State Water Resources Control Board

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OJAI VALLEY BASIN GROUNDWATER SUSTAINABILITY PLAN, GROUNDWATER BASIN NO. 4-002

Dear Ms. Reis,

The State Water Resources Control Board (State Water Board) staff are providing these comments in support of the Department of Water Resources' (DWR) review of the Groundwater Sustainability Plan (GSP) for the Ojai Valley Groundwater Basin (basin).

In general, staff are most concerned that the text of the Ojai Basin Groundwater Management Agency (OBGMA)'s GSP uses a hydrogeologic conceptual model that, in contradiction with the OBGMA's own groundwater model and with modeling work conducted by the State Water Board, treats surface water in the basin as functionally disconnected from groundwater pumping in the basin. As a result, the GSP contains little discussion of potential undesirable results related to depletions of interconnected surface water (ISW) and effects on instream beneficial uses (human and ecosystem). Depletions in the basin have major implications for maintaining instream flows in the Ventura River watershed and the State's implementation of the Water Resilience Portfolio and California Water Action Plan.

This comment letter will reference two modeling studies of the basin. Both modeling studies used the same consultant, Daniel B. Stephens & Associates (DBS&A), to develop hydrogeologic conceptual models and develop groundwater models.

Ojai Basin Groundwater Model (OBGM): The GSP relies on the OBGM, which was initially developed by DBS&A in 2011 for the OBGMA under a Department of Water

Resources Local Groundwater Assistance Grant. In 2014 and 2020, the OBGMA retained DBS&A to update the OBGM for GSP development (DBS&A, 2020).

- *Draft Ventura River Watershed Groundwater-Surface Water Model (VRW GW-SW Model*): In 2017, the State Water Board and Los Angeles Regional Water Quality Control Board (LARWQCB) retained Geosyntec Consultants (Geosyntec) and DBS&A to develop a groundwater-surface water model of the Ventura River watershed (Geosyntec and DBS&A, 2021b). The basin is a sub-watershed in the Ventura River watershed. On December 17, 2021, State Water Board staff released a public draft version of the VRW GW-SW Model and report for a 105-day public comment period. State Water Board staff and their modeling team are currently evaluating public comments.

In 2021, the California Attorney General's Office retained Dr. Al Preston (Geosyntec) and Dr. Gregory Schnaar (DBS&A) in the matter of *Santa Barbara Channelkeeper v. State Water Resources Control Board* (Los Angeles Superior Court No. 19STCP01176). This comment letter cites a supplemental rebuttal report prepared for that matter by Dr. Preston and Dr. Schnaar (Geosyntec and DBS&A, 2021a), provided as an attachment.

Geosyntec and DBS&A (2021a) concluded the OBGM (DBS&A, 2020) and the Draft VRW GW-SW Model (Geosyntec and DBS&A, 2021b) "incorporate consistent conceptual models" of the basin's hydrogeology.

State Water Board staff note that the State Water Board and California Department of Fish and Wildlife (CDFW), under the Water Resiliency Portfolio and California Water Action Plan, have committed substantial effort into developing the VRW GW-SW Model and evaluating instream flow needs efforts for federally listed endangered southern California steelhead (NMFS, 2012) on streams in the Ventura River watershed, including San Antonio Creek (CDFW, 2021; Geosyntec and DBS&A, 2021b). The scientific information developed under these efforts will provide the best available science that the OBGMA must consider in future updates to the GSP.

State Water Board staff are commenting on the GSP's hydrogeologic conceptual model, evaluation of groundwater-dependent ecosystems (GDEs), and treatment of sustainable management criteria (SMC), including the impacts of depletions of ISW on beneficial users (human and ecosystem), in the following GSP sections:

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- Chapter 2: Basin Setting
- Chapter 3: Sustainable Management Criteria

- Chapter 4: Projects and Management Actions

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1. The list of preparers and contributors appears to be missing from the GSP (GSP section TOC; p. iv).

