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October 26, 2021

Via Electronic Mail and Online Submission

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Subject: Comments on the Santa Ynez River Valley Groundwater Basin's Central Management Area Draft Groundwater Sustainability Plan

Dear Mr. Bill Buelow:

The California Department of Fish and Wildlife (CDFW) appreciates the opportunity to provide comments on the Santa Ynez River Valley Groundwater Basin's Central Management Area Groundwater Sustainability Agency (CMA-GSA) Draft Groundwater Sustainability Plan (Draft GSP) prepared pursuant to the Sustainable Groundwater Management Act (SGMA).

As trustee agency for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and management of fish, wildlife, native plants, and the habitat necessary for biologically sustainable populations of such species (Fish & Game Code §§ 711.7 and 1802).

Development and implementation of groundwater sustainability plans (GSPs) under SGMA represents a new era of California groundwater management. CDFW has an interest in the sustainable management of groundwater, as many sensitive ecosystems, species, and public trust resources depend on groundwater and interconnected surface waters (ISWs), including ecosystems on CDFW-owned and managed lands within SGMA-regulated basins.

SGMA and its implementing regulations afford ecosystems and species specific statutory and regulatory consideration, including the following as pertinent to GSPs:

- GSPs must **consider impacts to groundwater dependent ecosystems** (GDEs) (Water Code § 10727.4(l); see also 23 CCR § 354.16(g));
- GSPs must consider the interests of all beneficial uses and users of groundwater, including environmental users of groundwater (Water Code § 10723.2) and GSPs must **identify and consider potential effects on all beneficial uses and users of groundwater** (23 CCR §§ 354.10(a), 354.26(b)(3), 354.28(b)(4), 354.34(b)(2), and 354.34(f)(3));
- GSPs must **establish sustainable management criteria that avoid undesirable results** within 20 years of the applicable statutory deadline, including **depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water** (23 CCR § 354.22 *et seq*. and Water Code §§ 10721(x)(6) and 10727.2(b)) and describe monitoring

networks that can identify adverse impacts to beneficial uses of interconnected surface waters (23 CCR § 354.34(c)(6)(D)); and
- GSPs must **account for groundwater extraction for all water use sectors,** including managed wetlands, managed recharge, and native vegetation (23 CCR §§ 351(al) and 354.18(b)(3)).

Furthermore, the Public Trust Doctrine imposes a related but distinct obligation to consider how groundwater management affects public trust resources, including navigable surface waters and fisheries. Groundwater hydrologically connected to surface waters is also subject to the Public Trust Doctrine to the extent that groundwater extractions or diversions affect or may affect public trust uses. (*Environmental Law Foundation v. State Water Resources Control Board* (2018), 26 Cal. App. 5th 844; *National Audubon Society v. Superior Court* (1983), 33 Cal. 3d 419.) The GSA has "*an affirmative duty to take the public trust into account in the planning and allocation of water resources, and to protect public trust uses whenever feasible*." (*National Audubon Society*, *supra*, 33 Cal. 3d at 446.) Accordingly, groundwater plans should consider potential impacts to and appropriate protections for ISWs and their tributaries, and ISWs that support fisheries, including the level of groundwater contribution to those waters.

Individually and collectively, the SGMA statutes and regulations, and Public Trust Doctrine considerations, necessitate that groundwater planning carefully consider and protect environmental beneficial uses and users of groundwater, including fish and wildlife and their habitats, GDEs, and ISWs.

COMMENT OVERVIEW

CDFW supports ecosystem preservation and enhancement in compliance with SGMA and its implementing regulations based on CDFW expertise and best available information and science. CDFW understands the Santa Ynez River Valley (3-015) (Basin) is rated as a medium priority basin under SGMA with 15 priority points. The Basin sits isolated from other SGMA Basins with only San Antonio Creek Valley (3-014) adjacent to the north that is also rated as a medium priority basin with 15 priority points. These Santa Ynez River Valley Groundwater Basin has been separated into three management areas. They are the Western Management Area (WMA), Central Management Area (CMA) and the Eastern Management Area (EMA). CDFW offers the following comments and recommendations below to assist CMA-GSA in identifying and evaluating impacts on biological resources including GDEs within the adjacent groundwater basins. Additional suggestions are included for CMA-GSA's consideration during revisions of the Draft GSP.

