

**Napa County Groundwater Sustainability Plan Advisory Committee Meeting  
Via Zoom Teleconference: January 14, 2021**

**MEETING “MINUTES”  
KEY OUTCOMES MEMORANDUM**

**OVERVIEW**

The Napa County Groundwater Sustainability Plan Advisory Committee (GSPAC or Committee), an advisory committee to the Groundwater Sustainability Agency (GSA), held its seventh meeting via teleconference on January 14, 2021. The goals of the meeting were to:

- Elect a Chair and Vice Chair for the Committee’s 2021 meetings and adopt the Committee’s 2021 Meeting Calendar;
- Receive an update from the GSPAC Workgroup;
- Receive and discuss a briefing on California water law as related to SGMA and the development of a groundwater sustainability plan;
- Receive and discuss a presentation on Draft Section 6 of the Napa Valley Subbasin Groundwater Sustainability Plan (GSP);
- Receive a presentation on the Napa Valley Integrated Hydrologic Model being prepared for the Napa Valley Subbasin GSP; and
- Identify future agenda items.

**PARTICIPANTS**

The following Committee members participated in the meeting: Connor Bennett, Michelle Benvenuto, Garrett Buckland, Joy Eldredge, Geoff Ellsworth, John Feron, Dave Ficeli, Eric Fitz, Alan Galbraith, David Graves, Jeri Hansen, Lester Hardy, Jim Lincoln, Amber Manfree, Beth Novak Milliken, Peter Nissen, Derek Rayner, Chris Sauer, Patrick Tokar, Susanne von Rosenberg, Paul Warnock, Johnnie White and Robert Zlomke. Michael Dooley and Mike Hackett were excused.

Jeff Sharp, Chris Apallas, David Morrison and Alexandria Quackenbush with Napa County participated in the meeting. Scott McCreary, Robert Twiss and Debbie Schechter with CONCUR served as neutral facilitators. Vicki Kretsinger, Reid Bryson and Nick Newcomb with Luhdorff & Scalmanini Consulting Engineers (LSCE) participated as technical consultants. Professor Barton “Buzz” Thompson of Stanford University Law School participated as an expert presenter on water law issues.

**MEETING MATERIALS**

Materials provided to the Committee for the meeting included:

- Agenda and associated staff reports

- 2A Final Meeting Summary “Minutes” from December 10, 2020 GSPAC Meeting
- 2021 Committee meeting calendar
- Draft Section 6 of the GSP and presentation on Draft Section 6
- Presentation and handout overviewing the Napa Valley Integrated Hydrologic Model

The documents listed above and mentioned in this meeting summary, as well as a full video of the meeting can be viewed by agenda item at this link:

[https://napa.granicus.com/ViewPublisher.php?view\\_id=35](https://napa.granicus.com/ViewPublisher.php?view_id=35)

## **KEY OUTCOMES**

Below is a summary of the main topics and issues discussed. This summary is not intended to be a meeting transcript. Rather, it provides an overview of the main topics covered, the primary points and options raised in the discussions, and next steps.

### **1A. Call to Order, Roll Call**

The meeting was called to order by Chair David Graves. Jeff Sharp reviewed the meeting agenda.

### **2A. Approval of Minutes**

The minutes of the December 10, 2020 GSPAC meeting were approved unanimously.

### **3. Comments and Recommendations**

The CONCUR team reviewed the Guidance for Public Comment in the GSPAC Process, which was added to the agenda packet as a standing item. The guidance describes pathways for public comment, planning public comment at GSPAC meetings and guidance on making effective comments.

Chair Graves invited public comments. Chris Malan, Executive Director of ICARE, raised issues about the need to address catastrophic climate events and the relative merits of using a deterministic model or a probabilistic model.

### **4. Review of Public Correspondence**

J. Sharp stated that an online KQED article entitled “Groundwater Beneath Your Feet”, discussing how toxins may be brought to the surface in coastal areas with historical industrial uses as sea levels rise, was submitted by Chris Malan. The article was distributed to Committee members on December 16, 2020.

