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Via Electronic Mail and Online Submission

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Subject: Comments on the Santa Ynez River Valley Groundwater Basin's Eastern 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 Eastern Management Area Groundwater Sustainability Agency (EMA-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 EMA-GSA in identifying and evaluating impacts on biological resources including GDEs within the adjacent groundwater basins. Additional suggestions are included for EMA-GSA's consideration during revisions of the Draft GSP.

SPECIFIC COMMENTS AND RECOMMENDATIONS

Comment #1: Section 3.1.4.1 Principal Aquifers (Santa Ynez River Alluvium)

Issue: The Draft GSP does not provide enough information to conclude that surface waters do not affect groundwater levels. Page 3-29 of the Draft GSP states, "*Water present within the Santa Ynez River Alluvium is considered surface water by the SWRCB, and not managed by the GSAs. Therefore, the Santa Ynez River Alluvium is not classified in this GSP as a principal aquifer. The main criterion for defining the water-bearing geologic formations in the EMA as principal aquifers is based on the SGMA definition of a principal aquifer: "aquifers or aquifer systems that store, transmit, and yield significant or economic quantities of groundwater to wells, springs, or surface water systems." Principal aquifers must exhibit both sufficient*

permeability and storage potential for the movement and storage of groundwater such that wells can reliably produce groundwater in sufficient quantities on a long-term basis".

The EMA-Hydrologic Conceptual Model (HCM) states during downstream water right releases, water infiltrates and recharges the alluvium as "*Recharge to the Santa Ynez River Alluvium occurs through percolation of precipitation as well as from upstream Lake Cachuma releases and discharge from the Santa Ynez Uplands Tributaries*" (EMA-HCM Memo, Pg. 65). The HCM Memo acknowledges that the younger alluvium in the upper aquifer is being recharged from water right releases. However, the EMA GSA has not provided enough information to properly identify and analyze the interconnectivity between the three zones of the upper aquifer and the relationship with the lower aquifer. The alluvium at the mouth of the Santa Ynez Upland Tributaries is an example in the Basin that has groundwater-surface water interactions based on groundwater recharge during downstream water right releases. CDFW believes this interaction also occurs during the natural flows of various seasons throughout the year. CDFW agrees that the Upper Aquifer is recharged from the surface water, but it is unclear how Upper Aquifer groundwater pumping should be regulated without direct input from the State Water Resources Control Board (SWRCB).

The EMA-HCM Memo also states that "*The extent and quantity of any groundwater discharge from the groundwater basin into the Tributary Alluvium has not been confirmed or quantified. Conceptually, it is believed that this discharge occurs primarily as surface water flow leaving the tributaries*" (EMA-HCM Memo, Pg. 67). The EMA -HCM Memo further states that "*Water discharges from the EMA as underflow from the Santa Ynez River Alluvium every year*" (Stetson, 2004 among others) (EMA-HCM Memo, Pg. 67). This is another example of an interconnected surface water that WMA-GSA describes in their WMA-HCM Memo but did not identify and analyze in the WMA-GC Memo.

Recommendation #1(a): CDFW recommends the EMA-GSA 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. Alternatively, the WMA-GSA can provide direct input from SWRCB on the classification of the Upper Aquifer. CDFW believes the EMA-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 EMA heavily rely on surface and subsurface diversions from the Upper Aquifer. Use of this Lower Aquifer water may become more appealing and economically viable in future years as Upper Aquifer pumping restrictions are placed to meet SGMA sustainable yield and criteria, and to meet SYR instream flow needs. 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 EMA 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 EMA-GSA to identify and consider all GDEs within the WMA per Code of Regulations, Title 23 § 354.16(g).

Recommendation #1(b): CDFW strongly recommends the EMA-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 #2: Section 3.2.5 Interconnected Groundwater and Surface Water for Tributaries to the Santa Ynez River

Issue: The Draft GSP still does not provide enough information to conclude how much recharge is occurring within SYR tributaries. As indicated on page 3-84, "*A **significant** source of recharge to the Paso Robles Formation occurs within the shallow alluvial sand and gravel beds of tributaries where they are in direct contact with the Paso Robles Formation. Percolating groundwater moves readily through the tributary alluvium in the Santa Ynez Uplands (LaFreniere and French,1968). In these areas, the tributaries are losing streams, contributing to the groundwater in the underlying Paso Robles Formation (and Older Alluvium)*". The Draft GSP identifies two locations in the EMA where groundwater from a principal aquifer is interconnected with surface water. Table ES-1 Summary of Sustainable Management Criteria on page ES-16 indicates the confluence of Alamo Pintado Creek and Zanja de Cota Creek as the two areas connecting surface water and the SYR.