Chapter 2: Basin Setting

Major Comments

2. The GSP concludes that the southwestern basin is comprised of a multi-layered aquifer system containing a shallow “perched aquifer” and a deep “production aquifer” that are completely hydraulically separated by a thick and extensive clay aquitard (GSP section 2.3.2; pp. 2-77 through 2-82). The GSP’s description that there is complete hydraulic separation between deep aquifers and surface flows in the southwestern basin is not consistent with the GSP’s own model (discussed in other comments below), the OBGM (DBS&A, 2020), the GSP’s own water budget for the basin (Table 2-13; pp. 2-158 through 2-159), the State Water Board’s Draft VRW GW-SW Model (Geosyntec and DBS&A, 2021b), and basic understanding of groundwater flow in intramontane alluvial basins (e.g., Theis, 1940; Fetter, 2001). Geosyntec and DBS&A (2021a) elaborate:

   *Although we agree that the surficial clay is present, **there is no evidence that groundwater discharging to San Antonio Creek within the [basin] surficial clay is “perched” or hydraulically separated from deeper aquifers** [emphasis added]. A “perched aquifer” refers to a discontinuous saturated lens, with unsaturated conditions existing both above and below (Freeze and Cherry, 1979; Fetter, 2001)…*

   Perched aquifers are typically not laterally extensive (Fetter, 2001). Isolated perched zones may exist within the [basin] (for example, within urban areas and around gas stations with leaking pipes), but there is no evidence that a large continuous perched zone exists including in the key areas where groundwater discharges to San Antonio Creek.

3. State Water Board staff also disagree with the GSP’s interpretation of groundwater-surface water connection in the basin (GSP section 2.3.4.6; p. 2-141). The GSP maintains that surface water in the southern and western portions of the basin are

connected to a shallow perched aquifer that is functionally hydraulically disconnected from the deeper production aquifer.[1]

This interpretation of groundwater-surface water interaction in the basin is not supported by the revised OBGM (DBS&A, 2020) the GSP purportedly relies on. Geosyntec and DBS&A (2021a) ran the GSP's OBGM and evaluated results of groundwater-surface water interaction from simulations of the basin. The analysis concluded reducing pumping in the deeper aquifer would result in greater groundwater discharge into San Antonio Creek, indicating much more extensive groundwater-surface water interconnection in the basin than the GSP describes.[2]

The GSP appears to acknowledge the link between groundwater extraction in the basin and depletions of ISW in other parts of the GSP:

a. The GSP relies on the OBGM, rather than on the GSP's narrative hydrogeological conceptual model, in estimating the basin's water budget (GSP Table 2-13). In summarizing groundwater outflows, the GSP states that groundwater discharge to surface flows in San Antonio Creek is the largest simulated source of groundwater outflows in most water-year types, constituting outflows of 1,904 acre-feet (AF) per year (AFY) to 12,190 AFY. Discharge from a laterally limited perched aquifer would not play such a substantial role in groundwater outflows.

[1] "Based on available lithologic, streamflow, and groundwater level and quality data, there is a shallow perched aquifer in the southern and western portion of the [basin] that is in hydraulic connection with surface water of San Antonio Creek and its tributaries. The shallow perched aquifer is separated from the deeper confined production aquifers by an extensive clay aquitard (Kear 2005, 2021; OBGMA 2018). Groundwater levels in the shallow perched aquifer exhibit a stable trend with little seasonal fluctuation or response to groundwater extraction while groundwater levels in the primary production aquifer show the effects of groundwater extraction (Figure 2-37, Shallow Perched Aquifer and Deep Production Aquifer Groundwater Level Trends; Kear 2021)." (GSP section 2.3.4.6; p. 2-141)

[2] "In summary, OBGM simulations indicate that under current (pumping) conditions, groundwater in the surficial clay is present from both local precipitation/irrigation recharge and upwards flow from the deeper units. Groundwater flows out of the surficial clay mostly via discharge to San Antonio Creek. In a simulation with no pumping, upwards flow from the deeper units into and through the Layer 1 surficial clay into the creek is significantly larger [than] the simulation with pumping." (Geosyntec and DBS&A 2021a, p.12)

b. The GSP notes in Section 4.3.1 that the "Conjunctive Management of Surface Water Imports and Groundwater Pumping" project would benefit the depletions of the ISW sustainability indicator, among others. Surface water imports from the Lake Casitas reservoir, an off-stream reservoir in a separate sub-watershed within the Ventura River watershed, "serves as the backup supply for many customers in the [basin] when groundwater supplies become depleted." The GSP implies that low groundwater in storage impacts ISW.

