



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
West Coast Region
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Refer to NMFS No: AR#10012WCR2021AR00040

September 23, 2021

Matt Parker, Natural Resources Specialist
Siskiyou County Flood Control and Water Conservation District GSA - Scott River
1312 Fairlane Drive
Yreka, California 96097

Re: NOAA's National Marine Fisheries Service comments on the Scott River Valley
Groundwater Basin Groundwater Sustainability Plan -- draft Chapters 2, 3, and 4

Dear Mr. Parker:

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.

On August 11, 2021, the Siskiyou County Flood Control and Water Conservation District GSA - Scott River (SR GSA) released their draft final version of the Scott River Valley Basin Groundwater Sustainability Plan (SR GSP). Waterways that overlie portions of the Scott River Valley Basin (*e.g.*, Scott River and tributaries) support federally threatened Southern Oregon/Northern California Coasts coho salmon (*Oncorhynchus kisutch*), as well as Chinook salmon (*O. tshawytscha*) and steelhead (*O. mykiss*). This letter transmits our comments on the SR GSP.

We previously commented on draft Chapters 2, 3, and 4 of the SR GSP (Attachment 1). However, many of those comments do not appear to have been considered by the SR GSA, so we have reiterated them to begin our comments. In the future, we recommend the SR GSA compile a publicly available summary of comments received on the SR GSP, along with the GSA's response to each comment.

Chapter 2

Page 67, line 1719: Under "Stream Flow Status in Baseflow Conditions", the draft chapter states *...Reaches of some major tributaries in the Scott Valley only flow during wet or average winters.* The authors should clarify whether this flow pattern is a natural process without anthropogenic cause, or a result of groundwater pumping impacts in the basin. If the latter, then the inter-annual variability in surface flow may be a streamflow depletion impact that should be investigated as such.

NMFS-001



Page 71, line 1765: The draft chapter states...”GDEs consisting of perennial flowing streams (aquatic ecosystems) are mapped under Interconnected Surface Waters (see previous section).” No maps of GDEs consisting of perennial flowing streams appear to be included within the SR GSP chapters. Furthermore, perennial flow is not a requirement for interconnected surface waters under SGMA. Streams with intermittent flow contain seasonal habitat important to juvenile salmonid survival (reference).

NMFS-002

Page 120, line 3180: The author should clarify what argument is being made here. The conclusion presented is that no apparent trend indicating long-term groundwater depletion in the Scott River Valley exists, with the reasoning presented as a comparison between fall storage between 2018 and 1991. However, the storage difference shows a 23 thousand acre-foot drop in groundwater storage between the two years, which would seem to suggest a long-term decline in storage. Also, the reasoning also alludes to 2018 being a dry year, as if implying that the two years are not an “apples to apples” comparison. However, 1991 also appears to have been a dry year (see Figure 22).

NMFS-003

Page 121, line 3225: While discussing potential future changes to the water table slope resulting from future precipitation change, the author appears to suggest that a significant long-term decrease in precipitation is unlikely to lead to groundwater overdraft. This suggestion seems implausible if groundwater use is constant or increasing into the future. We suggest the author clarify the intended message of the paragraph.

NMFS-004

Chapter 3

Page 22, line 786: The draft chapter states that “existing biological monitoring that will be used to assess the condition of aquatic and other groundwater-dependent ecosystems includes the CDFW camera trap program and biological surveys conducted by the Siskiyou County RCD (RCD).” Both the CDFW camera trap program and the adult redd surveys by the RCD only inform adult migration and spawning behavior, and thus have no probative value for discerning streamflow depletion impacts on juvenile salmonids and their habitat. NMFS suggests the SR GSA identify streamflow depletion impacts on juvenile salmonids as a data gap, and develop and propose specific studies and monitoring that will provide the necessary data within the first several years of the SR GSP.

