

**Special Meeting
March 26, 2021
6:00 p.m.**



**NOTICE OF SPECIAL MEETING OF
BOARD OF DIRECTORS**

March 26, 2021

Right to be heard: Members of the public have a right to address the Board directly on any item of interest to the public that is within the subject matter jurisdiction of the Board, provided that no action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of Section 54954.2.

Please Note: If you have comments on a specific agenda item(s), please fill out a comment card and return it to the Board Secretary. The Board President will call on you for your comments at the appropriate time, either before or during the Board's consideration of that item.

If you require special accommodations for attendance at or participation in this meeting, please notify our office 24 hours in advance at (805) 646-2114 (Govt. Code Section 94594.1 and 94594.2 (a))

In accordance with California Executive Order N-29-20, Section 3: A local legislative body is authorized to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body. A physical location accessible for the public to participate in the teleconference is not required.

GoToMeeting:

Meeting Link: <https://global.gotomeeting.com/join/326855797>

United States (Toll Free): [1 877 309 2073](tel:18773092073)

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The meeting will be called to order at 6:00 p.m.

1. Roll Call

2. Approval of Minutes – No minutes to approve.

3. Public Comments

The Board will receive comments from the public at this time on any item of interest to the public that is not on the agenda that is within the subject matter jurisdiction of the legislative body, provided that no action shall be taken on any item not appearing on the agenda unless the action is otherwise authorized by subdivision (b) of Section 54954.2. Matters raised by public comment requiring Board action will be referred to staff or placed on a subsequent agenda where appropriate.

When addressing the Board, please state your name and address and limit your comments to three (3) minutes.

Please Note: If you have comments on specific agenda items, please fill out a comment card and return it to the Board Secretary. The Board President will call on you for your comments at the appropriate time, either before or during the Board's consideration of that item.

4. Board Discussion and/or Action

- a) Discussion and approval of Draft CDFW flow recommendation comment letter.
(Kentosh/Engle) - Attachment

5. Meeting Adjournment.



DRAFT

VIA EMAIL
March 29, 2021

Mr. Ed Pert
Regional Manager
California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
instreamflow@wildlife.ca.gov

Re: Comments on CDFW Draft Instream Flow Recommendations – Lower Ventura River and Coyote Creek, Ventura County

This letter and its attachment are sent to provide comments on the California Department of Fish and Wildlife’s (“Department”) *Draft Instream Flow Regime Recommendations for the Lower Ventura, Ventura County* (“Flow Report”). Our comments include the following, discussed in greater detail in the attachment:

- ◆ The Flow Report lacks a clear and consistent discussion of its goals.
- ◆ We argue that the goals of the California Water Action Plan have already been met on the Ventura River.
- ◆ The Flow Report fails to display an understanding of steelhead biology.
- ◆ The flow recommendations are unrelated to the hydrology of the Ventura River.
- ◆ Recommended flows are unobtainable most of the time.
- ◆ The recommended flows do not vary with wet or dry years.
- ◆ The report focuses solely on flows and neglects other impacts on steelhead.
- ◆ The Sensitive Indicator Method is incorrectly used for rearing flows.
- ◆ The report does not consider costs, as required by the California Water Action Plan.

Implementing instream flow recommendations requires balancing allocations of water among competing users. It should be pointed out that the Department’s goal, as illustrated by the Flow Report, is solely to protect the fishery, and the Flow Report does not undertake the balancing of flows and consumptive water need as required by California law and as called for in the California Water Action Plan.

We acknowledge that we were not able to review all of the references, and answers to some of our questions may be found there. We appreciate the opportunity to provide comments. Feel free to call us at (805) 646-2114 if you have any questions.

Very truly yours,

MEINERS OAKS WATER DISTRICT

DRAFT

James Kentosh, Vice President

Technical Comments on the CDFW Draft Instream Flow Recommendations Lower Ventura River and Coyote Creek, Ventura County

Prepared by
Meiners Oaks Water District

March 29, 2021 **DRAFT**

This document provides technical comments on California Department of Fish and Wildlife’s February 2021 report, *Draft Instream Flow Regime Recommendations for the Lower Ventura River, Ventura County*. We understand that this report does not exist in a vacuum, and is supported by other prior reports by CDFW and others. We acknowledge that some of our questions and comments may have been addressed in prior reports that we have not had time to review. Nevertheless, we respectfully suggest that such an important document – potentially affecting the lives of many – should be prepared as a stand-alone report, perhaps more than 30 pages long.