## **5. Secretary-Director's Report**

Jeff Sharp presented the new GSA website [<https://www.countyofnapa.org/3074/Groundwater-Sustainability>] that was launched in late December. He highlighted key features of the site including an interactive map that shows all the wells monitored in the basin and presents hydrographs of each. The website includes Frequently Asked Questions and key documents such as draft GSP sections and surveys.

### **6A. Election of Chair and Vice Chair for the Committee's 2021 Meetings**

The bylaws of the GSPAC require election of a Chair and Vice Chair for 2021. Jeff Sharp opened nominations for Chair and Vice Chair. David Graves and Alan Galbraith were nominated for Chair and Vice Chair, respectively, and were elected unanimously.

### **6B. Adoption of the Committee's 2021 Meeting Calendar**

Jeff Sharp presented the proposed meeting calendar for the GSPAC for 2021. Meetings will be held on the second Thursday of each month at 1:30pm. The meeting calendar was approved unanimously.

### **6C. GSPAC Workgroup Update**

Lester Hardy provided an update of the GSPAC Workgroup's second and third meetings, held on December 17, 2020 and January 7, 2021. Highlights were as follows:

- The Workgroup received and discussed resources from Napa County to help with its task including a Google document with information on potentially relevant GSPs and their recommendations/tools, an online resources folder with key documents and the new GSA website.
- The Workgroup received information on water use by sector to help prioritize the sectors on which the workgroup will focus.
- The Workgroup received and discussed a presentation from Garrett Buckland on vineyard irrigation and vineyard water management practices.
- The Workgroup discussed a draft matrix developed by the CONCUR team that can be used to evaluate management tools in terms of their effectiveness, priority, etc. Related to this, the Workgroup discussed the importance of considering a combination of regulatory and non-regulatory best management practices to allow for flexibility. It was noted that almost all vineyards are enrolled in third-party sustainability certification programs that require adherence to BMPs.
- In advance of the next meeting on January 27, the Workgroup will review and provide comments on the matrix and will use it to evaluate the vineyard management practices discussed previously.
- The Workgroup received and discussed a presentation from Paul Warnock on the County's Water Availability Analysis policy, its effectiveness for conserving groundwater and potential areas for improvement with the WAA structure.

- The Workgroup discussed winery water use as one of the next sectors for discussion at upcoming meetings perhaps along with rural residential water use. The Workgroup will receive a presentation from Deborah Elliott, Environmental Resource Specialist for Napa County, who works on sustainability programs, water conservation and green businesses.
- The Workgroup discussed the importance of using empirical data on vineyard irrigation and how to address data gaps in the datasets used for the development of the hydrologic model.

#### **6D. Briefing and Discussion on California Water Law Related to SGMA and Development of a Groundwater Sustainability Plan**

Professor Barton “Buzz” Thompson of Stanford University Law School, an expert in water law who has been working in the water field for 45 years, presented on “SGMA: Rights and Connections”. Professor Thompson explicitly noted that his presentation is informational and that he is not providing legal advice. He provided legal background on California groundwater law and SGMA. California groundwater law limits withdrawals to “safe yield”<sup>1</sup> and gives rights to overlying owners followed by appropriators (which includes cities and government agencies). Application of California common groundwater law has been complex and uncertain. There have been a few California Supreme Court cases and adjudications mainly in southern California. Courts have used doctrines to promote equity, maximize use and protect the environment. The California constitution requires “reasonable and beneficial use” and the public trust doctrine protects the public interest in navigable waters. Common law implementation is challenging and complex because it is enforced by the courts, the State Water Resources Control Board (SWRCB) has limited jurisdiction, and adjudications—where courts determine who has what rights in a groundwater aquifer—are costly and time consuming.

There is a growing recognition by courts and government agencies of the importance of connections between groundwater and surface water. The Supreme Court, in interstate disputes, has said that groundwater needs to be considered along with surface water. Many states have been working to integrate groundwater and surface water policy and law; SGMA follows the lead of these states. “Undesirable results” under SGMA include depletion of interconnected surface waters and SGMA requires consideration of impacts on groundwater-dependent ecosystems (GDEs). Beneficial uses of surface water under SGMA are interpreted to include environmental uses (i.e., GDEs).

