



June 15, 2023

Eileen Sobeck, Executive Director
State Water Resources Control Board
1001 I Street
Sacramento, CA 95814

Transmitted via email to: eileen.sobeck@waterboards.ca.gov;
Erik.Ekdahl@waterboards.ca.gov; diane.riddle@waterboards.ca.gov;

RE: Objection to the Final Shasta Temperature Management Plan Submitted Pursuant to Water Rights Order 90-5

Dear Ms. Sobeck:

On behalf of the California Sportfishing Protection Alliance, San Francisco Baykeeper, Natural Resources Defense Council, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Restore the Delta, Winnemem Wintu Tribe, Save California Salmon, Golden State Salmon Association, Defenders of Wildlife, and the Bay Institute, we object to the Final Shasta Temperature Management Plan submitted by the Bureau of Reclamation under Water Rights Order 90-5 ("Final Shasta TMP") on June 7, 2023. For the reasons described below, we request that the State Water Board object to the final Shasta TMP¹ and formally initiate a water rights proceeding to modify Order 90-5.

Even though the Final Shasta TMP indicates that wet conditions in 2023 are likely to result in water temperature and carryover storage conditions that minimize temperature mortality of winter-run Chinook salmon eggs this year, the Final Shasta TMP violates Order 90-5 because it:

¹ Pursuant to Water Rights Order 90-5, the Final Shasta TMP submitted by Reclamation to the State Water Board is deemed approved unless the Director of the Division of Water Rights objects within 10 days of submission of the plan.

- (1) Fails to demonstrate that factors beyond Reclamation's reasonable control prevent Reclamation from maintaining water temperatures of 56 degrees Fahrenheit (56°F) at Red Bluff Diversion Dam, as required by Order 90-5 and the Basin Plan;
- (2) Ignores temperature impacts to fall-run Chinook salmon, spring-run Chinook salmon, and the salmon fishery. Reclamation's ongoing failure to maintain river temperatures and flows needed for successful reproduction and rearing of fall-run Chinook salmon and spring-run Chinook salmon harms the salmon fishery; and
- (3) Fails to provide expected Trinity River temperatures at the downstream compliance points of Douglas City and the North Fork Trinity River.

Indeed, California's Chinook salmon fishery is closed in 2023, for only the third time ever, and it appears likely that the fishery will be closed or severely constrained in years to come due to poor survival of Chinook salmon in Central Valley rivers and the Delta during 2021 and 2022.

Moreover, modeling of the preferred Final Shasta TMP operational scenario does not demonstrate consistent attainment of the 53.5°F temperature target at Clear Creek. Given Reclamation's historic pattern of underestimating summer river temperature extremes (and subsequent severe and negative effects on winter-run, spring-run, and fall-run Chinook salmon populations, and the salmon fishery), the Board should object to the Shasta TMP as insufficiently certain to avoid harm to the salmon fishery.

The Final Shasta TMP is inconsistent with, and continues to misstate, Reclamation's legal obligations under Order 90-5. The Final Shasta TMP explains that Reclamation intends: to meet its obligations under the Trump Administration's 2019 biological opinion and under the Interim Operations Plan; to comply with Order 90-5's requirement "to consult with the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), NMFS, and Western Area Power Administration on the designation of a location upstream of the Red Bluff Diversion Dam where Reclamation will meet a daily average water temperature of 56°F;" and to submit an operations plan to the State Water Board "on Reclamation's strategy to meet the temperature requirement at a location upstream of Red Bluff Diversion Dam." *See* Final Shasta TMP at 1. This is not consistent with Order 90-5.

First, Order 90-5 only allows for designation of an upstream temperature compliance location when "factors beyond the reasonable control" of Reclamation prevent Reclamation from maintaining water temperatures of 56°F at Red Bluff Diversion Dam. The Final Shasta TMP fails to evaluate whether it is possible to meet 56°F at Red Bluff Diversion Dam. In fact, the Final Shasta TMP does not provide any modeling of water temperatures at this location. Nor does it evaluate whether factors beyond Reclamation's reasonable control prevent achieving this water temperature obligation. This failure of the Final Shasta TMP to consider an important aspect of Reclamation's legal obligations under Order 90-5 is arbitrary and capricious.