SPECIFIC COMMENTS AND RECOMMENDATIONS

Comment #1: Section 2b.6-2 Interconnected Surface Water for the Santa Ynez River

Issue: The Draft GSP does not provide enough evidence to conclude "there is no interconnected surface water in the CMA". The CMA-Groundwater Conditions Technical Memo (CMA-GC), (page 27) and the Draft GSP (page 2b-35) states, "*Because the underflow of the Santa Ynez River is considered part of the surface water flowing in a known and definite channel, there is no interconnected surface water in the CMA. The Santa Ynez River surface water and underflows are managed by the SWRCB for the reach of the Santa Ynez River in the CMA and will not be managed under SGMA by the CMA GSA. Diversions from the Santa Ynez River Alluvium are subject to SWRCB regulation which considers it the same as surface water*

diversions. As described in the HCM (Section 2a), the Santa Ynez River Alluvium is recharged from the surface water of the river".

Page 13 of the CMA-Hydrologic Conceptual Model Technical Memo (CMA-HCM) identifies two principal aquifers for the management area. The Upper Aquifer is described as consisting of the river gravels and younger alluvium along the Santa Ynez River, and the Lower Aquifer is defined as consisting of the Paso Robles and Careaga Formations of the Buellton Upland. As per SGMA regulations, a principal aquifer refers to an aquifer or system of aquifers that stores, transmits, and yields significant or economic quantities of groundwater to wells or surface water (23 CCR § 351(aa)). The CMA-HCM identifies the river gravels and younger alluvium along the Santa Ynez River as being part of Upper Principal Aquifer system within the CMA. The CMA-HCM further indicates on page 17 that the Santa Ynez River is in direct contact with major bodies of water-bearing deposits near Buellton and Lompoc subarea where it crosses the two ends of the Santa Rita syncline. The CMA-HCM additionally states on page 17 that many of the wells within the Santa Ynez River Alluvium subarea are shallow, and a precise understanding of the Lower Aquifer underneath the Santa Ynez River is poorly understood in the HCM. CDFW acknowledges there are locations within the CMA where the Santa Ynez River is situated within consolidated non-water bearing formations. However, there are portions of the Santa Ynez River with the potential to be in communication with the water-bearing formations of the principal aquifers, and as such additional characterization is required to support the findings of the GSP.

The CMA-GC provides groundwater contour elevation maps (Figures 1-1 and 1-2) that indicate the direction of groundwater flow for spring 2020 and fall 2019 events for both the Upper Aquifer and the Lower Aquifer. Interpretation of the data set provided indicates a direction/gradient of groundwater flow from the Buellton Uplands towards the Santa Ynez River, which more than likely provides recharge to the Santa Ynez River via the aquifers. Page 21 of the CMA-HCM states, "*Areas with high recharge are dominant in the Buellton Uplands west of Highway 101 to Santa Rosa Creek on the Southern slopes of the Purisima Hills and along the Santa Ynez River. These areas correspond to Careaga Formation in the Buellton Uplands and to the river gravels along the Santa Ynez River*". The provided information substantiates the idea that the Santa Ynez River is not completely within a known and definite channel and that there are portions of the river that are interconnected with groundwater within the CMA.

As a final discussion, analysis of hydrographs included in the CMA-GC's appendix provides additional data as to the potential interconnection between groundwater levels within the principal aquifers and the "*underflow*" beneath the Santa Ynez River. Several hydrographs within the appendix (i.e., State Well # 6N/31W-18G01, 6N/31W-17D01, and 6N/31W-17F1) provide basic well construction data (e.g., well depth), land surface elevation, groundwater elevations, and depth to water data. The wells listed above are located near the City of Buellton near the Santa Ynez River and close in proximity to each other. However, well location points were not labeled on the provided map and had to be located using provided Township, Range, and Section data. The construction depth for the wells as indicated on the hydrographs indicate depths of 464 feet, 112 feet, and 44 feet and are all designated as being within the Upper Principal Aquifer. The SYR-GSA's groundwater elevations data set for each hydrograph indicate very similar groundwater levels when taking into consideration changes in land surface elevations. CDFW acknowledges that a particular well construction can have an effect on recorded water levels, however, because of the similarities in groundwater levels in each of these wells, combined with their associated depths, additional analysis is needed to determine the vertical gradient between aquifer assemblages within the Upper Principal Aquifer system and potential connection with the Santa Ynez River.