A. What are the Goals of the Flow Recommendations?

An essential part of any endeavor is to understand what one is trying to accomplish. What is missing from the CDFW’s report is a clear and consistent statement of the goals leading to the recommendations.

Ostensibly, the report claims that its recommendations were produced in part to implement the actions of the California Water Action Plan. First, we note that your citation for the CWAP appears to be outdated. You cite the 2014 version of the CWAP. We presume that has been superseded by the *California Water Action Plan 2016 Update*. The relevant part of the CWAP’s Action 4 that applies to the Ventura River flow recommendations is presented below in its entirety:

“Enhance Water Flows in Streams Statewide

“The State Water Board and the Department of Fish and Wildlife are implementing a suite of actions to *enhance flows* statewide in at least five stream systems that support critical habitat for anadromous fish. These actions include developing defensible, *cost-effective*, and time-sensitive approaches to establish instream flows using sound science and a transparent public process. When developing and implementing this action, the State Water Board and the department of Fish and Wildlife will consider their public trust responsibility and existing statutory authorities such as *maintaining fish populations in good condition*. The Department of Fish and Wildlife and the State Water Board embarked

on *successful collaboration* with rural landowners in the Russian River watershed and elsewhere during the last four years of drought *to voluntarily enhance streamflows*. In rural coastal watersheds, the Department of Fish and Wildlife and the Board launched a combined effort to expedite approvals for off-stream storage ponds to capture winter rains for rural residential water supply, thereby reducing the need to divert from small streams during dry summer months.” (*Emphases added.*)

A careful reading of this wording suggests that the primary goal of the CWAP is to “enhance flows.” It does not say to what level flows are to be enhanced, but it does say how that level is to be developed: using a defensible, cost-effective approach based on sound science and a transparent public process. To implement the flows CDFW must also consider existing statutory authorities such as “maintaining fish populations in good condition.” It is important not to confuse goals with the methods used to achieve them. In the absence of clear wording otherwise, the stated goal of the CWAP to be applied to the five stream systems is simply to *enhance flows*.

What does the CWAP mean by a cost-effective approach to establish instream flows? Do they mean that the flow development process – the preparation of the report – should be economical? It is more reasonable to believe that the state agencies who wrote the CWAP intended that the flows themselves – the actual water – would be cost-effective to achieve. That interpretation agrees with the two examples provided in the CWAP wording.

Evidently, the goal of this part of Action 4 of the CWAP is to enhance stream flows in a cost-effective manner based on a scientifically sound approach. CDFW chose the lower Ventura River as one of the five streams for implementing this action. We suggest that in a literal sense the stated goal of the 2016 CWAP has already been achieved.

The largest water diversion from the lower Ventura River occurs at the City of Ventura’s Foster Park diversion dam and wells. Water pumped there directly reduces flows in the lower Ventura River. In 2019, Ventura finalized a settlement agreement with Santa Barbara Channel Keepers, who had sued Ventura over their diversions. Under the terms of the settlement agreement, Ventura has agreed to reduce or halt water diversions at Foster Park when river flows fall below critical levels, when steelhead need it the most. The resulting flows appear to be equivalent to or to exceed historical flows during dry periods, as provided in Table 1 of Reference (CDFW 2020a).

Therefore, we argue that the settlement agreement has already achieved the 2016 California Water Action Plan goal to enhance streamflows required by anadromous steelhead. This result comports with examples cited in the CWAP for the Russian River and for rural watersheds, as cited above. In those examples, the water needs of people were considered. Thus, CDFW could simply declare that the goal of the CWAP has been satisfied for one of the five streams. That

would meet the wording and intent of the CWAP, which clearly considers the water needs of people, especially during droughts.

