaping for groundwater recapture. As with agriculture, species selection for landscapes and infrastructure maintenance to reduce leaks have the greatest potential to reduce direct use. This can be achieved by passing local policies that require native landscaping and or/ incentivize it using subsidies or tiered water pricing. As for reducing leaks, investments must be made to more regularly service water infrastructure and metering needs to be much more widely implemented to identify leaks</p> | <p>Regarding the projected water budget and future scenario results indicating a cumulative reduction in groundwater storage, Section 8.7.7 notes that “annual average changes in (groundwater) storage in all three projected scenarios are less than the historical average of 300 AFY; however, cumulative changes in storage in all three scenarios remain within the range of annual variability.” This context is important. A projected cumulative reduction in groundwater storage over a 51-year period that is well within the range of annual storage changes does not represent a depletion of supply.</p> <p>Consistent with the Subbasin Sustainability Goal, and the documentation provided in Section 6.8 on the historical stability of GDE conditions in the Subbasin, the qualitative and quantitative definitions of undesirable results are established to avoid Subbasin conditions that, as a result of groundwater extraction, result in significant and unreasonable effects on GDEs, due to a condition occurring throughout the Subbasin, beyond what was experienced prior to the enactment of SGMA. In addition, the draft GSP establishes an interim measurable objective that corresponds to a reduction in the volume of streamflow depletion corresponding to a 10 percent reduction in average annual historical pumping for all non-de minimis groundwater users. Support for the interim measurable objective was broadly voiced by the constituencies represented on the GSPAC. The draft GSP also notes in Section 9.5.6 that the interim criteria will be revisited and revised, as appropriate no later than the first required 5-year GSP re-evaluation to be prepared by the NCGSA.</p> <p>Please see the response to comment 8.6 regarding the approach used to set minimum thresholds for the depletion of interconnected surface water indicator. The groundwater level minimum thresholds (MTs) established for the depletion of interconnected surface water indicator (and other indicators where groundwater elevations are used to define MTs) reflect conditions that have occurred during the recent historical period and have been shown in the GDE and domestic well vulnerability analyses to have been protective of beneficial uses, based on best-available data. The draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs and describes a</p> |

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| | | | | <p>GDE and interconnected surface water workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6).</p> <p>Timely implementation of projects, management actions, and supporting actions is acknowledged in the draft GSP, with the intent of avoiding undesirable results. The draft GSP also acknowledges that the sustainable management criteria will be revised in the future as additional data become available to improve the understanding of the effects of groundwater pumping on depletions on interconnected surface water that result in impacts to beneficial uses and users.</p> |
| 11.1 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 1. SGMA has minimum requirements for the GSP, but a better and more effective plan for our Subbasin will be produced if more extensive measures are considered and utilized to implement the GSP. | <p>The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett.</p> <p>Please see Global Response B.</p> |
| 11.2 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 2. The GSP should consider and include all areas that play a part in the quantity, quality and health of the Napa Valley Subbasin. So, monitoring of the surrounding watersheds and tributaries need to be included in the GSP. | <p>The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett.</p> <p>Please see Global Response B.</p> |
| 11.3 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 3. The GSP should describe and address the current reality of the Subbasin, and not one that takes a multi-year average that minimizes the worrisome conditions we see in the Napa River and its tributaries today. It only takes one year of disastrous conditions to lose a large population of aquatic life and species. | <p>The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett.</p> <p>Please see Section 6, Section 7, and Section 8 of the draft GSP. Section 6 provides dozens of tables and figures detailing annual and seasonal groundwater and surface water conditions, including streamflow data dating back to 1929, peer-reviewed analyses of streamflow conditions in the Napa River and its tributaries, and reports by the U.S. Geological Survey and San Francisco Estuary Institute describing the historical occurrence of dry or no-flow conditions in the Napa River and its tributaries. Sections 7 and 8 report annual data on water use from all sources and by all water use sectors, including native vegetation, self-supplied domestic users, agriculture, municipal, and small public water systems.</p> |
| 11.4 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 4. The monitoring and measuring of wells should be throughout the Subbasin and the connected watersheds, in adequate numbers and types (residential, commercial, industrial and agriculture) to give substantial meaning to the data. | <p>The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett.</p> <p>Please see response to comment 5.4.</p> |
| 11.5 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 5. All new and replacement well permits should require a meter, and quarterly use recording and reporting. | <p>The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett.</p> |

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| | | | | Please see Section 11.7.5 for the supplemental action “Adopt Well Metering and Reporting Standards”. As presented in Table 12-3, this action is planned for implementation in 2022-2023. |
| 11.6 | Growers/Vintners for Responsible Agriculture | 12/06/2021 | 6. Installation of measuring devices in the Napa River and its tributaries should be in adequate numbers. There should be a device above and below each city and town. There should be a device at the mouth of every Napa River tributary, as well as a device at the beginning and midway on each of these tributaries. | The NCGSA appreciates the service of two members of the Board of Directors of the Growers/Vintners for Responsible Agriculture on the GSPAC, Beth Milliken and Mike Hackett. Please see response to comment 5.6. |
| 12.1 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <u>Avoiding Undesirable Results:</u> NMFS recommended the GSP qualitatively describe what conditions within the subbasin would constitute an undesirable result with regard to streamflow depletion. Based on our review, we remain concerned that the current proposed minimum thresholds, measurable objectives, and interim milestones for depletions of interconnected surface waters (Table 9-16) will not avoid significant and unreasonable impacts to surface water beneficial uses, specifically those uses that support threatened CCC steelhead. The proposed interim sustainable management criteria are not supported by any analysis estimating how they may impact interconnected surface flow beneficial uses. Instead, these interim criteria are set at levels consistent with historically high surface water depletion rates. Available information indicates these rates are very likely to adversely impact threatened steelhead and its designated critical habitat in streams of the Napa Valley Subbasin. | The draft GSP provides qualitative descriptions of conditions that would constitute an undesirable result in Section 9.5.6.1. Importantly, the draft GSP acknowledges that undesirable results, as defined by SGMA, are only those conditions that are a result of groundwater extraction or groundwater conditions managed by the NCGSA and not impacts or effects on beneficial users resulting from other causes. Please see the GDE vulnerability analysis provided in Section 9.5.1.2.8. This content addresses the best available information on the potential for groundwater conditions, to affect GDEs. In addition, the draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs, which include special status aquatic species in addition to the Central California Coast steelhead, and describes a GDE and interconnected surface water workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6). The draft GSP specifically notes, consistent with requests made of the NCGSA during a stakeholder meeting, that the NCGSA will seek input from NOAA Fisheries and CDFW during workplan development. |
| 12.2 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <u>Basing Sustainable Management Criteria on Historical Drought Conditions:</u> NMFS alerted the Napa County GSA that proposing groundwater elevations from the 2011-2016 period as streamflow depletion minimum thresholds and measurable objectives is inappropriate for avoiding impacts to CCC steelhead and their habitat. If a lack of data prevents the development of appropriate sustainable management criteria, the Napa County GSA should design and implement studies that better inform appropriate minimum thresholds and measurable objectives for streamflow depletion. In the interim, guidance by the California Department of Fish and Wildlife that recommends conservative sustainability management criteria be established to ensure groundwater dependent ecosystem protection should be followed (CDFW 2019). | The NCGSA appreciated the effort by NOAA Fisheries to provide comments on the draft sustainable management criteria while under development in September 2021. The draft GSP does not set sustainable management criteria for depletions of interconnected surface, nor any other sustainability indicator, based on groundwater elevations from the 2011 to 2016 period. With respect to depletions of interconnected surface water, information presented in Section 8.8 demonstrates an important consideration with respect to the relationship between drought conditions and depletions of surface water during the dry season. While depletions due to groundwater pumping as a proportion of total surface water flow is higher during the dry season relative to the wet season, the magnitude of depletion (as a volume or seasonal rate) does not demonstrate a positive relationship with drought conditions. This appears to be because inflows to the surface water system in the Subbasin are limited during drought conditions, thereby limiting the potential for depletion in those years. As a result, the magnitude of depletion of surface water due to groundwater pumping tends to be higher in years following drought conditions as the Subbasin seeks equilibrium following temporary depletions of groundwater storage that occur during droughts. |

