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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



June 16, 2022

Via Electronic Mail and Online Submission

Bryan Bondy, PG, CHG
Executive Director
Upper Ventura River Groundwater Agency
c/o Meiners Oaks Water District
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Email: BBondy@uvrgroundwater.org

Subject: California Department of Fish and Wildlife Comments on the Upper Ventura River Valley Basin's Draft GDE Monitoring Workplan

Dear Mr. Bondy:

The California Department of Fish and Wildlife (CDFW) is providing comments on the Upper Ventura River Groundwater Agency's (GSA or UVRGA) Upper Ventura River Valley Basin's Draft Groundwater Dependent Ecosystem Monitoring Workplan (GDE Plan) for the Confluence and the Foster Park Aquatic Habitat Areas.

CDFW is writing to support the preservation and enhancement of ecosystems in compliance with the Sustainable Groundwater Management Act (SGMA) and its implementing regulations, based on CDFW expertise and best available information and science. 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 (GSP) 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).

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));

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- GSPs must **establish sustainable management criteria that avoid undesirable results** within 20 years of the applicable statutory deadline, including **depletions of ISW 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 ISWs (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(a) and 354.18(b)(3)).

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

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.

CDFW is providing comments and recommendations on the GDE Plan in Attachment A.

CDFW appreciates the opportunity to provide comments on the Upper Ventura River Valley Basin Draft GDE Workplan. If you have any further questions, please contact Mary Ngo, Senior Environmental Scientist (Specialist), at Mary.Ngo@wildlife.ca.gov.

Sincerely,

DocuSigned by:

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Erinn Wilson-Olgin
Environmental Program Manager I
South Coast Region

Enclosure(s):

- Attachment A: California Department of Fish and Wildlife Comments on the Upper Ventura River Valley Basin Draft GDE Monitoring Workplan
- Attachment B: Literature Cited
- Attachment C: April 14, 2022, CDFW Comment Letter on the Upper Ventura River Valley Basin Final Groundwater Sustainability Plan

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Attachment A

Attachment A

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE COMMENTS ON THE UPPER VENTURA RIVER VALLEY BASIN'S DRAFT GROUNDWATER DEPENDENT ECOSYSTEM (GDE) MONITORING WORKPLAN FOR THE CONFLUENCE AND THE FOSTER PARK AQUATIC HABITAT AREAS

CDFW's comments are as follows:

- 1. CDFW Comment # 1: California Endangered Species Act (CESA) listing for Southern California Steelhead.** Pursuant to section 2074.2 of the Fish and Game Code, on April 21, 2022, the California Fish and Game Commission (Commission) determined that listing Southern California steelhead (*Oncorhynchus mykiss*) as endangered under the CESA may be warranted.

This commences an approximately one-year status review of the species, and at a future meeting, the Commission will make a decision regarding whether listing of Southern California steelhead as endangered under CESA is warranted. During the status review, Southern California steelhead is protected under CESA as a candidate species pursuant to section 2085 of the Fish and Game Code, provided that notice has been given as required by section 2074.4 of the Fish and Game Code. The Upper Ventura River Groundwater Agency's (GSA) is prohibited from undertaking or authorizing activities that result in take of any endangered, threatened, or candidate species, except as authorized by State law (Fish & Game Code, §§ 86, 2062, 2067, 2068, 2080, 2085; Cal. Code Regs., tit. 14, § 786.9).

- 2. CDFW Comment #2: Lake or Streambed Alteration Agreement.** The GSA's monitoring activities may impact streams.

The GSA's workplan proposes the installation of monitoring wells and monitoring stations, within or adjacent to stream areas. Please note that stream-related activities may be subject to notification under Fish and Game Code section 1602. Fish and Game Code section 1602 requires any person, state or local governmental agency, or public utility to notify CDFW prior to beginning any activity that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or,
- Deposit or dispose of material into any river, stream, or lake.

- 3. CDFW Comment #3: The GSP Does Not Consider All Riparian Groundwater Dependent Ecosystems in the Basin.** CDFW recommended in our Final GSP Comment Letter (see Attachment C) that the GSA consider all riparian GDEs in the Basin – this concern has not been addressed.

CDFW recommends that the Monitoring Workplan identify the Riparian and Aquatic GDE units within the six identified hydrogeologic areas. Appendix O of the Final GSP describes 1) intermittent groundwater-surface water interconnection in the Kennedy, Santa Ana North, Santa Ana South, and northern Casitas Springs hydrogeologic areas; and 2) generally disconnected groundwater-surface water in the Robles North, Robles

Attachment A

South, and northern Santa Ana South hydrogeologic areas. However, the Riparian and Aquatic GDE units seem to exclude these areas despite their varying degrees of groundwater-surface water interconnection. For example, the GSA excluded the Kennedy hydrogeologic area even though this area has intermittent groundwater-surface water connection and riparian mixed hardwood habitat.

CDFW appreciates the GSA's efforts in developing a workplan for the Foster Park and Confluence Areas. CDFW strongly recommends that the Kennedy, Santa Ana North, Santa Ana South, and northern Casitas Springs, Robles North, and Robles South areas be included in the GDE assessment, and monitoring plans.

- 4. CDFW Comment #4: The GSP Minimum Thresholds, Measurable Objectives, and Sustainable Management Criteria for Interconnected Surface Waters Depletion Do Not Account for the Best Available Science.** CDFW disagrees with the GSA's assertion, and stated in our Final GSP Comment Letter (Attachment C), that CDFW's Draft Instream Flow Recommendations for the Lower Ventura River and Coyote Creek (2021) (Draft Recommendations) and National Marine Fisheries Service (NMFS) Draft Biological Opinion for Foster Park Wellfield (2007) (Foster Park Draft BO) are irrelevant to determining appropriate sustainable management criteria to avoid unreasonable adverse impacts to beneficial users of ISWs.

CDFW's Draft Recommendations were designed to protect Southern California steelhead by recommending flows that support passage as well as spawning and rearing habitat. Avoiding significant and unreasonable effects related to groundwater pumping is essential to the health and survival of Southern California steelhead in the Ventura River. The GSA has not provided enough information to conclude that a minimum flow threshold of two cubic feet per second is sufficient to ensure avoidance of significant and unreasonable adverse impacts (an undesirable result under SGMA) to all life cycles of Southern California steelhead. In Appendix C of the Padre study (2012), there is a comparison of the Padre study relative to other studies in the area. However, the Padre study did not consider NMFS' specific reach flow analysis that was completed as part of its 2007 consultation process for the operation of the City of Ventura's Foster Park wellfields. NMFS flow analysis in the 2007 Foster Park Draft BO represents some of the best available science available in addition to CDFW's Draft Flow Recommendations.

CDFW strongly recommends the GSA incorporate CDFW's Draft Recommendations, and the Foster Park Draft BO into the analysis to adequately assess performance of the ISW depletion SMC.

