UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
777 Sonoma Avenue, Room 325
Santa Rosa, California 95404-4731

September 17, 2021

Amber Fisette
Ukiah Valley Basin
Groundwater Sustainability Agency
501 Low Gap Road, Room 1010
Ukiah, California 95482

Re: NOAA's National Marine Fisheries Service's Comments and Recommendations on the Developing Groundwater Sustainability Plan for the Ukiah Valley Basin

Dear Ms. Fisette:

NOAA's National Marine Fisheries Service (NMFS) is the federal agency responsible for managing, conserving, and protecting living marine resources in inland, coastal, and offshore waters of the United States. We derive our mandates from numerous statutes, including the Federal Endangered Species Act (ESA). The purpose of the ESA is to conserve threatened and endangered species and their ecosystems.

The California Department of Water Resources (DWR) has designated the Ukiah Valley basin a "medium" priority for groundwater management, necessitating the development of a Groundwater Sustainability Plan (GSP) by January 2022, as required under California's Sustainable Groundwater Management Act of 2014 (SGMA). A draft GSP was released for public comment by the Ukiah Valley Groundwater Sustainability Agency (GSA) in August, 2021. Several waterways that overlie portions of the Ukiah Valley basin support federally threatened Central California Coast (CCC) steelhead (*Oncorhynchus mykiss*) and California Coastal (CC) Chinook salmon (*O. tshawytscha*). This letter transmits NMFS' comments concerning the draft GSP for the Ukiah Valley basin.

Commented [PK1]: NFMS-001

Surface water and groundwater are hydraulically linked in the Ukiah Valley basin, and this linkage is critically important in creating seasonal habitat for steelhead and salmon. Where the groundwater aquifer supplements streamflow, the influx of cold, clean water is critically important for maintaining water quality (e.g., temperature and dissolved oxygen) and flow volume. Pumping water from these aquifer-stream complexes has the potential to affect salmon and steelhead habitat by lowering groundwater levels and interrupting the hyporheic flow between the aquifer and stream. NMFS is concerned that groundwater extraction in the Ukiah Valley basin is currently impacting CCC steelhead and CC Chinook salmon instream habitat, and submits the following comments and recommendations to assist the GSA in adequately addressing those impacts.

Commented [PK2]: NFMS-001 (con.)

Comment 1: Re: Chapter 3, line 684: Proposing groundwater elevations representing the "average of the three lowest (fall season) historical measurements on record for depth to groundwater taken during drought periods" as streamflow depletion minimum thresholds will likely not avoid

significant impacts to ESA-listed salmonids and their habitat. Basic hydraulic principles

dictate that groundwater flow is proportional to the difference between groundwater elevations at different locations along a flow path. Using this basic principle, groundwater flow to a stream, or conversely seepage from a stream to the underlying aquifer, is proportional to the difference between water elevation in the stream and groundwater elevations at locations away from the stream. Minimum thresholds and measurable objectives consistent with the lowest groundwater elevations on record would likely create historically high streamflow depletion rates, resulting in instream conditions characterized by low surface flow input and high groundwater pumping that would be very likely to adversely affect ESA-listed salmonids and their critical habitat.

Recommendation: The GSA should explain how the proposed measurable objective, which represents groundwater levels just a few feet higher than the minimum thresholds, are likely sustainability within 20 years. If a lack of data prevents the development of appropriate sustainable management criteria, the GSA should design and implement studies that better inform appropriate minimum thresholds and measurable objectives for streamflow depletion. In that circumstance, we again suggest the GSA follow guidance by the California Department of Fish and Wildlife that recommends conservative sustainability management criteria be established to ensure groundwater dependent ecosystem protection (CDFW 2019).

Commented [PK3]: NMFS-002

Comment 2: Re: Chapter 3, line 810: Comparing impact levels expected under the proposed minimum thresholds "to Fall 2015" is inappropriate for the reasons stated above (Fall 2015 coincides with the depths of California's historical drought). Furthermore, asserting that the "GSA and its technical advisory committee found that MTs are sufficiently protective of GDEs in the basin" offers little reasoned explanation as to how those minimum thresholds avoid the undesirable result of streamflow depletion (i.e., causing significant and unreasonable impacts to surface water beneficial uses). Were there specific analysis or past monitoring results that informed this determination? If so, the GSA should include this information in the draft GSP.

Recommendation: We recommend the GSA adequately address the following requirement for minimum thresholds as spelled out in the SGMA regulations as follows:

> "The relationship between the minimum thresholds for each sustainability indicator, including an explanation of how the Agency has determined that basin conditions at each minimum threshold will avoid undesirable results for each of the sustainability indicators." (CCR 23 §354.28(b)(2)

According to DWR (2021), "it is up to GSAs to define in their GSPs the specific significant and unreasonable effects that would constitute undesirable results and to define the groundwater conditions that would produce those results in their basins." The GSA should qualitatively describe what conditions within the subbasin would constitute an undesirable result with regard to streamflow depletion, ensuring that the description accounts for beneficial uses of surface water that support ESA-listed salmon and steelhead.

Commented [PK4]: NMFS-003

Comment 3: Re: Chapter 3, line 836: The plan states the following:

> "Through discussions with the GSA Board, technical advisory committee, stakeholder groups, and the public, and considering the analysis conducted on impacts on other beneficial users and uses in the basin, it was determined

> that impacts on ISWs and other beneficial uses and users such as shallow domestic wells during the recent drought (2012-2016) was considerable but not unreasonable. Therefore, since groundwater level MTs are set equal or very close to the groundwater levels experienced during the recent drought, impacts on ISWs are expected not to be significant and unreasonable during the first 5 to 10 years of the implementation."

