



INSTITUTE FOR CONSERVATION ADVOCACY RESEARCH AND EDUCATION

ICARE

PO BOX 4256

NAPA, CA. 94558

cmalan1earth@gmail.com

icarenapa.org

707.322.8677

Chris Malan

The Institute for Conservation Advocacy Research & Education, (ICARE) established in 2004, is a non profit community-based organization located in Napa County, California. ICARE's mission is to restore and conserve the biological integrity and ecosystems health of watersheds, the Napa River estuary and the greater San Francisco Bay Area through science-based advocacy, research and education.

California Department of Water Resources/DWR

Sustainable Ground Water Management Act

North Central Region Office

Napa Sonoma Valley-Napa Valley Basin: 2-002.01

Jackson Cook

jackson.Cook@water.ca.gov

1.916.376.9623

Regarding: Comments on Groundwater Sustainability Plan/GSP

Napa County's GSP public comments were due to the Groundwater Sustainability Agency/GSA while planned revisions were underway by the Groundwater Sustainability Plan Advisory Committee/GSPAC and before the submittal to the GSA on 11.19.2021. Hence the public was at a severe disadvantage to the Draft GSP prior to final submission to the GSA. The public notes that originally the County submitted an Alternative GSP to DWR in the County's planning to avoid the rigors of a GSP to sustainably protect groundwater. The Alternative was rejected by DWR for failing to discuss and inform the public of undesirable results/UR history and present conditions, setting in motion DWR's requirement to develop a GSP. Napa County's unfortunate 'Alternative' process was costly to the tax payers and caused a short timeline to start and finish a GSP by the deadline of 1.22.2022. Hence the public has been left out of proper and timely participation in the development of a GSP. The unfinished draft has only been before the public since 11.08.2021 causing very limited time for the public to comment prior to this going to the GSA. The part of the draft GSP that was so contentious was regarding thresholds of significance that would trigger the GSA to act to protect groundwater given the GSPAC's metrics regarding undesirable results. This of course is critical part of the GSP that provides sustainability of groundwater resources. The consultants the County hired to facilitate the GSP development allowed the least amount of time on UR before the GSPAC and public

and rushed to meet the deadlines before the GSA giving us all little to no time to fully vet UR thresholds of significance and management objectives for the GSA. A very flawed process that betrayed the public trust.

Comments

ICARE's volunteers and Board members regularly kayak the Napa River. Since 2005 we have seen less and less water in the River each year with more and more dry segments causing us to portage a lot. Since 2020 and 2021 the River was completely dry with intermittent pools that were stagnant and covered with algae and azolla. This is heart breaking to lose this natural resource before our very eyes.

While conducting a water, algal and benthic macro-invertebrate collection project in the spring of 2021 in collaboration with the State Water Boards and Department of Fish and Wildlife, we had 33 collection sites that we took two teams of scientists and volunteers to collect water quality data. Our reference sites in the State Parks had from 10-15cfs flows but most all the other sites throughout vineyards lands was below 5cfs to a trickle to stagnant pools by the 2nd week of June. This made our project challenging to collect adequate data. On several occasions irrigation was occurring and from day to day we witnessed the creek dropping quickly in flows.

All Draft Sections of the Napa County GSP corresponds to California Water Resource Codes of Regulations per the Sustainable Groundwater Management Act/SGMA.

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/CEDEN is a State run database for biological and water quality data on streams including the Napa River and groundwater dependent ecosystems/GDE, throughout California. This is a robust data base used by all the resource agencies and lead agencies for regulatory projects to determine stream health.
- 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 been bifurcated from 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. Is this allowed?
- Correct: Figure 1.3 Basin characterizations, illustration and depiction to show that the Napa-Sonoma 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 OUTREACH 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.

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 representative monitoring wells to determine the health of surface and groundwater interconnected GDE in the MST aquifer hence the Napa Sub-Basin.

Section 3: Water Resource, Land Use Monitoring, Management Programs: describes existing water resource monitoring and management programs, existing general plans and land use plans, 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 plus they are historically blue-line perennial streams. The GSP diminished blue-line streams and thereby reduces the reach of SGMA and the goal of groundwater sustainability.

- Add: Department of Fish and Wildlife definition of stream classifications such as 1st, 2nd and 3rd class streams and maps that show blue-line streams which is the standard used by Napa County in their current Erosion Control 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.

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?

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.

- There are not enough interconnected surface water monitoring wells on streams which are being dewater more each year.
- Add a map of the representative stream gauge monitoring sites: 61 groundwater level ; 37 groundwater quality; 26 groundwater storage change; 15 seawater intrusion; 7 surface water quality; 23 stream stage and stream discharge; 19 interconnected surface water; 18 groundwater dependent ecosystem; 15 land surface elevation and 8 land surface elevation benchmark sites.
- Add: a link to the dry wells mapping tool provided by the State Department of Water Resources.
- Add: while protecting property privacy, map dry wells in the project area.

Section 6: Groundwater and surface water conditions: describes the historical land and current groundwater conditions of the Napa Valley Subbasin:

- 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 groundwater below 10 from the surface where once the springs and other GDE were at the surface.
- 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.
- 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 stormwater 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.

- 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 stormwater runoff-water that should be percolating groundwater for aquifer recharge, rushes out to the ocean during storm events.

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.

- Add: a map of Napa River map of the adjudicated areas

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:

- 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 to replace disallowed North Bay Aqueduct dis-allowances. The GSP draft fails to disclose and account for further groundwater pumping dangers caused by prolonged drought.
- 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.
- 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.