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| | | | | <p>The draft GSP recognizes the need to define undesirable results based on the effects of groundwater extraction in the Subbasin on beneficial uses and users. With respect to the undesirable results and other sustainable management criteria for depletions of interconnected surface water, best-available information on GDE status and trends presented in Section 6.8 informed the sustainable management criteria developed with and approved by the GSPAC.</p> <p>Please also see response to comment 12.1.</p> |
| 12.3 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <p><u>Page 9-77, Section 9.5.6.1:</u> Condition 2 of the document’s definition for significant and unreasonable depletions of interconnected surface water is based upon a condition where the timing and duration of groundwater/surface water connection “are reduced relative to the historical conditions or impacts groundwater dependent ecosystems or other beneficial users of surface water.” Avoiding the interconnected surface water depletion undesirable result, as required by Sustainable Groundwater Management Act (SGMA), entails avoiding significant and unreasonable impacts to beneficial uses of surface water resulting from that depletion. Comparing current and future groundwater/surface water dynamics to those of the past has no utility when discerning whether significant and unreasonable impacts to surface water beneficial uses have been, or will be, avoided.</p> | <p>The draft GSP’s definition for significant and unreasonable depletions of interconnected surface water was the subject of multiple meetings and deliberation by the GSPAC. The definition specifically acknowledges that conditions “impact(ing) groundwater dependent ecosystems or other beneficial users of surface water” are among the potential effects of significant and unreasonable depletions of interconnected surface water due to groundwater extraction. The definition noted by the commenter refers to potential effects on both the timing and duration of hydraulic connection and the volume of stream flow as those are the physical effects that may occur in response to groundwater extraction, which could themselves lead to GDE impacts. Recognition of both the potential physical and biological effects is important.</p> |
| 12.4 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <p><u>Page 9-77, Section 9.5.6.1.1:</u> The “trigger” for significant and unreasonable depletion of interconnected surface water is proposed as a percentage (i.e., 20%) of well elevation violations occurring across the monitoring network. The proposed metric has no apparent ecological basis for discerning when significant and unreasonable impacts on identified surface water beneficial uses are avoided, and is therefore inappropriate as a minimum threshold or measurable objective for the interconnected surface water depletion undesirable result.</p> | <p>Consistent with the Subbasin Sustainability Goal, and the documentation provided in Section 6.8 on the historical stability of GDE conditions in the Subbasin, the qualitative and quantitative definitions of undesirable results are established to avoid Subbasin conditions that, as a result of groundwater extraction, result in significant and unreasonable effects on GDEs, due to a condition occurring throughout the Subbasin, beyond what was experienced prior to the enactment of SGMA. In addition, the draft GSP establishes an interim measurable objective that corresponds to a reduction in the volume of streamflow depletion corresponding to a 10 percent reduction in average annual historical pumping for all non-de minimis groundwater users. Support for the interim measurable objective was broadly voiced by the constituencies represented on the GSPAC.</p> |
| 12.5 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <p><u>Page 9-81, Section 9.5.6.2.3:</u> Interim measurable objectives and interim milestones are proposed to be set at “recent historical conditions.” Much like the minimum threshold issues discussed above, these interim thresholds also lack any ecological basis by which to judge whether streamflow depletion impacts have been avoided, and corresponding streamflow depletion rates at those historical conditions are again very likely to adversely impact CCC steelhead and their habitat.</p> | <p>Best-available information on GDE status and trends is presented in Section 6.8 and informed the qualitative definition for significant and unreasonable depletions of interconnected surface waters. The draft GSP acknowledges that the interim measurable objective and interim milestones may need to be revised as the GSA continues to advance the understanding of degree to which groundwater extraction affects GDEs, particularly aquatic GDEs with a direct reliance on interconnected surface water.</p> |
| 12.6 | Gary Stern National Marine Fisheries Service (NOAA Fisheries) | 12/07/2021 | <p><u>Page 9-83, Section 9.5.6.2.6:</u> The following statement for Native Vegetation Land Use and Users is unsupported by an ecological analysis of how the proposed sustainably management criteria affect surface water beneficial uses. “Interconnected surface water MTs were specifically established to protect aquatic species and GDEs present in streams connected to groundwater. Groundwater</p> | <p>The definition for undesirable results developed by the GSPAC recognizes two potential significant and unreasonable conditions whereby groundwater conditions, and specifically groundwater extraction, may cause undesirable results. These two conditions are (1)</p> |

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| | | | <p>levels within the MTs for this sustainability indicator increase the overall hydraulic gradient of groundwater to streams, therefore allowing greater groundwater flow into the stream.” The SGMA regulations require avoiding undesirable results, not just increasing the hydraulic gradient between groundwater and surface water.</p> | <p>changes to the timing and duration of hydraulic connection and (2) reductions in stream flow due to groundwater extraction. These two conditions address not only the minimum requirement of the Water Code but also provide additional consideration of potential effects on hydraulic connections.</p> |
| 13.1 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p>A comment letter dated December 7, 2021 was submitted which provided background, resources, and context for comments. Specific comments/recommendations (provided in the comment letter as Attachment A) are listed in this table.</p> <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>A. Identification of Key Beneficial Uses and Users Disadvantaged Communities, Drinking Water Users, and Tribes</p> <ul style="list-style-type: none"> ● Provide the population of each identified DAC. Identify the sources of drinking water for DAC members, including an estimate of how many people rely on groundwater (e.g., domestic wells, state small water systems, and public water systems). ● Provide a map of tribal lands and further describe tribal interests in the subbasin. ● Include a map showing domestic well locations and average well depth across the subbasin. | <p>Population estimates for domestic well users (i.e., self-supplied users) are provided in Section 7.4. Population data for state small water systems and non-municipal community water systems is provided in Table 7-12. Additional information has been added to Section 3.6.1.6 to provide information on the population and known water sources for areas mapped as disadvantaged communities, severely disadvantaged communities, and economically distressed areas. These areas include populations attributable to the self-supplied water users and public water systems water use sectors identified throughout the GSP.</p> <p>Section 2.4 of the draft GSP notes that there are no lands located in the Subbasin that are managed by tribal governments. Additional information has been added to Section 3.6.1.6 to describe outreach conducted by the NCGSA to the Chair of the Native Advisory Council at the Pepperwood Preserve during GSP development to inform development of the 2020 Stakeholder Communication and Engagement Plan (Appendix 1C) and solicit input on tribal interests during GSP development.</p> <p>Domestic well locations are shown in Figure 9-5. Average domestic well depths are shown in Figure 9-4. Both figures also show the locations of Representative Monitoring Sites for the chronic groundwater level decline indicator. Added an additional figure (Figure 2-5) showing the average domestic wells depths in the Subbasin as part of the discussion of existing well types and densities in Section 2-5.</p> |
| 13.2 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>A. Identification of Key Beneficial Uses and Users Interconnected Surface Waters</p> <ul style="list-style-type: none"> ● Provide a map showing all the stream reaches in the subbasin, with reaches clearly labeled as interconnected (gaining/losing) or disconnected. Consider any segments with data gaps as potential ISWs and clearly mark them as such on maps provided in the GSP. ● Overlay the subbasin’s stream reaches on depth-to-groundwater contour maps to illustrate groundwater depths and the groundwater gradient near the stream reaches. Show the location of groundwater wells used in the analysis. ● For the depth-to-groundwater contour maps, use the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a Digital Elevation Model (DEM) to estimate depth-to- | <p>Interconnected surface waters are characterized and described in Section 4.3.8.1 and Section 6.7. Section 6.7 presents the results of an analysis of hydraulic connection along the Napa River using interpolated groundwater elevation data and LiDAR-derived thalweg elevations (see Figures 6-121, 6-122, and 6-123a). The analysis was conducted using methods consistent with the recommended guidance. Site-specific data and characterizations of hydraulic connection are also provided in section 6.7 using monitoring data collected at dedicated monitoring wells adjacent to the Napa River and Dry Creek.</p> <p>Additional text and Figures 6-123b, 6-123c, 6-123d, and 6-123e have been added to Section 6.7 in response to comments on the draft GSP. The additional content provides Subbasin-wide mapping of the frequency of hydraulic connection annually and seasonally using water table elevations simulated at two-week timesteps by the Napa Valley Integrated Hydrologic Model.</p> |