Attachment B

Attachment B

LITERATURE CITED

California Department of Fish and Wildlife (CDFW). 2021. Draft Instream Flow Recommendations for the Lower Ventura River based on the Watershed Criteria Report.

National Marine Fisheries Service (NMFS). 2007. Draft Biological Opinion Issuance of an Army Corps 404 Permit Authorization for the City of Ventura's Foster Park Well Facility Repairs Project (File No. 200501739-JWM). NMFS, Southwest Region: Long Beach, CA.

Padre Associates, Inc. 2012. Steelhead Habitat Assessment Foster Park Well Field Area, Ventura County, California. Prepared for Hopkins Groundwater Consultants, Inc., and City of Ventura. (Appendix C in Hopkins 2013).

Attachment C

Attachment C

*April 14, 2022, CDFW Comment Letter on the Upper Ventura River Valley Basin Final
Groundwater Sustainability Plan*



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April 14, 2022

Via Electronic Mail and Online Submission

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Ojai, CA 93023

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Subject: California Department of Fish and Wildlife Comments on the Upper Ventura River Valley Basin Final Groundwater Sustainability Plan

Dear Ms. Reis and Mr. Bondy:

The California Department of Fish and Wildlife (CDFW) is providing comments on the Upper Ventura River Groundwater Agency's (GSA or UVRGA) Upper Ventura River Valley Basin Groundwater Sustainability Plan (Final GSP) prepared pursuant to the Sustainable Groundwater Management Act (SGMA) and submitted to the California Department of Water Resources (DWR) on January 31, 2022. The Upper Ventura River Valley Basin (Basin) is designated as medium priority under SGMA and must be managed under a GSP by January 31, 2022.

CDFW is writing to support the preservation and enhancement of ecosystems in compliance with SGMA and its implementing regulations based on CDFW expertise and best available information and science. As trustee agency for the State's fish and wildlife resources, CDFW has jurisdiction over the conservation, protection, and

Ms. Monica Reis, Supervising Engineer
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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 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).

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 ISW 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 ISWs (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(a) and 354.18(b)(3)).

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

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

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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.

CDFW is providing comments and recommendations on the Basin Final GSP (Attachment A) to address prior comments on the Draft GSP, submitted on October 5, 2021 (Attachment C), that have not been addressed in the Final GSP. In addition, CDFW is providing comments pertaining to new information, developments, and/or changes to the GSP since CDFW’s prior review.

CDFW’s prior comments that have not been addressed are restated in Attachment A with updated page citations to pertinent sections of the Final GSP. Where the GSA has responded to CDFW’s prior comments, CDFW has provided additional context in *italicized text*.

Among other comments, detailed in Attachment A, CDFW recommends that the Final GSP address CDFW’s concerns regarding: 1) data gaps in the hydrologic conceptual model, 2) riparian GDEs within the Basin, and 3) minimum thresholds for ISWs and sustainability indicators.

CDFW appreciates the opportunity to provide comments on the Upper Ventura River Valley Basin Final GSP. If you have any further questions, please contact Mary Ngo, Senior Environmental Scientist (Specialist), at Mary.Ngo@wildlife.ca.gov.

Sincerely,

DocuSigned by:

614D9A782D93439...

Steve Gibson signing for

Erinn Wilson-Olgin
Environmental Program Manager I
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Enclosure(s):

Attachment A: California Department of Fish and Wildlife Comments on Final Upper Ventura River Valley Basin Groundwater Sustainability Plan

Attachment B: Literature Cited

Attachment C: October 5, 2021, CDFW Comment Letter on the Upper Ventura River Valley Basin Draft Groundwater Sustainability Plan

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Attachment A

CALIFORNIA DEPARTMENT OF FISH AND WILDLIFE COMMENTS ON FINAL UPPER VENTURA RIVER VALLEY BASIN GROUNDWATER SUSTAINABILITY PLAN

CDFW's comments are as follows:

1. **CDFW Comment #1: Data Gaps Exist in the Hydrologic Conceptual Model (HCM) (Introduction to Sustainable Management Criteria, Section 4.1, starting on p. 92 of the Draft GSP and pg. 98 of the Final GSP).** The UVRGA does not account for the wide range of hydraulic connectivity and transmissivity values across the Basin, nor does it set forth a reasonable pathway to address gaps in the data sets for these values.
 - a. *Issue:* CDFW appreciates the efforts the UVRGA undertook to analyze the Basin's geologic and hydrogeologic characteristics. CDFW also appreciates UVRGA's proposed plans to utilize the updated HCM to address the data gaps and deficiencies identified in the Draft GSP. However, CDFW's understanding is that the Draft GSP does not account for the wide range of hydraulic connectivity and transmissivity values across the Basin, nor does it set forth a reasonable pathway to address gaps in the data sets for these values. For example, the draft plans of the HCM for Sections 3.1 and 3.2 stated that some of the aquifer information was obtained from available driller logs and short-term pumping tests, which are not likely to provide a complete and accurate data set for assessing aquifer parameters.
 - b. *Recommendation #1:* Accurate hydrogeologic modeling requires an accurate and complete data set. CDFW recommends that the GSA expand the area in which it is assessing hydraulic connectivity and transmissivity values to ensure that the model is based on representative conditions across the Basin. Furthermore, the GSA should consider well data with adequate construction and accurate aquifer testing information in its analysis to ensure accurate characterization of hydrogeologic conditions. The Draft GSP should also provide specific model details such as hydraulic connectivity and transmissivity values across the Basin to evaluate the accuracy of the results.

In Response to CDFW Comment #1: The UVRGA's response on December 17, 2021 is as follows: *"UVRGA assessed the entire Basin and considered all available data when characterizing hydrogeologic conditions. Appendix H provides details concerning the numerical model"* (Final GSP: Appendix G, pg. 6).

CDFW's Reply: *The UVRGA's response did not address CDFW Comment #1. CDFW Comment #1 is still relevant. Please refer to Recommendation #1.*

2. CDFW Comment #2: The GSP Does Not Consider All Riparian Groundwater Dependent Ecosystems in the Basin (Riparian Groundwater Dependent Ecosystems, Appendix O and Section 3.2.7.2.1, starting on pg. 66 of Draft GSP and pg. 68 of Final GSP). The Draft GSP concludes that only two mapped areas, the South Santa Ana Riparian GDE Unit and Foster Park GDE Unit, are GDEs subject to SGMA requirements; on this basis, the Draft GSP only provides for monitoring of groundwater levels and vegetative health in these two areas.