State Water Board staff recommend the OBGMA revise the GSP to be consistent with best available science, including the OBGM (DBS&A, 2020) and Draft VRW GW-SW Model (Geosyntec and DBS&A, 2021b). Revisions should include sections of the GSP that rely on the GSP's hydrogeological conceptual model and interpretation of groundwater-surface water connection as the basis for additional technical conclusions, including but not limited to:

- Chapter 2, Hydrogeological Conceptual Model – Groundwater-Surface Water Connections (GSP section 2.3.4.6; p. 2-141 through 2-142)
- Chapter 2, Hydrogeological Conceptual Model – Groundwater Dependent Ecosystems (GSP section 2.3.4.7; pp. 2-151 through 2-152)
- Chapter 2, Water Budget – Outflows from the Groundwater System – Evapotranspiration (GSP section 2.4.2.3; p. 2-162)
- Chapter 3, Reduction of Groundwater in Storage – Undesirable Results (GSP section 3.2.6; p. 3-8)
- Chapter 3, Monitoring Network Objectives (GSP section 3.5.1; p. 3-32)
- Chapter 3, Depletions of Interconnected Surface Water Monitoring Network (GSP section 3.5.3.6; p. 3-41)
- Chapter 3, Identification of Data Gaps (GSP section 3.5.7.2; pp. 3-46, 3-48)
- Chapter 4, "Prepare Groundwater Dependent Ecosystems Assessment" (GSP section 4.2.4, pp. 4-11 through 4-13)

4. State Water Board staff believe the GSP's evaluation of GDEs (GSP section 2.3.4.7; pp. 2-151 through 2-152) does not incorporate the best available information. The description of GDEs is limited to descriptions of vegetation and wetland communities. The GDE section does not demonstrate information was sought after or evaluated for status of other ecosystem beneficial users, including animal species

in GDEs such as federally listed endangered steelhead and other state or federally listed species. Nor does the GSP's discussion of beneficial uses of ISW include aquatic species such as steelhead.

Staff recommend the OBGMA expand its discussion and consideration of GDEs and beneficial uses of ISW to include aquatic ecosystems and species. Revisions should include sections of the GSP that rely on the GSP's discussion of GDEs and beneficial uses of ISW as the basis for additional technical conclusions, including but not limited to the following:

- Chronic Lowering of Groundwater Levels – Undesirable Results (GSP section 3.2.1; p. 3-6)
- Depletions of Interconnected Surface Water – Undesirable Results (GSP section 3.2.6; p. 3-12)
- Depletions of Interconnected Surface Water – Minimum Thresholds (GSP section 3.3.6; p. 3-26)
- Depletions of Interconnected Surface Water – Measurable Objectives (GSP section 3.4.6; p. 3-30)

5. The GSP's provisional estimate of sustainable yield should consider inflows to and outflows from ISW as well as undesirable results associated with depletions of ISW. The OBGMA does not consider groundwater-surface water interactions in its estimate of sustainable yield, claiming that there is too little data available regarding the impact of groundwater extraction rates on depletions of ISW (GSP section 2.4.7, pp. 2-186 through 2-187). The claim is inconsistent with modeling results from the GSP's own OBGM (DBS&A, 2011, 2020) and the Draft VRW GW-SW Model (Geosyntec and DBS&A, 2021b) and the data used to develop those models.