NMFS-005

Page 25, line 884: As an example of future field monitoring data used to assess and improve SVIHM, the draft chapter lists the “last date on which certain flow triggers are exceeded in the spring recession (e.g., date at which flow at the Fort Jones gauge falls below 40 cfs).” The reference to 40 cfs is not explained, and the significance of that flow level is not apparent. The author should clarify what the significance is of 40 cfs at the Fort Jones gauge.

NMFS-006

Page 29, Line 995: The draft Chapter 3 states that basin groundwater pumping currently does not exceed the sustainable yield of the Basin. However, as described in the draft Chapter 2, sustainable yield as defined under SGMA means “the maximum quantity of water, calculated over a base period representative of long-term conditions in the basin and including any temporary surplus, that can be withdrawn annually from a groundwater supply without causing

NMFS-007

an undesirable result.” (California Water Code Section 10721). The draft Chapter 3 does not demonstrate that the Scott Valley subbasin is sustainable at this point (i.e., avoids all undesirable results), so any sustainable yields presented are hypothetical and pending further refinement after all undesirable results, including streamflow depletion, are proven avoided.

NMFS-007,
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Page 34, line 1134-1136: The passage states that water levels have remained steady over the last 40 years and no overdraft or long term decline has occurred. NMFS disputes this fact as Scott Valley has been identified as a critically over drafted basin, hence it’s inclusion in the SGMA program. Additionally, in NMFS’ SONCC Coho Salmon Recovery Plan, we identify “Altered Hydrologic Function” as a key limiting stress for the Scott River coho salmon population. The limiting threats are identified as “Agricultural Practices” and “Diversions.” In the recent past the date of reconnection within the mainstem and at tributary mouths has been increasing into the winter. In some years, this prevents Chinook salmon from entering the Valley and has recently restricted coho salmon from reaching key spawning grounds in tributaries. We believe this delay in reconnection is a product of over drafting groundwater during the summer, which impacts the designated beneficial uses of salmonid migration, spawning and early life development, and cold water habitat¹. The groundwater first must recharge in the fall before surface flows are reconnected, often too late to support critical fisheries needs. Thus, undesirable results, such as streamflow depletion, can occur even within a groundwater basin that may fully recharge each winter. NMFS recommends the SR GSP take a seasonal perspective when describing surface flow rates and relate those to key fisheries life history requirements – a beneficial use of interconnected surface waters. For example, how many contiguous days do mainstem passage barriers exist during fall migration? Or when does tributary reconnection occur at prime spawning locations?

NMFS-008

Page 52, line 1797: The SR GSP proposes an aspirational “Watershed Goal” that forms the basis for the streamflow depletion measurable objective. NMFS agrees a larger effort outside the SGMA process will be required to solve streamflow degradation in the Scott River watershed, but disagrees that an aspirational “Watershed Goal” proposed by the SR GSA is not appropriate per SGMA regulations. At line 1852, the document acknowledges the streamflow depletion undesirable result is “smaller in scope” than the existing challenges in the Scott River stream network, and proposes meeting SGMA requirements (i.e., avoiding undesirable results) through aspirational sustainable management criteria that addresses all streamflow threats in the basin. However, the aspirational goal is just that – an aspiration that requires a level of cooperation and funding that is hardly certain to occur. The draft Chapter 3 acknowledges this point at line 1880. Many groups have been trying to implement aspirational flow restoration goals within the Scott River watershed for decades, and current instream flows continue to harm ESA-listed salmonids and their habitat. On the other hand, SGMA contains clear goals, requirements, and deadlines that will ensure that streamflow depletion impacts from wells subject to SGMA (i.e., outside the adjudicated zone) are avoided by 2042. This type of certainty is what is missing from the proposed “aspirational” goal. Instead of, or in addition to, the aspirational goal, the SR GSA should develop sustainable management criteria that can be used to clearly discern whether SGMA requirements (i.e., avoiding streamflow depletion impacts from groundwater extraction in the un-adjudicated area) are ultimately met. In summary, wrapping the SGMA-mandated

NMFS-009

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requirement within a larger “aspirational” watershed goal inappropriately obfuscates the required mandates of SGMA, and is not appropriate.