So, if the flow enhancement goal of the CWAP has already been met, what is the goal of the draft flow recommendations of the report, which appear to go far beyond the requirements of the CWAP? The second paragraph of Section 1.0 states that the flow recommendations were produced “**in part** to implement activities for the CWAP” (Emphasis added). That wording seems to confirm that the recommended flows exceed those required by the CWAP. If the recommended flows were developed only “in part” for the purpose of implementing the CWAP, what is the other part of their purpose? As far as we understood, the CWAP provides the primary justification for the flow recommendations. If there are other purposes, they should be openly discussed and clearly stated. What are you trying to accomplish?

In principle, the goals of the recommended flows should have been presented in the draft report. If they were, we can't find them. Instead, we find an assortment of inconsistent goals scattered throughout the report. Consider the following examples taken from the report:

- 1) The cover letter by CDFW, dated February 26, 2021 says, “The draft recommendations identify flows necessary to support spawning, rearing, migration, and habitat...” What does “necessary to support” mean? Existing flows already support spawning, rearing, migration, and habitat. This purported goal is already being met.
- 2) The first bullet of the cover letter says that the recommended flows “protect low flow habitat from June to October.” What does it mean to protect habitat? Does that mean protect existing habitat or create new habitat? If you mean protect existing habitat, then you are describing a goal that is already being met.
- 3) The second bullet says the flow recommendations are designed “to preserve a healthy stream ecosystem.” The word “preserve” implies that the existing ecosystem is now healthy and must continue to be preserved. The flow recommendations greatly augment the ecosystem, and not just preserve it. If that is your goal, you should say “restore,” “recover,” or “enhance.” Otherwise you are describing a goal that is already being met by existing flows.
- 4) In the first paragraph of Section 1.0 it is said that CDFW seeks “to ensure the survival of all native species and natural communities.” Mere survival is a lower standard than set by the flow recommendations.
- 5) Section 3.1 discusses Sensitive Period Indicators. How do those indicators relate to the goals of the flow recommendations, whatever those goals may be? How scientifically sound are those indicators if one flow applies to all months and years, whether wet or dry, summer or winter?

6) What are your goals for steelhead passage flows, as discussed in Section 3.2? Are you trying to get adults up into San Antonio Creek? It appears that you are not trying to improve migration up the Ventura River beyond the confluence because if you were, you would have made recommendations for passage flows there. For those of us in the upper Ventura River basin, it is important to understand your goals for passage in our reach, if any. Please note that according to NMFS' 2003 biological opinion, adequate passage flows are already provided at the Robles Diversion on the upper Ventura River.

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7) Section 3.3 discusses Ecosystem Baseflows, said to preserve a healthy stream ecosystem. We note that this method was developed for use in South Dakota. How do Ecosystem Baseflows for South Dakota relate to the goals of the report? You should further explain and justify this method.

8) Perhaps the most egregious example of an inappropriate goal in the report is implied by the use of Optimal Flows in Section 3.4. Optimal flows are intended to “maximize the amount of usable habitat.” Is it really your goal to maximize habitat without consideration of the cost or even what is physically possible? That would contradict the CWAP. We note that for certain periods, these unrealistic flows were used directly to formulate the recommended flows.

9) The recommended flows for Coyote Creek in Table 8 also demonstrate why goals should be more clearly defined. If the goal there is to sustain young steelhead over the summer months, then it implies that trout need only 1 CFS in the creek to survive. If so, CDFW should clearly state that belief. If not, then why are you recommending 1 CFS? A finding that such low flows are adequate might be relevant for other reaches as well when flow goals cannot be achieved there. If only 1 CFS is adequate, that would support the view that increased flows from Ventura's settlement agreement have already achieved the goal of the CWAP, by enhancing flows above levels that steelhead require. We acknowledge that 1 CFS in Coyote Creek looks different than 1 CFS in the mainstem, but you should be consistent with your approaches for each stream. Instead, you use Ecosystem Baseflows for Coyote Creek while using Sensitive Period Indicator Flows for the lower Ventura River. Please be consistent.

10) Finally, we note that in Section 4.0 the report states that the “recommendations were designed to maintain streamflows at a level that will protect the Southern California steelhead population.” This wording is too general and does not describe any specific goal.