- a. *Issue:* Page 66 of the Draft GSP states: “As summarized in the *Riparian GDE Assessment Memo (Appendix O)*, the basin was subdivided into eight areas to screen and evaluate potential riparian GDEs.” The Draft GSP then provides a summary of the areas that the GSA screened out in Appendix O. This portion of the Draft GSP contains a thorough identification of ecosystems that potentially rely on groundwater, also known as “*indicators of groundwater dependent ecosystems*” (iGDEs), identifying eight areas within the Basin that the GSA mapped as containing iGDEs. However, the Draft GSP concludes that only two of these mapped areas are GDEs subject to SGMA requirements; on this basis, the Draft GSP only provides for monitoring of groundwater levels and vegetative health in these two areas. Regarding the excluded areas, the biologists on the UVRGA GSP Development Team concluded that “...*dominant species are unlikely to be groundwater dependent based on their plant biology, known locations of occurrence in other regions, and comparison of rooting depth with groundwater level data and model generated water table contours*” (p. 66). The GSA concludes that iGDEs containing coast live oaks in the Mira Monte/Meiners Oaks and Terrace Areas do not qualify as GDEs “...*due to the lack of alluvial groundwater where trees are located. The Coast Live Oaks in these areas are sustained by shallow perched groundwater, bedrock groundwater, or surface water in the associated drainages. In other words, pumping in the UVRGB cannot impact these trees*” (p. 67).

Hydrologic connectivity considerations include connected surface waters, disconnected surface waters, and transition surface waters. The shallow perched groundwater, bedrock groundwater, and surface water can still be connected to groundwater and hydrologic connectivity cannot be ruled out without further analysis. A recent publication by The Nature Conservancy notes that, “*If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, such as perched aquifers, that support springs, surface water, domestic wells, and GDEs...This is because vertical groundwater gradients across aquifers may result in pumping from deeper aquifers to cause adverse impacts onto beneficial users reliant on shallow aquifers or interconnected surface water*” (TNC 2019).

If hydrologic connectivity exists between a terrestrial or aquatic ecosystem and groundwater, then that ecosystem is a potential GDE and must be identified in a GSP (23 CCR § 354.16 (g)). Therefore, the GSA must carefully evaluate hydrologic connectivity between surface water and groundwater, as well as groundwater accessibility to terrestrial vegetation. Accurate identification and consideration of GDEs is also essential to assess whether the GSA has complied with the requirement to avoid significant and unreasonable adverse impacts to beneficial uses of surface water, including aquatic ecosystems reliant on interconnected surface water (Water Code § 10721(x)(6)).

- b. Recommendation #2(a): CDFW recommends that the GSA provide a more detailed assessment of the eight areas within the Basin that were mapped as iGDEs to determine whether they qualify as GDEs. The GSA should provide adequate support for all conclusions regarding the presence or absence of GDEs. CDFW also recommends that the GSA consider best available GDE-related data and information when conducting this analysis. Specifically, the GSA should consider the best available scientific data on depth to groundwater in its analysis of ISWs, USGS data on mapped springs/seeps, and a comparison of recent groundwater level contours to vegetation root zones.

Although rarely used for water supply, the shallow perched aquifer and shallow alluvial aquifer likely support GDEs; thus, the GSA should analyze both of these aquifers further in the Draft GSP. Groundwater within the shallow perched and alluvial aquifers is likely critical to supporting “ecological communities or species” within the Basin (23 CCR § 351(m)). CDFW recommends that the GSA use the Normalized Difference Vegetation Index (NDVI) and Normalized Difference Moisture Index (NDMI) to assess habitat health for all eight iGDE areas on an annual basis.

- c. Recommendation #2(b): If the GSA’s revised analysis indicates that additional iGDEs qualify as GDEs under SGMA, the GSA should revise the Draft GSP’s sustainable management criteria to facilitate appropriate and timely monitoring and management response actions for all beneficial users within or supported by these GDEs. The GSA should monitor these GDEs for groundwater levels and vegetative health to account for and mitigate potential adverse impacts to these GDEs from new production wells or expanded production from existing wells. The Draft GSP states that in non-drought periods, the Basin can fill up on the “*order of two out of every three years and significant surface water base flow is sustained by rising groundwater in the southern part of the basin*” (p. 31). This “flashy”

behavior can provide recharge for the shallow alluvial aquifer and perched zones that may support GDEs. Considering this interconnection, the GSA should carefully monitor GDEs and responsibly manage groundwater pumping to avoid damaging consequences to GDEs.

- d. *Recommendation #2(c)*: CDFW does not recommend that the GSA rely solely on soils information to assess the presence of GDEs. For example, the presence of sandy, dry, and friable soils does not mean that existing plant species do not rely on groundwater for some portion of their life cycle. Capillary fringe associated with root networks from native plants could be accessing groundwater from deeper depths.
- e. *Recommendation #2(d)*: CDFW recommends that the Final GSP include sustainable management criteria for all areas of ISWs and GDEs within the Upper Ventura River Basin.

In Response to CDFW Comment #2: The UVRGA's response on December 17, 2021 is as follows: *"UVRGA has complied with the GSP Emergency Regulations requirement to identify and consider GDEs. The NCCAG dataset used as a starting point for the GDE analysis includes mapped springs and seeps as iGDEs. Modeled groundwater depths (based on the best available groundwater data for the entire Basin) were compared with maximum rooting depths for dominant plant species within all iGDEs in the Basin. UVRGA carefully considered whether the iGDEs are actual GDEs, and reasons for screening out particular iGDEs are described in detail in the Section 2.3 of the Riparian GDE Memo. Furthermore, SGMA only requires management of groundwater that is affected by pumping within the Basin. Shallow or perched aquifers are not connected to the primary aquifer and are not impacted by pumping"* (Final GSP: Appendix G, pg. 7).

CDFW's Reply: *CDFW appreciates the UVRGA's response. To avoid confusion regarding the retention of potential GDEs, CDFW recommends that the Final GSP provide a map that identifies the Riparian and Aquatic GDE units within the six identified hydrogeologic areas. Appendix O of the Final GSP describes 1) intermittent groundwater-surface water interconnection in the Kennedy, Santa Ana North, Santa Ana South, and northern Casitas Springs hydrogeologic areas; and 2) generally disconnected groundwater-surface water in the Robles North, Robles South, and northern Santa Ana South hydrogeologic areas. However, the Riparian and Aquatic GDE units seem to exclude these areas despite their varying degrees of groundwater-surface water interconnection. For example, the GSA excluded the Kennedy hydrogeologic area even though this area has intermittent groundwater-surface water connection and riparian mixed hardwood habitat. CDFW Comment #2 is still relevant. Please refer to Recommendations #2(a), #2(b), and #2(d).*

3. CDFW Comment #3 was not provided in prior comments on the Draft GSP.

4. CDFW Comment #4: The GSP Minimum Thresholds and Measurable Objectives for Interconnected Surface Waters Depletion Do Not Account for the Best Available Science (Executive Summary, pg. ES-xiv of Draft GSP and pg. ES-xxi of Final GSP). CDFW disagrees that CDFW's Draft Instream Flow Recommendations for the Lower Ventura River and Coyote Creek (2021) (Draft Recommendations) and National Marine Fisheries Service (NMFS) Draft Biological Opinion for Foster Park Wellfield (2007) (Foster Park Draft BO) are not relevant to determining appropriate sustainability criteria to avoid unreasonable adverse impacts to beneficial users of ISWs.

