



**Notice of Petition for Reconsideration of the State Water Resources Control Board’s June 10, 2021 Approval of the Shasta Temperature Management Plan**

Pursuant to sections 1122 and 1126 of the California Water Code, section 769 of title 23 of the California Code of Regulations, and related authorities, the Natural Resources Defense Council, Defenders of Wildlife, Restore the Delta, San Francisco Baykeeper, Sierra Club California, Save California Salmon, the Bay Institute, California Sportfishing Protection Alliance, Pacific Coast Federation of Fishermen’s Associations, and Institute for Fisheries Resources hereby petitions the State Water Resources Control Board (“Board”) to reconsider the Executive Director’s June 10, 2021 approval of the Shasta Temperature Management Plan (“Shasta TMP”).

NRDC et al respectfully requests that the Board withdraw the approval of the Shasta TMP because the approval is arbitrary and capricious, contrary to law, and is not supported by substantial evidence. In particular, approval of the Shasta TMP has and will cause unreasonable impacts to the salmon fishery and results in unreasonable use of water under the State Constitution, results in water temperatures in the Sacramento River that violate the Basin Plan, and fails to require Reclamation to take actions within its reasonable control to maintain adequate water temperatures in the Sacramento River to protect the salmon fishery.

Petitioners are harmed by this action because the approval of the Shasta TMP will increase the risk of extinction of winter-run Chinook salmon and cause substantial mortality of spring-run Chinook salmon and fall-run Chinook salmon, causing irreparable environmental harm and harming the livelihoods of thousands of people who fish for salmon and the businesses that depend on the salmon fishery. The issues presented in this petition were presented to the Board before the Executive Director approved the Shasta TMP, except for new information that was not available to Petitioners at the time of the Executive Director’s approval of the Shasta TMP, which therefore constitutes relevant evidence that could not have been produced with reasonable diligence.

As required, a copy of this petition has been transmitted to the U.S. Bureau of Reclamation and California Department of Water Resources.

**1. Name and Address of Petitioners (23 Cal. Code Regs., § 769(a)(1)):**

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**2. The specific board action of which petitioner requests reconsideration (23 Cal. Code Regs., § 769(a)(2)):**

The Executive Director's June 10, 2021 Approval of the Shasta Temperature Management Plan submitted by the U.S. Bureau of Reclamation pursuant to Water Rights Order 90-5<sup>1</sup> ("Approval Letter").

**3. The date on which the order or decision was made by the board (23 Cal. Code Regs., § 769(a)(3)):**

The Executive Director approved the Shasta TMP on June 10, 2021.

**4. The reason the action was inappropriate or improper (23 Cal. Code Regs., § 769(a)(4)):**

As discussed in the attached petition, approval of the Shasta TMP is contrary to law and is not supported by substantial evidence. In particular, approval of the Shasta TMP has and will cause unreasonable impacts to the salmon fishery, results in water temperatures in the Sacramento River that flagrantly violate the Basin Plan, and fails to require Reclamation to take actions within its reasonable control to maintain adequate water temperatures in the Sacramento River to protect the salmon fishery as required by Water Rights Order 90-5, Article X, § 2 of the State Constitution, and the Public Trust doctrine.

**5. The specific action which petitioner requests (23 Cal. Code Regs., § 769(a)(5)):**

Disapproval of the Shasta TMP and enforcement of the requirements of Water Rights Order 90-5, including requiring Reclamation to take the following actions within its reasonable control to maintain adequate water temperatures in the Sacramento River to protect the salmon fishery: reducing water allocations to the Sacramento River Settlement Contractors, San Joaquin River Exchange Contractors, and Feather River Settlement Contractors by the Bureau of Reclamation and California Department of Water Resources to no more than the amounts of water those contractors could reasonably claim under their claimed water rights, and reduction of the State Water Project's allocation to zero, and storing the conserved water in Shasta Dam.

**6. A statement that copies of the petition and any accompanying materials have been sent to all interested parties (23 Cal. Code Regs., § 769(a)(6)):**

This petition and accompanying materials have been emailed to the U.S. Bureau of Reclamation and California Department of Water Resources at the following addresses:

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<sup>1</sup> The Approval Letter is available online at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/sacramento\\_river/docs/2021/6-10-21\\_final\\_tmp\\_response.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/sacramento_river/docs/2021/6-10-21_final_tmp_response.pdf). This document and all other specific webpages cited herein are incorporated by reference.

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### **Conclusion**

For the reasons set forth above and in the attached materials, Petitioners respectfully request that the Board grant reconsideration of the June 10, 2021 approval of the Shasta TMP and immediately set aside that approval.

Date: July 8, 2021

Respectfully submitted,

A handwritten signature in cursive script that reads "Doug Obegi".

Doug Obegi  
Natural Resources Defense Council

## MEMORANDUM OF POINTS AND AUTHORITIES

Approval of the Shasta TMP will result in water temperatures and resulting impacts to the salmon fishery that are neither reasonable nor lawful, and the Shasta TMP does not require the implementation of actions within Reclamation's reasonable control that would improve and maintain water temperatures in the Sacramento River this year.