Recommendation: The GSA should fully explain what reasoning and rationale was used to conclude that stream depletion impacts to surface water beneficial uses during California's historic drought were "considerable but not unreasonable." Designated beneficial uses within upper Russian River watershed include migration of aquatic organisms; spawning, reproduction, and/or early development; and cold freshwater habitat.[1] As noted earlier, during a historic drought, groundwater levels are likely the lowest they've ever been, meaning that streamflow depletion rates were likely the highest they've ever been. Additionally, surface water base-flows are naturally at their lowest during a drought, meaning that streamflow depletion impacts from groundwater pumping are likely accentuated as compared to other water year types. Given the above reasoning, the conclusion reached by the GSA that these acknowledged "considerable" impacts are not unreasonable strains credulity, and would benefit from further explanation. We recommend any further explanation be based upon hydrogeologic and ecological principles and reasoning, where available.

Commented [PK5]: NMFS-004

Comment 4: Chapter 3 line 1507, Section 3.9.1 Depletion of Interconnected Surface Waters Monitoring Network:

Regarding Figure 9: Depletion of interconnected surface waters monitoring network. NMFS is concerned that the monitoring network proposed may not be sufficient to detect changes in surface flow in tributary streams within the GSA. Many westside tributaries such as Orrs, Gibson, Doolin, Robinson creeks and others provide habitat for CCC steelhead. These tributaries typically dry in the low-gradient reaches of the valley floor during the spring and summer depending on the water-year. Detecting impacts from groundwater extraction to these tributary streams is extremely important because specific life-stage survival of ESA listed salmonids may be affected. Stream monitoring should have the ability to detect relatively small changes (tenths of feet) in stage elevation and flow that could impact survival of newly emerged steelhead fry from stream gravels. The fry lifestage is particularly sensitive to stages changes due to their preference to stream margins where they can become stranded or beached with small changes in stage elevation.

Other potential impacts in these tributary streams are associated with reduction of migration opportunity and habitat availability for various lifestages of juvenile steelhead attempting to access the mainstem Russian River or rear in upstream areas that provide summer refuge habitat. Reduction in stage elevation or loss of surface flow from groundwater extraction could reduce the number of days/opportunity for juveniles to migrate downstream into the Russian River, or upstream into higher gradient reaches that maintain surface flows during the summer months. Extraction may also affect available wetted habitat available in specific tributary reaches that are critical for survival during the summer months.

Commented [PK6]: NMFS-005

[1] https://www.waterboards.ca.gov/northcoast/water_issues/programs/basin_plan/180710/BPChapter2BeneficialUses.pdf

Recommendation: The monitoring of interconnected streamflow should be implemented to detect "signals" in stage and flow changes from extraction. Specific high risk tributary reaches should be monitored in the spring and summer to determine if groundwater extraction has adversely affected ESA listed species or their habitat. Improving the number of monitoring well sites and stream gauges along high risk tributary reaches is recommended.

Commented [PK7]: NFMS-005 (con.)

Finally, we offer these general comments and recommendation for future projects and management actions:

- We suspect that groundwater recharge projects are likely to be an important action implemented as part of the effort to achieve groundwater sustainability in the Ukiah Valley basin. NMFS encourages the GSA to consider implementing recharge projects that facilitate floodplain inundation, offering multiple benefits including downstream flood attenuation, groundwater recharge, and ecosystem restoration.

Commented [PK8]: NFMS-006

- Managed floodplain inundation can recharge floodplain aquifers, which in turn slowly release stored water back to the stream during summer months. These projects also reconnect the stream channel with floodplain habitat, which can benefit juvenile salmon, steelhead, and sturgeon by creating off-channel habitat characterized by slow water velocities, ample cover in the form of submerged vegetation, and high food availability.

Commented [PK9]: NFMS-007

- As an added bonus, these types of multi-benefit projects likely have more diverse grant funding that can lower their cost as compared to traditional off-channel recharge projects. NMFS stands ready to work with any GSA interested in designing and implementing floodplain recharge projects.

Commented [PK10]: NFMS-008

If you have any questions or concerns regarding this letter, please contact Rick Rogers at 707-578-8552 (rick.rogers@noaa.gov) or Tom Daugherty at tom.daugherty@noaa.gov).

Sincerely,

Robert Coey
North Coast Branch Chief
North-Central Coastal Office

cc: Laura Foglia Technical Consulting Team Lead (lauraf@lwa.com)
Angela Murvine, CDFW Statewide SGMA Coordinator (Angela.Murvine@wildlife.ca.gov)
Brad Henderson, CDFW Region 1 SGMA biologist (Brad.Henderson@wildlife.ca.gov)
Craig Altare, California Department of Water Resources, Supervising Engineering Geologist, (Craig.Altare@water.ca.gov)
Dominic Gutierrez, Ukiah Valley basin SGMA Point of Contact, California Department of Water Resources (Dominic.Gutierrez@water.ca.gov)

References

California Department of Fish and Wildlife. 2019. Fish & Wildlife Groundwater Planning Considerations. California Department of Fish and Wildlife, Groundwater Program. June 2019. 28 pp. Available at: https://cawaterlibrary.net/document/fish-wildlife-groundwater-planning-considerations/

California Department of Water Resources. 2021. Letter from Craig Altare to Taylor Blakslee, re: Cuyama Valley - 2020 Groundwater Sustainability Plan. Available at: https://sgma.water.ca.gov/portal/gsp/assessments/32