Professor Thompson discussed two primary issues: (1) SGMA and common law groundwater rights and (2) surface water interference and GDEs. SGMA leaves common law groundwater rights in place. GSPs that violate common law rights are at risk of challenges through DWR review, or direct judicial challenge via groundwater adjudication.

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<sup>1</sup> The long-standing term “safe yield” used by the courts in adjudication of groundwater rights has been complemented by the 2014 Sustainable Groundwater Management Act definition for “sustainable yield” (California Water Code Section 10721(w), which includes avoiding specified undesirable results as defined in Section 10721(x)).

Groundwater allocations pose the greatest threat of challenges. Most GSPs have deferred this issue. There has been only one adjudication so far, for the Las Posas Basin in Ventura County, which allocated the groundwater of overlying users. GSAs still have significant authority and discretion, as all rights are subject to reasonable regulation. Water rights have always been subject to limitations designed to promote public interest. In conclusion, GSPs have to be mindful of groundwater rights but these rights are subject to reasonable regulation.

Professor Thompson noted that surface water interference and GDEs are uncharted legal territory. SGMA does not provide much guidance, the science is complex and developing, and there is often little info on GDEs. The issue is woven throughout SGMA with requirements for identifying GDEs, monitoring GDEs, accounting for interconnections, addressing potential unreasonable effects on GDEs, and adopting management actions related to interconnected surface water and GDEs. The first wave of GSPs did not prominently consider groundwater-surface water interconnections and GDEs because the connections were severed in these overdraft basins. However, this was the most criticized issue in comments from agencies and environmental groups on GSPs.

Professor Thompson described independent obligations to protect GDEs, in addition to SGMA. Under the public trust doctrine, every government agency has a responsibility to protect the public interest in navigable waters whenever feasible. This applies to groundwater pumping that impacts surface water, based on the 2018 *Environmental Law Foundation vs State Water Resources Control Board* case regarding the Scott River in Siskiyou County. In this case, the Court found that both the County and the SWRCB have a duty to consider the potential adverse impact of groundwater extraction on navigable surface waters and, where feasible, to preserve the public interest in such waters. Professor Thompson added that the Napa River is deemed a navigable river. SGMA does not override or eliminate the public trust doctrine. The California Department of Fish & Wildlife emphasized the public trust doctrine in its comment letters on GSPs. In addition, federal and state Endangered Species Acts require protection of endangered GDEs.

GSPAC Members had several comments and questions. One member noted that in Napa County, groundwater has been prioritized for agricultural and rural residential use while municipalities are dependent on surface water. This member asked about the basis for the prioritization and whether water can be redistributed. D. Morrison responded that the prioritization is memorialized in the County's general plan and possibly the groundwater ordinance. Professor Thompson noted many counties prioritize groundwater for rural areas because it's the easiest way to use it and is harder to pipe water to rural areas. There is no history under SGMA of how to merge these rights. SGMA prioritizes surface water users—use of groundwater should not adversely impact surface water users. Changes can be phased in within the 20-year window to achieve sustainability. Courts are looking for ways to minimize pitting users against each other and manage water to get the most out of the system.

A member asked whether overlying rights can be reasserted after water is appropriated. Professor Thompson stated that overlying rights are superior to appropriative rights and to the degree that there is no excess water, appropriators drop off in order of priority. But

he noted that the California Supreme Court found that appropriative rights are like adverse possession—if a city has been using water for a long enough time and there is an overdraft, overlying users can lose overlying rights by appropriation.

A member asked how a reduction in the availability of surface water (e.g., a reduction in imports from the State Water Project due to climate change) will be reflected in the plan. J. Sharp explained that the integrated hydrologic model for the Napa Valley will account for climate change including the State's plans for changes in water deliveries. Professor Thompson noted that some of the current GSPs did a good job addressing climate change. He has a post-doc student who is studying how existing GSPs integrated climate change into their plans and can share the study with the County.

A GSPAC member asked how the GSA can address factors such as impounded waters and groundwater wells outside the basin that affect summer flow conditions in streams and the Napa River. Professor Thompson responded that while groundwater pumpers outside the Subbasin and other water users may not have the same regulatory obligations under SGMA, they do have some obligations related to public trust and beneficial use and the GSA should try to reach agreement with those groups. A GSPAC member noted that the County's Water Availability Analysis program restricts water usage both within and outside the Subbasin and should be included in the models.