- a. *Issue:* The Draft GSP relies on the Hopkins Study (2013) and Padre Study (2012) to establish minimum thresholds and measurable objectives for the depletion of ISWs in the Foster Park Habitat Area (Page – ES-xiv, Draft GSP). The Draft GSP indicates that these two studies represent the “*best available science for establishing significant and unreasonable interconnected surface water depletion effects in the Foster Park Habitat Area*” because they “*identify flow conditions that may indicate the onset of potential significant and unreasonable effects applicable under SGMA*” and are “*based on direct observations of site-specific flow and habitat conditions in the Foster Park area.*”

The Draft GSP indicates that CDFW's Draft Recommendations and NMFS Foster Park Draft BO are not on point for this analysis because they do not identify a threshold for significant and unreasonable effects based on groundwater pumping, but rather contain “*surface flow recommendations or requirements to maintain optimal habitat conditions for steelhead*” (p. 129). CDFW disagrees that the Draft Recommendations and Foster Park Draft BO are not relevant to determining appropriate sustainability criteria to avoid unreasonable adverse impacts to beneficial users of ISWs. The CDFW Draft Recommendations were designed to protect the federal Endangered Species Act (FESA) listed Southern California steelhead (*Oncorhynchus mykiss*; Steelhead) by describing flows necessary to support Steelhead passage and habitat for spawning and rearing, as well as flows to support ecological function in the lower Ventura River. CDFW's Lower Ventura Draft Recommendations were largely based on direct measurements and modeling of site-specific flow and habitat conditions, particularly in the summer months. Groundwater pumping has the potential to draw down surface flows, which may lead to inadequate depths for Steelhead passage or reduced habitat for Steelhead spawning and rearing. This draw-down may constitute a significant and unreasonable effect on beneficial users of ISW, including Steelhead.

- b. Recommendation #4(a): CDFW recommends that the Draft GSP utilize the best available information and science to develop appropriate minimum thresholds and measurable objectives for ISW depletion. Specifically, CDFW recommends that the UVRGA account for CDFW's Draft Recommendations and any subsequent updates to this document. CDFW's Draft Recommendations encompass the areas identified in the Draft GSP as Casitas Springs Area (known as Ventura Reaches 3 & 4 in CDFW's Draft Recommendations). CDFW's Draft Recommendations represent the best available science regarding flows needed to support a range of life stage needs for Steelhead, including the following:

- Passage and habitat during the spawning season from December to May;
- Low-flow habitat from June to October; and
- Fall pulse flows in October through December and varying peak flows from January through May.

Thus, the GSA should use CDFW's Draft to inform the development of sustainable management criteria needed to avoid ISW depletions that may have significant and unreasonable effects on Steelhead and other beneficial users of ISW, as required under SGMA.

- c. Recommendation #4(b): The Foster Park Draft BO recommends a minimum maintenance flow of 11-12 cfs at the Foster Park gage (USGS 1118500) to allow for improved growth and survival of juvenile Steelhead. Although NMFS has not yet imposed the Foster Park Draft BO as a binding regulatory requirement in the Ventura River, its scientific information can still be relevant to understanding current environmental circumstances and conditions. CDFW recommends that the Final GSP consider NMFS's recommended minimum maintenance flow of 11-12 cfs at the Foster Park gage when establishing thresholds to avoid significant and unreasonable ISW depletions.

In Response to CDFW Comment #4: The UVRGA's response on December 17, 2021 is as follows: *"The CDFW instream flow recommendations (CDFW 2021a) and the NMFS Draft BO (NMFS 2007) provide surface flow recommendations and requirements, respectively, to maintain beneficial habitat conditions for steelhead within portions of the Ventura River. While these flows may provide beneficial conditions for steelhead, they do not represent the minimum threshold below which significant and unreasonable impacts to steelhead would occur due to the depletion of ISW due to pumping, as is required by SGMA. The UVRGA agrees with maintaining surface water conditions for the health and survival of aquatic species and their habitats, including steelhead. However, SGMA does not require the UVRGA to maintain surface water conditions for riverine species, but rather to manage significant and unreasonable*

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effects related to groundwater pumping. The UVRGA has taken the CDFW and NMFS recommendations into account but believes that the flow study conducted by Padre (2013) on behalf of the City of Ventura provides the most relevant data for developing thresholds for significant and unreasonable effects of groundwater pumping in the Foster Park Habitat Area, as required by SGMA” (Final GSP: Appendix G, pg. 8).

CDFW’s Reply: *CDFW’s Draft Recommendations were designed to protect Steelhead by recommending flows that support Steelhead passage as well as spawning and rearing habitat. Avoiding significant and unreasonable effects related to groundwater pumping is essential to the health and survival of Steelhead in the Ventura River. The GSA has not provided enough information to conclude that a minimum flow threshold of 2 cfs is sufficient to ensure avoidance of significant and unreasonable adverse impacts (an undesirable result under SGMA) to all life cycles of Steelhead. In Appendix C of the Padre study (2013), there is a comparison of the Padre study relative to other studies in the area. However, the Padre study did not consider NMFS’ specific reach flow analysis that was completed as part of its 2007 consultation process for the operation of the City of Ventura’s Foster Park wellfields. NMFS flow analysis in the 2007 Foster Park Draft BO represents some of the best available science available in addition to CDFW’s Draft Flow Recommendations. It is inadequate for the GSA to solely reply on the Padre study to establish a 2 cfs minimum threshold to avoid significant and unreasonable effects. CDFW Comment #4 is still relevant. Please refer to Recommendation #4(a) and #4(b).*

4. CDFW Comment #5: Evaluation of Multiple Minimum Thresholds (Minimum Thresholds, Section 4.4.2). The UVRGA needs to consider including more than one minimum threshold for the ISW sustainability indicator.

- a. Issue: According to UVRGA, the SGMA requirement to evaluate multiple minimum thresholds (23 CCR §354.26(c)) is not applicable because the GSA establishes only one minimum threshold for the ISW depletions sustainability indicator. CDFW disagrees with this conclusion. Because multiple areas within the Basin have ISWs, it is appropriate to have more than one minimum threshold for the ISW sustainability indicator. Areas of ISWs that overlap with GDEs support various fish and wildlife resources. The Upper Ventura River is designated critical habitat for Steelhead and contains important Steelhead spawning and rearing habitat in Southern California. Species including Steelhead, the FESA-listed and California Endangered Species Act (CESA) listed least Bell’s vireo (*Vireo bellii pusillus*), and the FESA- and CESA-listed southwestern willow flycatcher (*Empidonax traillii extimus*) utilize the various habitats identified in the Draft GSP as wetland and riverine features.