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| | | | groundwater contours across the landscape. This will provide accurate contours of depth to groundwater along streams and other land surface depressions where GDEs are commonly found. | |
| 13.3 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>A. Identification of Key Beneficial Uses and Users Groundwater Dependent Ecosystems</p> <ul style="list-style-type: none"> For the depth-to-groundwater contour maps (Figures 6-121 to 6-123), note the best practices presented in Attachment D. Specifically, ensure that the first step is contouring groundwater elevations, and then subtracting this layer from land surface elevations from a digital elevation model (DEM) to estimate depth-to-groundwater contours across the landscape. Discuss data gaps for GDEs. If insufficient data are available to describe groundwater conditions within or near polygons from the NC dataset, include those polygons as “Potential GDEs” in the GSP until data gaps are reconciled in the monitoring network. | <p>Section 6.7 presents the results of an analysis of hydraulic connection along the Napa River using interpolated groundwater elevation data and LiDAR-derived thalweg elevations (see Figures 6-121, 6-122, and 6-123a).The analysis was conducted using methods consistent with the recommended guidance.</p> <p>The draft GSP recognizes that data gaps exist regarding the degree to which groundwater conditions affect GDEs and describes a GDE and interconnected surface water workplan to enable the NCGSA to address those data gaps (see Section 5.11.6 and Section 12.6).</p> |
| 13.4 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>A. Identification of Key Beneficial Uses and Users Native Vegetation and Managed Wetlands</p> <ul style="list-style-type: none"> Quantify and present all water use sector demands in the historical, current, and projected water budgets with individual line items for each water use sector, including native vegetation. State whether or not there are managed wetlands in the subbasin. If there are, ensure that their groundwater demands are included as separate line items in the historical, current, and projected water budgets. | <p>Historical, current, and projected water demands by sector are presented in Section 7. Native vegetation and GDE demands are described in Sections 7.6.1.4 and 7.6.2.4.</p> <p>Added information regarding managed wetlands in the Subbasin, including the South Napa Wetlands mapped as a managed wetland by DWR's 2016 statewide crop map and further described in the Napa River Flood Protection Project 2017 Vegetation Monitoring Report by Stillwater Sciences. Corresponding information added to Sections 2, 3, and 7.</p> |
| 13.5 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>B. Engaging Stakeholders Stakeholder Engagement during GSP development</p> <ul style="list-style-type: none"> In the Stakeholder Communication and Engagement Plan, describe active and targeted outreach to engage all stakeholders throughout the GSP development and implementation phases. Refer to Attachment B for specific recommendations on how to actively engage stakeholders during all phases of the GSP process. Provide documentation on how stakeholder input was incorporated into the GSP development process. Clarify whether the GSP Advisory Committee will continue to meet and inform the GSP implementation process for the subbasin after the GSP is adopted by the GSA. Utilize DWR’s tribal engagement guidance to comprehensively identify, involve, and address all tribes and tribal interests that may be present in the subbasin. | <p>The draft GSP provides detailed information on opportunities for stakeholder input and documentation on how stakeholder input was incorporated into GSP development in Section 1.2, Section 3.6.2, Section 3.6.3, Appendix 1C (2020 Stakeholder Communication and Engagement Plan), Appendix 1D (Napa County Groundwater Sustainability Agency Outreach Activities), and Appendix 3G (this appendix). Please see also Global Response A and Global Response D.</p> <p>Sections 11.8 and 12.3 provide information on continuing stakeholder engagement and outreach activities that will occur during GSP implementation. Section 11.8.2 addresses the role of the GSP Advisory Committee and the Technical Work Group. Please see also response to comment 13.1. Please see also Global Response A.</p> |

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| 13.6 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>C. Considering Beneficial Uses and Users When Establishing Sustainable Management Criteria and Analyzing Impacts on Beneficial Uses and Users Disadvantaged Communities and Drinking Water Users</p> <p>Chronic Lowering of Groundwater Levels</p> <ul style="list-style-type: none"> Describe direct and indirect impacts on drinking water users, DACs, and tribes when describing undesirable results and defining minimum thresholds for chronic lowering of groundwater levels. Include information on the impacts during prolonged periods of below average water years. Consider and evaluate the impacts of selected minimum thresholds and measurable objectives on drinking water users, DACs, and tribes within the subbasin. Further describe the impact of passing the minimum threshold for these users. For example, provide the number of domestic wells that would be fully or partially de-watered at the minimum threshold. Consider minimum threshold exceedances during drought years when defining the groundwater level undesirable result across the subbasin. Degraded Water Quality Describe direct and indirect impacts on drinking water users, DACs, and tribes when defining undesirable results for degraded water quality. For specific guidance on how to consider these users, refer to “Guide to Protecting Water Quality Under the Sustainable Groundwater Management Act.” Evaluate the cumulative or indirect impacts of proposed minimum thresholds for degraded water quality on drinking water users, DACs, and tribes. Set minimum thresholds and measurable objectives for all water quality constituents within the subbasin that can be impacted and/or exacerbated as a result of groundwater use or groundwater management. | <p>The draft GSP describes the potential effects of undesirable results due to chronic lowering of groundwater levels in Section 9.5.1.1.3. The potential impacts of minimum thresholds for the same sustainability indicator are additionally described in Section 9.5.1.2.6. An analysis of domestic wells potentially susceptible to groundwater levels projected across the three future scenarios developed for the GSP is provided in Section 9.5.1.2.7, including two scenarios reflecting potential effects from climate change.</p> <p>The draft GSP describes the potential effects of undesirable results due to degraded water quality in Section 9.5.4.1.3. The potential impacts of minimum thresholds for the same sustainability indicator are additionally described in Section 9.5.4.2.6. MTs and MOs for the degraded groundwater quality sustainability indicator have been established for identified constituents of concern (COCs) within the Subbasin based on characterization of basin conditions presented in the GSP. This assessment of basin-wide groundwater quality conditions will be updated as part of the Five-Year Update Report and if additional COCs are identified they will be included in GSP updates with assignment of appropriate SMCs.</p> |
| 13.7 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>1. Consideration of Beneficial Uses and Users in GSP development</u></p> <p>C. Considering Beneficial Uses and Users When Establishing Sustainable Management Criteria and Analyzing Impacts on Beneficial Uses and Users Groundwater Dependent Ecosystems and Interconnected Surface Waters</p> <ul style="list-style-type: none"> Provide discussion that adaptive changes in SMC for GDEs will be made, if GDE groundwater or biological monitoring reveals that existing SMC are not protective of these ecosystems. Consider minimum threshold exceedances during drought years when defining the groundwater level undesirable result across the subbasin. When defining undesirable results for depletion of interconnected surface water, include a description of potential impacts on instream habitats within ISWs when minimum thresholds in the subbasin are reached. The GSP should confirm that 12 minimum thresholds for ISWs avoid adverse | <p>The potential for adaptive changes in the SMC for depletion of interconnected surface water are recognized in Section 9.5.6. Additional reference to potential adaptive changes in the chronic lowering of groundwater levels has been added in response to comments. Please also see the responses to comments 12.1, 12.2, and 12.3.</p> |