Rather than evaluating Reclamation's ability to maintain daily average river temperatures at or below 56°F at Red Bluff, the Final Shasta TMP instead evaluates the potential to maintain 56°F

at Balls Ferry. The Final Shasta TMP offers no explanation for this arbitrary decision to model temperature management at Balls Ferry. The Final Shasta TMP presents model outputs for two scenarios: maintaining 56°F at Balls Ferry (“Attachment 3”) and maintaining 53.5°F at Clear Creek (the “May 31 scenario”). Modeling of those two management approaches reveals that operating to maintain temperatures at or below 56°F at Balls Ferry:

- Is possible (Attachment 3, Table 1 at p. 12, and Figure 1 at p. 13);
- Results in very little increased risk of losing temperature control (compare end-of-September Shasta cold water pool as a result of operating to meet 56°F at Balls Ferry (1.47 MAF) to cold water pool expected to result in the May 31 scenario (1.5 MAF), *see* pages 9 and 12); and
- Results in lower frequency of exceeding the 53.5°F target upstream at CCR (*see* modeled daily average temperatures at pages 10 and 13).

Despite these positive comparisons with the May 31 scenario, the Final Shasta TMP states: “Reclamation does not propose to operate the TCD explicitly to meet 56 degrees F at BSF under conditions that may require changes to TCD operations that could risk cold water pool resources for use later in the temperature management season. This would cause an unreasonable risk to other goals and objectives.” Final Shasta TMP at 4. Reclamation provides no evidence to support this alleged risk.

Order 90-5 requires more from Reclamation than the statement of its conclusions and more from the State Water Board than the acceptance of Reclamation’s conclusions. The State Water Board should require Reclamation to explain and document both the alleged risk of operating to maintain 56°F at Balls Ferry and why mitigating that risk is beyond Reclamation’s reasonable control. Furthermore, the State Water Board should require Reclamation to explain why the evident improvement in certainty regarding Reclamation’s ability to attain the 53.5°F Clear Creek temperature target by operating to an explicit 56°F target at Balls Ferry (Attachment 3, Figure 1 at p. 13) is not warranted.

Order 90-5 does not allow Reclamation to plan to maintain daily average temperatures higher than 56°F upstream of Red Bluff during periods when temperature increases will be detrimental to the fishery,² when there are measures within Reclamation’s reasonable control that would avoid such an outcome. Yet this is the Final Shasta TMP’s expectation (Attachment 2, Figure 1 at p. 10). Given Reclamation’s long record of underestimating actual summer and fall temperatures (and the great damage to winter-run, fall-run and spring-run Chinook salmon that this persistent bias has caused), the State Water Board should require a *high level of certainty* that Reclamation’s Shasta operations will not result in river temperatures that harm winter-run

² Order 90-5 states (at p. 11): “Permittee *shall* control releases from Shasta Dam, Spring Creek Power Plant and Keswick Dam so as not to allow the average daily water temperature of the Sacramento River in the reach between Keswick Dam and Hamilton City to exceed 56°F during periods when temperature increases will be detrimental to the fishery” (emphasis added).

Chinook salmon. This is particularly true in years as wet as 2023, when Reclamation has ample control over late season water temperatures.

Second, Order 90-5 requires more of Reclamation than protecting endangered salmon. Rather, it prohibits water temperatures that are detrimental to the salmon “fishery,” including fall-run Chinook salmon, as the State Water Board has acknowledged. *See, e.g.*, April 3, 2020 letter from the State Water Board to Reclamation regarding Order 90-5 Sacramento River Temperature Planning. Despite Order 90-5’s clear focus on the salmon fishery, the Final Shasta TMP makes only a passing mention of “fall-run Chinook salmon” and “spring-run Chinook salmon” that spawn in the Sacramento River, stating: “Modeled water temperature forecasts also indicate suitable temperatures for spring-run and fall-run Chinook salmon incubation; however, temperature models are more uncertain during the fall period.” *See* Final Shasta TMP at 5. This perfunctory box-checking provides neither analysis nor discussion of measures within Reclamation’s reasonable control that Reclamation could implement in response to conditions that produce unsuitable temperatures for these species. The lack of serious analysis or planning regarding this important aspect of Reclamation’s legal obligations under Order 90-5 is also arbitrary and capricious.

Uncertainty in the temperature models extends into uncertainty regarding flow conditions needed to support fall-run Chinook salmon and spring-run Chinook salmon incubation and rearing success. The Final Shasta TMP relies on model inputs that suggest winter 2023-2024 flows will be maintained at 4500 cfs, a level which could reduce dewatering of fall-run Chinook redds. However, Reclamation states no commitment to maintain these flows. The Final Shasta TMP fails to analyze the effect of reservoir operations during the summer on the subsequent risk of dewatering fall-run Chinook salmon redds; this is also arbitrary and capricious.