   During 1996 to 2009, the estimated average annual groundwater extraction from the basin was 4,939 AFY. OBGM results indicate that groundwater extractions in the range of 4,500 to 5,000 AFY would contribute to a significant decline in groundwater discharge to San Antonio Creek during multi-year droughts (DBS&A, 2011). More recently, Geosyntec and DBS&A (2021a, p. 23) concluded:

   > *It is our opinion that* ***groundwater pumping in the [basin], including in the deep portions…primarily captures what would otherwise be natural discharge to San Antonio Creek*** *[emphasis added]. This is illustrated in Figures 16 and 17 that display simulation results with the OBGM and [VRW GW-SW Model] varying the amount of [basin] pumping. For each model, total*

discharge (from natural sources and pumping) is always about the same, but ***as pumping increases groundwater discharge to streams decreases proportionately*** *[emphasis added].*

State Water Board staff recommend the OBGMA revisit the estimate of sustainable yield in the GSP using the best available scientific knowledge about the effects of groundwater pumping on depletions of ISW. The OBGMA may then update the sustainable yield further in future GSP updates as they fill data gaps on groundwater-surface water interconnection in the basin.

6. State Water Board staff recommend the OBGMA clarify how it determined the provisional estimated safe yield value of 4,100 AFY (GSP section 2.4.7, p. 2-186 through 2-187). Sustainable yield as defined under SGMA requires avoiding undesirable results including depletions of ISW that have significant and unreasonable adverse impacts on beneficial uses of the surface water. The OBGMA must therefore consider ISW depletion in determining basin sustainable yield. Previous studies, as cited above, have demonstrated that basin pumping contributes to ISW depletions.

7. State Water Board staff recommend the OBGMA clarify the meaning of “historical sustainable yield” (GSP section 2.4.4.3.1; p. 2-170) and how the value of 4,100 AFY was determined. The GSP states that, during 1971-2019, groundwater extractions averaged 4,100 AFY. OBGM results indicated that groundwater extraction rates in the basin during 1970-2009 maintained average groundwater elevations because infrequent wet years significantly recovered groundwater levels.

   State Water Board staff are concerned the GSP (GSP section 2.4.7, p. 2-186 through 2-187) characterizes 5,000 AFY as a previous safe yield estimate that is similar to the GSP’s provisional estimated safe yield of 4,100 AFY. During 1996 to 2009, the estimated average annual groundwater extraction from the basin was 4,939 AFY. OBGM results indicated that groundwater extractions in the range of 4,500 to 5,000 AFY contributed to a significant decline in groundwater discharge to San Antonio Creek during multi-year droughts (DBS&A, 2011).[3]

[3] DSB&A (2011) states: “An average safe yield value based solely on maintaining groundwater elevations throughout the Basin may be based on the model-calculated total median recharge (approximately 5,000 AFY)…A full understanding of annual Basin safe yield should consider the desired minimum groundwater discharge rates to San Antonio Creek, which is beyond the scope of this study”. See also #6.

Other Comments

8. The GSP describes that groundwater levels in a key monitoring well (04N22W05L001S) fluctuate in response to recharge from precipitation (GSP section 2.3.4.1; p. 2-91; Figure 2-19). The GSP does not describe the potential influence of groundwater extraction on groundwater elevation changes at this, and other, wells that are monitored. State Water Board staff recommend that the GSP specify whether groundwater extraction also impacted fluctuations in groundwater levels for the GSP's key monitoring well.

   Similarly, the GSP (GSP section 2.4.6; p. 2-185) later states:

   > *Groundwater elevation measurements collected in the [basin] indicate that the volume of groundwater in storage fluctuates in response to wet and dry climate cycles.*

   State Water Board recommend the GSP clarify the impact of groundwater pumping, the second-largest simulated groundwater outflow, on groundwater elevations.

9. The GSP states that groundwater management and climatic conditions from 2015 through 2019 resulted in an increase in groundwater storage of approximately 7,100 AFY (GSP section 2.4.4.2; p. 2-167). State Water Board staff recommend the OBGMA clarify which groundwater management actions it took between 2015 and 2019 and evaluate how those actions led to a cumulative increase of groundwater in storage.