As a result, the Executive Director's approval of the Shasta TMP is contrary to law and not supported by substantial evidence, and it violates the requirements of Water Rights Order 90-5 and constitutes an unreasonable use of water under Article X, section 2 of the State Constitution because: (1) the Shasta TMP as approved results in water temperatures that will cause devastating and unreasonable impacts to the salmon fishery; and (2) the Shasta TMP fails to require Reclamation to take actions within its reasonable control to maintain adequate water temperatures in the Sacramento River to protect the salmon fishery as required by Water Rights Order 90-5, particularly water allocations to Sacramento River Settlement Contractors, San Joaquin River Exchange Contractors, Feather River Settlement Contractors, and State Water Project contractors, and the statements in the Approval Letter regarding the implementation of actions with Reclamation's control are not supported by substantial evidence.

### **I. Approval of the Shasta TMP is Contrary to Law and not Supported by Substantial Evidence Because it Results in Devastating and Unreasonable Impacts to the Salmon Fishery**

The Shasta TMP would result in devastating impacts to winter-run Chinook salmon, spring-run Chinook salmon, and fall-run Chinook salmon that spawn and migrate in the Sacramento River as a result of water temperatures released from Shasta Dam that will cause massive temperature dependent mortality of salmon, that violate the Basin Plan, and that are detrimental to the fishery.<sup>2</sup>

The Approval Letter admits that it "will not result in the anticipated decrease in TDM" that the Executive Director had previously assumed would result from meeting an end of September 1.25 MAF storage requirement, "could increase the risk of extinction significantly" for winter-run

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<sup>2</sup> In addition, we are unaware of any permit issued pursuant to the California Endangered Species Act that would authorize the incidental take of winter-run Chinook salmon or spring-run Chinook salmon that will result from the State Water Resources Control Board's approval of the Shasta TMP. In past water rights decisions, the Board has recognized that CESA requires the Board to act to conserve listed species: "Thus, in exercising authority over water rights in the lower Yuba River, the California Endangered Species Act **requires** the SWRCB to seek to conserve spring-run Chinook salmon." SWRCB Decision 1644 at p. 27 (emphasis added). It appears that the State Water Resources Control Board's approval of the Shasta TMP is causing unlawful take of listed species in violation of CESA. *See also Strahan v. Coxe*, 127 F.3d 155 (1st Cir 1997).

Chinook salmon, and “are concerning for fall-run Chinook salmon protection.” Yet despite these unreasonable impacts to salmon, the executive director approved the Shasta TMP.

As Petitioners noted in their prior protest, the Executive Director’s May 21, 2021 letter indicated that the Board could approve a temperature management plan that achieved Shasta end of September storage of 1.25 million acre feet of water because that plan might kill 50 percent of the endangered winter-run Chinook salmon in the egg stage. Killing half of this critically endangered species’ eggs due to avoidable temperature dependent mortality would be unreasonable. However, the Approval Letter admits that the final Shasta TMP will likely result in dramatically higher temperature dependent mortality of winter-run Chinook salmon eggs, even assuming that the 1.25 MAF end of September Shasta storage level is achieved:<sup>3</sup>

	NMFS	Reclamation (HEC-5Q and Martin Model)
<b>Estimated Temperature Dependent Mortality</b>	<b>73%</b> (Mean) <b>81%</b> (Median)	<b>80.1 – 87.6%</b>

See State Water Resources Control Board, June 10, 2021 Letter Approving the Shasta TMP, at 3. This means that more than 8 in 10 of the endangered winter-run Chinook salmon eggs are likely to be killed this year from lethal water temperatures alone. In contrast, the National Marine Fisheries Services’ (“NMFS”) 2017 proposed amendment to the Shasta Reasonable and Prudent Alternative identified a maximum of 30% temperature dependent mortality of winter-run Chinook salmon in critically dry years like 2021, and warned that it was not clear that the species could avoid extinction even at that rate of temperature dependent mortality. January 19, 2017 letter from NMFS to Reclamation regarding Proposed Amendment to the Reasonable and Prudent Alternative of the 2009 Opinion, available online at [https://media.fisheries.noaa.gov/dam-migration/nmfs\\_s\\_draft\\_proposed\\_2017\\_rpa\\_amendment\\_-\\_january\\_19\\_2017.pdf](https://media.fisheries.noaa.gov/dam-migration/nmfs_s_draft_proposed_2017_rpa_amendment_-_january_19_2017.pdf).<sup>4</sup> The Shasta TMP approved by the Board will result in far greater temperature dependent mortality that NMFS has previously determined would be necessary to avoid jeopardizing the continued existence of this species.

In addition, the Shasta TMP does not even include a single mention of “fall-run Chinook salmon” or “spring-run Chinook salmon” despite the fact that Water Rights Order 90-5 requires protection of the salmon fishery, which the Board has previously acknowledged includes protections for other salmon runs, including fall-run Chinook salmon. See, e.g., April 3, 2020 letter from the Board to Reclamation regarding Order 90-5 Sacramento River Temperature Planning. Yet prior modeling has demonstrated that the plan is likely to cause very substantial temperature dependent mortality of spring-run and fall-run Chinook salmon, given the water temperatures that are anticipated in September through November. The Shasta TMP likewise

<sup>3</sup> Reclamation informed Petitioners on June 17, 2021 that they are implementing Scenario 14 in the Shasta TMP. As a result, this letter uses the estimates of temperature dependent mortality for Scenario 14.