Steelhead have a range of life cycle needs that require multiple minimum thresholds. Excessively high-water temperatures in the spring, summer, and early fall reduce available juvenile Steelhead rearing habitat. Low flows in the fall and winter can delay adult Steelhead passage to critical

spawning areas. Steelhead also need passage flows during the spawning season of December-May, ecological baseflows for the low flow months of June-October, and Steelhead habitat optimum flows for the transition month of November. In sum, Steelhead need monthly flows that meet multiple minimum thresholds to meet their various life cycle needs throughout the year.

- b. Recommendation #5(a): CDFW proposes that the Final GSP incorporate Recommendations #4(a) and #4(b).
- c. Recommendation #5(b): The NMFS 2003 BO for the Robles Diversion Fish Passage Facility (Robles Diversion BO) states that during the fish passage augmentation season (January 1-June 30), Casitas Municipal Water District must provide bypass flows of at least 30 cfs at the Robles Diversion. The Robles Diversion BO also states that “*the minimum flow rate providing successful steelhead migration through the lower river is 50 cfs. Therefore, downstream released flows at the diversion must be maintained at or above 50 cfs during the first 10 days of each migratory storm event (i.e., storms generating flows 150 cfs or greater, as measured at the Robles Diversion)*” (p. 7). To augment these stream flows, “*storm events during the months of January through June are considered potential migration events if the resulting peak discharge rate (a) exceeds 149 cfs as measured at the Robles Diversion, and (b) results in at least double the flow of any of the three days preceding the storm peak*” (p. 6). The Robles Diversion BO indicates that when the minimum 30-50 cfs flows recommended by NMFS are present, Steelhead take is not anticipated to occur. CDFW recommends that the UVRGA consider NMFS’s recommendation of minimum flows of 30-50 cfs at the Robles Diversion Facility when developing minimum thresholds and measurable objectives to avoid ISW depletions that would have significant and unreasonable adverse impacts on Steelhead and other beneficial users of surface water.
- d. Recommendation #5(c): On August 31, 2021, the State Water Resources Control Board (SWRCB) released a Preliminary Draft version of the Groundwater-Surface Water Model of the Ventura River Watershed. This integrated groundwater-surface water model quantifies the relationship between surface flow, subsurface flow, and instream flow requirements in the Ventura River, including areas within the Basin. CDFW recommends that the GSA incorporate the model’s data and simulation results into the Final GSP.

In Response to CDFW Comment #5: The UVRGA’s response on December 17, 2021 is as follows: “*Depletion of streamflow during migration was estimated using the numerical model. The estimated depletions of flow due to pumping during and following*

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storm events are so small as to not be considered significant and unreasonable. Median depletion rates modeled by the UVRGA numerical model were less than 0.5 cfs for the majority of the year at the Robles Habitat Area (located downstream of the Robles Diversion). The requirements of the BO will be met through continued implementation of the necessary bypass flows by Casitas Municipal Water District" (Final GSP: Appendix G, pg. 9).

CDFW's Reply: *CDFW appreciates UVRGA's intention to incorporate the SWRCB model for future GSP assessments and updates. However, the GSA did not evaluate multiple minimum thresholds for the Basin. On Page 21 of the Appendix P of the Final GSP, the GSA states: "future data collection and review of final instream flow policies can inform minimum thresholds to avoid significant and unreasonable effects." The GSA has not established how future data collections will inform multiple minimum thresholds to avoid significant and unreasonable effects on ISW and Steelhead. The GSA should establish multiple interim minimum thresholds to begin the implementation of management and priority projects to avoid undesirable results related to groundwater pumping. CDFW Comment #5 is still relevant. Please refer to Recommendation #5(a) and 5(b).*

GENERAL COMMENTS AND RECOMMENDATIONS

5. CDFW Comment #6: Additional Sensitive Species and Habitats. The GSA should monitor shallow groundwater levels near ISWs to ensure that groundwater use is not depleting ISWs and adversely affecting fish and wildlife resources in the Basin.

- a. Issue: Southwestern pond turtle (*Actinemys pallida*), designated as a California Species of Special Concern (SSC) in 1994, occurs throughout the Ventura River watershed, especially in the Casitas Springs area (CDFW 2022). Southwestern pond turtle prefers habitat comprising permanent ponds, lakes, streams, or permanent pools along intermittent streams associated with standing and slow-moving water. A potentially important limiting factor for the southwestern pond turtle is the relationship between water level and flow in off-channel water bodies. Groundwater pumping can affect both water levels and flow in off-channel water bodies, thus potentially resulting in adverse impacts to southwestern pond turtle.

California red legged frog (*Rana draytonii*) is FESA-listed and is considered a California SSC. It is rarely encountered far from permanent 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 in the

Confluence Aquatic Habitat Area and the northernmost portion of the Kennedy Area in the Draft GSP.

Other wildlife resources designated as SSCs that could experience substantial adverse impacts due to declining water levels include coast horned lizard (*Phrynosoma blainvillii*); coast patch-nosed snake (*Salvadora hexalepis virgulata*); California legless lizard (*Anniella spp.*); two-striped garter snake (*Thamnophis hammondi*); and burrowing owl (*Athene cunicularia*).

Proper management of both shallow and deep groundwater pumping combined with reduced surface water pumping and diverting would ensure that beneficial users in the Basin are not negatively impacted.

Unsustainable use of groundwater can impact the shallow aquifers and ISWs on which species and GDEs rely, potentially resulting in adverse impacts to fish and wildlife. Determining the relationship between groundwater levels and surface water flows in the Basin will inform how the groundwater levels may be associated with the health and abundance of riparian vegetation. Poorly managed groundwater pumping and ISW 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 Basin.

- b. Recommendation #6(a): CDFW proposes that the Final GSP incorporate Recommendation 2(a), 2(b), 2(c), and 2(d) to ensure that these species would have their habitats protected into the future. CDFW's understanding is that shallow perched aquifers, intermittent surface flows, and shallow alluvial aquifers, although rarely used for consumptive water supply, are extremely important to the ecological communities and species that depend on groundwater emerging from all aquifers or from groundwater occurring near the surface within the Basin.
- c. Recommendation #6(b): CDFW recommends that the UVRGA commit to Arundo (*Arundo donax*) removal in the Upper Ventura River within the Basin to improve groundwater supply and enhance habitat quality for nesting birds. Arundo removal is one example of a project and management action to minimize groundwater overdraft. If groundwater depletion results in reduced streamflow due to ISWs, the nesting and foraging success of the SSC yellow warbler (*Dendroica petechia*), the SSC yellow breasted chat (*Icteria virens*), least Bell's vireo, southwestern willow flycatcher, and other bird species may be diminished due to reduced nesting habitat and food availability.