10. State Water Board staff recommend that the GSP describe the Ventura County Watershed Protection District streamflow gage 616: San Antonio Creek at Camp Comfort and that the OBGMA consider data from the gage in describing ISW and GDEs (GSP section 2.2.2; pp. 2-57 through 2-58). Although the gage is located outside the basin, the streamflow gage is relevant for the GSP because it is located on San Antonio Creek and quantifies surface flows near the terminus, and outflow point, of the basin. The GSP includes descriptions and evaluations of other streamflow gages that are outside the basin boundary, including a gage that is farther downstream on San Antonio Creek.

11. The GSP states that groundwater levels in the basin are hydraulically disconnected from the Pacific Ocean due to the basin's inland and elevated location (GSP section 2.3.4.3; p. 2-95). Staff recommend that the OBGMA clarify in the GSP that the basin is hydrologically connected to the Pacific Ocean via San Antonio Creek and the Ventura River.

12. State Water Board staff note new information is available for representing onsite wastewater treatment systems, such as septic systems, in groundwater models in the Ventura River watershed. The GSP acknowledges that the water budget's groundwater system inflows do not include septic system return flows from the approximately 780 parcels in the basin with septic systems (GSP section 2.4.1.4; p. 2-160). An estimated 3,000 parcels have on-site wastewater treatment systems (OWTS) in the Ventura River watershed. In developing the Draft VRW GW-SW Model released in December 2021, Geosyntec and DBS&A (2021) estimated Domestic OWTS recharge to be 200 gallons per day per system. State Water Board staff recommend the OBGMA update its GSP and the OBGM with information from the Draft VRW GW-SW Model to represent OWTS in the water budget.

13. State Water Board staff note section 2.4.4.4 Subsurface Outflows (p. 2-163) immediately follows section 2.4.2.3. Evapotranspiration. It appears that section for Subsurface Outflows has an incorrect header number.

Chapter 3: Sustainable Management Criteria

Major Comments

14. The GSP (section 3.1.3; p. 3-3) states "Conditions within the [basin] have been sustainable over the modeled period from 1971-2019 (49 year period)…". State Water Board staff note that OBGMA submitted a GSP Alternative to DWR in 2016 that purported to demonstrate that the basin had operated within its sustainable yield over a period of at least ten years based on similar analyses included in the GSP. DWR previously concluded that the Alternative did not sufficiently demonstrate 10 years of operation within a sustainable yield that avoids all applicable undesirable results and so DWR did not approve the Alternative (DWR, 2019).

    Additionally, the estimated average annual groundwater extraction from the basin during 1996 to 2009, 4,939 AFY, exceeded the basin's "historical sustainable yield" of 4,100 AFY (GSP section 2.4.4.3.1; p. 2-170) and contributed to a dramatic decline in groundwater discharge to San Antonio Creek during multi-year droughts (DBS&A, 2011), suggesting negative effects on ISW in part from groundwater use within that period. The GSP should clarify what new information has become available since 2016 to lead the OBGMA to the conclusion that conditions in the basin have been sustainable for five decades. Board staff note the sustainable yield definition must consider ISW depletion (see comment #6).

15. The GSP's discussion of SMC for lowering of groundwater levels is missing certain information required by the GSP regulations. Specifically, the GSP does not appear

to: make an explicit link between minimum thresholds (MT) and undesirable results and effects on beneficial users (Cal. Code Regs, tit. 23, §354.28, subd. (b)(1) & (b)(4); describe how MTs have been selected to avoid causing undesirable results in adjacent basins (Cal. Code Regs, tit. 23, §354.28, subd. (b)(3)); and describe the relationship between the MTs for each sustainability indicator (Cal. Code Regs., tit. 23, §354.28, subd. (b)(2).

a. *MTs and Undesirable Results*: The GSP does not describe how water levels at or near the MTs may impact domestic wells, public water systems, aquatic ecosystems and other GDEs, other beneficial users, or land use and property interests, nor does it describe how these interests were considered in setting the MTs. The OBGMA uses the lowest historic groundwater elevation in monitoring well 04N22W05L008S to a set a MT for groundwater elevations (GSP section 3.3.1.1; Table 3-2; pp. 3-11 through 3-14; Figure 3-1). Additionally, the GSP sets MTs at wells that serve as additional representative monitoring points (RMPs). The MTs at additional RMPs are generally set at, near, or below the lowest groundwater elevations ever measured at these RMPs, with no explanation of how maintaining groundwater levels above these elevations avoids undesirable results.