<sup>4</sup> This and other documents that are cited herein are incorporated by reference.

anticipates that between September 15 and November 29, daily water temperatures in the Sacramento River at Clear Creek will likely exceed 60 degrees. Shasta TMP at Attachment 2. This will cause significant temperature dependent mortality of spring-run and fall-run Chinook salmon eggs that are spawned in the Sacramento River this year, but that mortality is not even considered in the Shasta TMP. The Approval Letter acknowledges that the impacts to fall run Chinook salmon – which may result in nearly complete temperature dependent mortality on the Sacramento River – “are concerning.” Furthermore, according to USEPA (2003) temperatures in excess of 60 degrees are consistent with “elevated disease risk” among adult salmon and “reduced viability of gametes in holding adults”; the TMP ignores these likely impacts and thus risks recreating high rates of pre-spawning mortality among adult fall- and spring-run Chinook salmon that we have already witnessed among winter-run Chinook Salmon this spring.

The Shasta TMP’s expected temperature dependent mortality of eggs is especially unreasonable given the additional mortality risks salmon face throughout the rest of their life stages. For instance, CDFW’s juvenile production estimate (“JPE”) spreadsheet this year estimated that less than 50% of the salmon eggs that survive to the fry life stage will successfully migrate downstream to Red Bluff Diversion Dam as smolts, and estimates that only one third of those smolts will survive the migration downstream from Red Bluff Diversion Dam to the Delta. *See* January 25, 2021 letter from NMFS to Reclamation, available online at <https://media.fisheries.noaa.gov/2021-02/nmfs-by-2020-jpe-letter.pdf>.<sup>5</sup> And of course, there is substantial additional mortality as winter-run Chinook salmon migrate through the Delta and San Francisco Bay, before they finally reach the ocean. When other sources of mortality in freshwater are considered (including those exacerbated by operation of Shasta Dam), such high levels of egg mortality will likely result in complete or nearly complete loss of this year’s winter-run Chinook Salmon cohort that spawned in the wild.

In addition, this year the Bureau of Reclamation caused substantial pre-spawn mortality of winter-run Chinook salmon from its disastrous hydropower bypass operations in the month of May. The Bureau’s operations greatly exceeded the water temperatures that NMFS and the California Department of Fish and Wildlife had recommended, with the daily average temperature of the water that was released from Keswick Dam of 60.7 degrees Fahrenheit on May 11, and daily average temperature of 61.6 degrees Fahrenheit at Clear Creek that day. The California Department of Fish and Wildlife has documented very substantial pre-spawn mortality throughout the month of May:

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<sup>5</sup> The U.S. Environmental Protection Agency has concluded that river temperatures between 57.2 degrees Fahrenheit and 62.6 degrees Fahrenheit – within the range the Shasta TMP estimates will occur during September through November, when winter-run Chinook Salmon fry are rearing – are associated with “elevated disease risk.” *See* EPA 2003. EPA Region 10 Guidance for Pacific Northwest State and Tribal Temperature Water Quality Standards, available online at: <https://nepis.epa.gov/Exe/ZyPDF.cgi/P1004IUI.PDF?Dockey=P1004IUI.PDF>. In addition, increased water temperatures also increase the activity and metabolism of salmon predators.

5-11-21- The 2021 Winter run carcass survey began on May 3rd, to date 21 carcasses have been observed. Drought conditions have resulted in severe cold water pool issues for this coming season. Currently a bypass of the power turbines at Shasta Dam is occurring where warm water is being sent downstream to meet various agricultural and water quality needs. This has resulted in water temperatures above 60 degrees (61.5 as of today's high) being released at Keswick Dam. At present time it is unknown of the duration of these warm flows. Survey crews have noted that many of female carcasses and some live but weak females are dying before spawning. Of the eight female carcasses measured to date, four have been unspawned. Additionally LSNFH staff have visually noted large schools (1000 +) of salmon (likely winter-and spring run) congregating immediately below Keswick Dam and on the surface. Since at least 2003 this behavior has not occurred except for this year. Discussions are ongoing within the Sacramento River Temperature Task Group (SRTTG) as to what water temperature regime will best utilize the available cold water to provide the biggest benefit to winter-run survival.

5-21-21. Carcass counts have increased although a large number of these observations have been pre-spawn mortalities. Crews continue to observe live fish that are exhibiting unusual swimming behavior, fish covered with fungus patches, and unspawned fish drifting downstream while still alive but moribund and presumed to die shortly after observation. To date of the 66 carcasses observed 25 have been unspawned (16 of these were females). Water temperatures have cooled in the upper river earlier this week as power bypass operations have been reduced and much cooler weather has prevailed over the past days.

5-27-21-- Prespawn mortality continues to be an issue. To date half of the 102 carcasses observed have been females and 66% (22 of 33) of these have been pre-spawn collections. The large school of salmon below Keswick dam is no longer as big a school. Crews are reporting small schools of fish in moribund condition further downstream in some locations. Water temps in the river coming from Keswick dam are in the 54-57 degree range presently.