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).)

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 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).

CDFW is very concerned about the health of the steelhead population. Managing the groundwater within the Santa Ynez River Valley is particularly critical to the survival and recovery of the threatened South-Central California Steelhead Designation Population Segment (DPS), a federal Endangered Species Act (FESA) listed species (NMFS 2013). Drought conditions and low flow rates have led CDFW to participate in rescue operations as recently as 2020. The SYR contains important steelhead spawning and rearing tributaries. Threats to steelhead, 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.

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.

Recommendation #2(a): CDFW recommends a more careful review of existing information on surface water-groundwater interconnectivity and recommends the EMA-GSA clarify what a significant source of recharge means in terms of quantity of water.

Recommendation #2(b): CDFW recommends the WMA-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.

Comment #3: Section 3.3.5.1.2 Projected Water Budget (Cannabis Cultivation) – Cannabis High 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 3-158 of the Draft GSP states that "*While not included as a crop category in the recent crop surveys, cannabis production is projected to enter the Santa Ynez Valley and the EMA in the coming years. The County of Santa Barbara has placed an upper limit on the maximum number of acres county-wide allowed to be planted with cannabis. The assumption for the EMA is that cannabis production will reach a limit for the Santa Ynez Valley over the next several years and will increase beyond the current limit*". 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 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 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 #3: CDFW recommends the WMA-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 #4: Section 3.3.5.1.2 Projected Water Budget (Cannabis Cultivation)- Cannabis Impacts

Issue #4.1: 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 3-29, will not be managed under SGMA by the EMA-GSA. Page 3-158 of the Draft GSP states "*The projected agricultural acreages and water use are projected to increase only modestly over the next 20 and 50 years. This increase, based principally on conversion to field crops and a more modest increase in vineyard acreage, are together similar in scale to the estimated projected increase in cannabis acreage. The projected rate of expansion of acreage is equal to 36 acres added per year*". 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 EMA-GSA, significant and unreasonable surface water depletions may occur, compromising groundwater dependent ecosystems within and along the streams.

Recommendation #4.1(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 3-84, "*A significant source of recharge to the Paso Robles Formation occurs within the shallow alluvial sand and gravel beds of tributaries where they are in direct contact with the Paso Robles Formation. Percolating groundwater moves readily through the tributary alluvium in the Santa Ynez Uplands (LaFreniere and French,1968). In these areas, the tributaries are losing streams, contributing to the groundwater in the underlying Paso Robles Formation (and Older Alluvium)*". The majority of cannabis cultivation rely 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.

Recommendation #4.1(b): CDFW recommends the Santa Ynez River Valley be classified as a Cannabis High Priority Watershed.

Issue #4.2: 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 3-84, "*A significant source of recharge to the Paso Robles Formation occurs within the shallow alluvial sand and gravel beds of tributaries where they are in direct contact with the Paso Robles Formation. Percolating groundwater moves readily through the tributary alluvium in the Santa Ynez Uplands (LaFreniere and French,1968). In these areas, the tributaries are losing streams, contributing to the groundwater in the underlying Paso Robles Formation (and Older Alluvium)*"".

Recommendation #4.2: 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 # 5: Section 3.2.6.1.3 Categorization of Potential GDEs

Issue: The Draft GSP still does not provide enough information to conclude that potential GDEs should be excluded from the GSP. Page 3-95 of the Draft GSP states that "*The potential GDEs identified in the section above are further categorized based on their proximity to, and association with, the regional principal aquifers in the EMA (refer to Figure 3-39) as follows:*

- *Category A refers to potential GDEs that are associated with a principal aquifer in the EMA and are potentially affected by groundwater management activities.*
- *Category B refers to potential GDEs that are unlikely to be affected by pumping and groundwater management activities within the EMA.*

The focus of this GSP is to preserve the existing Category A GDEs where identified, regardless of composition, or condition."

Page 3-95 of the Draft GSP also states that "*In total, there are 1,546 acres of Category B potential GDEs in the EMA as shown on Figure 3-39 and in Table 3-13. All of the orange areas identified on Figure 3-39 are Category B areas for the following reasons:*

- *The potential GDEs in the upper portions of Zaca Creek and upper Alamo Pintado Creek are categorized as Category B due to apparent hydrogeologic separation between the perched tributary alluvium, which supports the potential GDEs, and the deeper principal aquifer groundwater elevations that support significant agricultural irrigation in the area.*
- *The potential GDEs located in upper Santa Agueda Creek and Happy Canyon are categorized as Category B due to limited groundwater production occurring within the area and the apparent hydrogeologic separation between the perched tributary alluvium aquifers and the deeper principal aquifer groundwater elevations.*
- *The potential GDEs located in the eastern portion of the EMA in Cachuma and Santa Cruz Creeks are categorized as Category B due to the absence of significant groundwater production in the area and an assumed hydrogeologic separation between the perched tributary alluvium aquifers and the deeper principal aquifer groundwater elevations*".