   The GSP provides little evidence that undesirable results would not occur at historical low groundwater levels. As noted earlier, DWR concluded that the Alternative did not sufficiently demonstrate 10 years of operation within a sustainable yield that avoids all applicable undesirable results and did not approve the Alternative (DWR, 2019).

   The GSP's discussion of its SMC should include a description of how groundwater conditions at or near MTs may affect beneficial uses and users of water (human and ecosystem) and adjacent basins and whether those effects do or do not constitute an undesirable result.

b. *Adjacent basins*: The GSP's evaluation of the impacts of MTs on adjacent basins is limited to subsurface outflow component of its water budget and does not include groundwater discharge to streams (GSP section 3.3.1.3; p. 3-19). In the context of the basin's water budget, the GSP states groundwater discharge to streams "is the largest source of groundwater outflow from the [basin]" (GSP section 2.4.2.1; p. 2-161).

c. *Other Sustainability Indicators*: The GSP does not present an evaluation of the impacts of groundwater elevations at MTs on other sustainability indicators, including groundwater quality (GSP section 3.3.1.2 through 3.3.1.4; pp. 3-19 through 3-20).

The GSP's discussion of its SMC should include a description of how groundwater conditions at or near MTs may affect beneficial uses and users of water (human and ecosystem), sustainability in adjacent basins, and other sustainability indicators within the basin and whether those effects do or do not constitute an undesirable result.

16. The OBGMA uses the MTs for chronic lowering of groundwater levels as a proxy for reduction of groundwater storage (GSP section 3.3.2.1; p. 3-21). State Water Board staff are concerned with the GSP's establishment of MTs for reduction of groundwater in storage for the same reasons staff are concerned about MTs for chronic lowering of groundwater levels (see #17). The GSP states "reduction of groundwater in storage has not occurred historically and is not currently occurring." The GSP does not present an evaluation showing how beneficial uses and users and land use and property interests were impacted during historical low volumes of groundwater in storage, such as in 2016.

    Additionally, the GSP presents and does not address an apparent ~18,000 AF discrepancy of estimated and simulated volumes of groundwater in storage.

    > *The historical low volume of groundwater in storage, based on static springtime groundwater levels, was estimated to be 41,310 AF in 2016 (OBGMA 2018), and based on OBGM simulations, was 59,049 AF in 2016.*

17. The OBGMA does not establish measurable objectives for chronic lowering of groundwater levels in the GSP (GSP section 3.4.1; pp. 3-28), as is required in the GSP Regulations. OBGMA should propose initial measurable objectives for lowering groundwater levels based on best available scientific information and outreach with beneficial users and other interested parties. OBGMA should also outline a timeline for developing the comprehensive conjunctive management plan to be used to refine MOs in the future. "…as part of development of the comprehensive conjunctive management plan the OBGMA may establish formal numeric groundwater level measurable objectives at RMPs based on groundwater levels and corresponding target volumes of groundwater in storage."

18. State Water Board staff are concerned the GSP's evaluation of undesirable results for degraded water quality (GSP section 3.2.4; p. 3-8) does not evaluate potential groundwater impairments to GDEs or beneficial users of ISW. Nor do the MTs for degraded groundwater quality discuss potential impacts of degraded groundwater quality on ecosystem beneficial users or GDEs (GSP section 3.3.4; p. 3-24).