6-21-21--Spawned carcass counts continue to increase, crews still observing prespawn mortalities but not in same proportions that were evident in May and early June. Through mid June the percentage of pre spawn female fish was very high, (23% of all fresh females were unspawned). Some schools of presumably spring-run fish remained holding in the river immediately downstream of Keswick Dam. This visible schooling is typical of spring-run salmon in other (Butte, Deer, Mill) tributary areas that have over-summering spring run, but is not typically observed on the mainstem river below Keswick Dam. Winter-run counts (449 at June 16th) are above average compared to previous years and this



year is shaping up to be an above average year for adult counts, but the large number of prespawncarcasses (N= 74 or 20%) is biasing this early count higher, but none-the-less counts are trending higher than average.<sup>6</sup>

6/27/2021-Carcass counts are high currently and we are probably at peak spawning activity now. Flight last week saw 155 new redds, all but one above the Highway 44 bridge. This year is shaping up to be a large run of adults, but it is too early to know if numbers will continue to increase or the peak will drop off rapidly compared to previous years. Numbers of unspawned females continue to be higher than normal but proportion to spawned numbers is decreasing with large numbers of spawned females. See to right for weekly summary of fresh prespawncarcasses to spawned female comparison. Even though percentage of spawned fish is increasing, the counts of prespawncarcasses being observed remains unusually high for winter-run fish.

**7-6-21- Continued hot weather above 100 degrees for periods in late May, early June and past two weeks continuously will lead to depletion of cold water pool in Shasta Lake sooner than modeled earlier in season.** This hot weather is leading to more demand downstream for water (flows from Keswick from 8,500 to 9,250 on July 4th). Previously modeled season long cold water availability scenarios used steady flows in the 7500 cfs range from Keswick. Those earlier scenarios had very high expected juvenile mortality due to warm water later in Aug-Oct that would be lethal to incubating eggs and alevins in the gravel. **This persistent heat dome over the West Coast will likely result in earlier loss of ability to provide cool water and subsequently it is possible that nearly all in-river juveniles will not survive this season.** Counts of carcasses continue to indicate a large run of winter-run this year. **Unspawned fresh females for the season are 71 with an overall percentage of 12.3% of all fresh females this season were unspawned.**

SUMMARY of Fresh Females: Prespawn vs Spawned				
Calendar week	Count of pre-spawn female carcasses	Count of Spawned Female carcasses	Percent Prespawn	General date
18	2	2	50%	1-May

<sup>6</sup> The June 21, 2021 update from the California Department of Fish and Wildlife was not previously presented to the State Board because this information was not available to Petitioners at the time of the Executive Director’s approval of the Shasta TMP on June 10, 2021.

19	8	1	89%	8-May
20	7	3	70%	15-May
21	5	7	42%	22-May
22	5	23	18%	29-May
23	7	43	14%	5-Jun
24	13	83	14%	12-Jun
25	9	110	8%	19-Jun
26	9	169	5%	26-Jun
27	6	64	9%	3-Jul
TOTAL	71	505	12.3%	OVERALL

California Department of Fish and Wildlife, 2021 Winter-Run Salmon Update File (last visited July 7, 2021), attached hereto as Exhibit B (emphasis added).<sup>7</sup> To date, CDFW estimates that 12.3% of the female carcasses died before spawning. Based on estimated water temperatures in the Shasta TMP and uncertainties associated with those estimates, Reclamation’s operation of Shasta Reservoir is also likely to cause pre-spawning mortality and/or significant reductions in reproductive success for migrating adult fall-run and spring-run Chinook Salmon.

Finally, the estimates of downstream water temperatures and temperature dependent mortality of eggs in the Shasta TMP are likely biased low for a number of reasons, including:

- The Shasta TMP uses 90% exceedance hydrology to estimate reservoir inflow this summer, rather than the more conservative 99% exceedance hydrology that is more accurately tracking observed runoff this year;
- The Shasta TMP relies on only moderately conservative meteorology (25% exceedance), even though air temperatures are expected to be very warm this summer and fall;
- The Shasta TMP relies on estimates of accretions and depletions from DWR that the document admits “come[s] with substantial uncertainty” and that were very inaccurate during the prior drought;
- The Shasta TMP results in early side gate operations, with first side gate operations under Scenario 14 anticipated on August 8. During the prior drought Reclamation lost temperature control soon after side gate operations began, and that is likely to recur this year;
- Reclamation’s reservoir releases from Shasta and Keswick Dams in May were more than 1,000 cfs higher than estimated in the 90% exceedance operational forecast in the draft

<sup>7</sup> The June 21, 2021, June 27, 2021, and July 6, 2021 updates from the California Department of Fish and Wildlife, which includes the table on this page, was not previously presented to the State Board because this information was not available to Petitioners at the time of the Executive Director’s approval of the Shasta TMP on June 10, 2021.

Shasta TMP (monthly average planned releases in May were supposed to be 7,379 cfs, but actual releases in May averaged 8,390 cfs). Similarly, reservoir releases in June have significantly exceeded the monthly averages in the Shasta TMP and in the drought contingency plan, increasing the risk that Reclamation will fail to meet the end of September storage requirement of 1.25 MAF in the Approval Letter, as shown in the table below<sup>8</sup>:

<b>Oroville Reservoir</b>		<b>Folsom Reservoir</b>		<b>Keswick Reservoir</b>	
<b>June Average (cfs)</b>	4,833	<b>June Average (cfs)</b>	1,971	<b>June Average (cfs)</b>	7,709
<b>Planned June Releases (monthly average)</b>	1,800	<b>Planned June Releases (monthly average)</b>	1,800	<b>Planned June Releases (monthly average)</b>	7,100

**End of June Reservoir Storage (in Thousands of Acre Feet)**

<b>Oroville Reservoir</b>		<b>Folsom Reservoir</b>		<b>Shasta Reservoir</b>	
Predicted	1,167	Predicted	320	Predicted	1,821
Actual	1128	Actual	288	Actual	1,733
<i>Difference</i>	(39)		(32)		(88)

The increased reservoir releases have caused storage at the end of June in these three reservoirs to be 159,000 acre feet lower than what was provided in the Drought Contingency Plan, with storage in Shasta Reservoir 69,000 acre feet less than anticipated.