In Response to CDFW Comment #6: *The UVRGA's response on December 17, 2021 is the same response to CDFW Comment #4.*

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CDFW's Reply: *CDFW appreciates the GSA's consideration of Arundo removal as an action to address indirect depletion of ISWs. However, as mentioned in CDFW's Reply under Comment #4, the GSA has not provided enough information to conclude that a minimum threshold of 2 cfs is sufficient to ensure avoidance of significant and unreasonable adverse impacts (an undesirable result under SGMA) to all life cycles of Steelhead or other sensitive species that utilize potential ISWs or GDEs within the Basin. There are varying degrees of groundwater and surface water interconnection within the Kenney, Santa Ana North, Santa Ana South, and northern Casitas Springs hydrogeologic areas. As mentioned in CDFW's replies under Comments #2, #4, and #5, the GSA has not established appropriate triggers to initiate management actions to avoid undesirable results to sensitive species that rely on GDEs and ISWs. CDFW Comment #6 is still relevant. Please refer to Recommendation #6(a) and #6(b).*

CONCLUSION

CDFW recommends that DWR carefully consider the above comments when assessing whether the Final GSP is likely to achieve the sustainability goal for the Basin as required under SGMA statutes and regulations. CDFW further recommends that DWR fully consider CDFW's comments, recommendations, and other available information concerning the Final GSP's consideration of groundwater dependent ecosystems and environmental beneficial uses and users when determining whether (1) to require the GSA to correct deficiencies in the Final GSP prior to the applicable statutory deadline; or (2) to determine that the Final GSP is inadequate due to incompleteness or significant deficiencies based on one or more criteria identified in SGMA regulations that have not been corrected prior to the applicable statutory deadline (23 CCR §§ 355.2(e) and 355.4(b)).

CDFW's comments indicate that the Final GSP contains the following discrepancies that may materially affect the ability of the GSA to achieve the sustainability goal for the Basin, and may warrant corrections to the Final GSP or a determination of inadequacy:

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. [23 CCR § 355.4(b)(1)] (See Comments #1, 2, 4, and 5).
2. 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 GSP. [23 CCR § 355.4(b)(3)] (See Comments #4 and 5).

Attachment B

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Attachment C

Attachment C

*October 5, 2021, CDFW Comment Letter on the Upper Ventura River Valley Basin Draft
Groundwater Sustainability Plan*



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GAVIN NEWSOM, Governor
CHARLTON H. BONHAM, Director



October 5, 2021

Via Electronic Mail and Online Submission

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 Upper Ventura River Groundwater Agency
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Subject: Comments on the Upper Ventura River Groundwater Agency Draft Groundwater Sustainability Plan

Dear Mr. Bondy:

The California Department of Fish and Wildlife (CDFW) appreciates the opportunity to provide comments on the Upper Ventura River Groundwater Agency's (UVRGA) 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

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 Upper Ventura River Groundwater Agency
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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(a) 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 groundwater sustainability agency (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. The Upper Ventura River Valley Basin (Basin) is rated as a medium priority basin under SGMA with 18.5 priority points. The Basin is adjacent to the Ojai Valley basin, which is rated as high priority with 22.5 priority points. The Basin is upstream of the Lower Ventura River Basin, which is rated as very low priority with zero priority points. These three basins are located within the larger Ventura River watershed. CDFW offers the following comments and recommendations below to assist the Upper Ventura River Groundwater Agency (UVRGA) in identifying and evaluating impacts on biological resources, including GDEs within the adjacent groundwater basins. Additional suggestions are included for UVRGA’s consideration during revisions of the Draft GSP.

COMMENTS AND RECOMMENDATIONS

Comment #1: Data Gaps Exist in the Hydrologic Conceptual Model (HCM) (Introduction to Sustainable Management Criteria of the UVRGA-Draft GSP, Section 4.1, starting on p. 92)

Issue: CDFW appreciates the efforts the UVRGA undertook to analyze the Basin’s geologic and hydrogeologic characteristics. CDFW also appreciates UVRGA’s proposed plans to utilize the updated HCM to fill in the data gaps and deficiencies identified in the Draft GSP. However, CDFW’s understanding is that the Draft GSP does not account for the wide range of hydraulic connectivity and transmissivity values across the Basin, nor does it set forth a reasonable pathway to address gaps in the data sets for these values. For example, the draft plans of the

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HCM for Sections 3.1 and 3.2 stated that some of the aquifer information was obtained from available driller logs and short-term pumping tests, which are not likely to provide a complete and accurate data set for assessing aquifer parameters.

Recommendation #1: Accurate hydrogeologic modeling requires an accurate and complete data set. CDFW recommends that the GSA expand the area in which it is assessing hydraulic connectivity and transmissivity values to ensure the model contains representative conditions across the Basin. Furthermore, the GSA should consider well data with adequate construction and accurate aquifer testing information in its analysis to ensure accurate characterization of hydrogeologic conditions. The Draft GSP should also provide specific model details such as hydraulic connectivity and transmissivity values across the Basin to evaluate the accuracy of the results.

Comment #2: The GSP Does Not Consider All Riparian Groundwater Dependent Ecosystems in the Basin (Riparian Groundwater Dependent Ecosystems, Section 3.2.7.2.1 of the UVRGA-Draft GSP, starting on p. 66 and Appendix O)

Issue: Page 66 of the Draft GSP states, *“As summarized in the Riparian GDE Assessment Memo (Appendix O), the basin was subdivided into eight areas to screen and evaluate potential riparian GDEs.”* The Draft GSP then provides a summary of the areas screened out in Appendix O. This portion of the Draft GSP contains a thorough identification of ecosystems that potentially rely on groundwater, also known as “indicators of groundwater dependent ecosystems” (iGDEs), identifying eight areas within the Basin that were mapped as containing iGDEs. However, the Draft GSP concludes that only two of these mapped areas are GDEs subject to SGMA requirements and only provides for monitoring of groundwater levels and vegetative health in these two areas. Regarding the excluded areas, the biologists on the UVRGA GSP Development Team concluded that *“...dominant species are unlikely to be groundwater dependent based on their plant biology, known locations of occurrence in other regions, and comparison of rooting depth with groundwater level data and model generated water table contours”* (p. 66). The GSA concludes that iGDEs containing coast live oaks in the Mira Monte/Meiners Oaks and Terrace Areas do not qualify as GDEs *“...due to the lack of alluvial groundwater where trees are located. The Coast Live Oaks in these areas are sustained by shallow perched groundwater, bedrock groundwater, or surface water in the associated drainages. In other words, pumping in the UVRGB cannot impact these trees”* (p. 67).