Recommendation #1: CDFW recommends analyzing well data from additional wells to provide a more complete review of well information and lithologic data to better characterize the depths and occurrence of the water bearing strata within the CMA, specifically along the Santa Ynez River channel. CDFW recognizes that the CMA has identified existing data gaps within the CMA-HCM and CMA GC; however, where information is not available, the CMA-GSA needs to identify a proposed plan to obtain this information.

Comment #2: Section 2c.1-3 Surface Water and the Santa Ynez River Alluvium

Issue: The Draft GSP does not provide enough information to conclude that surface waters do not affect groundwater levels. Page 2c-8 of the Draft GSP states, "*In addition, as discussed in the HCM (Section 2a.3), the Santa Ynez River Alluvium is part of the subflow of the river, which is regulated by SWRCB. Because subflow is considered surface water and not groundwater, the Santa Ynez River Alluvium would not be classified as a principal aquifer or managed by a GSP under SGMA. Therefore, the Santa Ynez River Alluvium is considered part of the underflow of the Santa Ynez River and is treated as part of the surface water in the historical, current, and projected water budgets*".

Page 28 of the CMA-GC states, *"Diversions from the Upper Aquifer of the Santa Ynez River Alluvium are subject to SWRCB which considers it the same as surface water. As described in the HCM, the Upper Aquifer is recharged from the surface water of the river."*

The CMA-HCM states that during downstream water right releases, water infiltrates and recharges the alluvium in Zone A (CMA-HCM, Pg. 23). This is another example of a location that has interconnected surface waters based on groundwater recharge during downstream water right releases. CDFW believes this occurs during natural flows at various seasons throughout the year. CDFW agrees that the Upper Aquifer is recharged from the surface water of the river but is unclear on the basis for the conclusion that the diversions from the Upper Aquifer should be regulated in the same manner as surface water.

The CMA-HCM also states that groundwater in the CMA discharges to the Santa Ynez River when the groundwater elevation is higher than the stream channel thalweg. Groundwater discharge to the river will occur during wet winter and spring months. However, during the summer and dry winter months, the streamflow loses water to the groundwater aquifers of the Santa Ynez alluvium subarea (CMA-HCM, p. 27). This is another example of an interconnected surface water that SYR-GSA describes in their CMA-HCM but failed to identify and analyze in the CMA-GC.

Recommendation #2(a): CDFW recommends the Final GSP provide justification, based on specific provisions of SGMA, for the conclusion that the Upper Aquifer should not be classified as a principal aquifer or managed by a GSP under SGMA. CDFW believes the GSA must sustainably manage groundwater resources in the Upper Aquifer, in part because it supports GDEs. Furthermore, portions of the Upper Aquifer are interconnected with surface water and is currently identified as a principal aquifer under Department of Water Resources Bulletin 118 (DWR 2020). The communities within the CMA heavily rely on surface and subsurface diversions from the Upper Aquifer. According to the CMA-GC, Lower Aquifer groundwater pumping may not be occurring in the deeper aquifer (or it is unknown). Use of this Lower Aquifer water may become more appealing and economically viable in the future if groundwater pumping practices change. Thus, analyzing the Upper Aquifer as interconnected with surface water is consistent with the sustainability goals of SGMA. Furthermore, identifying and

appropriately considering GDEs in the CMA that rely on the Upper Aquifer should be completed irrespective of the amount of pumping in both aquifers so that future impacts on GDEs due to new production can be avoided. CDFW urges the SYR-GSA to identify and consider all GDEs within the CMA per Code of Regulations, Title 23 § 354.16(g).

Recommendation #2(b): CDFW strongly urges the SYR-GSA to map, identify, and analyze depletions of interconnected surface waters and areas with the potential for depletion of interconnected surface waters per Code of Regulations, Title 23 § 354.16(f).