Section 8: describes the historical, current and projected water budgets for the Napa Valley Subbasin

- 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
- Omission: the tuffs that recharge the MST and how to protect them for critical recharge of the MST and the Napa Sub-Basin groundwater aquifers
- Add: a map of the MST tuffs that recharge the aquifers

- 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

Section 9: provides a discussion of the Sustainable Management Criteria, which define sustainability in the Subbasin and avoid undesirable results.

The Napa County Groundwater Sustainability Agency/GSA 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 UR

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

There are six sustainability factors and any one of these reaching minimum thresholds can trigger management criteria:

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 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 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 seawater intrusion is not a UR currently or has not been a problem. The State lowered the groundwater quality bar of measurement after much groundwater damage had already occurred. This information must be made transparent.

Add: A map showing historic seawater intrusion to the Napa Subbasin to represent conditions and loss of farm land due to seawater intrusion.

Also, recycled water has been brought to these devastated farms where seawater intrusion caused farmers to abandon groundwater pumping.

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.

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 have 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

5. Land Subsidence:

The GSP claims that land subsidence 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 GSP fails to be transparent and expansive on this UR. Therefore, it is not protective of groundwater and not is sustainable.

Comment: Laurel Marcus, sustainability scientist, has mapping that 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.

6. Groundwater Storage:

When extraction of groundwater exceeds sustainable yield this becomes a UR. Because the GSP fails to imagine climate change with more droughts and prolonged dry periods; the numerics on the MT and MO are not protective therefore not sustainable.

More Comments:

ICARE asked the GSPAC consultants repeatedly to discuss and inform the public about the Napa River's deep incision, illustrated by this photo herein. This discussion did not take place during the GSPAC meetings.

Increased rate of runoff has been occurring more and more for 50-100 years vastly from

deforestation in the high watershed (35,000 + acres) as heavily forested woodlands have been clearcut for vineyard development. This impacts groundwater resources in several ways.

- Loss of percolating groundwater due to deforestation and increased stormwater sheds off the denuded landscapes into nearby streams and erodes the banks and bed of streams hence the river.
- Vineyards are engineered with subsurface drainage pipes to prevent erosion within the vineyards. These engineered pipes concentrate the percolating groundwater into a point source discharge into the streams hence Napa River where hungry water erodes the bed and bank of the streams hence Napa River
- with 20-40 foot bank erosion, which confines the Napa River to a deeply incised channel robbing the floodplain of yearly floodwater inundation and recharge of the Napa Sub-Basin aquifer.

With 20-40 foot vertical banks, ancient riparian oak tree roots are vastly exposed and falling into the River as increased storm water runoff has been eroding away the dirt that originally held them upright on the historic gentle sloped banks of the Napa River.

Incision exists throughout the freshwater portion of the Napa River and it's causation is important in understanding the health of groundwater dependent eco-systems/GDE such as: springs, seeps, braided channels, back waters and perched groundwater. These precious aquatic habitats have been lost forever and but species into extinction, extirpation or barely hanging to life such as: Coho, Chinook, Steelhead salmonids, California Freshwater Shrimp and Red Legged Frog.

The photo herein was taken by ICARE who yearly kayaks the Napa River to understand the health of the River. We have been alarmed for 20 years observing the loss of bed and banks from increased rate of storm water runoff mostly from forest conversion to vineyards (deforestation) high the watershed. This incision or down cutting by erosional forces has decimated groundwater dependent eco-systems/GDEs such as: springs, seeps, braided channels, back water and perched groundwater.

The incision of the Napa River continues to get worse with each new steep hillside vineyard and with each passing storms increasing the rate of stormwater flows that continues to erosion of the GDEs.

Milliken Sarco Tulocay/MST Aquifer is not discussed in the GSP:

The MST is in historic, chronic and detrimental overdraft since 1950 and is connected to the Napa Sub-Basin (located in the south-easterly portion of Napa County). The GSPAC and the GSA fail to discuss this detrimental overdraft where thousands of people live and rely on groundwater exclusively.

Unfortunately, Walt Ranch, a vineyard project, is in the process of approval by Napa County

Board of Supervisors. This vineyard conversion of forested wildlands will clearcut 14,000 trees from the Milliken watershed which in the MST/Napa Sub-Basin aquifer recharge area. The MST is directly connected to the Napa Sub-Basin and lacks adequate groundwater well monitoring sites. The County relies totally on recycled water to mitigate the on-going MST groundwater depletion.

During the Napa Sub-Basin Alternative public comments, ICARE hired hydrologist Peter Pyle, who determined that the County's position that the MST was a confined aquifer and not worthy of SGMA protection, was proven incorrect. Peter provided evidenced based documentation and maps to DWR that the MST is connected to the Napa Sub-Basin in a south-easterly finger-like geographic area where the MST alluvium. Consequently, DWR added this important MST groundwater area to the Napa Sub-Basin boundary.

ICARE continued to attend the GSPAC meetings asking them to discuss and recommend to the GSA that:

- The MST groundwater area is a high priority groundwater area in depletion
- Needs more well monitoring sites
- Study and add representative groundwater well monitoring sites of interconnection with surface water
- Add water quality groundwater monitoring sites

Since the GSPAC did not take into consideration the on-going groundwater level declines of this critical MST recharge are of the Napa Sub-Basin, DWR should return the GSP to Napa County to make sure immediate groundwater management, minimum thresholds, enforcement tools and sustainability objectives are in place ASAP. Protections should be identified ASAP in the GSP and not wait for a 5 year review under SGMA.



Chris Malan

Chris Malan

**Executive Director
Institute for Conservation Advocacy, Research and Education
707.322.8677**