A member of the public asked whether extractors of groundwater and surface water outside of the basin should be considered during the development of the water budget. Professor Thompson stated that extra-jurisdictional users could be considered in the water budget. This member of the public also asked about how GSPs have addressed streams and riverbeds that are already dry. Professor Thompson replied that in the first wave of GSPs for critical overdraft basins, the groundwater table had dropped sufficiently to break the interconnections that existed historically. None of those GSPs are proposing to restore water levels, rather they are focused on not making things worse.

A GSPAC member asked how thorough a monitoring plan needs to be to pass muster with DWR. Professor Thompson responded that he expects DWR to be receptive to GSPs that reflect current science and demonstrate a strong effort to integrate rigorous analysis in plan preparation. He expects that more funding will be made available by the state for monitoring. R. Bryson noted that the GSP regulations require a projection of how data gaps will be filled within a five-year interval, including location and purpose of new monitoring sites.

A Committee member asked Professor Thompson to explain themes of the criticism of how GSPs have addressed groundwater-surface water connections and environmental water. He responded that while most GSAs do a good job of integrating climate into their models, they don't focus on how to deal with it in terms of management. He noted that comments related to all aspects of GDEs, beginning with identification of groundwater-surface water connections and potential adverse effects on GDEs.

Follow-up questions for Professor Thompson from Committee members are welcome and should be routed through Jeff Sharp.

## **6E. Draft Section 6 of the GSP**

Reid Bryson of LSCE provided a high level summary of Draft Section 6 of the GSP, which describes historical and current groundwater conditions, interconnected surface water Conditions and GDEs. His presentation followed the December presentation and focused on surface water conditions and GDEs. R. Bryson showed current and historical precipitation data from the Napa State Hospital and Calistoga monitoring sites. At the Napa State Hospital site, annual precipitation ranges from less than 10 inches to 50 inches. Precipitation in 2019 was 33.3 inches while 2020 precipitation was close to the recorded minimum at around 12 inches. The Calistoga site has higher annual average precipitation totals. At both sites, the 2020 water year was the third driest year in the record. The 2021 water year is at 30-45% of average precipitation to date. The National Drought Monitor assessment shows Napa County in the extreme drought category.

Surface water in the Subbasin includes the Napa River and its tributaries and the associated stream channels and wetlands. R. Bryson presented monthly average streamflow data for two long-term USGS gauges, in operation since 1929. Data are cyclical with peaks in the winter and flows near zero each summer. There is high variability in wet season flows. The Napa River and its tributaries are classified as winter storm dominated by the UC Davis Environmental Flows group, which means they have high flow in winter and little flow in dry season.

The Napa Valley Subbasin has shallow depths to groundwater and high rates of recharge, so the aquifer system contributes to streamflow by discharging groundwater into stream channels. Total streamflow includes groundwater that discharges into stream channels (baseflow) and surface runoff. At some points in time, surface runoff ceases and all streamflow is generated by baseflow. Evaluating baseflow is one tool for understanding how groundwater conditions influence surface water conditions and users of interconnected surface water. The rate and timing of streamflow depletion will be an output of the integrated hydrologic model. Streamflow is influenced by water year type, and timing and amount of precipitation, and is sensitive to groundwater conditions. Streamflow depletion is the most sensitive sustainability indicator for the Subbasin out of the six SGMA sustainability indicators.

Interconnected surface waters occur when groundwater levels are close to the land surface. These hydraulic connections occur throughout the Subbasin and are monitored at five existing groundwater-surface water monitoring sites. Data from these sites are used to calibrate the integrated hydrologic model and to verify timing and degree of hydraulic connection.

UC Davis vegetation mapping and wetland mapping from DWR and The Nature Conservancy (TNC) indicated 2663 acres of GDE vegetation in 2019. Twelve freshwater species and nine other species were identified as potentially groundwater-dependent. Vegetation metrics (e.g., color and moisture content) are used to indicate vegetation health. Using a tool developed by TNC, charts displayed show stability in vegetation health across time and water year condition in all subareas of the Subbasin.