A review of the wording of the assorted goals implied in the report, some of which are discussed in the above points, suggests that existing flows already meet most of those goals. Existing flows already support spawning, rearing, migration, and habitat; they protect low flow habitat; they preserve a healthy stream ecosystem; they maintain trout in good condition; they exceed or are equivalent to historic low flows in dry periods; they ensure the survival of *O. mykiss*; and they even protect steelhead.

It is evident that an assortment of data sources, each with different and sometimes contradictory goals, was used to generate the flow recommendations. Those recommendations are not based on any single coherent set of goals. Without clearly stated goals, the recommended flow standards may be arbitrary and capricious.

To show that the above comments are more than an exercise in semantics, below are listed some examples of clearly stated goals, most of which represent different levels of conservation:

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- 1) Prevent the extinction of *O. mykiss* in the Ventura River watershed.
- 2) Prevent the extinction of Southern California steelhead in the Ventura River watershed.
- 3) Avoid jeopardizing the continued existence of Southern California steelhead. (This is the standard of the federal Endangered Species Act.)
- 4) Maintain a healthy population of *O. mykiss* in the Ventura River watershed, with the understanding that some fraction of that population will become anadromous steelhead. (This may be the most realistic goal, and is already met.)
- 5) Increase the numbers of steelhead in the Ventura River watershed in a way that balances the needs of fish and people.
- 6) Force the genetic transformation of all resident rainbow trout in the Ventura River watershed into ocean-going steelhead. (This may sound ridiculous, but it is an implied goal of NMFS' 2012 *Steelhead Recovery Plan*.)

Please note that goals (1) through (5) are already being met with existing streamflows, including those provided by the Ventura/SBCK settlement agreement.

In summary, it is essential for CDFW to develop and publish clear, quantifiable goals for the Ventura River flows. They have not done so in any meaningful way.

B. Understanding Steelhead Biology

In the report, CDFW fails to display an understanding of steelhead biology. In the third paragraph of Section 1.0 the report claims that steelhead are a species. Let's be clear, Southern California steelhead are not a species. Steelhead are a polymorphism of the species *Oncorhynchus mykiss*, known as rainbow trout. Some rainbow trout spend their entire lives in fresh water streams while others swim to the ocean and become steelhead. In fact, trout that have never been to the ocean produce some offspring that become steelhead. Similarly, some offspring of returning steelhead remain in fresh water while others migrate to the sea. The percentage of young rainbow trout that migrate to the ocean is called "fraction of anadromy." That fraction varies among trout populations and likely arises from genetics.

The report never mentions rainbow trout. Not once. To set reasonable goals to preserve the species it is essential to understand it. Historical data strongly suggests that the natural fraction of anadromy is low in our area. (Steelhead numbers temporarily increased between the late 1800s and 1940s due to the importation and planting of young steelhead from Northern California by railway.) If the natural numbers of native steelhead are low, then perhaps CDFW's goal should be to enhance the rainbow trout population. Greater numbers of anadromous steelhead offspring would then be produced by the resident trout.

DRAFT

As a prelude to setting goals for its flow recommendations, CDFW should consider and discuss its understanding of rainbow trout, steelhead, and fraction of anadromy. Only then will its goals have relevance. Those of us who will be affected deserve to know what we are being compelled to accomplish.

As an example of how important resident rainbow trout are to local steelhead consider the current drought. During the drought, we understand that upstream adult steelhead migration has not occurred at the Robles Diversion fish ladder for over 4 – 5 years. Any steelhead waiting in the ocean to migrate upstream to spawn have likely died of old age. Nevertheless, rainbow trout still survive in the mountains and they will continue to produce anadromous offspring that will eventually re-establish a steelhead run when the drought is over. Please do not ignore the contribution of rainbow trout to steelhead survival and recovery.

C. Recommended Flows Unrelated to the Hydrology of the Ventura River

The report discusses the hydrology of the lower Ventura River in Section 2.2. Nevertheless, the current or historical flows in the Ventura River were not used in any meaningful way to develop the flow recommendations.

In Section 4.1, the recommended flows from December through May were based on adult steelhead passage flows determined by what steelhead hypothetically need to migrate. Those flows are not based on the actual hydrology of the Ventura River. Nevertheless, they are applied uniformly for the entire six month period as if that can be achieved.