Hydrologic connectivity considerations include connected surface waters, disconnected surface waters, and transition surface waters. CDFW believes that shallow perched groundwater, bedrock groundwater, and surface water can still be connected to groundwater and hydrologic connectivity cannot be ruled out without further analysis. A recent publication by The Nature Conservancy notes that, *“If pumping is concentrated in deeper aquifers, SGMA still requires GSAs to sustainably manage groundwater resources in shallow aquifers, such as perched aquifers, that support springs, surface water, domestic wells, and GDEs...This is because vertical groundwater gradients across aquifers may result in pumping from deeper aquifers to cause adverse impacts onto beneficial users reliant on shallow aquifers or interconnected surface water.”* (TNC 2019.)

If hydrologic connectivity exists between a terrestrial or aquatic ecosystem and groundwater, then that ecosystem is a potential GDE and must be identified in a GSP. (23 CCR § 354.16 (g).) Therefore, hydrologic connectivity between surface water and groundwater, as well as groundwater accessibility to terrestrial vegetation, must be evaluated carefully. Accurate

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identification and consideration of GDEs is also essential to assess whether the GSA has complied with the requirement to avoid significant and unreasonable adverse impacts to beneficial uses of surface water, including aquatic ecosystems reliant on interconnected surface water. (Water Code § 10721(x)(6).)

Recommendation #2(a): CDFW recommends the final GSP provide a more detailed assessment of the eight areas within the Basin that were mapped as iGDEs to determine whether they qualify as GDEs. Conclusions regarding the presence of GDEs needs to be well-supported. CDFW also recommends considering best available GDEs-related data and information when conducting this analysis. Specifically, the GSA should consider the best scientific data on depth to groundwater in its analysis of ISWs, USGS data on mapped springs/seeps, and a comparison of recent groundwater level contours to vegetation root zones. CDFW believes the shallow perched aquifer and shallow alluvial aquifer, although rarely used for water supply, likely support GDEs and should be analyzed further in the Draft GSP. Groundwater within the shallow perched and alluvial aquifers is likely critical to supporting “ecological communities or species” within the Basin. (23 CCR § 351(m).) CDFW recommends using Normalized Difference Vegetation Index (NDVI) and Normalized Difference Moisture Index (NDMI) to assess habitat health for all eight iGDE areas on an annual basis.

Recommendation #2(b): If the GSA’s revised analysis indicates that additional iGDEs qualify as GDEs under SGMA, the Draft GSP’s sustainable management criteria should be revised to facilitate appropriate and timely monitoring and management response actions for all beneficial users within or supported by these GDEs. These GDEs should be monitored for groundwater levels and vegetative health to account for and mitigate potential adverse impacts to these GDEs from new production wells or expanded production from existing wells. The Draft GSP states that in non-drought periods, the Basin can fill up on the “*order of two out of every three years and significant surface water base flow is sustained by rising groundwater in the southern part of the basin*” (p. 31). This “flashy” behavior can provide recharge for the shallow alluvial aquifer and perched zones that may support GDEs. Considering this interconnection, GDEs should be carefully monitored, and groundwater pumping should be responsibly managed to avoid damaging consequences to GDEs.

Recommendation #2(c): CDFW does not recommend relying solely on soils information to assess the presence of GDEs. For example, the presence of sandy, dry, and friable soils does not mean that existing plant species do not rely on groundwater for some portion of their life cycle. Capillary fringe associated with root networks from native plants could be accessing groundwater from deeper depths.

Recommendation #2(d): CDFW recommends the final GSP develop sustainable management criteria for all areas of ISWs and GDEs within the Upper Ventura River Basin GSP.

Comment #4: The GSP Minimum Thresholds and Measurable Objectives for Interconnected Surface Waters Depletion Do Not Account for the Best Available Science

Issue: The Draft GSP relies on the Hopkins Study (2013) and Padre Study (2012) to establish minimum thresholds and measurable objectives for the depletion of ISWs in the Foster Park Habitat Area (Page – ES-xiv, Draft GSP.) The Draft GSP indicates these two studies represent the “*best available science for establishing significant and unreasonable interconnected surface water depletion effects in the Foster Park Habitat Area*” because they “*identify flow conditions that may indicate the onset of potential significant and unreasonable effects applicable under*

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SGMA” and are “based on direct observations of site-specific flow and habitat conditions in the Foster Park area.” The Draft GSP indicates that CDFW’s Draft Instream Flow Recommendations (2021) (Draft Recommendations) and National Marine Fisheries Service (NMFS) Draft Biological Opinion for Foster Park Wellfield (2007) (Foster Park Draft BO) are not on point for this analysis because they do not identify a threshold for significant and unreasonable effects based on groundwater pumping, but rather contain “surface flow recommendations or requirements to maintain optimal habitat conditions for steelhead.” (p. 129.)

CDFW believes that the Draft GSP mischaracterizes CDFW’s Draft Recommendations and the Foster Park Draft BO as protecting only “optimal” conditions for steelhead. CDFW also disagrees that the Draft Recommendations and Foster Park Draft BO are not relevant to determining appropriate sustainability criteria to avoid unreasonable adverse impacts to beneficial users of ISWs. The CDFW Draft Recommendations were designed to protect the federal Endangered Species Act (FESA) listed Southern California steelhead (*Oncorhynchus mykiss*; Steelhead) passage and habitat for spawning and rearing, as well as supporting ecological function in the lower Ventura River. CDFW’s Lower Ventura Draft Recommendations were largely based on direct measurements and modeling of site-specific flow and habitat conditions, particularly in the summer months. Groundwater pumping has the potential to draw down surface flows, which may lead to inadequate depths for Steelhead passage or reduced habitat for steelhead spawning and rearing. This draw-down may constitute a significant and unreasonable effect on beneficial users, including Steelhead.

Recommendation #4(a): CDFW recommends that the Draft GSP utilize the best available information and science to develop appropriate minimum thresholds and measurable objectives for ISW depletion. Specifically, CDFW recommends that the UVRGA account for CDFW’s Draft Recommendations and any subsequent updates to this document. CDFW’s Draft Recommendations encompass the areas identified in the Draft GSP as Casitas Springs Area (known as Ventura Reaches 3 & 4 in CDFW’s Draft Recommendations). CDFW’s Draft Recommendations represent the best available science regarding flows needed to support a range of life stage needs for Steelhead, including the following:

- Passage and habitat during the spawning season from December to May
- Low-flow habitat from June to October
- Fall pulse flows in October through December and varying peak flows from January through May.

Thus, the Draft Recommendations should be used to inform the development of sustainable management criteria needed to avoid ISW depletions that may have significant and unreasonable effects on Steelhead and other beneficial users, as required under SGMA.

Recommendation #4(b): The Foster Park Draft BO recommends a minimum maintenance flow of 11-12 cfs at the Foster Park gage (USGS 1118500) to allow for improved growth and survival of juvenile Steelhead. Although the Foster Park Draft BO has not yet been imposed as a binding regulatory requirement in the Ventura River, its scientific information can still be relevant to understanding current environmental circumstances and conditions. CDFW recommends that the final GSP consider NMFS’s recommended minimum maintenance flow of 11-12 cfs at the Foster Park gage when establishing thresholds to avoid significant and unreasonable ISW depletions.