NMFS-009,
Cont'd

Page 50, line 1747: The draft chapters do not provide an adequate description of the impact to surface waters as a result of groundwater extraction, specifically the impact to coho and Chinook salmon species and their habitat. The SR GSP sets a baseline condition looking at groundwater conditions in the years of 2014/2015. Chapter 3 states undesirable conditions in the interconnected surface water already existing for over 30 years prior to 2015 and those conditions have not worsened since 2015. NMFS does not believe this approach is appropriate when addressing ESA-listed species likely impacted by groundwater pumping within the Scott River basin. During the 2014/2015 period, California was at the peak of the worst drought in 1,200 years (Griffin and Anchukaitis 2014). In the Scott Valley, tributaries were disconnected from the mainstem river and coho salmon were forced to spawn in undesirable locations, which led to a rescue-relocation efforts that were unsuccessful in maintaining survival through outmigration. The SR GSP must set a baseline condition above and beyond the conditions experienced during a significant drought if it intends to avoid undesirable results to interconnected surface waters.

NMFS-010

Page 53, line 1862: NMFS is not aware of SGMA existing regulations requiring a “balancing test between economic cost and environmental improvement.” Instead, SGMA ultimately requires that GSAs achieve groundwater sustainability (i.e., the management and use of groundwater in a manner that can be maintained during the planning and implementation horizon without causing undesirable results). Hopefully sustainable groundwater management in the Scott River Valley can be achieved in an economical fashion, which is an obvious goal for all parties involved. However, economical achievement, aside from being a nebulous term, is ultimately a goal and not a requirement under SGMA.

NMFS-011

Page 54, line 1887: The narrative states that the minimum threshold is set to address public trust resources, but the only reference to what this would entail is the reference to “some reversal of undesirable results.” Given the earlier described issues with the “aspirational” sustainable management criteria proposed, the draft document should further clarify how those criteria are likely to adequately address public trust resources.

NMFS-012

Page 54, line 1890: The draft Chapter 3 seems to identify a backwards process for defining minimum thresholds for surface flow objectives. These objectives were identified based on what PMA’s the agriculture community was willing to do. Since the landowners agreed to conduct managed aquifer recharge (MAR) and in lieu recharge (ILR) actions, the model was run to show only the changed depletion with this scenario in place. This implementation of this scenario provided the minimum thresholds. NMFS recommends the model be run in a reverse fashion. First, interconnected surface water objectives (minimum flows) should be identified. Then the model should be run using a series of various PMAs to describe methods to meet those objectives. In this approach, seasonal objectives would be important to support fisheries life history needs. Ideas include seasonal min flows at Fort Jones gauge, number of days of mainstem disconnection, timely seasonal tributary connection, etc.

NMFS-013

Page 54, line 1898 describes that the minimum thresholds identified under the MAR-ILR scenario will result in a 19% depletion reversal. What exactly does this depletion reversal do in the context of beneficial uses? NMFS suggests that you show how this amount of depletion reversal will impact interconnected surface waters and the beneficial use to salmonids in critical times of year that support their life history needs.

NMFS-014

Page 55, line 1957: Measurable objectives represent a threshold that achieves the sustainability goal for the basin within 20 years of Plan implementation. Therefore, the SR GSP must achieve the sustainability goal by 2042, not just show progress toward meeting it as is stated by the draft Chapter 3.

NMFS-015

New Comments

Chapter 2

Page 75, Table 7: “Average Stream Depletion” is meaningless for analyzing streamflow depletion impacts to beneficial uses of surface water. This concept also appears in Chapter 3, where there is a reliance upon “average” stream depletion reversal as part of the minimum threshold definition (page 61, line 2152). Fish and other aquatic organisms survive or perish based upon instantaneous conditions at a point in time, especially within a compromised system like the Scott River watershed where anthropogenic surface and groundwater withdrawal can dewater whole stream reaches (reference?).