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| | | | impacts on environmental beneficial users of interconnected surface waters as these environmental users could be left unprotected by the GSP. These recommendations apply especially to environmental beneficial users that are already protected under pre-existing state or federal law. | |
| 13.8 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>2. Climate Change</u></p> <ul style="list-style-type: none"> ● Include imported water, which is currently included in the “Non-Routed Delivery” column, as its own line item in the water budget tables. ● Integrate climate change into sea level inputs for the projected water budget or further justify its exclusion given that the GSP acknowledges sea level rise will impact the basin. ● Incorporate climate change scenarios into projects and management actions. | <p>Please also see Global Response E. Section 8 of the draft GSP has been revised in response to comments to reflect that sea level rise is considered as part of the future scenarios. This information was previously described in Appendix 8A.</p> <p>Projects and management actions were evaluated using the Napa Valley Integrated Hydrologic Model and the results were presented to the GSPAC. Time constraints prevented the evaluation of projects and management actions using all three future scenarios, so Scenario A was used for this purpose. Scenario A provides the baseline hydrology for the projected water budget analysis and includes drought conditions based on both acute and prolonged drought conditions experienced in prior years, such as the 1976-1977 drought and 1987 – 1992 drought.</p> |
| 13.9 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>3. Data Gaps</u></p> <ul style="list-style-type: none"> ● Provide maps that overlay current and proposed monitoring well locations with the locations of DACs, domestic wells, and GDEs to clearly identify monitored areas. ● Increase the number of RMSs in the shallow aquifer across the subbasin as needed to map ISWs and adequately monitor all groundwater condition indicators across the subbasin and at appropriate depths for all beneficial users. Prioritize proximity to DACs, domestic wells, GDEs, and ISWs when identifying new RMSs. ● Ensure groundwater elevation and water quality RMSs are monitoring groundwater conditions spatially and at the correct depth for all beneficial users - especially DACs, domestic wells, and GDEs. ● Verify the location of Well ID 2800030-001. Our mapping based on the GAMA database shows a different location than Figure 9-14 of the GSP. | <p>Domestic well locations are shown in Figure 9-5; DAC locations have been added to this figure in response to comments. Average domestic well depths are shown in Figure 9-4. Both figures also show the locations of Representative Monitoring Sites for the chronic groundwater level decline indicator.</p> <p>The draft GSP describes 16 planned additional monitoring wells to be constructed. These wells are planned to be constructed in the Quaternary alluvial aquifer to address monitoring network data gaps described in Section 5. Additional information on the planned schedule for additional monitoring well construction is provided in Section 12.6.</p> <p>As part of GSP implementation the NCGSA will need to coordinate groundwater quality monitoring with the public supply wells recognized as RMS for the degraded water quality indicator. As part of this coordination the NCGSA will work to confirm well locations.</p> |
| 13.10 | Clean Water Action, Audubon California, The Nature Conservancy, Union of Concerned Scientists, Local Government Commission | 12/07/2021 | <p><u>4. Addressing Beneficial Users in Projects and Management Actions</u></p> <ul style="list-style-type: none"> ● For DACs and domestic well owners, include a drinking water well impact mitigation program to proactively monitor and protect drinking water wells through GSP implementation. Refer to Attachment B for specific recommendations on how to implement a drinking water well mitigation program. ● For DACs and domestic well owners, include a discussion of whether potential impacts to water quality from projects and management actions could occur and how the GSAs plans to mitigate such impacts. | <p>An analysis of domestic well vulnerability to groundwater levels projected across the three future scenarios developed for the GSP is provided in Section 9.5.1.2.7. the analysis includes domestic wells that supply parcels mapped as DACs. The analysis found limited vulnerability in one area of the Subbasin. While the risk of impacts to domestic wells appears to be low, the County will be developing a countywide domestic well impact mitigation program as part of its development of a Drought and Water Shortage Contingency Plan as part of separate state requirements.</p> |

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| | | | <ul style="list-style-type: none"> ● Recharge ponds, reservoirs, and facilities for managed aquifer recharge can be designed as multiple-benefit projects to include elements that act functionally as wetlands and provide a benefit for wildlife and aquatic species. For guidance on how to integrate multi-benefit recharge projects into your GSP, refer to the “Multi-Benefit Recharge Project Methodology Guidance Document.” ● Develop management actions that incorporate climate and water delivery uncertainties to address future water demand and prevent future undesirable results. | <p>Regarding the potential for multi-benefit Managed Aquifer Recharge projects, please see response to comment 8.10.</p> <p>The draft GSP recognizes the need for the NCGSA to coordinate with municipalities regarding future water supply and demand planning. Coordination in this regard has been underway since at least 1991 (then through coordination between the County and the municipalities). More recently, the County and municipalities have collaborated on the Napa County Drought Contingency Plan (DCP), which formalizes risk reduction and mitigation actions to address supply shortages made more likely by climate change; the DCP has been under development in parallel with the GSP. Recommended drought mitigation and response actions developed for the DCP are incorporated in the draft GSP as Appendix 11C.</p> |
| 14.1 | Paul Brophy EGS, inc. pbrophy@envgeo.com | 12/12/2021 | <p>This letter is written in support of the Draft Groundwater Sustainability Plan and comes with a strong recommendation to the Groundwater Sustainability Agency for its adoption and submittal to the California Department of Water Resources (DWR) in accordance with SGMA requirements. As an independent groundwater professional with over 40 years of experience, I have worked extensively in the Napa Valley on both hydrogeologic and geothermal issues and am not aligned with any specialist groups within the county.</p> <p>While I agree with many that this is not a 'perfect plan', the county and its consultants have prepared a document that is thorough, comprehensive, and well-reasoned given i) the inherent uncertainties associated with interpreting subsurface groundwater conditions and ii) the available time for the document's preparation and review. Furthermore, the documents submittal deadline of January 31st 2022, to DWR prohibits any further substantive changes being made without significant impacts to the schedule and the risk of missing the deadline.</p> <p>I have attended most of the GSPAC meetings virtually and have submitted several technical comments as part of the public review process over the past 14 months. I also wish to applaud the work completed by the GS PAC committee.</p> <p>Again, I support the adoption of this plan by the Groundwater Sustainability Agency at its January 11th, 2022 Board meeting.</p> | Comment acknowledged. |
| 15.1 | Ron Rhyno | 12/14/2021 | <p>Water: Water is Life — for all of its forms and for all of its needs</p> <ul style="list-style-type: none"> *Our current monocultural "Economic Engine" has mined our aquifers for decades - see 88-89 GJ Recommends *Committee composition protected/advanced County monocultural "economic engine" and predicted the outcome [same as for the Ag Preserve Advisory Committee]. *Facilitator was both 'gatekeeper' and 'knowledge holder' managing a predicted outcome to meet the County's intention. Differences were not explored to understand and "transcend differences." *No attention to the Napa River former fishery, violating Gov. Brown's Eco Diversity Protection Order - attached. *No Indigenous first people; well drillers, field irrigation 'tenders' on Committee. *The TWG group must be more culturally and experientially diverse than the GWAC. *The exclusion of the Woodland Watersheds/Open Spaces evaded the fact that they are now the "Wine Grape Viticulture/Wineries Reserve" in contexts of uncertain mountain aquifers, protecting the certain destructive effects of the Walt Project. | Please see Global Responses A, B, C, D, and E. |

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| | | | <p>*The County's scaling-up of wineries and increased gallonage for existing wineries negates the protection of water in global/local drought and predicted ongoing drought. Walt: Globally and locally, woodlands/watersheds Eco benefits are immeasurable but under extensive destruction and threat.</p> <p>* The Walt Project will negate woodland benefits of: buffering/filtering water, carbon sequestration, adversely affecting woodland creatures contributions to Woodlands ecosystems (violating Gov Browns Eco Diversity Protection order) and over time compromise the pristine nature of Milliken reservoir causing the need to install expensive filtration systems like Hennessey reservoir.</p> <p>* The Walt Project is Want; not Need - outcome of an outdated General Plan and an enterprising entrepreneurial global citizen couple.</p> <p>* Perhaps the highest use of the Walt 2300 acres is as the "Katherine and Craig Hall World Ecological Preserve." For that global model, Napa County/Cities/Town, the Napa County Land Trust, The Nature Conservancy, Center for Biological Diversity, local and national Sierra Club, National Wildlife Federation, The Climate Project, etc., etc. will coalesce to help defray the expenses the Halls have accumulated to date. As Global Citizens the Halls would be global ambassadors promoting the global benefit of their model for Sustainability perhaps introducing global nations to their products. Let's think outside of our normalized conditioning, The need for our elected officials to gain Systems information is imperative for a sustainable 21st>22nd Century. [see attached graphic] Something achievable in an intentional "Learning Organization."</p> | |
| 16.1 | Daniel Mufson | 12/14/2021 | <p>At the inception of the GSPAC, and as far back as 2016 in public comments to the Board of Supervisors, I wrote to suggest a scenario for consideration in drafting the plan: "A mega-drought delivers no snow melt, and the North Bay Aqueduct/State Water Project (SWP) goes dry. Where will Napa Cities get water?" I expected that this scenario would be considered in drafting the Ground water sustainability plan (GSP). Today the headlines read: California water districts to get 0% of requested supplies in unprecedented decision Only water required for health and safety will be allowed as drought continues to grip the state.</p> <p>It appears that this worst-case scenario has not been considered. Section 7-19 of the Ground Water Sustainability Plan (GSP) reflect reductions of SWP averaging 8% when in fact it is now approximating 100%. So, we are off to a bad start of predicting sustainability of groundwater in the Napa subbasin:</p> <p>∅ Projected Subbasin water supplies are likely to be affected by climate change over the planning and implementation horizon. The extent of the effects to water supplies is subject to uncertainty in the available climate change projections; however, projections developed for this GSP reflect average reductions in supplies from local reservoirs averaging 2% and reductions in SWP supplies averaging 8%.</p> | Please see Global Response E. |
| 16.2 | Daniel Mufson | 12/14/2021 | <p>Water Budgeting</p> <p>The recent fires, Atlas/Tubbs/Glass, changed life for thousands. Covid-19 changed life for everyone. Now imagine what life will become when climate change diminishes our water supply through drought, overdrafting and subsequent salt-water intrusion. How much water do we have, how much are we likely to have in the face of the climate emergency and who gets the water? The state Sustainable Groundwater Management Act (SGMA) requires that each agency shall establish in its Plan a sustainability goal for the basin that culminates in the absence of undesirable results</p> | Please see Global Response E. Regarding projected increases in the Subbasin population supplied by municipal water systems, the draft GSP relies on the projected water demands for those systems as presented in existing local plans, consistent with the requirements of SGMA and Section 10726.9 of the California Water Code. Existing local plans referenced by the draft GSP as described in Section 3 and Section 7 and include municipal general plans, urban water management plans, and the 2020 Countywide |