As the State Water Board is aware, the ocean salmon fishery off California is completely shut down this year, due to low abundance of Sacramento River fall-run Chinook salmon. This has put thousands of people out of work, and it exacerbates the loss of cultural and nutritional sustenance to California’s Native American Tribes. Evidence demonstrates that Reclamation’s operations play a significant role in the decline of the salmon fishery. The extremely low – and unsustainable – egg-to-fry survival of fall-run Chinook salmon observed in the Sacramento River in recent decades is due in large part to the cumulative effects of pre-spawn mortality, temperature dependent mortality of eggs and juveniles, and redd dewatering caused by Reclamation’s operations. Therefore, it is essential that the State Water Board explicitly require Reclamation to protect all Chinook salmon runs in the Sacramento River.

Third, Order 90-5 requires Reclamation to protect Trinity River salmon by meeting 56°F at Douglas City and at the North Fork Trinity confluence during specific time periods. However, the Final Shasta TMP does not provide any Trinity River temperature projections other than at Trinity Dam and Lewiston. The State Water Board cannot determine if there are Trinity River impacts based on the Final Shasta TMP. The State Water Board should correct this omission by requiring Reclamation to show projected Trinity River temperatures at these compliance points.

Reclamation's obligations under Order 90-5 go far beyond requirements under the Endangered Species Act and California Endangered Species Act to prevent the extinction of threatened and endangered salmon runs. Protecting fall-run Chinook salmon and the salmon fishery – including the thousands of jobs that depend on healthy salmon runs – is a fundamental purpose of Order 90-5. Although NMFS must replace the Trump Administration's blatantly unlawful biological opinion, including strengthening water temperature and water storage requirements at Shasta Dam to protect endangered salmon, NMFS's new biological opinion will not directly address impacts to fall-run Chinook salmon or the salmon fishery. Unfortunately, Reclamation has consistently ignored its obligation to protect the fall-run Chinook salmon fishery in prior Shasta temperature management plans, and its perfunctory mention of fall-run in the 2023 Final Shasta TMP continues this pattern and practice. Neither the Trump biological opinion, nor the new biological opinion that will replace it, nor the Interim Operating Plan can substitute for Reclamation and the State Water Board's duties to protect the salmon fishery under Order 90-5 and to ensure that water quality conditions, including water temperatures, are sufficient to achieve Chinook salmon doubling under the Bay-Delta Plan's narrative salmon protection objective.

The State Water Board previously identified the need to modify Order 90-5, and its Strategic Workplan includes a priority action (Action 2.2.1) to improve temperature management in order to protect salmon in the Sacramento River under Order 90-5. We strongly agree that amending Order 90-5 is critical to protect the future of the salmon fishery, including the Tribal fisheries and thousands of fishing jobs that depend on healthy salmon runs. Modification of Order 90-5 is long overdue. Reclamation has repeatedly failed to achieve water temperatures of 56°F at Red Bluff Diversion Dam as required under Order 90-5 and the Basin Plan. Reclamation has also repeatedly refused to reduce water supply allocations to Sacramento River Settlement Contractors and take other actions under its reasonable control to improve water temperatures to protect the salmon fishery. In addition, the best available science demonstrates that temperature dependent mortality of Chinook salmon eggs begins when temperatures exceed 53.5°F, meaning Order 90-5's 56°F target is unprotective. *See* Martin et al. 2017, Martin et al. 2020. For Trinity River Coho salmon, temperature dependent mortality begins when temperatures exceed 50°F (*see* Justin Ly, NMFS, e-mail to SWRCB, 4/27/22); Order 90-5 contains no protection that reflects this science.

Therefore, we urge the State Water Board to object to the Final Shasta TMP because it fails to address Reclamation's obligations under Order 90-5, and to formally begin proceedings to modify Order 90-5 to be consistent with the best available science and to protect the salmon fishery, including fall-run Chinook salmon and Trinity River Coho salmon.

Respectfully submitted,



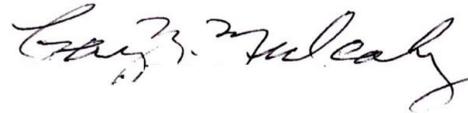
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