Comment #3: Section 2b.6-3 Interconnected Surface Water for Tributaries to the Santa Ynez River

Issue: CDFW disagrees with the Draft GSP conclusion that the tributaries within the CMA do not meet SGMA's definition of interconnected surface waters simply because they do not receive measurable flow at all times of year. Page 30 of the CMA-GC and page 2b-35 of the Draft GSP states, "*All tributaries within the CMA (Figure 2b.6-1) are ephemeral. As shown on Figure 2b.6-2, Zaca Creek, the largest CMA tributary, has no measurable flow during half of the period of record. Most flow occurs in wet and above normal years between February to March, with no flow between June to November. This indicates these tributaries are "completely depleted" during part of the year and do not meet the SGMA definition for interconnected surface water. As shown in the HCM (HCM Figure 2a.5-2) there are no identified springs associated with these tributaries*".

Groundwater-dependent habitats, including interconnected surface waters, are particularly susceptible to changes in the depth of the groundwater. Lowered water tables that drop beneath the root zones can cut off phreatophyte vegetation from water resources, stressing or ultimately converting vegetated terrestrial habitat. Induced infiltration attributable to groundwater pumping can reverse hydraulic gradients and may cause streams to stop flowing. The frequency and duration of exposure to lowered groundwater tables and low-flow or no-flow conditions caused by groundwater pumping, as well as habitat and species resilience, will dictate vulnerability to changes in groundwater elevation. For example, some species rely on perennial instream flow, and any interruption to flow can risk species survival.

Under SGMA, a GSP is required to avoid unreasonable adverse impacts on beneficial uses of interconnected surface waters, defined as "*surface water that is hydraulically connected at any point by a continuous saturated zone to the underlying aquifer, and the overlying surface water is not completely depleted.*" (Water Code §§ 10721(x)(6) and 10727.2(b); 23 CCR § 351(o).)

The SYR-GSA has not provided adequate support for its conclusion that lack of measurable flow within the tributaries means the tributaries are "*completely depleted*" under this definition. Even assuming the tributaries are "*completely depleted*" during part of the year, there is no requirement within SGMA or its implementing regulations that surface waters have measurable surface flows at all times of the year to qualify as an interconnected surface water. To the extent that the tributaries are hydraulically connected and not completely depleted at any time of the year, they qualify as interconnected surface waters and warrant appropriate consideration in the final GSP, including the goal to avoid depletions causing significant and unreasonable adverse impacts on beneficial uses.

The interconnected surface water narrative also lacks specific estimations of the quantity and timing of streamflow depletions as required by California Code of Regulations, Title 23 § 354.16(f).

Recommendation #3(a): CDFW recommends a more careful review of existing information on surface water-groundwater interconnectivity and recommends the CMA-GSA clarify methods used to categorize losing streams as disconnected. Additionally, CDFW recommends the CMA-GSA identify the estimated quantity and timing of streamflow depletions in the subbasin. If this information is not available, identify a proposed plan to estimate these values.

Recommendation #3(b): CDFW recommends a more detailed evaluation of what is happening beneath the ground to cause this section of Zaca Creek to have low or no flow during parts of the year. The cause for the groundwater elevation fluctuations should be investigated further. Impacts caused by changes in groundwater elevation should be considered in the evaluation of groundwater management effects on GDEs and interconnected surface waters.

Comment #4: Section 2a.4-2-1 Emerging Agricultural Crops: Cannabis Cultivation (Cannabis Priority Watershed)

Issue: CDFW is concerned that cannabis groundwater use is not being fully accounted for when evaluating this SGMA area. Ignoring the growth potential of this industry, could result in a lack of groundwater management accountability. Page 2a-34 of the Draft GSP states that "*Santa Ynez River Valley is not identified as a Cannabis Priority Watershed with a high concentration of cannabis cultivation.*" CDFW has identified, in region, the Santa Ynez River Valley as a high priority watershed. Most projects distributed throughout this SGMA area are clustered within the San Miguelito Creek-Santa Ynez River, Nojoqui Creek, Santa Rosa Creek-Santa Ynez River, Salsipuedes Creek, Santa Rita Valley and Canada De La Vina-Santa Ynez River HUC 12 watersheds. This includes San Miguelito Creek, Salsipuedes Creek, and Santa Ynez River (critical southern steelhead streams) as well as Nojoqui Creek and Santa Rosa River, and the SYR tributaries (Dagit et. al 2020). The projects range from cultivation of 1-50 acres within the approximate 52 notifications the Department has received with the main source of water coming from groundwater wells. CDFW expects this type of trend to continue in the future.