19. State Water Board staff recommend the OBGMA expand on its evaluation of the adequacy of its monitoring network for depletions of ISW. This evaluation would benefit from a more detailed characterization of the OBGMA's streamflow monitoring efforts (GSP section 3.5.2.2; pp. 3-37 through 3-38). For example, the GSP should clarify whether the OBGMA's monthly manual stream discharge monitoring and continuous stream stage monitoring are conducted at the same streamflow gage site, and how the information is evaluated and used.

    In describing the adequacy of its monitoring network, the OBGMA concludes the "historical and existing spatial and temporal coverage of surface water flow gauges provide adequate coverage for the short-term, seasonal, and long-term surface flow conditions in the [basin]." However, later the GSP identifies data gaps with the OBGMA's own streamflow monitoring program (e.g., coarse measurement intervals) (GSP section 3.5.7.2; p. 3-47).

    The GSP also states "In the future, to the extent possible, additional stream gauges will be installed and incorporated into the existing monitoring network" (GSP section 3.5.2.2; pp. 3-37 through 3-38). However, the GSP does not identify a schedule for installing additional stream gauges and the list of Projects and Management Actions (PMAs) does not include addressing streamflow monitoring data gaps described in the GSP (GSP section 3.5.7.3; p. 3-48).

Other Comments

20. The GSP states that groundwater extractors shall self-report quarterly groundwater extraction volumes to the OBGMA (GSP section 3.5.4.4; p. 3-42). State Water Board staff recommend the OBGMA require groundwater extractors report monthly, not quarterly, groundwater extraction volumes, to improve the temporal resolution of groundwater use in a way that will help characterize the effect of groundwater extractions on depletions. State Water Board staff further note that, in their experience, self-reported water use data are challenging to work with. For example, water users may report wildly inaccurate data, duplicative data, overreport, underreport, or report in inconsistent or incorrect units. State Water Board staff recommend the GSP define a quality assurance and quality control process for self-reported groundwater extraction data.

21. The GSP states that groundwater elevations (GSP section 3.5.3.1; p. 3-39) and groundwater quality (GSP section 3.5.3.3; p. 3-41) will be monitored at least semiannually. State Water Board staff are concerned the frequency for measuring these SMC is too infrequent for evaluating the effects of plan implementation, particularly on depletions of ISW, and recommend the OBGMA monitor groundwater elevations and quality quarterly.

22. Regarding Figure 3-5, State Water Board staff recommend the GSP clearly communicate the type of data that is collected at each groundwater monitoring well (groundwater elevations, groundwater quality, etc.) and the agency collecting the data.

Chapter 4: Projects and Management Actions

Major Comments

23. The GSP does not describe specific triggers for implementation of several of its demand management sub-actions (GSP section 4.3; pp. 4-17 through 4-23).[4] GSPs are required to describe the "the circumstances under which projects or management actions shall be implemented, the criteria that would trigger implementation and termination of projects or management actions, and the process by which the Agency shall determine that conditions requiring the implementation of particular projects or management actions have occurred." (Cal. Code Regs., tit. 23, §354.44, subd. (b)(1)(A).)

    Given there is no certainty that a particular project will ultimately be approved, or when, it is important the GSP clarify proposed timelines for projects and management actions and consider how changes in those timelines could impact the subbasin's ability to achieve sustainability by 2040. Clear timelines, alternative strategies, and triggers for those strategies would ensure the OBGMA can effectively evaluate when they should move towards implementing such contingency projects or management actions if primary projects or management actions are not implemented on projected timelines.

24. State Water Board staff recommend the OBGMA better explain in the GSP how the OBGMA will coordinate with other relevant water management efforts in the Ventura River watershed. In Table 4-1 (GSP section 4.2; pp. 4-4 through 4-5), the Management Action groups 1 (Understand the Basin) and 3 (Encourage Supporting Activities) do not describe any potential opportunities for coordination with the Upper Ventura River Groundwater Agency, State Water Board modeling of the Ventura River watershed and the LARWQCB's efforts to update the Ventura River Total Maximum Daily Load (Geosyntec and DBS&A, 2021b) and instream flow evaluation efforts for federally listed endangered steelhead in the Ventura River watershed (CDFW, 2021). The scientific information developed under these efforts will add to the best available science that the OBGMA must consider.