In Section 4.1, the recommended flows from June through October were based on the Sensitive Period Indicator, developed using a Wetted Perimeter Method that considers stream geomorphology but not historical flows. One flow applies to all months and all water use types, wet or dry. Those flow recommendations are not based on the actual hydrology of the Ventura River.

The recommended flows in November were based on the Habitat Optimum Flow, which is not based on any local hydrology.

The recommendations for peak flows is that they are to be protected, without explanation. The recommendation for pulse flows is that they should be unaltered, without explanation. These flow recommendations are not based on the actual hydrology of the river. And what do “protected” and “unaltered” mean in this context?

We also note that Reference (CDFW 2020a) states that “the Fall Pulse Flow is not included because it rarely occurs in this watershed.” Why did you change your minds? Please consider the actual hydrology of our river.

DRAFT

The only relationship we can find between the recommended flows and the actual hydrology of the river is that the recommended flows are said to lie between low flows that are exceeded 90% of the time and higher flows that are exceeded only 10% of the time. However, no explanation is provided in the report as to the significance, if any, of such a wide range. It would be as useful to say that the recommended flows are present in the river on occasion, without consideration of wet/dry year or season. Such a wide range does not provide credibility to the recommended flows.

So we are left with the puzzling result that the recommended flows for the lower Ventura River are not related in any meaningful way to the actual hydrology of the river. They would apply for any river with a similar geomorphology, regardless of actual flows available. The recommended flows are a “wish list” generated without consideration of what flows are feasible to achieve. This goes far beyond the “enhance flows” goal of the CWAP, and is not scientifically sound. In fact, your recommended flows are impossible to achieve.

As an example, the overly simplistic approach to adult migration flows ignores the fundamental hydrology of the Ventura River. The Ventura River differs from northern rivers, like the Russian River, that flow year round. In the Russian River, steelhead can migrate upstream at any time. The Ventura River, in contrast, allows upstream migration only for intermittent periods. Migration is seldom possible in the summer months. The flows after the first couple of winter storms recede quickly, and any steelhead that try to move upstream then may become stranded. After a few winter storms, flows begin to recede more slowly and steelhead can safely enter the river. Nevertheless, they have a limited time to reach their spawning grounds. Recommending a single steady flow does not consider the flashy nature of the Ventura River.

Note that Figure 5 of your citation (CDWF 2017b) indicates that the lower Ventura River exceeds 80 CFS – your recommended adult migration flow – only about 8% of the time, or 30 days per year. So for you to recommend a flow of 80 CFS for six months is unrealistic, especially in dry years when no upstream migration is feasible. (We acknowledge that the 8% estimate varies with the source we use.)

A more scientifically sound approach for adult migration flows would be to use the hydrologic data to estimate how many migration days are currently available in wet/dry/normal years, figure out how increased flows might be achieved and in what quantity, and then calculate how many more migration days would result from those increased flows. Furthermore, once river flows fall below some level too low for migration – say 40 CFS, there is no need for further reductions in water use. For example, it would be more logical to resume full river diversions – leaving sufficient rearing flows – when flows fall below 40 CFS and adults can no longer make it upstream.

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The CWAP requires a defensible, scientifically sound, and cost-effective approach to enhance flows. The flow recommendations appear to be completely disconnected from the actual hydrology of the river and do not meet that standard.

On an auxiliary note, we have noticed some possible numerical discrepancies among your various reports, which we don't have time to track down. When we compare Figure 4 of your current report to Table 1 of CDFW-2020a or to Figure 5 of CDFW-2020b, we seem to observe different flow levels. The flows in Figure 4 would seem to support more fish habitat than the flows in Table 1. We acknowledge that the different sources are based on different periods of record and different water year types. Nevertheless, something seems off and we ask you to check and compare those sources.