R. Bryson suggested questions for the GSPAC to consider as members review Section 6:

- How are the quantity and timing of depletion of surface water being evaluated?
- How is the influence of the Napa River watershed on surface water conditions in the Subbasin being assessed?

In addition, a survey link will be sent out requesting comments on Draft Section 6 by Monday, February 22. GSPAC members are encouraged to provide input on how historical and current conditions can inform the definition of undesirable results.

Some GSPAC members and a member of the public expressed concerns about the adequacy of datasets used to identify GDEs. The following suggestions were made regarding additional data:

- Consider using CWHR or Todd Keeler-Wolf's vegetation types and the San Francisco Estuary Institute historical ecology dataset.
- Incorporate data collected through the County and the Flood Control District and other sources to reflect the impact of recent river restoration work.
- Make sure to monitor what's happening to critical species such as steelhead and salmonids.

R. Bryson noted that GDE ground-truthing surveys are proposed and could address some of these concerns and inform improvements to the model. J. Sharp stated that a monitoring plan for GDEs will be included in the GSP.

#### **6F. Presentation on the Napa Valley Integrated Hydrologic Model for the GSP**

Nick Newcomb, Project Hydrogeologist for LSCE, provided a presentation on the framework, development and outcomes of the Integrated Hydrologic Model for the GSP. This is the first in a series of three planned presentations to the GSPAC on the model. The model will facilitate evaluation of future conditions including climate, future land use and water use stresses that may lead to undesirable results. Management tools to address undesirable results will also be modeled. In February, N. Newcomb will further discuss model development including inputs. In April, he will present on outputs including water budget results.

The model is used to meet SGMA and GSP requirements for developing the water budget and sustainable yield, sustainability indicators and undesirable results. The model integrates different components of the hydrologic system including climate, landscape, surface water, GDEs and groundwater. Once calibrated, it can be used to evaluate future hydrologic responses to climate change, changes in land use and other future changes. The model can be used to inform planning and management decisions and evaluate data gaps.

The modeling framework uses two modeling tools:

- (1) The Basin Characterization Model (BCM) simulates upland (undeveloped) portions of Napa River watershed including recharge and runoff, and incorporates climate forecasts specific to North Bay (from Pepperwood Preserve's work).
- (2) The MODFLOW One-Water Hydrologic Model is used for the valley floor and models groundwater flow and pumping, surface water, stream-aquifer interaction, and water supply and demand (agriculture, urban, native vegetation).



Both tools were developed by USGS, were peer-reviewed, and are open source, widely applied, supported by DWR for GSPs, and used all over the state. Use of these models is informed by the hydrogeologic conceptual model of the watershed. Outputs from the BCM feed into the One-Water model. The integrated model simulates the entire Valley floor and areas adjacent to the Subbasin, including areas to the south all the way down to San Pablo Bay.

N. Newcomb described in detail the farm process used to simulate landscape water supply and demand based on precipitation, land use type, crop inputs and water budget for each cell. He also discussed sources of land use data, water use data, vegetation and crop water usage. He is working with the Napa Farm Bureau to obtain empirical information to ground-truth and improve estimates of crop water use and actual applied water for irrigation.

Results from the modeling effort include subregional water budgets for groundwater and landscape systems, water use by land use type, undesirable results on a subregion basis and stream-aquifer interaction and stream depletion on a reach scale.

Climate, landscape and water supply drive the model. The model can look at how water use may change depending on urban growth, vineyard expansion, fire, etc. Future changes in water supply are being evaluated in coordination with the State Water Project and the County's Drought Contingency Plan (DCP). The model will be used to evaluate and test projects and management actions.

GSPAC members asked about data sources and modeling for water use by wineries and residences. R. Bryson responded that LSCE will get additional data from the state based on required reporting for alcohol production. For residences, LSCE is using a statewide survey based on actual indoor water consumption per capita.

A GSPAC member asked how the model will provide guidance regarding stream-aquifer interaction and evaluating places that are near zero flow. N. Newcomb responded that the model will enable evaluation of specific stream reaches where drying may occur.