[4] i.e., "Develop Groundwater Allocations", "Water Conservation Program", "Voluntary Pumping Reduction Program"

The GSP (GSP section 4.2.4; pp. 4-11 through 4-13) briefly states the OBGMA will "coordinate with the SWRCB and other agencies" on the identification of critical riffles and habitat areas. This description should be expanded to describe the State Water Board and CDFW's ongoing watershed modeling and instream flow evaluation efforts for federally listed endangered steelhead species in the Ventura River watershed, respectively, which are producing better available science on this topic (Geosyntec and DBS&A, 2021b; CDFW, 2021).

25. The GSP lists local agencies, non-governmental organizations, and the State Water Board as potential partners to support the OBGMA's assessment of GDEs. State Water Board staff are available to coordinate on this effort and recommend including the state and federal fishery agencies (e.g., CDFW, NOAA National Marine Fisheries Service) as potential partners.

Other Comments

26. The "Conduct Groundwater Extraction Monitoring" PMA (GSP section 4.2.2; p. 4-8) should be expanded to state the undesirable results of groundwater quality degradation and depletions of ISW may also benefit from the PMA. The OBGMA's planned evaluation of ISW and GDEs would also benefit from the PMA.

27. The "Develop Water Conservation Program" PMA (GSP section 4.3.3; p. 4-20) describes water conservation actions being undertaken by urban and agricultural water users (GSP section 4.3.3; p. 4-20). State Water Board staff recommend the OBGMA expand this section to describe how the OBGMA will document and quantify these activities for the purposes of completing annual reports and future GSP updates. (Cal. Code Regs., tit. 23, §356.2, subd. (c) & § 356.4, subd. (b).)

28. Regarding the GSP's "Explore Opportunity to Implement Focused Recharge" PMA (GSP section 4.4.3; pp. 4-26 through 4-27), the PMA may require new or amended water rights. If a project would rely on existing water rights, the OBGMA should identify the water right identification numbers and other relevant details. It may be unreasonable for the GSP to assume that projects that currently lack adequate water rights for implementation can obtain either new water rights or modifications to existing water rights within a timeframe that will allow the project to contribute to the GSP's achieving sustainability. For the GSP to demonstrate a likelihood of attaining the sustainability goal, the GSP should discuss the timing for obtaining approvals and describe any uncertainties, such as water availability in source streams (e.g.: Is the source declared to be a fully appropriated stream? Can potential protests be anticipated from downstream water users?). Below is information on obtaining new surface water rights or modifying existing rights:

a. New surface water right permits: An applicant must gather all information necessary to complete the application; this could be extensive. Once the State Water Board publicly notices an application, other water right holders may protest the project based on potential injury to their water rights. Parties may also protest if the project has the potential to harm public trust resources. The OBGMA should contact the Division of Water Rights' Permitting and Licensing Division or consult the Division's Permitting and Licensing Frequently Asked Questions [5] to develop an informed timeline for project implementation that includes necessary water right actions.

b. Amendment of an existing surface water right: The time required to amend an existing water right depends on multiple factors, including but not limited to whether the change is minor, major, or controversial. The OBGMA can learn more from the Division of Water Rights' Petitions Frequently Asked Questions.[6]

If you have questions regarding these comments, please do not hesitate to contact State Water Board Groundwater Management Program staff by email at SGMA@waterboards.ca.gov or by phone at 916-322-6508.

Sincerely,

Natalie Stork
Senior Engineering Geologist
Chief, Groundwater Management Program Unit I
Office of Research, Planning, and Performance

Enclosure: Supplemental Expert Report of Al Preson, PhD, PE and Gregory Schnaar, PHD, PG (Geosyntec & DBS&A 2021a)

[5] URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/applications/faqs.html

[6] URL: https://www.waterboards.ca.gov/waterrights/water_issues/programs/petitions/faqs.html

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