Groundwater and interconnected surface water are critical resources that do not recognize artificial boundaries. Since the implementation of legal cannabis cultivation, CDFW has received multiple applications within the Santa Ynez River Valley, especially in the HUC 12 watersheds listed above. Some of the cannabis grows can range from 1-50 acres, with multiple licenses on a property (resulting in several acres of cultivation) that are dependent on depths within the alluvium. Surface flows (and surface diversions) are regulated in large degree from dam releases, which emphasizes the large roll groundwater wells have in cannabis cultivation.

Santa Ynez has sensitive, natural communities consisting of Oak woodlands, grasslands, sage scrub, chaparral, and riparian woodland habitats along the Santa Ynez River and SYR tributaries. According to the California Natural Diversity Database (CNDDB), the Santa Ynez River Valley provides habitat that supports several sensitive species (some listed as endangered or threatened) throughout their life cycles, including southwestern willow flycatcher (*Empidonax traillii extimus*), least Bell's vireo (*Vireo bellii pusillus*), red-legged frog (*Rana draytonii*), and seaside bird's beak (*Cordylanthus rigidus ssp. littoralis*) (CDFW. 2019). Habitats that support these species also consist of phreatophytes and other vegetation communities that are dependent on shallow aquifers that support surface water in each of these

systems. Phreatophytic vegetation is a critical contributor to nesting and foraging habitat, forage for a wide range of species and can be affected by sensitive depth to groundwater threshold impacts (Naumburg et.al. 2005) and (Froend et. al. 2010). This sensitivity to groundwater level thresholds means that localized pumping and recharge actions altering groundwater levels can impact the health and extent of phreatophyte vegetation health. Both decreasing (drying out) or increasing (drowning) groundwater elevation has the potential to stress phreatophytes depending on the plant species, groundwater elevation and duration (e.g., short term wetness/dryness versus prolonged wetness/dryness).

Groundwater and interconnected surface water depletion is a major concern for fish and wildlife beneficial users in the Santa Ynez River Valley. Designating this area as a High Priority Cannabis Watershed requires groundwater to be monitored and sustainably managed for the benefit of all beneficial users, including groundwater dependent vegetated communities and interconnected surface waters that are necessary to support riparian and aquatic habitat, and the sensitive species therein such as southern steelhead. Decreased stream flow may contribute to direct mortality if fish eggs are exposed, covered with silt, or left without sufficient oxygenated water. Water degraded in temperature or chemical composition can displace or limit fish populations.

Recommendation #4: CDFW recommends the CMA-GSP monitor the Santa Ynez River Valley as a Cannabis High Priority Watershed. This High priority captures the documented impacts within the groundwater basin and the shifting groundwater consumption rates, as influenced by legalization of cannabis [Water Code §§ 10933. (b)(7,8)]. Based on the number of Departmental applications for legal cultivation, there is documented significant demand and potential adverse impacts to beneficial users of groundwater. The cannabis market growth is expected to increase almost ten times during an eight-year span (Fortune Business Insights 2021). North America is expected to lead the world cannabis market. Santa Barbara County recently approved a zoning permit for 87 acres of outdoor cannabis cultivation.

Comment #5: Section 2a.4-2-1 Emerging Agricultural Crops: Cannabis Cultivation

Issue #5.1: Without the designation of the Santa Ynez River Valley as a Cannabis High Priority Watershed, evaluation of cannabis crop water usage may be overlooked throughout the Santa Ynez River Valley Groundwater Basin, especially within the Santa Ynez Alluvium, an area that, as stated on page 2b-35, will not be managed under SGMA by the CMA-GSA. Page 2a-35 of the Draft GSP states "*all cannabis applications in the CMA are for parcels that in 2016 were used for agriculture. This indicates primarily a change of crop type, rather than an expansion*." Cannabis cultivation is a water intensive crop that can have a significant impact to environmental beneficial users of groundwater.