As a result, detrimental water temperatures and temperature dependent mortality of salmon eggs are likely to exceed even the unreasonable estimates in the Shasta TMP. Furthermore, late-summer and fall water temperatures higher than those identified in the TMP increase the already unacceptable and unpermitted risk of elevated pre-spawning adult mortality and reduced gamete viability among fall-run and spring-run Chinook Salmon.

In contrast to the excessive and unsustainable mortality that will be caused by the Shasta TMP, modeling by NMFS (attached hereto as Exhibit A) has estimated that CVP operations that reduce reservoir releases by approximately 500,000 acre feet, resulting in end of September Shasta Reservoir storage of 1.47 million acre feet, and which limit maximum monthly average Keswick releases to 6,000 cfs during the months of June, July and August, would significantly reduce temperature dependent mortality of winter-run Chinook salmon eggs (as low as 32% assuming 90% exceedance hydrology and 2015 meteorology, and as low as 50% under 99% exceedance

<sup>8</sup> The information regarding reservoir releases in June and reservoir storage at the end of June was not previously submitted to the Board because this information was not available to petitioners at the time of the Executive Director's approval on June 10, 2021.

hydrology and 2015 meteorology) and substantially improve water temperatures in October and November, reducing mortality of spring-run and fall-run salmon.

The Approval Letter fails to provide a reasoned explanation for this decision; for instance, it does not explain why these levels of mortality and impacts to the salmon fishery are reasonable, nor does it explain whether and how the Board balanced its obligations under the Public Trust, particularly in light of the lower mortality that would occur if Reclamation took actions within its reasonable control to increase Shasta reservoir storage and reduce reservoir releases this year.

For all of these reasons, the approval of the Shasta TMP will result in unreasonable impacts to the salmon fishery, and the Executive Director's approval of the Shasta TMP is arbitrary and capricious, contrary to law, and not supported by substantial evidence. As a result, the Board should grant Petitioners' motion for reconsideration.

**II. Approval of the Shasta TMP is Contrary to Law and Not Supported by Substantial Evidence Because it Fails to Require Reclamation to Take Actions Within its Reasonable Control to Maintain Adequate Water Temperatures in the Sacramento River to Protect the Salmon Fishery**

Approval of the Shasta TMP is also unlawful because the Shasta TMP does not require the implementation of reasonable measures within Reclamation's control to maintain water temperatures in the Sacramento River. The Approval Letter asserts that the "TMP reflects the currently known feasible and reasonable management actions Reclamation could take to control temperatures this year." This statement is not supported by substantial evidence, is arbitrary and capricious, and is contrary to law, because the State Water Resources Control Board has not required Reclamation and DWR to reduce water allocations within their reasonable control in order to maintain water temperatures that are less detrimental to the salmon fishery. As Petitioners previously explained in their protest and objections, the Shasta TMP fails to take actions within Reclamation's reasonable control to maintain water temperatures because it does not reduce water allocations to settlement and exchange contractors (Sacramento River Settlement Contractors, San Joaquin River Exchange Contractors, and DWR's Feather River Settlement Contractors<sup>9</sup>) even to the amounts they could reasonably claim to be entitled to under

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<sup>9</sup> As the Shasta TMP explains, pursuant to the Coordinated Operating Agreement the Bureau of Reclamation must provide 60% of the in basin demands in the Sacramento Basin, which includes providing 60% of the water supply for DWR's Feather River Settlement Contractors. Shasta TMP at 14. This means that DWR must provide the other 40% of the in basin demands in the Sacramento Basin under the Coordinated Operating Agreement. As a result of the Coordinated Operating Agreement, DWR's operation of the State Water Project – and DWR's failure to reduce its State Water Project allocation to zero and store the conserved water in Shasta – are subject to the Board's regulation under Water Rights Order 90-5 and reductions in these allocations is within the control of the agencies.

their claimed water rights<sup>10</sup> in order to improve water temperatures, nor require DWR to reduce the State Water Project allocation to zero and conserve this water behind Shasta Dam to improve temperature management.<sup>11</sup>

Water Rights Order 90-5 requires Reclamation to operate to achieve water temperatures of 56 degrees Fahrenheit at Red Bluff Diversion Dam whenever daily water temperatures higher than 56 degrees would be detrimental to the fishery, and allows Reclamation to move the compliance point upstream when factors beyond the reasonable control of Reclamation prevent them from doing so. As we have discussed in numerous letters to the Board, and as the Board has admitted in numerous letters to the Bureau of Reclamation, factors within the reasonable control of Reclamation include reducing water supply allocations to the CVP's water contractors, including Sacramento River Settlement Contractors:

**To the extent that Reclamation delivers water under its own water rights, Reclamation's obligation to deliver water to its contractors does not take precedence over its permit obligations.** Order WR 90-5 requires Reclamation to reduce releases to the extent reasonable and necessary to control water temperature. This permit condition is not and cannot be nullified by a contractual obligation. **Reclamation's water supply contractors are not entitled to more water under their contracts than Reclamation is authorized to deliver consistent with the terms and conditions of its water right permits and licenses.**

State Water Resources Control Board, June 1, 2020 letter to Reclamation (emphasis added).