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Comment #5: Evaluation of Multiple Minimum Thresholds

Issue: According to UVRGA, the Evaluation of Multiple Minimum Thresholds (23 CCR §354.26(c)) is not applicable because only one minimum threshold is established for the ISW depletions sustainability indicator. CDFW disagrees with this conclusion. Because multiple areas within the Basin have ISWs, it is appropriate to have more than one minimum threshold for the ISW sustainability indicator. Areas of ISWs that overlap with GDEs support various fish and wildlife resources. The Upper Ventura River is designated critical habitat for Steelhead and contains important Steelhead spawning and rearing habitat in Southern California. Species including Steelhead, the FESA-listed and California Endangered Species Act (CESA) listed least Bell's vireo (*Vireo bellii pusillus*), and the FESA- and CESA-listed southwestern willow flycatcher (*Empidonax traillii extimus*) utilize the various habitats identified in the draft GSP as wetland and riverine features.

Steelhead have a range of life cycle needs that require multiple minimum thresholds. Excessively high-water temperatures in the spring, summer, and early fall reduce available juvenile Steelhead rearing habitat. Low flows in the fall and winter can delay adult Steelhead passage to critical spawning areas. Steelhead also need passage flows during the spawning season of December-May, ecological baseflows for the low flow months of June-October, and Steelhead habitat optimum flows for the transition month of November. Multiple minimums thresholds throughout the year are needed to provide monthly flows to support Steelhead.

Recommendation #5(a): CDFW proposes that the final GSP incorporate Recommendations #4(a) and #4(b).

Recommendation #5(b): The NMFS 2007 BO for the Robles Diversion Fish Passage Facility (Robles Diversion BO) states that during the fish passage augmentation season (January 1- June 30), bypass flows of at least 30 cfs are required at the Robles Diversion. The Robles Diversion BO also states that "the minimum flow rate providing successful steelhead migration through the lower river is 50 cfs. Therefore, downstream released flows at the diversion must be maintained at or above 50 cfs during the first 10 days of each migratory storm event (i.e., storms generating flows 150 cfs or greater, as measured at the Robles Diversion)" (p. 7). To augment these stream flows, "storm events during the months of January through June are considered potential migration events if the resulting peak discharge rate (a) exceeds 149 cfs as measured at the Robles Diversion, and (b) results in at least double the flow of any of the three days preceding the storm peak" (p. 6). Steelhead take is not anticipated with the minimum 30-50 cfs recommended by NMFS. CDFW recommends the GSA consider NMFS's recommendation of minimum flows of 30-50 cfs at the Robles Diversion Facility when developing minimum thresholds and measurable objectives to avoid ISW depletions that would have significant and unreasonable adverse impacts on Steelhead and other beneficial users of surface water.

Recommendation #5(c): On August 31, 2021, the State Water Resources Control Board (SWRCB) released a Preliminary Draft version of the Groundwater-Surface Water Model of the Ventura River Watershed. This integrated groundwater-surface water model quantifies the relationship between surface flow, subsurface flow, and instream flow requirements in the Ventura River, including areas within the Basin. CDFW recommends incorporating the model's data and simulation results into the final GSP.

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ADDITIONAL COMMENTS AND RECOMMENDATIONS

Comment #6: Additional Sensitive Species and Habitats: Southwestern pond turtle (*Actinemys pallida*) was designated as a California Species of Special Concern (SSC) in 1994 and is known to occur throughout the Ventura River watershed, especially in the Casitas Springs area. Southwestern 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 the southwestern 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 (*Rana draytonii*) is FESA-listed and is considered a California SSC. It is rarely encountered far from permanent 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 in the Confluence Aquatic Habitat Area and the northernmost portion of the Kennedy Area in the Draft GSP.

Other wildlife resources designated as SSCs that could be substantially adversely affected by declining water levels include: coast horned lizard (*Phrynosoma blainvillii*); coast patch-nosed snake (*Salvadora hexalepis virgulata*); California legless lizard (*Anniella spp.*); two-striped gartersnake (*Thamnophis hammondi*); burrowing owl (*Athene cunicularia*).

Proper management of both shallow and deep groundwater pumping combined with reduced surface water pumping and diverting would ensure that beneficial users in the Basin are not negatively impacted. Unsustainable use of groundwater can impact the shallow aquifers and ISWs on which species and GDEs rely, potentially resulting in adverse impacts to fish and wildlife. Determining the relationship between groundwater levels and surface water flows in the Basin will inform how the groundwater levels may be associated with the health and abundance of riparian vegetation. Poorly managed groundwater pumping and ISW 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 Basin.

Additionally, shallow groundwater levels near interconnected surface waters should be monitored to ensure that groundwater use is not depleting ISWs and adversely affecting fish and wildlife resources in the Basin.

Recommendation #6(a): CDFW proposes that the final GSP incorporate Recommendation 2(a), 2(b), 2(c), and 2(d) to ensure these species would have their habitats protected into the future. CDFW believes shallow perched aquifers, intermittent surface flows and shallow alluvial aquifers, although rarely used for consumptive water supply, are extremely important to the ecological communities or species that depend on groundwater emerging from all aquifers or from groundwater occurring near the surface within the Basin.

Recommendation #6(b): CDFW recommends that the UVRGA commit to *Arundo* (*Arundo donax*) removal in the Upper Ventura River within the Basin to improve groundwater supply and enhance habitat quality for nesting birds. *Arundo* removal is one example of a project and management action to minimize groundwater overdraft. If groundwater depletion results in reduced streamflow due to ISWs, the nesting and foraging success of the SSC yellow warbler

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(*Dendroica petechia*), the SSC yellow breasted chat (*Icteria virens*), least Bell's vireo, southwestern willow flycatcher, and other bird species may be diminished due to reduced nesting habitat and food availability.

CONCLUSION

CDFW appreciates the opportunity to provide input on the Draft GSP for you to consider as it continues to revise the document. As set forth above, the Draft GSP does not yet comply with the aspects of SGMA statutes and regulations related to fish and wildlife beneficial uses and users of groundwater and interconnected surface waters. CDFW has concerns about data gaps in the HCM, identification and consideration of riparian GDEs, and consideration of CDFW's draft flow recommendations released in February 2021 for the Lower Ventura River. CDFW recommends the UVRGA 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, and that the UVRGA address the above comments to avoid a potential 'incomplete' or 'inadequate' GSP determination, as assessed by the Department of Water Resources, for the following reasons derived from regulatory criteria for GSP evaluation:

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 3);
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 # 3, 4 and 5); and,
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, CDFW appreciates UVRGA's continued coordination while UVRGA 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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