Cannabis groundwater wells provide water for the irrigation of water-intensive cannabis cultivation (assuming six gallons of water per day per plant) (Bauer S. 2015). Just within the Santa Ynez Alluvium, CDFW has received approximately 26 cannabis projects. These projects range from cultivation of 3.5 - 50.0 acres with water supplied from groundwater wells. Many of the wells for the cannabis notifications within Santa Ynez Valley are shallow wells located within or immediately adjacent to tributary streams and the SYR. CDFW is concerned that without management of the Santa Ynez Alluvium under SGMA by the CMA-GSA, significant and unreasonable surface water depletions may occur, compromising groundwater dependent ecosystems within and along the streams.

Recommendation #5.1(a): CDFW recommends a more careful review of the existing information on cannabis cultivation within the Santa Ynez Alluvium and recommends the information be considered when evaluating groundwater management. As indicated on page 2a-23, "*Areas with high recharge are dominant in the Buellton Upland west of Highway 101 to Santa Rosa Creek on the southern slopes of the Purisima Hills and along the Santa Ynez River. These areas correspond to Careaga Sand Formation in the Buellton Upland and to the river gravels along the Santa Ynez River*." The majority reliance on groundwater for cannabis crops irrigation, and the likely interconnected nature of the SYR suggests that such uses (individually or cumulatively) should be considered when evaluating cannabis impacts in the Santa Ynez Alluvium.

Recommendation #5.1(b): CDFW recommends the Santa Ynez River Valley be classified as a Cannabis High Priority Watershed.

Issue #5.2: The majority reliance on groundwater for cannabis crops irrigation, and the likely interconnected nature of the Santa Ynez River suggests that such uses (individually or cumulatively) should be considered when evaluating cannabis impacts in the Santa Ynez alluvium. As indicated on page 2a-23, "A*reas with high recharge are dominant in the Buellton Upland west of Highway 101 to Santa Rosa Creek on the southern slopes of the Purisima Hills and along the Santa Ynez River. These areas correspond to Careaga Sand Formation in the Buellton Upland and to the river gravels along the Santa Ynez River*."

Recommendation #5.2: CDFW recommends a more careful review of the existing information on cannabis cultivation within the Santa Ynez alluvium and recommends the information be considered when evaluating groundwater management.

Comment #6: Section 2b.6-4 Groundwater Dependent Ecosystems in the Central Management Area

Issue: The potential GDEs were assessed into three categories based on their relationship to the aquifer but it is unclear if they were categorized any further. It is also unclear and unknown if there are any GDEs in the Draft GSP that will be protected and monitored into the future. Page 2b-37 of the Draft GSP states that "*These were assessed into three categories based on the relationship to the aquifer (Figure 2b.6-3). If depth to groundwater has historically exceeded the 30-foot depth identified by the Nature Conservancy as representative of groundwater conditions that may sustain common phreatophytes and wetland ecosystems (Rohde et al. 2018), the potential GDE was identified as unlikely to be affected by groundwater management (Category C on Figure 2b.6-3). Riparian areas of the Santa Ynez River were identified as being managed by the SWRCB as part of Santa Ynez River surface and subflow (Category B on Figure 2b.6-3). The remaining area consists of GDEs likely related to groundwater levels (Category A on Figure 2b.6-3). Part of the Category B area that overlies the Buellton Aquifer may have some influence from the Buellton Aquifer water levels. This area is grouped with the Category A to form the potential GDEs. Table 2b.6-2 below summarizes the land areas involved.*"

Table 2b.6-2 Potential CMA Groundwater Dependent Ecosystem Categorization

Potential GDE Category	Ecosystem Description	Acres	Percentage
A	Potential GDE Associated with a Principal Aquifer	11	0.6%
B	Riparian vegetation not subject to SGMA	1223	70.5%
C	Unlikely to be Affected by Groundwater Management	501	28.9%
Potential GDE	Category B over Buellton Aquifer	807	46.5%
Total		**1,735**	**100%**

The potential GDEs were assessed into three categories based on their relationship to aquifers, but it is unclear if they were categorized any further. It is also unclear and unknown if there are any GDEs in the Draft GSP that will be protected and monitored into the future.

Pursuant to SGMA, the GSP to be developed by CMA-GSA must identify and consider impacts to all GDEs in the basin, including flowing waters and refugia supporting southern steelhead. The final GSP must also avoid depletions of interconnected surface waters that have significant and unreasonable adverse impacts on beneficial uses of the surface water. Specific, surface water flows needed to support southern steelhead life stages at different times of year are as follows:

1) from October through June for river-estuary-Ocean connectivity needed for passage;
2) from January through May for adult migration, spawning and incubation;
3) from January through June for juvenile migration; and,
4) year-round for expression of juvenile life history.