D. Recommended Flows Usually Unobtainable

As further discussion of the impracticality of the recommended flows, please consider the following: Historical streamflows in the lower Ventura River from 1965 through 2007 are plotted in Figure 4 of the report. These numbers should be provided in a table because it is hard to read the figure, and the “whiskers” should be more clearly explained. Nevertheless, comparing median flows in Figure 4 to the recommended flows in Table 7, it is easily seen that recommended flows exceed the median flows in every single month of the year! That is extraordinary! Essentially, CDFW is recommending flows that are not available in the river most of the time. In addition, Figure 4 does not incorporate flows from the current drought, which will make the statistics worse. Requiring full natural flows when the recommended flows are not present is not a defensible action.

To help understand how rare the flows are, CDFW should calculate and publish the percent chance of exceedance of their recommended flows by month for wet, normal and dry years.

Furthermore, an explanation should be provided for what it means to maintain “full natural flows” in the Ventura River, when the flow recommendations cannot be met. Is that the flow that would exist today if people stopped surface diversions? Is it the flow that would exist today if people stopped all groundwater pumping? Is that the flow that would have been present

without human civilization? Does that mean Ventura must halt all diversions? Must Casitas MWD stop diverting water 8 miles upstream? What if Casitas is already releasing 50 CFS for fish, must they stop diverting also? Must pumpers stop using their wells and when? Must we halt pumping in anticipation that a year might be dry?

Why is CDFW recommending flows that can seldom be achieved? What do they expect people are going to do during a drought? If CDFW recommended reasonable flows that could actually be achieved, there might be a way to balance people and fish. But recommending flows that can seldom be achieved is not useful.

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E. No Discussion of Historic Unimpaired Flows

The most troublesome aspect of the Flow Report is the fact that the flows recommended bear no resemblance to available unimpaired flow in the watershed. As just one example, the Flow Report uses the Sensitive Period Indicator for the low flow months of June through October. The Flow Report identifies the following Sensitive Period Indicators in Table 1:

Table 1. Lower Ventura River watershed Sensitive Period Indicator Flows.

Reach	Sensitive Period Indicator Flow (cfs)
Ventura Reach 2	16
Ventura Reach 3	14
Ventura Reach 4	15

What the Flow Report does not discuss, is that (as revealed by the figures in the Criteria Report), the Sensitive Period Indicator Flows are not available under natural conditions (Natural Flows are the streamflows (in cfs) that would be expected with no human influence (data from Zimmerman et al. 2020)) in any reach of the Ventura River under any year type. There is no discussion in the Flow Report addressing this issue. If the natural unimpaired runoff of the Ventura River Watershed is not sufficient to meet the recommended flows 80% of the time, how can the Department justify the “need” for those flows?

Unless we import State water for fish releases, local hydrology places an upper limit on future fishery flows. To determine sound flow recommendations, it would be useful to consider how many annual days of steelhead migration would have been available before the 1800s. Table 1 of CDFW-2020a estimates natural flows in the river. Such information should be used to develop recommended flows. We could never expect to exceed historic migration windows, as your current flow recommendations attempt to do.

We note that the hydrologic information in Figure 4 was based on data from 1965 through 2007. You should explain the significance of that period. We note you used a different period in CDFW-20a. Matilija Dam was built in 1949 and Casitas Dam was built in 1959. So the

hydrologic period includes the effects of the major dams and human population. However, it would be useful to add in the years 2008 through 2020, now an important part of the hydrologic record.

Consider a very rough estimate of the human impacts on surface flows in the river: The 226 square miles of the Ventura River watershed probably experience an annual average rainfall of around 20 inches. That results in 241,000 acre-ft of precipitation, which recharges groundwater, evaporates, or runs to the ocean. Before the drought, the demand on Lake Casitas was around 20,000 AF/yr, plus evaporation. Demand has dropped to around 11,000 AF/yr today. Meanwhile Casitas MWD's 500 CFS Robles Diversion already provides for adequate steelhead migration at a fish ladder. That leaves Ventura's 5,000 AF of pumping, mitigated by the settlement agreement. Groundwater pumping by small utilities and agriculture is offset by some fraction of return flows. For example, some irrigation water used in Ojai may eventually rise as surface water in San Antonio Creek. Wastewater discharges also supplement flows in the lower Ventura River. If the net loss to the system is 24,000 AF/yr, that would represent only 10% of the total water available. (We acknowledge that this is not a rigorous analysis.) Considering that viable migration occurs principally in wet periods when there is plenty of water for both fish and people, perhaps human impacts on flows for steelhead are not as dire as one might think. If someone has already done similar work, it would be useful to cite it in the report.