As Petitioners discussed at length in their protest and objections, Reclamation and DWR are allocating more water to these contractors than they could reasonably be entitled to under their claimed water rights,<sup>12</sup> which fundamentally violates Water Rights Order 90-5 because the

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<sup>10</sup> As the Board is well aware, no one in California has a right to use water unreasonably, and all water rights are subject to the reasonable use and Public Trust doctrines, under which the Board has ample authority to regulate pre-1914 water rights to protect fish and wildlife. *See, e.g., Stanford Vina Ranch Irrigation District v. State of California*, 50 Cal.App.5th 976, 983, 1002-1003 (2020); *Light v. State Water Resources Control Board*, 226 Cal.App.4th 1463, 1482-85 (2014); *U.S. v. State Water Resources Control Board*, 182 Cal.App.3d 82, 106, 129-130 (1987). Nothing herein should be read to suggest that the Board could not further limit allocations of water to settlement or exchange contractors beyond their claimed water rights, should such use be unreasonable under Article X, section 2 or impair the Public Trust.

<sup>11</sup> Pursuant to the Central Valley Project Improvement Act and the State Water Resources Control Board's obligations to protect the Public Trust, Level 2 refuge water supplies should not be reduced below 75%.

<sup>12</sup> As NRDC et al's prior Protest letter also explains, Reclamation has failed to ensure that the Sacramento River Settlement Contractors are reasonably and beneficially using the full amounts

available modeling demonstrates that reducing allocations to these contractors would significantly reduce water temperatures and resulting temperature dependent mortality of salmon this year, including winter-run Chinook salmon. The same is true with respect to DWR's State Water Project allocation, which could substantially improve water temperatures below Shasta Dam if the allocation were reduced to zero and the conserved water stored behind Shasta Dam. *See Exhibit C.* And it is important to note that while the proposed water transfers included in the Shasta TMP may benefit other water users, the water transfers do not appear to improve conditions for salmon, and they cause additional unmitigated impacts to waterfowl and other fish and wildlife, as noted in our prior protest.

Approving the Shasta TMP without first requiring DWR and Reclamation to reduce water allocations to their settlement and exchange contractors – at a minimum to the amounts of water they could reasonably claim to be entitled to under their claimed water rights – is unlawful.<sup>13</sup> Regardless of whether water deliveries under contracts may have been reasonable when they were entered into or whether they are reasonable in other years, the Board has a continuing duty to determine whether a use is reasonable under Article X, section 2 of the State Constitution. Given the fact that the Bureau of Reclamation and DWR are violating their water rights obligations to the public under Order 90-5 and Decision 1641, causing unreasonable impacts to Delta water quality, endangered species, fisheries, and the Public Trust, the Board should declare under the particular circumstances of this year that delivering the quantities of water specified in these contracts, rather than the amounts those parties could reasonably claim to be entitled to under their claimed water rights, constitutes a waste and unreasonable use of water.

“What constitutes reasonable water use is dependent upon not only the entire circumstances presented but varies as the current situation changes... [W]hat is a reasonable use of water depends on the circumstances of each case, such an inquiry cannot be resolved in vacuo isolated from state-wide considerations of transcendent importance.” *United States v. State Water Resources Control Board*, 182 Cal. App. 3d 82, 129-130 (1987). “Thus, no water rights are inviolable; all water rights are subject to governmental regulation.” *Id.* at 106. The California Court of Appeal has concluded that the Board has ample authority to determine that particular uses or methods of use are unreasonable because of their impact on water quality, and further concluded that

the Board's power to prevent unreasonable methods of use should be broadly interpreted to enable the Board to strike the proper balance between the interests in water quality and project activities in order to objectively determine whether a reasonable method of use is manifested.

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of water under their contracts, and a 25% reduction in their maximum contract amounts does not significantly reduce water diversions and deliveries. *Id.*

<sup>13</sup> *See* note 9, *supra*.

*Id.* at 130. The water rights of the CVP and SWP are explicitly subject to the continued jurisdiction of the Board to impose further limitations on the diversion and use of water:

Pursuant to California Water Code Sections 100 and 275 and the common law public trust doctrine, all rights and privileges under this permit, including method of diversion, method of use, and quantity of water diverted, are subject to the continuing authority of the Board in accordance with law and in the interest of the public welfare to protect public trust uses and to prevent waste, unreasonable use, unreasonable method of use, or unreasonable method of diversion of said water.

...

The continuing authority of the Board also may be exercised by imposing further limitations on the diversion and use of water by the permittee in order to protect public trust uses. No action will be taken pursuant to this paragraph unless the Board determines, after notice to affected parties and opportunity for hearing, that such action is consistent with California Constitution Article X, Section 2; is consistent with the public interest; and is necessary to preserve or restore the uses protected by the public trust.