NMFS-016

Chapter 2, page 89, line 2441: the water quality component should also consider temperature and dissolved oxygen, since these parameters can be degraded by the impairment of groundwater accretion to the stream and can lead to salmonid mortality.

NMFS-017

Chapter 3

Page 59, line 2089: The SR GSP misinterprets the depletion of interconnected surface water undesirable result as “what is a ‘reasonable’ amount of avoided groundwater use?” There are a few problems with this approach. First, the undesirable result in question is defined as “*depletions of interconnected surface water that have significant and unreasonable adverse impacts on beneficial uses of the surface water*” (Water Code Section 10721(x)). There are other undesirable results that pertain to minimizing impacts on groundwater pumpers, namely the undesirable result of “significant and unreasonable reduction of groundwater storage.” Nowhere within the SGMA regulations or Best Management Practices (2017) does it acknowledge or recommend considering impacts to groundwater pumpers as part of sustainable management criteria development for the streamflow depletion undesirable result, and thus to do so is inappropriate.

NMFS-018

Page 60, line 2108: NMFS finds it notable that the SR GSA includes a goal of satisfying the ESA with the measurable objective (page 59, line 2074), but not for the minimum threshold (page 60, line 2108). NMFS reminds the SR GSA that it must comply with the ESA (23 CCR § 354.28(b)(5)), and that compliance must occur at all times and not just at the end of the 20 year GSP implementation period. For reasons outlined above, NMFS believes a minimum threshold based upon historically high streamflow depletion rates is not consistent with the ESA, despite the SR GSA’s assertion to the contrary (page 57, line 1976). If the SR GSA wishes to maintain this position in the final GSP, we recommend they thoroughly explain what instream habitat conditions will result under the minimum threshold, and how those conditions will avoid adversely affecting ESA-listed coho salmon. Any explanation should avoid the generalized, qualitative reasoning currently found within the SR GSP, but instead be supported by quantitative analysis linking groundwater elevations, surface flow depletion, and resultant impacts to instream habitat variables important to coho salmon.

NMFS-019

Page 60, line 2113: The SR GSP states the following regarding minimum threshold development for the undesirable result of streamflow depletion:

“This framework for the minimum threshold is consistent with 23 CCR 354.28(c)(6), which (A) specifies the use of models to measure stream depletion, (B) implies that consideration of impacts on beneficial uses and surface flows is necessary, but (C) does not require that streamflow itself is used to set the minimum threshold, triggers, or interim targets.”

The above passage mischaracterizes the SGMA regulations in a couple significant ways. First off, the required consideration is for “beneficial uses *of the surface water*”, not “beneficial uses *and surface flows*” as the SR GSP contends. As noted earlier, identified beneficial uses in the Scott River include migration of aquatic organisms, fish spawning and early development, and cold water habitat, and these beneficial uses must be considered (and significant and unreasonable impact to them avoided) when crafting minimum thresholds. Also, while the regulations do not require streamflow be used to set minimum thresholds, triggers, or interim targets, they do require the minimum threshold for streamflow depletion be either the “rate or volume of surface water depletion caused by groundwater use that has adverse impacts on beneficial uses of the surface water, and may lead to undesirable results.” If the SR GSA wishes to use groundwater elevation as a proxy for streamflow depletion rate or volume, it must “demonstrate that the representative value is a reasonable proxy for multiple individual minimum thresholds as supported by adequate evidence.” (23 CCR 354.28(d))

NMFS-020

We hope these comments effectively clarify important concerns we have concerning potential significant impacts to SONCC coho salmon, Chinook salmon, and steelhead likely to result from the SR GSP. If you have any questions, please do not hesitate to contact Rick Rogers (707-578-8552, or Rick.Rogers@noaa.gov) for further assistance.

Sincerely,



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References

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https://www.waterboards.ca.gov/centralcoast/publications_forms/publications/basin_plan

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