We suggest that to support its flow recommendations, CDFW should prepare a water balance of the watershed to estimate human impacts on fish migration flows. How many days per year of migration have been lost? How many days per year might reasonably be restored? It may be less than you think.

We also suggest you compare the hydrology before 1949 (pre-dam) with the hydrology after 1959 (post-dam) to analyze the effects of human activities on the flows in the river. The steelhead runs disappeared by the early 1950s, after planting of steelhead imported from Northern California stopped.

F. Miscellaneous Comments

1) The Flow Report assumes that increased flows will protect and support the fishery in the Ventura River watershed. However, as acknowledged in the Flow Report:

Several factors limiting steelhead production and recovery have been identified in the Ventura River watershed. These factors include altered flow regimes due to dams, barriers, drought, and climate change; stream habitat that lacks sufficient spawning gravels and pool habitat; decreased riparian habitat due to urbanization; and poor water quality associated with increased water temperatures related to reduced canopy cover and water diversions (Moyle et al. 2008; Walter 2015). The loss of high quality freshwater habitat is one of the leading causes of salmonid decline in California (CDFG 2004). Currently, access to over

half of the historically available spawning and rearing habitat in the Ventura River watershed is blocked by the Matilija Dam and Casitas Dam (Entrix 2003). Furthermore, land use change and water withdrawals below these dams have degraded the remaining spawning and rearing habitat (Entrix 2003).

There is no discussion in the Flow Report as to (a) whether or not the recommended flows are intended to compensate for the non-flow factors, and (b) whether lower flows would remain appropriate if non-flow measures are addressed. Fundamentally, increased flows do not guarantee that these other issues will be addressed, and the Flow Report does not confirm that even with the recommended flows essential conditions for fishery survival (like desirable stream temperature, dissolved oxygen, passage, or nutrient levels) would exist.¹

2) Water quality also affects fishery health; and it is a detailed and specific topic. Watershed models, like those on which the Flow Report are based, provide only a very high level view of water quality issues. “Modeling an entire watershed to develop a management strategy specific to anadromous fish and water quality issues is like using a wide-angle lens when you really need a magnifying glass”². Local actions have local results that are often lost in a watershed-scale model. Cumulatively, many local actions may be needed to mitigate basin-scale problems. But the right combination of specific, effective local actions can only be identified on a more detailed scale than can be shown by a watershed-scale model. Figuring out where the priority areas are depends on a dedicated investigation to understand the underlying processes, which has not been done here.

3) The report presents a single-minded focus on stream flows. There are many factors that have affected steelhead, and it is wrong to focus on a single problem while ignoring others. Local historical information suggests that trout were far more abundant in the late 1800s. For example, on April 13, 1911 the *Star Free Press* reported that an estimated 2,300 fishermen caught 100,000 trout in local streams on the opening day of fishing season. Where have those trout gone?

Water diversions and groundwater pumping have not affected resident rainbow trout in the national forest and mountains to the north. So why have their numbers declined along with the steelhead? Possible answers include invasive species and contamination from rubber tire preservatives. If whatever is affecting rainbow trout is not resolved, it may not matter what flows are available for steelhead. Any flow recommendations should consider the big picture.

For example, carp were introduced to Ventura County in 1883 for stocking carp ponds. By 1892 one newspaper lamented that “The introduction of carp has almost driven out trout in some localities and it was a great mistake in bringing them out.” We understand that today invasive

¹ Some issues raised in this letter are based upon the discussion in the article [The folly of unimpaired flows for water quality management](https://californiawaterblog.com/2018/11/25/the-folly-of-unimpaired-flows-for-water-quality-management/) Posted on November 25, 2018 by UC Davis Center for Watershed Sciences, <https://californiawaterblog.com/2018/11/25/the-folly-of-unimpaired-flows-for-water-quality-management/> (accessed 3/23/21).

² Id.

carp outnumber steelhead in the Ventura River. Invasive crayfish also feed on young trout and their eggs.