*See* Decision 1641 at 147-148.

Even after the Bureau of Reclamation reduced CVP allocations for M&I and agricultural water service contractors on May 26, it appears that the CVP is still allocating 3.6 million acre feet of water this year. *See also* Bureau of Reclamation, CVP Quantities/2021 Allocation, <https://www.usbr.gov/mp/cvp-water/docs/cvp-allocation.pdf>. As noted above, DWR is still maintaining a five percent allocation for its SWP contractors (which equates to approximately 210,000 acre feet), and DWR is also allocating 600,000 acre feet to their Feather River Settlement Contractors (50% allocation). Together, these water supply allocations from the CVP and SWP total more than 4.4 million acre feet this year, even as the CVP and SWP seek to waive water quality objectives in the Delta and violate temperature objectives below Shasta Dam, causing unreasonable impacts to fish and wildlife. Yet because of our inequitable water rights system, the vast majority of this water is going to a handful of private beneficiaries who have claimed senior water rights.

Even more egregiously, the CVP and SWP appear to be delivering substantially more water to their settlement and exchange contractors than those contractors would be entitled to under their claimed water rights. The Approval Letter fails to require reasonable reductions in these allocations, and it fails to provide a reasoned explanation and/or substantial evidence supporting its statement that Reclamation has implemented feasible and reasonable measures within its control.

(1) Feather River Settlement Contractors

First, DWR is allocating 600,000 acre feet of water to its Feather River Settlement Contractors this year, which constitutes a 50% allocation. However, DWR's May 25, 2021 bulletin 120 update estimates that the total unimpaired runoff for the Feather River at Oroville between April to July is only 520,000 acre feet (90 percent exceedance forecast). DWR's May 1, 2021 bulletin 120 forecast (90% percent forecast), which provides monthly estimates of runoff, estimated that total April to September unimpaired inflow to Oroville would be 551,000 acre feet. In either case it appears that water allocations to these contractors is greater than the total unimpaired runoff, even assuming that it would be lawful to divert all of the water and allow the Feather River to go completely dry below their diversions. Reducing water deliveries to these contractors could improve upstream reservoir storage.

(2) Sacramento River Settlement Contractors

Second, Reclamation has announced a 75% allocation to the Sacramento River Settlement Contractors, which amounts to 1,586,715 acre feet of water. Based on a very conservative interpolation of the graphic showing their planned diversion schedule<sup>14</sup> that was included as Attachment 1 to the Settlement Contractors' May 19, 2021 letter to the Board, it appears that water diversions by the Sacramento River Settlement Contractors this year will be in excess of the amount of water they would reasonably be entitled to under their claimed water rights, as their water allocations are greater than the full natural flow of the Sacramento River in many months this summer:

<b>Month</b>	<b>Estimated diversions this year (cfs)</b>	<b>Estimated Diversions this year (Acre Feet)</b>	<b>Sacramento River at Bend Bridge Unimpaired Runoff (DWR, b120, 90% forecast as of May 1, 2021)</b>	<b>Percent of unimpaired runoff diverted</b>
April	1,500	89,256	341,000	26%
May	4,000	245,950	265,000	93%
June	4,000	238,017	204,000	117%
July	4,000	245,950	170,000	145%

<sup>14</sup> It is not at all clear that the Settlement Contractors have or will adhere to the diversion schedule shown on this graphic. Reservoir releases from Keswick Dam in the month of May (8,515 cfs daily average as of May 26) were dramatically higher than Reclamation had indicated in its draft Shasta TMP (7,379 cfs), even as the projects nearly lost control of salinity in the Delta and the vast majority of releases from Shasta, Folsom, Oroville and New Melones have been diverted upstream of the Delta in the month of May.



August	3,250	199,835	155,000	129%
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Month	Estimated diversions under 75% contract	Estimated Diversions under 75% contract (Acre Feet)	Sacramento River at Bend Bridge Unimpaired Runoff (DWR, b120, 90% forecast as of May 1, 2021)	Percent of unimpaired runoff diverted
April	3,000	178,512	341,000	52%
May	4,500	276,694	265,000	104%
June	5,000	297,521	204,000	146%
July	5,000	307,438	170,000	181%
August	4,000	245,950	155,000	159%

Moreover, despite maximum contract amounts of 2,115,620 acre feet, Reclamation’s data shows that the Sacramento River Settlement Contractors have not taken delivery of 1.6 million acre feet of water from the Bureau of Reclamation since 2013, when they diverted 1.7 million acre feet.<sup>15</sup> Reclamation’s table states that “Delivery data is based on District turn-out readings and may include water in addition to water service contract deliveries.” This data indicates that Reclamation has failed to ensure that the Sacramento River Settlement Contractors are reasonably and beneficially using the full amount of water under their contracts, as required by their contracts and the State Constitution.

Year	Total Deliveries
2020	1,528,579
2019	1,383,225
2018	1,489,377
2017	1,390,340
2016	1,509,149
2015	1,109,190
2014	1,203,838
2013	1,716,414
2012	1,555,056
2011	1,458,099
2010	1,489,637
<b>Average</b>	<b>1,439,355</b>

<sup>15</sup> The Bureau of Reclamation’s water delivery tables for each year going back to 1985 are available online at: <https://www.usbr.gov/mp/evo/20deliv.html>. Table 28 shows the deliveries by the Sacramento River Settlement Contractors. Note that these tables generally only show water deliveries between April and October, which is consistent with the terms of their contracts with the Bureau of Reclamation.