CDFW is also concerned that groundwater pumping in the face of climate change and human disturbance will lead to dryer stream reaches incapable of supporting suitable riparian habitat for sensitive species that occupy GDEs, such as least Bell's vireo (*Vireo bellii pusilus*) and southwestern willow flycatcher (*Empidonax traillii extimus*). These federally and State-listed species need dense willow thickets and understory vegetation for both nesting and breeding purposes.

Recommendation #6(a): CDFW recommends the CMA-GSA evaluate potential effects on each GDE unit based on at least four criteria, such as:

1) groundwater dependence;
2) ecological value (high, moderate, low);
3) ecological condition (good, fair, poor) using Normalized Difference Vegetation Index/ Normalized Difference Moisture Index data; and,
4) susceptibility to changing groundwater conditions (high, moderate, low) based on available hydrologic data, climate change projections and GDE susceptibility classifications using a baseline range to consider future changes in groundwater conditions.

Recommendation #6(b): To ensure meaningful consideration of GDEs as required under SGMA, CDFW recommends the SYR-GSA provide a biological assessment identifying species known to occur within the GDEs presented in Figure 5-2, including southern steelhead, least Bell's vireo, and southwestern willow flycatcher. Given the uncertain status of the species and their dependency on GDEs, the CMA-GC must accurately assess drought conditions when water availability will be lower and groundwater extraction might be high.

Recommendation #6(c): CDFW recommends the CMA-GSA include, at a minimum, the GDEs identified within the Basin in the final GSP. The CMA-GSA has not provided enough data to conclude that the Lower Aquifer groundwater pumping definitively does not affect GDEs within the Basin. If the CMA-GSA reaches that conclusion in the future, then then Sustainable Management Criteria for GDEs would no longer be needed. CDFW strongly disagrees with entirely excluding GDEs present in the Basin without enough data to conclude GDEs are not impacted by groundwater pumping.

Recommendation #6(d): CDFW recommends the CMA-GSA identify potential impacts to fish and wildlife beneficial uses, caused by depletions of groundwater. Furthermore, the evaluation should consider species water needs for all life history stages when defining undesirable results and setting minimum thresholds required by SGMA. Different fish and wildlife species have different water needs. Understanding the timing of water availability with respect to species needs across all life history phases will allow groundwater planners to better account for groundwater management impacts to fish and wildlife species and users of groundwater and interconnected surface waters.

GENERAL COMMENTS AND RECOMMENDATIONS

Comment #7: Sensitive Species and Habitats

Issue: Many sensitive species and habitats in the Santa Ynez CMA comprise of GDEs, the natural communities that rely on groundwater to sustain all or a portion of their water needs. Some of the special-status species in the Santa Ynez River watershed that rely on surface water supported and supplemented by groundwater include the federally endangered southern steelhead; southwestern pond turtle (*Actinemys pallida*), a CDFW species of special concern (SSC) and U.S. Forest Service sensitive species; California red-legged frog (*Rana draytonil*), a CDFW SSC and ESA-listed species; western spadefoot toad (*Spea hammondii*), a CDFW SSC and Bureau of Land Management sensitive species; and California tiger salamander (*Ambystoma californiense*), an ESA-listed and California Endangered Species Act (CESA)-listed species.

Southern California Coast Steelhead {*Oncorhynchus mykiss* (*O. mykiss*) or southern steelhead}, is an endangered species under the Federal Endangered Species Act (ESA). The Santa Ynez River contains important southern steelhead spawning and rearing tributaries. Threats to southern steelhead from groundwater pumping, such as excessively high-water temperatures due to reduced surface flows or groundwater pumping in the spring, summer, and early fall, reduce available juvenile rearing habitat. Low flows in the fall and winter can delay adult passage to critical spawning areas. CDFW is very concerned about the health of the southern steelhead population in the Santa Ynez River. Drought conditions and low flow rates have led CDFW to participate in rescue operations as recently as 2020.