Page 3-97 of the Draft GSP uses Table 3-13 to show the number of acres of potential GDEs in both category A and B:

Table 3-13. Categorized Potential GDEs in the EMA (Excluding Santa Ynez River Area)

Potential GDE Category	Natural Communities Vegetation Classification	Acres
Category A	Coast Live Oak	91
Category A	Riparian Mixed Hardwood	93
	Subtotal	**184**
Category B	Coast Live Oak	1,159
Category B	Valley Oak	279
Category B	Riparian Mixed Hardwood	99
Category B	Riversidean Alluvial Scrub	5
Category B	Willow (Shrub)	4
	Subtotal	**1,546**
	Total	**1,731**

The potential GDEs were assessed into two 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.

Recommendation #5(a): CDFW recommends the WMA-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 #5(b): To ensure meaningful consideration of GDEs as required under SGMA, CDFW recommends the EMA-GSA provide a biological assessment identifying species known to occur within the GDEs presented in Table 3-13, including steelhead, least Bell's vireo, and southwestern willow flycatcher. Given the uncertain status of the species and their dependency on GDEs, the EMA-GC Memo must accurately assess drought conditions when water availability will be lower and groundwater extraction might be high.

Recommendation #5(c): CDFW recommends the EMA-GSA include, at a minimum, the GDEs identified within the Basin in the final GSP. The EMA-GSA has not provided enough data to conclude that the Lower Aquifer groundwater pumping definitively does not affect GDEs within the Basin. If the EMA-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.

GENERAL COMMENTS AND RECOMMENDATIONS

Comment #6: Sensitive Species and Habitats

Issue: Many sensitive species and habitats in the Santa Ynez EMA 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 California 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.Some of the special-status species in the SYR watershed that rely on surface water supported and supplemented by groundwater include the federally endangered Southern California 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.

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 EMA 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 EMA.

Recommendation #6: CDFW highly recommends the EMA-GSA map out locations where there are interconnected surface waters and document aquatic habitats and other GDEs as required under SGMA. The EMA-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 EMA.

Comment #7: Draft GSP vs. Final GSP

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

Recommendation #7: CDFW recommends the EMA-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 EMA-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 # 1, 2, 3, 4 and 5);

2. The Draft GSP does not identify reasonable measures and schedules to eliminate data gaps. [CCR § 355.4(b)(2)] (See Comments # 1, 2, and 5);

3. 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 EMA-GSA continued coordination with CDFW while EMA-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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Literature Cited

Bauer S, Olson J Cockrill A, van Hattem M, Miller L, Tauzer M, et al. (2015) Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds.

CDFW. 2019. California Natural Diversity Data Base (CNDDB). (https://www.wildlife.ca.gov/data/cnddb)

Dagit, R., M.T. Booth, M. Gomez, T. Hovey, S. Howard, S.D. Lewis, S. Jacobson, M. Larson, D. McCanne, and T.H. Robinson 2020. Occurrences of Steelhead Trout (*Oncorhynchus mykiss*) in southern California, 1994-2018. California Fish and Wildlife 106(1):39-58; 2020.

Department of Water Resources. (DWR) 2020. Bulletin 118. Interim Update 2020. California's Groundwater: Working Toward Sustainability. https://data.cnra.ca.gov/dataset/calgw_update2020

Fortune Business Insights. June 8, 2021. Cannabis Market Size to be Worth $97.35 Billion by 2026; Increased Use for Medical & Therapeutic Purposes to Aid Marijuana Industry Growth, Says Fortune Business Insights™

Froend, R., and B. Sommer. 2010. Phreatophytic vegetation response to climatic and abstraction-induced groundwater drawdown: Examples of long-term spatial and temporal variability in community response. Ecological Engineering, 36:1191:1200.

National Marine Fisheries Service (NMFS). 2013. South-central California coast steelhead recovery plan. West Coast Region, California Coastal Area Office, Long Beach, California. https://www.westcoast.fisheries.noaa.gov/publications/recovery_planning/salmon_steelhead/domains/south_central_southern_california/2013_scccs_recoveryplan_final.pdf

Naumburg E., Mata-Gonzalez R., Hunter R.G., McLendon T., Martin D.W. 2005. Phreatophytic vegetation and groundwater fluctuations: a review of current research and application of ecosystem response modeling with an emphasis on great basin vegetation. Environment Management. 35(6):726-40.