On average, over the past decade the Sacramento River Settlement Contractors have diverted less than 75% of their maximum contract totals, suggesting that a reduction in maximum contract deliveries to 75% does not significantly reduce water diversions, because the contractors are not actually reasonably and beneficially using their full contract amounts.<sup>16</sup> The Board recently acknowledged this, stating that,

Sacramento River settlement contract amounts total 2.1 million acre-feet (MAF) but reported use under these contractors’ underlying water right claims is closer to 1.4 to 1.6 MAF (which is close to 75 percent of the contract amount). Also, these groups of users have different priorities of rights and include a combination of pre-1914 and post-1914 rights (e.g., over 600 thousand acre-feet of Sacramento River settlement contractors’ reported use in 2018 occurred under post-1914 claims of right).

State Water Resources Control Board, Draft Summary Report, Water Unavailability Methodology for the Delta Watershed, May 2021, at 36.

Allowing water deliveries to the Sacramento River Settlement Contractors this year that are in excess of the water they could claim to be reasonably entitled to under their claimed water rights is unreasonable under Article X, section 2 of the State Constitution, in light of the severe impacts to fish and wildlife and other users of water.

(3) San Joaquin River Exchange Contractors

The Bureau of Reclamation’s allocation of water to the San Joaquin River Exchange Contractors is also unreasonable because the deliveries are far in excess of the water that would be available to these contractors under their claimed water rights, as shown in the table below.

	<b>Water Deliveries (per Article 8 of contract)</b>	<b>Unimpaired Runoff (90% b120 forecast as of May 1, 2021)</b>	<b>Percent of Runoff Diverted</b>
<b>April</b>	81,000	130,000	62%
<b>May</b>	99,000	70,000	141%
<b>June</b>	102,000	40,000	255%
<b>July</b>	107,000	10,000	1070%
<b>August</b>	97,000	8,000	1213%
<b>Sept</b>	55,000	5,000	1100%
<b>Apr-Sep Total</b>	541,000	263,000	206%

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<sup>16</sup> The failure to reasonably and beneficially use water for more than 5 years, as Reclamation’s data appears to demonstrate, justifies forfeiture of any such claimed water right with the water reverting to the public. Cal. Water Code § 1241.

Allowing Reclamation and DWR to deliver water to their settlement and exchange contractors in excess of those contractors' claimed water rights, when doing so results in Reclamation and DWR violating the terms of their water rights (Order 90-5 and D-1641), is unreasonable under Article X, section 2 of the State Constitution. The Board should require reductions in these contract allocations to prevent these unreasonable results.

(4) DWR's State Water Project Contractors

As Petitioners previously explained, reducing DWR's 5 percent allocation to State Water Project contractors could significantly improve storage in Shasta Reservoir and Reclamation's ability to maintain water temperatures in the Sacramento River to reduce the impacts to the salmon fishery. *See also* May 21, 2021 email from NRDC to Eileen Sobeck et al, attached hereto as Exhibit C. However, the Approval Letter does not require DWR to do so, and it fails to provide any explanation why reducing this allocation – when DWR is violating its water rights obligations to the public – is not justified.

The Approval Letter does not require DWR and Reclamation to take actions within their reasonable control to maintain adequate water temperatures for the salmon fishery, as required by Water Rights Order 90-5, and the Executive Director's finding that the Shasta TMP "reflects the currently known feasible and reasonable management actions Reclamation could take to control temperatures this year" is not supported by substantial evidence, is arbitrary and capricious, and is contrary to law. As a result, the Board should grant the motion for reconsideration.

**III. Conclusion**

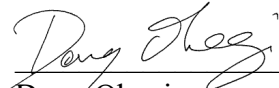
Because the Executive Director's June 10, 2021 approval of the Shasta TMP is arbitrary and capricious, is not supported by substantial evidence, and is contrary to law, the State Water Resources Control Board should grant this petition for reconsideration and set aside approval of the Shasta TMP.

DECLARATION OF DOUG OBEGI

Pursuant to section 769 of title 23 of the California Code of Regulations, I declare under penalty of perjury under the laws of the State of California that the new facts and evidence cited in this petition that were not previously presented to the State Water Resources Control Board in NRDC et al's June 4, 2021 protest and objections and in other emails and written communications to the SWRCB constitutes information that postdates the Executive Director's approval of the Shasta TMP on June 10, 2021: (1) data and information calculating average reservoir releases in the month of June and resulting reservoir storage levels at the end of June, (2) Reclamation's selection of Scenario 14 in the Shasta TMP; and (3) the June 21, 2021, June 27, 2021, and July 6, 2021 updates of the report from the California Department of Fish and Wildlife regarding salmon redd and carcass surveys on the Sacramento River, including pre-spawn mortality of winter-run Chinook salmon. This information and data could not have been produced with reasonable diligence by Petitioners because it was not yet in existence at the time of the Executive Director's June 10, 2021 approval of the Shasta Temperature Management Plan.

Date: July 8, 2021

Signature:

  
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Doug Obegi