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| | | | <p>within 20 years of the applicable statutory deadline. SGMA is intended to 2 strengthen the connection between land use planning and water management: no water, then no development. The county imports water (State Water Project), on behalf of the municipalities, delivered via the North Bay Aqueduct. This comprised 50% of municipal water use in water year 2019 not counting American Canyon where it is 100%. Local reservoirs within the Subbasin watershed, supplied 42% of municipal water use in water year 2019. Groundwater pumped from the Subbasin accounted for 2% of the municipal water use in recent years. Recycled water comprised 6% of municipal water use in water year 2019.</p> <p>Table 7-11 of the GSP summarizes municipal (not including American Canyon) water usage during 1988-2019 as follows State Water Project 5890 afy Surface water/Reservoirs 9100afy Ground water 330afy Recycled water 460afy Total 15,760afy.</p> <p>This is more than the agricultural water usage estimated as 13,000afy (Table 7-16). The report does not consider the current magnitude, and growing volume of water used by the municipalities within the sub basin.</p> <p>Ø During this time, the total population across the four incorporated municipalities (City of Napa, City of St. Helena, City of Calistoga, and the Town of Yountville) in the Subbasin grew from 47,600 to 69,100, an increase of 45%.</p> <p>The sustainable yield of the Napa Valley Subbasin is approximately 15,000 AFY, determined from the NVIHM, which accounted for sustainable management criteria through the historical baseline and future model scenario periods.</p> | <p>Municipal Service Review developed by the Local Area Formation Commission of Napa County.</p> |
| 16.3 | Daniel Mufson | 12/14/2021 | <p>The Water Budget Arithmetic</p> <p>So, with 80% of Napa residents living in the cities, we need a master plan to supply them with water when the state water project is no longer able to deliver them their current allocations and their reservoirs are compromised by drought and/or polluting runoff. In the worst-case scenario the municipalities will need to share the groundwater with existing users. That means that an additional 15,000 af will have to be extracted, essentially a doubling—an unsustainable situation similar to the situation in the Central Valley over past years. Thus, in the worst case (no imported water) the cities and Ag users will have to decrease their water consumption by half. In the worst, worst case (very dry year like this one) the extraction will have to be even less. That’s the reality we need to plan for. And we must plan for sufficient water flow in the Napa River for those who live there, aquatic and riparian flora and fauna.</p> | <p>Please see Global Response E and response to comments 16.2. The draft GSP recognizes the need for the NCGSA to coordinate with municipalities regarding future water supply and demand planning. Coordination in this regard has been underway since at least 1991 (then through coordination between the County and the municipalities). More recently the County and municipalities have collaborated on the Napa County Drought Contingency Plan, which has been under development in parallel with the GSP. Recommended drought mitigation and response actions developed for the Drought Contingency Plan are incorporated in the draft GSP as Appendix 11C.</p> |
| 16.4 | Daniel Mufson | 12/14/2021 | <p>Public Input</p> <p>Ø The NCGSA held Town Hall meetings with focused discussions and input sessions around specific topics that required further exploration and engagement. Meetings were held in person plus online.</p> <p>I am aware of only 3 evening public meetings all held at the conclusion of the report writing. The topic presented by Staff was a general outline of how the report would be generated. The meetings were held with poor amplification, not sufficient for those hard of hearing, and no amplification of questions from the audience. Therefore, there was no meaningful engagement.</p> | <p>Please see Global Response A and response to comment 7.1.</p> |

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| | | | Attendees expressed the obvious: the public input was the last step of the process, and therefore not considered in the analysis and preparation of the Plan. | |
| 16.5 | Daniel Mufson | 12/14/2021 | <p>Focused Deliberation Ø Twenty-one GSPAC meetings, held throughout the GSP development process, provided opportunities for public comment and focused deliberation by Subbasin stakeholders on information integral to the GSP and the interests of beneficial uses and users of groundwater and interconnected surface waters.</p> <p>I guess “focused deliberation” is in the eyes of the beholder. In particular, I am aware that a member of the GSPAC, Ms. Eldredge, Deputy Utilities Director, City of Napa, submitted a memo to the Committee on August 31, the discussion of which was placed at the end of the Agenda and postponed for three sessions due to lack of time. A review of the video of the last such meeting on September 27 is almost comical to see how the moderator appeared to do everything he could to further postpone input by Ms. Eldredge and insure no time for focused deliberation. It must be noted that Ms. Eldredge is an engineer and the water manager of the largest municipality serving on GSPAC. Surely time should have been eagerly provided to hear her thoughts and provide time for discussion. Among the key points she raised were:</p> <ul style="list-style-type: none"> • “It is difficult to comprehend long-term management of the resource so long as the extraction and use of the resource is not fully understood.” [My Translation: We don’t have adequate data] • “The GSPAC should take into account available information regarding existing groundwater extraction wells and their status in all years, including this drought year, 2021, that is described as critically dry.” [Translation: Don’t leave out uncomfortable data] • Suggested several means by which increased monitoring and reporting of groundwater in the subbasin could be achieved. [Translation: Establish real time data collection] • Suggested GSPAC interviewing well-drillers and water haulers to gain information on current water deficient areas in the subbasin. [Translation: All is not well with wells] • Adding hotter and wetter scenario to the model. • Provided a map to show where water from the City of Napa is applied for irrigation in the subbasin... [Translation: Highlight problem areas in the aquifer] <p>What is deeply disturbing is how the input of a knowledgeable water manager was summarily tossed aside. It is indicative of the dismissal of comments from the general public.</p> | Please see response to comment 2.1. Please also see Global Response A. and response to comment 7.1. |
| 16.6 | Daniel Mufson | 12/14/2021 | <p>Modeling The report states that 2627 wells are identified within the sub basin and that only 3% of these are used for monitoring. No mention of the condition/productivity of the other 97% of the wells a serious data gap. It is of interest, however, that current groundwater usage, as measured by metering, is part of the data collection used for ongoing sustainability certification reporting by those seeking Napa Green status. Surely such data could be used to provide insight into current water usage and successes in increasing efficiencies.</p> <p>>Groundwater conditions evaluated in this GSP do not account for the drought conditions experienced recently beginning in 2020. During the current period from 2015 to 2019, groundwater pumping increased to an average of 52% (16,700 AFY) of total water supplies in the Subbasin.</p> <p>An important foundation for GSP development is the preparation of a hydrogeologic conceptual model. This type of model refers to a descriptive model that uses physical data and groundwater and surface water quality and quantity measurements. Model uncertainty is described at 8.9 and requires a Ph.D. in something to understand e.g. “The model was constructed using the end-</p> | <p>The draft GSP describes that the NCGSA will conduct an inventory of active production wells in the Subbasin to support GSP implementation (see Sections 11.7.1 and 12.6). The GSPAC work group that focused on crafting projects and management actions received a presentation from staff with the Napa Green organization and will explore opportunities for leveraging data collected by Napa Green as well as other methods including expanded well metering and use of remote sensing data on evapotranspiration rates across the Subbasin (see Section 11.5.1).</p> <p>Section 6 (Groundwater and Surface Water Conditions) presents data on current conditions through 2020 that include the onset of the current drought. The projected water budget analysis presented in Section 8 additionally presents results for both acute and prolonged drought conditions as part of the three future scenarios.</p> |