4) Figure 4 shows the hydrology of the lower Ventura River. We note that the flows present in that reach appear to be adequate to support a rainbow trout and steelhead population – it’s a perennial stream. You should summarize and consider present information on those populations to support your flow recommendations. How can you set goals without reference to and consideration of the existing population of *O. mykiss*? If there are thousands of rainbow trout, that would sound less dire than citing fewer than a hundred remaining adult steelhead.

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5) Why did you use the adult steelhead Passage Flow of 40 CFS for Reaches 2 and 3 but the Adult steelhead Optimum flow of 80 CFS for Reach 4? It doesn’t seem reasonable for the water needs of steelhead to double over such a short distance in the same river. We also note that the maximum passage flow in CDFW-2020a is 44 CFS and not 80 CFS. You should justify this disjointed approach.

6) The Sensitive Period Indicator method in Section 3.1 does not appear to be applicable for the purpose for which you use it. Ref. (CDFW 2020d) is available online. That reference warns of the Wetted Perimeter Method, “This method is not applicable for use in determining life-stage specific rearing flows or identifying trade-offs between flow levels and specific biological functions, water quality, connectivity, or geomorphic processes.” Please note that you used this method directly and exclusively to calculate several of the recommended flows during rearing months. There are other problems with the method as well, such as the lack of a discrete bankfull channel in a stream with highly variable flows.

7) We provide the following historical information relevant to the historical presence of steelhead in Coyote Creek. The October 23, 1875 edition of the *Ventura Signal* (a newspaper) related that surveyors working in that area “reported the capture of a trout measuring 25 inches in length, in the Arroyo los Coyotes. They corralled the monster in a pool, and dispatched him with rocks. This is the largest trout ever captured in this part of the country.” Though we will never know whether that fish was a rainbow trout or an anadromous steelhead, it is evident that such big fish were rare. (Note that steelhead resume their darker coloration after returning to fresh water.) What evidence did the Flow Report rely on to determine that there were significant numbers of steelhead in Coyote Creek? Titus et al 2010 is unpublished, according to your citation, so please summarize the information.

8) Due to the presence of Casitas Dam a short distance upstream, Coyote Creek is the one reach where your flow recommendations might be achievable. The recommended flows in that short section of in Coyote Creek would require about 4,000 AF to be released from Lake Casitas every year, a significant part of its safe yield. How many steelhead are we going to get for that water? Is Coyote Creek the best place to provide supplemental water?

9) The CWAP requires enhanced flows to be achieved in a cost-effective manner. There is no discussion of cost impacts in the report. When considering cost impacts, please familiarize yourself with Casitas MWD's *Comprehensive Water Management Plan*. There is a worrisome chance that Lake Casitas could fall below minimum pool before the end of the current drought. Much of the Ojai Valley has no other source of water in severe droughts.

10) In Section 2.1 you say that the Ventura River likely once supported steelhead runs of 4,000 – 5,000 fish. That estimate is based on off-the-cuff remarks made by two Fish and Game employees, Clanton and Jarvis, perhaps in the 1940s or 1950s. They estimated runs of 2,000 – 2,500 steelhead, a number that was subsequently doubled and cited by scientists who were cited in turn, giving the original rough guess the appearance of gospel. As it happens, one of the two was responsible for the local planting of trout and steelhead and their estimate likely was for a steelhead run supported by artificial planting. (McEachron, United Water Conservation District)

G. Not Sound Science

The CWAP requires flows to be enhanced in a cost-effective manner using a defensible approach based on sound science. We do not believe that the report and its flow recommendations achieve that standard. You have not based your recommendations on clear, consistent goals. You have developed flows that cannot be achieved, do not vary between dry and wet years, are not based in a meaningful way on actual hydrology, and do not consider cost-effectiveness.

H. What Role for the Recommended Flows?

It would be helpful for CDFW to explain what is going to be done with their flow recommendations. How do they translate into water management actions? We are limited in the actions we can take to increase flows. A complete halt to all diversions and pumping would not achieve your flows, which far exceed historical flow levels. Naturally, we are experiencing some trepidation. Please explain what happens next and what outcome you hope to achieve.