Southwestern pond turtle was designated as a California SSC in 1994. Western pond turtle's preferred habitat is permanent ponds, lakes, streams, or permanent pools along intermittent streams associated with standing and slow-moving water. A potentially important limiting factor for western pond turtle is the relationship between water level and flow in off-channel water bodies, which can both be affected by groundwater pumping.

California red-legged frog is rarely encountered far from perennial water. Tadpoles require water for at least three or four months while completing their aquatic development. Adults eat both aquatic and terrestrial invertebrates, and the tadpoles graze along rocky stream bottoms. Groundwater pumping that impairs streamflow could have negative impacts on California red-legged frog populations. Western spadefoot toad migrates to seasonal vernal pools to reproduce. They will use small puddles of water, such as small pools to breed. California tiger salamander is also restricted to vernal pools and seasonal ponds for reproduction.

If groundwater depletion results in reduced streamflow due to interconnected surface waters, the nesting and foraging success of flycatcher, least Bell's vireo, and other bird species may be diminished due to the reduced nesting habitat and food availability.

The unsustainable use of groundwater can impact the shallow aquifers and interconnected surface waters on which these species and GDEs depend. This may lead to adverse impacts on fish and wildlife and the habitat they need to survive. Determining the effects that groundwater levels have on surface water flows in the CMA would provide an understanding of how the groundwater levels may be associated with the health and abundance of riparian vegetation. Poorly managed groundwater pumping, and surface water flows have the potential to reduce the abundance and quality of riparian vegetation, reducing the amount of shade provided by the vegetation, and ultimately leading to increased water temperatures in the CMA.

Recommendation #7: CDFW highly recommends the CMA-GSA map out locations where there are interconnected surface waters and document aquatic habitats and other GDEs as required under SGMA. The CMA-GSA should then provide appropriate consideration to those habitats and the sensitive species that rely on them. Fish and wildlife resources should be considered in the water budget. Additionally, shallow groundwater levels near interconnected surface water should be monitored to ensure that groundwater use is not depleting surface water and affecting fish and wildlife resources in the CMA.

Comment #8: Draft GSP vs. Final GSP

Issue: The CMA-GSA may need to revise the GSP before it is finalized an adopted.

Recommendation #8: CDFW recommends the CMA-GSA provide a red-lined version of the final GSP to understand the changes made between the Draft GSP and final GSP. Alternatively, CDFW recommends the GSA provide a summary of changes made and comments addressed by the GSA in preparation of a final GSP.

CONCLUSION

CDFW has significant concerns about ISWs for the SYR, and its tributaries, and surface water and the SYR alluvium, interconnected surface water for tributaries to the SYR, cannabis cultivation into the future and CDFW urges the CMA-GSA to plan for and engage in responsible groundwater management that minimizes or avoids these impacts to the

maximum extent feasible as required under applicable provisions of SGMA and the Public Trust Doctrine.

In conclusion, the Draft GSP does not comply with all aspects of SGMA statute and regulations, and CDFW deems the Draft GSP inadequate to protect fish and wildlife beneficial users of groundwater for the following reasons:

1. The assumptions, criteria, findings, and objectives, including the sustainability goal, undesirable results, minimum thresholds, measurable objectives, and interim milestones are not reasonable and/or not supported by the best available information and best available science. [CCR § 355.4(b)(1)] (See Comments # 2, 3, 4, 5 and 6);

2. The Draft GSP does not identify reasonable measures and schedules to eliminate data gaps. [CCR § 355.4(b)(2)] (See Comments # 1, 2, 3 and 4);

3. The sustainable management criteria and projects and management actions are not commensurate with the level of understanding of the basin setting, based on the level of uncertainty, as reflected in the Draft GSP. [CCR § 355.4(b)(3)] (See Comments # 2, 3, 4 and 5);

4. The interests of the beneficial uses that are potentially affected by the use of groundwater in the basin, have not been considered. [CCR § 355.4(b)(4)] (See All Comments).

CDFW appreciates the opportunity to provide comments. Additionally, we appreciate CMA-GSA continued coordination with CDFW while CMA-GSA develops a final GSP. If you have any questions or comments regarding this letter, please contact Steve Slack, Environmental Scientist, at Steven.Slack@wildlife.ca.gov.

Sincerely,

DocuSigned by:
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Enclosures (Literature Cited)

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