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| | | | <p>member approach for alluvium on the regional scale and relatively large hydrologic zones to represent volcanic and undifferentiated basement units. As a result, the model may not reproduce local scale conditions.” Since the report was approved by a majority of committee members, you ought to be able to ask anyone of them what this and subsequent paragraphs means.</p> | |
| 16.7 | Daniel Mufson | 12/14/2021 | <p>Action Required The report states that: “Data gaps related pumping volumes and irrigation applications will be addressed by the adoption of standard for well metering and reporting, a Supporting Action described in Section 11. Expanded data collection will occur as part of demand management projects and management actions. These efforts will begin in the first five years of GSP implementation and will include efforts to verify voluntary conservation efforts by water users. “ Given the severe drought conditions for the past few years it seems important to move swiftly to implement the data collection especially: Well metering and reporting. The Napa Valley Subbasin SGMA Sustainability Goal is: To protect and enhance groundwater quantity and quality for all the people who live and work in Napa County, regardless of the source of their water supply. The County and everyone living and working in the county will integrate stewardship principles and measures in groundwater development, use, and management to protect economic, environmental, and social benefits and maintain groundwater sustainability indefinitely without causing undesirable results, including unacceptable economic, environmental, or social consequences. Therefore, this GSP needs realistic projections, scenarios that are already unfolding, and some teeth in the requirements that current and future water users must meet. The basic arithmetic of doubling demand and decreasing supply must be part of the plan, and the plan must acknowledge that development must be suspended until we can create a realistic plan for likely scenarios. got Water?</p> | <p>Please see responses to comments 16.1 through 16.6. Timely implementation of projects, management actions, and supporting actions is acknowledged in the draft GSP.</p> |
| 17.1 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | <p>Section 1 Overview and Introduction: Omission: Reference section: Add- The Napa Sub-Basin Alternative-denial letter by DWR Add: The California Environmental Data Exchange Network/CE DEN for biological and water quality data on the Napa River and groundwater dependent eco-systems and throughout the State of California. Omission: Napa-Valley Sub-Basin groundwater hydrologic unit number is 2-002.01 and the Napa-Sonoma Valley aquifer is hydrologic unit, 2-002.02. While the Napa-Sonoma Valley aquifer is shared by Napa and Sonoma, Sonoma applied for a boundary modification and got this aquifer surface boundary’s delineated with the County line between Napa and Sonoma, such that the aquifer is still contiguous and one but the surface boundary on land has now bifurcated the underlying aquifer below. Sonoma now has a GSA for the Napa-Sonoma Valley aquifer while Napa has done nothing to manage this aquifer which is considered a high priority aquifer and Sonoma is developing a GSP for this aquifer. Napa County ignored their responsibility to plan for a sustainable aquifer? Correct: Figure 1.3 Basin characterizations, illustration and depiction to show that the NapaSonoma Valley aquifer is the same basin shared but spanning two counties Napa and Sonoma. Omission: Outreach and engagement to disadvantaged communities-there were only two public meetings during the development of the draft GSP. There was no outreach to disadvantaged communities. Add a plan, with goals and measurable objectives and outcomes, for outreach, to disadvantaged communities that regularly reports to the GSA.</p> | <p>Please see Global Response A and Global Response D. The draft GSP considers sources of information on GDEs in the Subbasin that are recommended by state and federal resources agencies. Additional data will continue to be reviewed over time.</p> <p>With respect to the Sonoma Valley Subbasin, the comment lacks recognition that the Sonoma Valley and Napa Valley Subbasins are separated by the Napa-Sonoma Lowlands Subbasin. Please see Section 1.3 and Figure 1-3. DWR approved the Subbasin boundary modification submitted by the Sonoma County Water Agency to align the boundary between the Sonoma Valley and Napa-Sonoma Lowlands Subbasin with the shared Napa-Sonoma County line. DWR then completed a statewide groundwater basin reprioritization that resulted in the Napa-Sonoma Lowlands Subbasin, which includes portions in Napa County, retaining a very low priority status. Based on that status determination, the Napa-Sonoma Lowlands Subbasin is not required to have a groundwater sustainability plan. However, the County continues to monitor groundwater conditions in the Napa-Sonoma Lowlands Subbasin and include updates on those efforts as part of its annual groundwater conditions reporting.</p> |

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| 17.2 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | Section 2: describes the geographic and exiting jurisdictional area covered by the GSP and provides an inventory of the existing production wells within the Napa Valley Subbasin: Omission: all new wells since 2020 are not included in this important data point in developing the GSP and must be updated prior to going to the GSA for accuracy of outputs in the water budget and to accurately depict current conditions Omission: Milliken Sarco Tulocay/MST aquifer attributes. Add MST attributes to all maps as The Department of Water Resources adjusted the Napa Valley Sub-Basin boundary to include the alluvium of the MST. The Draft GSP is void of any discussion or planning about this and the MST aquifer’s steady decline in groundwater elevation since 1950. Therefore, this decline in MST input to the Napa Valley Subbasin is critical and must be managed per SGMA regulations. ADD: A robust plan to add more monitoring wells surface and groundwater interconnected to the MST aquifer/Napa Sub-Basin. | Well Completion Reports published by the Department of Water Resources, show that new domestic and irrigation wells constructed in the Subbasin averaged 27 per year from 2010 through 2021, with an average of 19 per year in 2020 and 2021 (source: https://storymaps.arcgis.com/stories/f2b252d15a0d4e49887ba94ac17cc4bb). The draft GSP addresses the portions of the Subbasin that overlap with the locally defined MST groundwater subarea in several respects, including through the recognition of the Northeast Napa Management Area. |
| 17.3 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | Section 3: Water Resource, Land Use Monitoring, Management Programs: describes existing water resource monitoring and management programs, existing general plans and land use plan, the beneficial uses and users of groundwater in the Napa Valley SubBasin and the notice, communication and the GSA’s decision making process. Add: Narrative on what beneficial uses are, who uses surface water and for what reasons, including subsistence fishing uses and a plan to inform the public of any fishing restrictions due to surface water quality restrictions. Delete: The Surface Water and Wetland /intermittent and perennial streams features map, which is wrong i.e., Suscol, Carneros, Dry and Huichica are attributed as intermittent streams when they have year around habitat for steelhead. Add: Department of Fish and Wildlife definition of stream classifications such as 1st, 2nd and 3rd class streams and maps that show blue-line which is the standard used by Napa County in their current regulations.THIS IS CRITICAL FOR SELECTING REPRESENTATIVE MONITORING WELLS SITES FOR INTERCONNECTED STREAM DATA COLLECTION; SUCH THAT BLUE LINE STREAMS ARE NOT MISTAKENLY REPRESENTED AS HISTORICALLY INTERMITTENT WHEN IN FACT THEY ARE BLUE LINE STREAMS/PERENNIAL BUT ARE BEING DEWATERED BY WATER EXTRACTION AND THE DRAFT GSP MISTAKENLY REPRESENTS MANY BLUE LINE STREAMS AS HISTORICALLY DRY OR INTERMITTENT. | Beneficial uses and users are described in Section 3.6.1, spanning approximately 9 pages of the draft GSP. Tables and figures in Section 3.6.1 provide additional information. Depictions of streams in the daft GSP utilize current mapping by the U.S. Geological Survey and the Napa County Resources Conservation District. Stream mapping by the USGS is available in the National Hydrography Dataset. Stream mapping by the NCRCD was published in 2015 and incorporates additional stream channel delineations made based on field observations and LiDAR elevation data for Napa Valley. The stream classifications referenced by the commenter do not reflect flow condition nor the interconnected status or streams. As described in the draft GSP, interconnected streams may not be perennial if the hydraulic connection to groundwater occurs seasonally. |
| 17.4 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | Section 4: details the geologic setting and the hydro-geologic conceptual model/HCM of the Napa Valley Subbasin: The HCM should have baseline data building the understanding of the current conditions on the longest historical record which goes back to USGS of 1948 instead of what this draft uses such as 1966 in some graphs and mostly the draft GSP Sections were developed based on rather current data sets starting at 1988. This is hardly an accurate historical representation of the data to build the criteria for managing the aquifer sustainably. What are the climate metrics built into the HCM and how robust are these metrics, i.e., dryer/ longer with more extraction of groundwater predicted by the GSP? Rationale: groundwater can not be managed sustainability unless the climate variables are built into the model. Water Budget: Does the HCM include metrics to account for groundwater recharge depletion due to extensive clearcutting of uplands for vineyard development which reduces groundwater percolation and increases rate of runoff such that the aquifer is deprived of vital recharge/input | Comment noted. Please see Global Response E. |
| 17.5 | Chris Malan | 12/14/2021 – replacing prior | Section 5: describes the existing monitoring networks within the Napa Valley Subbasin, the goals and requirements of each network, corresponding, monitoring protocols, an assessment of data gaps, and proposed actions to address identified data gaps. | Section 5.9.3 describes the existing and planned additional wells to serve as the interconnected surface water monitoring network. Maps of the GSP monitoring networks are provided in Section 5, please see figures 5-1 through 5-17. |

