Environmental Council of Sacramento
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October 14, 2021

To: Groundwater Sustainability Agencies in the North American Subbasin
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Subject: Comments on the North American Subbasin (NASb) draft Groundwater Sustainability Plan (GSPD)

ECOS commends the effort of the North American Subbasin Groundwater Sustainability Agencies (GSAs), and their consultants, for involving the public and in preparing the GSPD. The GSPD provides both a technical and lay understanding of the North American Subbasin (NASb) and how groundwater moves within it. The GSPD is an important reference document that brings together a wealth of information in one place. With additional information, projects and management Actions recommended below, the GSPD will present a clear direction for the subbasin's sustainable groundwater management.

Our comments were initially developed in September 2021 and forwarded to The Regional Water Authority (RWA). Two ECOS members, Ted Rauh and Barbara Evoy, participated in a meeting with Rob Swartz and Trevor Joseph, staff of RWA, on October 6, 2021, to discuss them before finalizing the comments. We have noted our understanding of the relevant commitments/direction that the staff provided during our discussion of the issues below.

CLIMATE CHANGE: As one of the most critical elements of long-term water supply planning, the GSPD should clearly describe the climate change study(ies) it based the analysis on, its assumptions, and the arguments for and against the selected approach. The NASb GSPD and the South American Subbasin (SASb) GSPD have little to no discussion in the body of the GSPDs as to how climate change was evaluated. The documents do not have any type of detailed summary of the process, the climatic range considered, how "change" was integrated with historical years reviewed in the past water budget nor how the earlier analysis fits into the current science of climate change. Both state that the work was done as part of the American River Basin Study (ARBS) but 1) provide both inaccurate citations to the study and 2) where it is linked in the NASb GSPD, it is only to a PCWA website that talks generally about it being developed. The climate change model is very generally discussed in 8 lines in Section 6., without offering any true overview of the effort. As it stands now, the GSPD does not set the stage for any of the Water Budget tables that show "climate change".

The NASb GSPD includes "with and without climate change" in tables as if reviewers were fully familiar with the model parameters and they were generally agreed upon. While the document

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displays output, it lacks a clear discussion on the model. The conclusions of the water budget, without an understanding of the climate change analysis, are only speculative to the reviewers. Lack of climate documentation implies either the GSAs do not know how it was done, or the GSAs don't feel the work is of the quality to sustain public scrutiny. We hope neither is the case and encourage the GSAs to include a much clearer discussion of how climate change was handled.

On September 30, 2021, a 490 page Appendix was released which describes much of the data used in the model and some specifics of the climate change input data. The 490 pages provide a good description of these model inputs for future reference but do not digest the information in a way to provide the reader with an understanding of the overall process and how up to date the model is. As the US Bureau of Reclamation has yet to publish the ARBS, Rob Swartz indicated they would work to provide GSPD information that clarifies how the central tendency model was chosen as being conservative, how it aligns (or doesn't) with other more recent regional climate change modeling, and how the ARBS compares to a new model run of much more hot and dry conditions that are thought to reflect serious climate change. He indicated the ARBS work would be updated with new 50-year weather sets in the future, as this will give a more accurate assessment.

The Delta Stewardship Council's Sacramento-San Joaquin Delta Climate Change Vulnerability Assessment work (Delta Adapts: Water Supply Technical Memorandum May, 2021) summarizes many recent regional climate studies and shows that climate change will substantially raise sea level in the delta. In addition to more frequent and longer curtailment of surface water, additional flows will be necessary from upstream diversions to stave off salinity intrusion. There is no discussion in the GSPD of these new studies, nor what the water supply impacts may be. Presumably, the impacts will not just affect surface water supplies but regional groundwater supplies as well. This report should be part of the GSPD analysis. Rob Swartz indicated both the Delta Stewardship climate change modeling and the anticipated additional surface water releases would be analyzed in relation to the GSPD water budget.

The newly released GSPD Appendix recommends future work to increase the accuracy of the model. These recommendations should be woven into both the management actions, timeline for completion and budget.

GROUNDWATER DEPENDENT ECOSYSTEMS (GDEs): New information presented recently (Lewis and Burgy 1964 study) to the South American GSP working group suggests root depth analysis for GDEs should use a depth of 80 feet, not the 30 feet used in the GSPD. In addition, The Nature Conservancy (TNC) is about to publish a study indicating root depths for certain oak species are 25 meters. A recent TNC study also identifies the inability of oak woodlands to reproduce when ground water levels are too low. Therefore, a determination of appropriate root depths to maintain GDEs should be included as a potential data gap and for priority Management Action in the final GSP. Rob Swartz indicated he had already begun this analysis and that this would be included in the GSPD, if time allowed.