A GSPAC member asked about the thresholds for model input and demand in dry years. N. Newcomb responded that for surface water, direct diversion from streams will be based on actual streamflow and the instream flow requirements for fish. Surface water imports will be tied to CalSim 2 modeling and will be coordinated with the DCP regarding local storage in reservoirs. Lower thresholds will be informed by the data gathered.

Members of the public had several questions regarding what the modeling takes into account. One commenter asked whether the model accounts for all surface water diversions. N. Newcomb responded that the model does account for these using the state's eWRIMS data on diversions. A commenter asked whether the model takes into account wells approved since SGMA. N. Newcomb responded that the modeling incorporates all known production wells and water use amounts will be driven by land use, climate and available surface water. One commenter asked how the geothermal system at the north end of the Subbasin will be reflected in the model. Nick responded that LSCE is currently not planning to incorporate the high temperatures associated with the deeper geothermal system but they could be incorporated if those factors are determined to be important.

## **7. Future Agenda Items:**

Topics to be covered in the next meeting's agenda will include:

- Drought Contingency Plan overview
- Modeling presentation including more information on upper watershed connections
- Workgroup monthly update

J. Sharp presented and reviewed the table of pending issues/future agenda items. The table is included as Attachment A to this meeting summary.

## **8. Review of Meeting, Next Steps**

Based on the Team deliberations, the following next steps were identified:

### **Committee Members:**

- Review draft meeting summary and provide suggested edits by Monday, February 1 (meeting minutes expected to be emailed on January 25).
- Respond to survey on Draft Section 6 by February 22.

### **Facilitation Team/Conveners:**

- Prepare draft meeting summary
- Plan for January 27 GSPAC Workgroup meeting

Questions regarding this meeting summary should be directed to S. McCreary (scott@concurinc.net) or Jeff Sharp ([jeff.sharp@countyofnapa.org](mailto:jeff.sharp@countyofnapa.org)).

## ATTACHMENT A

**GSPAC Future Agenda Topics and Status  
Draft List as of January 25, 2021**

<b>Topics</b>	<b>Status</b>	<b>Notes</b>
Drought Contingency Plan	Scheduled 2/11	Scheduled for Feb. 11 mtg. GSA staff is now participating on DCP Task Force
Upper watershed connection to groundwater	Overview on 10/8, More scheduled 1/14 & 2/11	Jan. 14 mtg. will cover upper watershed model inputs. Also covered in future Sec. 8 (model, water budget inputs)
Overview of regulatory options available to County/GSA for groundwater allocation and monitoring	Monthly updates	Related to Workgroup charge
Feedback on outreach to Latinx community	10/8 meeting and ongoing, CEP adopted by GSA, website launched in Dec.	Part of CEP implementation and partnership with RCD on outreach opportunities, GSA website launched late Dec. - translates into Spanish
Municipal Service Report/State Water Project Contractual Obligations for water (North Bay Aqueduct Presentation), Water Availability Analysis Policy presentation	To be scheduled	Could be a white-paper. Also covered in future Sec. 7 (land use, water supplies) and Sec. 11 (policies, mgmt. actions), WAA presentation given to Workgroup 12/17 & 1/7
<b>Topics Addressed or In Progress</b>		
<i>Baseline for Groundwater Dependent Ecosystems (GDEs)</i>	<i>10/8 meeting</i>	<i>Scheduled for Dec. 8 mtg. and will continue through early 2021</i>
<i>Subcommittee/workgroup creation on policies and management actions</i>	<i>11/12 meeting</i>	<i>Supports future Sec. 11 (goals, policies, mgmt. actions), Appointment of Work Group set for Nov.</i>
<i>Climate change presentation by DWR</i>	<i>11/12 meeting</i>	<i>Set for Nov. meeting. Also covered in future Sec. 8.</i>
<i>Groundwater law, groundwater-surface water connection, other GSPs, etc.</i>	<i>1/14 meeting</i>	<i>Scheduled for Jan. 14 mtg. Prof. Barton "Buzz" Thompson, Stanford Law School</i>

Note: Topics in *italics* have been completed.