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| | Institute for Conservation Advocacy, Research and Education | comments submitted on 11/15/2021 | <p>There are not enough interconnected surface water monitoring wells on streams which are being dewater more each year.</p> <p>Add a map of the types of monitoring site: 61 groundwater level monitoring; 37 groundwater quality monitoring; 26 groundwater storage change; 15 seawater intrusion; 7 surface water quality; 23 stream stage and stream discharge; 19 interconnected surface water monitoring; 18 groundwater dependent ecosystem; 15 land surface elevation and 8 land surface elevation benchmark sites.</p> <p>Add: a link to the dry wells mapping tool provided by the State Department of Water Resources.</p> <p>Add: while protecting property privacy, map dry wells in the project area.</p> | |
| 17.6 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | <p>Section 6: Groundwater an Surface Water conditions: describes the historical land current groundwater and conditions of the Napa Valley Subbasin:</p> <p>Omission: the historical ecology of the area including the robust wetland mosaic of the valley floor; a vast groundwater dependent eco-system/GDEs now lost and 10 + feet below the surface where once the springs and other GDE were at the surface.</p> <p>Omission: of robust listing of Endangered Species Act listings: California Freshwater Shrimp, Northern spotted owl (indicates deforestation vital to groundwater recharge-discuss) Western Pond Turtle, Red-legged Frogs, Chinook Salmon, Coho extricated but could still re-populate if flows and water quality improve.</p> <p>Omission: Historically the Napa River was connected to the valley flood plain but over time due to clearcutting the forests for vineyards, hardscaping to the much lesser degree, levees, and riparian destruction, the Napa River hydrologic balance is damaged from increased rate of storm flows that have caused the River to deeply incise/down cut into it's bed. This geomorphological change in the River's natural hydrologic dynamics is directly related to loss of groundwater recharge capacity. Forests soak like a sponge and capture rainfall and sink it into the deep aquifers that supply and recharge the Napa Subbasin.</p> <p>Omission: Fire has decimated our woodlands since 2017 at unprecedented frequency and intensity. These landscape changes are directly related to another decrease in groundwater percolation/recharge input vs.output due to increased rate of storm water runoff-water that should be percolating groundwater recharge, rushes out to the ocean during storm events.</p> <p>Omission: The draft GSP falsely states that the Napa River has no adjudication areas. Correct according to the State Water Resources Control Board/Division of Water Rights' adjudicated areas of the Napa River watershed.</p> <p>Add: a map of Napa River map of the adjudicated areas</p> | Comment noted. Information on the presence of potentially groundwater dependent species, including Endangered Species Act listed species is provided in Section 3.6.1.4 and Section 6.8. |
| 17.7 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | <p>Section 7: historical, current and projected conditions within the Napa Valley Subbasin relating the land use, population and water supplies by source and usage according to water use sector:</p> <p>Omission: because the draft GSP states that groundwater pumping during the period of 2015-2019 increased on average 52% to (16,700 AFY) and now another year of drought has not been calculated in the draft GSP, on top of the North Bay Aqueduct water allocation being reduced thereby the City of Napa interrupting water contractor's surface water supply by 137 AF, and the City is also DISALLOWING trucking of water by another 40 AF-therefore, groundwater pumping is increasing during 2020 where even more groundwater pumping will occur in 2021 water year. The GSP draft fails to disclose and account for further groundwater pumping dangers.</p> <p>Add: all the increased groundwater pumping to the draft for year 2020 and projected for 2021 based on reliable data and information from water managers such as the Joy Eldredge/City of Napa Utilities Assistant Director.</p> | The draft GSP states that total groundwater pumping increase from 45% of the total Subbasin water supply form 1988 through 2014 to 52% from 2015 through 2019. This short-term variation is affected by increasing evapotranspiration demands and shorter period of record for the current period more so than reductions in supply from municipalities. The Napa Valley Integrated Hydrologic Model (NVIHM) is current able to simulate conditions through 2019 based on the availability of required input data such as metered water use by public water systems and surface water diversion data, much of which is published by other agencies operating with independent schedules. Regional models like the NVIHM are commonly subject to such temporal lags. However, the NCGSA will continue to use best-available information to prepare annual reports that quantify water use and update the NVIHM as data allow. |

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| | | | Add: Given climate change add climate metrics of all the groundwater users acre/feet/yearly use up to and including 2021 into the Hydrological Conceptual Model predictions for the future. | |
| 17.8 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | <p>Section 8: describes the historical, current and projected water budgets for the Napa Valley Subbasin</p> <p>Comment: Does the Integrated Hydrologic Conceptual Model have robust climate metrics like: • Longer dry periods • Rain fall coming in larger storms over short duration causing more runoff and less time for percolation • New groundwater wells</p> <p>Omission: the tufts that recharge the MST and how to protect them for critical recharge of the MST and the Napa Sub-Basin groundwater aquifers</p> <p>Add: a map of the MST tufts that recharge the aquifers</p> <p>Omission: The Napa Valley Subbasin Historical and Current Water Budget graph/illustration: 1) left out the calculation for Municipal Pumping as depicted in the legend as RED. 2) does not account for stream water right diversions as an output</p> | Please see Global Response E. Please also see Appendix 8A for additional information on the projected hydrologic inputs that inform the three future water budget scenarios. |
| 17.9 | Chris Malan Institute for Conservation Advocacy, Research and Education | 12/14/2021 – replacing prior comments submitted on 11/15/2021 | <p>Section 9: provides a discussion of the Sustainable Management Criteria, which define sustainability in the Subbasin and avoid undesirable results.</p> <p>The Napa County Groundwater Sustainability Agency/NCGSA monitors Subbasin conditions for six sustainability indicators and implements projects and management actions to avoid undesirable results/UR and achieve the sustainability goal. CA Code of Regulations satisfied: § 354.22., § 354.24., § 354.26., § 354.28., § 354.30. Minimum Threshold/MT: a numeric value for each representative Measurable Objective/MO:specific quantifiable criteria for maintaining or improving specific groundwater conditions included in GSP to achieve sustainability Interim Milestones- a target value representing measurable conditions set in increments of 5 years</p> <p>There are six sustainability factors and any one of these reaching minimum thresholds can trigger management criteria:</p> <ol style="list-style-type: none"> 1. Chronic Lowering of groundwater levels: The draft GSP says an undesirable result has occurred if the chronic lowering of groundwater levels at 20% of the representative monitoring sites/RMS for three consecutive years will trigger management of groundwater pumping to avoid this undesirable result. This does not apply during drought, therefore this is criteria is not protective of groundwater both in not imagining prolonged drought due to climate change and the chronic lowering baseline is only at 1988 when the historical record goes back to 1948 which clearly shows the chronic lowering of groundwater levels. Waiting three years in a row to trigger management of the aquifer at 20% of the RMS will cause ‘take’ of special status species such as Chinook, Steelhead, California Fresh Water Shrimp and a loss of Public Trust resource and beneficial uses. This is not sustainable management of groundwater. The Draft GSP characterizes UR as not being a problem in this aquifer historically (1988). This is the wrong baseline to characterize this basin and should be based on the reliable long term data that dates back to 1948 and depicts chronic pg5 dewatering of this resource. Additionally: Figure Sample RMS Monitoring Well Groundwater Elevation Data shows recent groundwater levels at the minimum threshold. 2. Seawater Intrusion: the State increased the maximum contaminant level of chloride concentration to allow seawater intrusion not to exceed 250mg/l. This changes the claim that historically seawater intrusion had occurred to the south part of the Napa Subbasin causing a huge project of importing recycled water to vineyards and other developments because the groundwater was no longer useable due to seawater intrusion. The draft GSP fails to inform the public on this historic groundwater conditions information and leaves the public believing sea water intrusion is not a UR currently or has been a problem. The State lowered the groundwater quality bar of measurement after much groundwater damage had already occurred. This | <ol style="list-style-type: none"> 1. Chronic Lowering of groundwater levels: Section 9 and the sustainable management criteria do not state that the NCGSA will wait until an undesirable result occurs for any sustainability indicator before a management response is initiated. The opposite is true (see Section 11.2.1). 2. Seawater Intrusion: Historical seawater intrusion in the Napa Valley Subbasin was not among reasons for development of the regional recycled water project. Historical conditions related to seawater intrusion are presented in Section 6.5. 3. Degraded Groundwater Quality: The status and trends for groundwater quality data are presented in Section 6.3.3, including 76 figures and appendix 6G that includes over 450 pages of groundwater quality data tables and time series figures. 4. Depletion of Interconnected Surface Waters: Comment noted. Timely implementation of projects, management actions, and supporting actions is acknowledged in the draft GSP, with the intent of avoiding undesirable results. The draft GSP also acknowledges that the sustainable management criteria will be revised in the future as additional data become available to improve the understanding of the effects of groundwater pumping on depletions on interconnected surface water that result in impacts to beneficial uses and users. 5. Land Subsidence: Current and historical conditions related to land subsidence are presented in Section 6.6. 6. Groundwater Storage: the GSP, including its sustainable yield analysis does consider the potential effects due to climate change, including the scenario that projects a multi-decade drought, recommended by a subject matter expert at the U.S. Geological Survey. Please see Section 9.8.1. |