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WATER BUDGET: The GSPD provides information from published 2015 Urban Water Management Plans (UWMPs). Earlier this year, water purveyors updated these plans for 2020 submittal. These plans include new forecasted demand data as well as updated actual supply and demand from 2015-2020. These 2020 numbers should be included in the final GSP analysis and discussion. The next GSP update should include information developed for the 2025 UWMP (Rob Swartz indicated this would be done). The Water Budgets should also provide a realistic view of how curtailed surface water rights will affect groundwater withdraws in dry years. Past groundwater demands appear to be extrapolated forward without the regards for climate change effects on surface water supplies (see below).

DEMAND REDUCTION: The GSPD does not include demand reduction as a Project and, therefore, does not reduce groundwater demand resulting from the associated water conservation and efficiency actions and programs that are expected to take place. As conservation programs can be more cost effective than new construction or permitting programs, these demand reducing programs should be described along with the logic for not including them in this GSP. Rob Swartz indicated these were already being done so he did not feel they should be included. We feel the document would be stronger with a clear definition of expected future demand management.

WATER BANKING: Water Banking is an important aspect of NASb groundwater management, both historically and in the future proposals. Therefore, it is critical to understand how previously banked water fits into the Water Budget described in the GSPD. The basin groundwater is not "all one color" if agencies believe they have not abandoned their banked water but intend to withdraw it under their groundwater rights as developed water. The Water Budget cannot be treated as a common resource and amount if this is the case. The GSPD uses gross input and output numbers to calculate the basin's sustainability without this critical accounting.

If all banked water is abandoned, then the basin's pumpers can address sustainability with proposed projects. If one or more entity intends to make a significant withdraw of what they consider previously banked water (as discussed in Section 3 lines 827-834), however, the situation changes. The dynamics of the cost/benefit and necessary projects to mitigate groundwater draw down may significantly shift. Section 3 Line 833 cites that SGA has maintained an accounting of groundwater since 2007, but it is not reflected in the document. The document is not clear on what the status of the groundwater rights are nor how they are envisioned to be exercised.

The need for proper accounting is particularly highlighted in a recent PPIC report, Improving California's Water Market (https://www.ppic.org/publication/improving-californias-water-market/) and the legal discussion in an appendix by Brian Gray (https://www.ppic.org/wp-content/uploads/0921aar-appendix.pdf)

If previously "banked" water is not adequately described in the 2020 GSP, it appears the GSP may have to be significantly revised to incorporate this activity, as the conclusions could be substantially different. Significant future revision to account for water banking allocations and management could reduce the amount of time the basin will have to implement projects and reach

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sustainability by 2040. It would appear that consensus on how the water bank will be operated and what withdraws will be permitted and when, should be a very high priority for the near term.

Rob Swartz indicated that he considers the setting of minimum thresholds in the GSP to provide an operational base for water banking activities. If this is the expectation, then it should be detailed in the GSPD so the purveyors, public, and owners of shallow wells can understand both 1) the impacts to amounts of previously "banked" water, and 2) a minimum threshold that may become an operational constraint and regular groundwater level seen in dry years with water bank withdraws. As this is a different use of the GSPD minimum threshold idea discussed to date, ECOS would like to be engaged in the analysis and public review process of Water Bank impacts using this framework. The discussion of past water banking, accounting, loss, and criteria for withdraw, as well as potential impacts to adjacent subbasins, Interconnected Surface Water and GDEs should include a significant public review component. The outcomes should be clearly discussed in the context of the GSP and reflected in an update to the document.

VULNERABLE SHALLOW WELLS: Given modeling that indicates well levels overall are expected to remain near their current levels, the GSPD conclusion is that there could be little to no impacts to domestic wells. There are, however, a) 2,563 known domestic wells, b) 6,471 "Other/Abandoned/Unknown" wells. Water purveyors in the area are also expected to withdraw banked water for various transfers at specific times. It would be prudent to have a backup approach to ensure domestic and disadvantaged community wells do not run dry. We suggest the NASb consider a vulnerable well program such as the one the SASb is developing. At a minimum, there should be a commitment to seek out additional information on the more than 6,000 unknown or abandoned wells and include robust monitoring as part of the Water Bank proposal. As of October 11, an Appendix B, "Refinement of Domestic Well Densities", is not posted.