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| | | | <p>information must be made transparent. Add: A map showing historic seawater intrusion to the Napa Subbasin.</p> <p>3. Degraded Groundwater quality: if any RMS show increases in constituents of concern (COC)/arsenic, nitrate/nitrogen, total dissolved solids that are not within normal range and more than 75% of the MT is a UR. The current trajectory of these COC is not charted clearly for the public to decipher in the Draft GSP. The GSP is not transparent of the apparent dangerous trajectory of declining groundwater quality in charted RMS. Once the groundwater exceeds the MT it can NEVER be recovered for beneficial uses. Therefore, these numeric values are NOT protective and the GSP currently is NOT representing a roadmap to groundwater sustainability.</p> <p>4. Depletion of Interconnected Surface Waters: The Napa River has been over allocated for surface water and there are illegal water diversions causing a chronic lowering of the surface water available. Eli Asarian of Riverbend Sciences, has studied the north coast streams and has found that dewatering of the streams and rivers is caused by human uses of surface water and groundwater-NOT CLIMATE CHANGE (yet). Climate change is causing more droughts for longer periods. Condition 2 is NOT protective but Condition one applies now but the County has not installed enough monitoring wells to protect beneficial uses of interconnected groundwater dependent ecosystems. Therefore, management objectives must be implemented by the GSA immediately to protect groundwater sustainability. Comments: The Napa River has been a dry river bed from below Kimball Dam/ headwaters (long time residents there say they gave never seen this before) to Zinfandel Lane/Mid River for two years in a row and the Napa River has been dewatered at the Pope Street Bridge/St. Helena since 2005. Minimum thresholds and measurable objectives must be immediately developed to achieve sustainability</p> <p>5. Land Subsidence: The Draft claims this is not a problem and groundwater levels will be maintained above historic levels to avoid this UR. What are historic levels? What is protective? The Draft GSP fails to be transparent and expansive on this UR. Therefore, it is not protective of groundwater and not is sustainable. Comment: Laurel Marcus has mapping indicates land subsidence along the riparian corridor of the Napa River. The GSP must determine this UR threatening groundwater sustainability, holding capacity and recharge for future generations, beneficial uses and the Public Trust.</p> <p>6. Groundwater Storage: When extraction of groundwater exceeds sustainable yield this becomes a UR. Because the draft GSP fails to imagine climate change with more droughts and prolonged; the numerics on the MT and MO are not protective therefore not sustainable.</p> | |
| 18.1 | San Francisco Bay Regional Water Quality Control Board | 1/7/2022 | <p>Chapter 5, Section 5.9.6, page 52-53 (Monitoring Network and Program) – We agree with the proposed additional monitoring wells. However, we believe that a more robust monitoring network in the alluvial fan and valley floor reaches of the tributaries listed below is necessary to effectively evaluate surface ground-water interaction and manage for depletions of interconnected surface water.</p> <ul style="list-style-type: none"> • Dry Creek • Redwood Creek • Sulphur Creek • York Creek • Ritchie Creek • Mill Creek • Milliken Creek | See Global Response D and Response to Comment 6.3, regarding the recognition of data gaps on this subject and the commitment to develop a workplan to address ISW and GDE data gaps. |
| 18.2 | San Francisco Bay Regional Water Quality Control Board | 1/7/2022 | <p>Chapter 7, Section 7.6.3, pages 20-22 (Historical, Current, and Projected Water Supplies) – We are concerned with the assumptions about reliability for this water resource, as SWP deliveries</p> | The projected water supply datasets developed for the draft GSP do reflect the possibility that local reservoirs and the SWP will experience drought conditions at the same time. |

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| | | | <p>could potentially cease for several years in the case of an extreme multi-year drought. Additionally, it is possible, and perhaps likely, for the location of the SWP source water to also be experiencing extreme drought at the same time. Therefore, the GSP should include consider and present alternatives for a severe drought scenario where full SWP water deliveries are not available for multi-year periods.</p> | <p>The draft GSP does include scenarios as recommended by the commenter. All three projected water budget scenarios reflect SWP deliveries that are less than the full SWP contract amount of 29,025 acre-feet per year (see Table 7-22). Scenario C additionally reflects reductions in local reservoir and SWP supplies due to climate change, informed by projected drought conditions, including multi-decadal drought. Local reservoir supply and SWP delivery projections developed for Scenario C were reduced relative to historical conditions through proportional reductions made based on a comparison of historical and projected annual precipitation. A notable result of which is that the SWP water supply projections developed for Scenario C are on average more restrictive than projections supplied by DWR to accompany the equivalent “dry with extreme warming” future scenario. See also Global Response E, response to comment 1.2, and Section 8.7 of the draft GSP.</p> |
| 18.3 | San Francisco Bay Regional Water Quality Control Board | 1/7/2022 | <p>Chapter 11, Section 11.7.6.2, pages 44-45 (Sustainable Groundwater Management Projects and Management Actions) – We agree that moving forward the Hydrologic Model should be reassessed and refined as additional data become available. However, we believe the model should be used now to assess how the availability of groundwater resources and the achievement of the sustainability criteria would be affected under extreme drought conditions, including as discussed in comment 2 above.</p> | <p>As noted above, in the response to comment 18.2, the analysis of projected Subbasin conditions does include consideration of restricted local reservoir and SWP deliveries. Those water supply restrictions are also reflected in the analyses of how projected groundwater conditions may affect beneficial uses and users including domestic wells and GDEs (see draft GSP Sections 9.5.1.2.7 and 9.5.1.2.8). Please also see responses to comments 12.1 and 13.10.</p> |

Attachment A – September 22, 2021 Public Meeting Comments and Responses

Attachment B – September 29, 2021 Public Meeting Comments and Responses

Attachment C – October 6, 2021 Public Meeting Comments and Responses