COMMUNICATION AND INVOLVEMENT OF THE PUBLIC: We recommend that the GSAs look carefully at their websites and outreach to fully involve the regional stakeholders in both the monitoring work, the development of Water Bank operating criteria, and the continued GSP evaluation and update process. Websites should have clearly defined standards for announcing public meetings, comment periods, comment procedures and public involvement. We also suggest that the GSAs present monitoring data to the public in a form that allows property owners to track information from sampling events that are of immediate interest to them. We suggest that the GSAs incorporate monitoring well telemetry so timely information is communicated.

Residents in the SASb have been interested in making sure their well information is included, and additional domestic wells have been offered for water level and water quality monitoring. NASb residents may wish to provide additional well construction information with further outreach.

Rob Swartz and Trevor Joseph indicated they would look at additional commitments to include the public in implementation. We suggest the GSPD consider a public advisory group similar to the one being set up in the Consumnes Basin. This would provide the GSAs feedback as to whether or not they are reaching critical segments of the public and how they might improve outreach.

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KUDOS: There are two significant areas where the NASb GSPD provides superior information or clarity than the SASb GSPD. First, the NASb definitions of Undesirable Results for Chronic lowering of groundwater, reduction of storage and depletion of surface water, are a clearer and more conservative approach than that used in the SASb. We recommend that rather than two separate standards, the SASb consider adopting the NASb's.

Second, The NASb's Projects and Management Actions appear to be well thought out and the specificity of the budget, as it stands now, with in-kind resources needed, provides a good initial map of the first part of implementation. Recommendations made in several GSPD sections and appendices (such as the COSANA model needs) should be added to the management action lists, however.

The yet unfinished Water Bank discussion steps should be highlighted in the list of near term actions and any resulting management actions added. Project cost equity may need to be reconsidered if future water banking withdraws significantly change local conditions. Until Water Banking is addressed, the project list should be considered preliminary.

CONCLUSION: The NASb GSPD has a lot of very useful information and will provide an excellent start to regional subbasin management of groundwater with the suggestions provided above. As one of the few community groups that participated in the development of all three subbasin GSPDs, however, we feel improvements not only need to be made in the individual plans, but that consistency is also needed between the plans. There does not appear to a reason for differences in key overarching management approaches, and analytical tools. This subbasin variability will not only hinder economies of scale for analysis, but efficient and effective management of the larger basin.

ECOS strongly supported the use of common analytical tools to develop a basinwide understanding of the surface and groundwater flow elements. ECOS also strongly supported joint evaluation of GDEs and felt this was important to the regional outcome. Collaboration and consistency are also needed, however, in the setting of management objectives, shallow and disadvantaged well programs, water bank evaluation and potential adjacent subbasin impacts, additional GDE evaluation using new studies, baseline demand reduction measures, water demand data timeframes, public involvement and very importantly, climate change modeling. The NASB website promises a new Appendix R, Interbasin Coordination in the final GSP. ECOS requests that all three subbasins consider not just touch points between the subbasins, but a commitment to bring consistency in substantive approaches to the next round of GSPs.

The Environmental Council of Sacramento (ECOS) is a 501c3 nonprofit, with the mission to achieve regional and community sustainability and a healthy environment for existing and future residents. Member organizations of ECOS include: 350 Sacramento, Breathe California Sacramento Region, Environmental Democrats of Sacramento, Friends of Stone Lakes NWR, International Dark-Sky Association, Physicians for Social Responsibility Sacramento Chapter,

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Sacramento Audubon Society, Sacramento Citizens' Climate Lobby, Sacramento Electric Vehicle Association, Sacramento Housing Alliance, Sacramento Natural Foods Coop, Sacramento Valley Chapter of the California Native Plant Society, Sacramento Vegetarian Society, Save Our Sandhill Cranes, Save the American River Association and Sierra Club Sacramento Group. Habitat 2020 is a coalition that works to protect the lands, waters, wildlife and native plants in the Sacramento region. Member organizations of Habitat 2020 include: the ECOS member groups italicized above, as well as the Friends of Swainson's Hawk, Sacramento Area Creeks Council and Sacramento Heron and Egret Rescue. Habitat 2020 also serves as ECOS' Habitat and Conservation committee.

We thank you for the opportunity to provide comments. If you have any questions regarding this letter, please feel free to contact us.

Sincerely,

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