



June 4, 2021

Patricia Fernandez
State Water Resources Control Board
1011 I Street
Sacramento, CA 95814

Submitted via email to Erin.Foresman@waterboards.ca.gov; Chris.Carr@waterboards.ca.gov

RE: Protests and Objection to Temporary Urgency Change Petition Involving the Transfer/Exchange From Department of Water Resources Permit 16479 (Application 14443) and the Specified License and Permits of the U.S. Bureau of Reclamation

Dear Ms. Fernandez:

On behalf of the Natural Resources Defense Council, the Bay Institute, Defenders of Wildlife, San Francisco Baykeeper, Sierra Club California, Restore the Delta, Golden State Salmon Association, California Sportfishing Protection Alliance, Institute for Fisheries Research and Pacific Coast Federation of Fishermen's Associations, we are writing to object to, protest, and provide comments on the temporary urgency change petition ("TUCP") filed by the Department of Water Resources and U.S. Bureau of Reclamation regarding the coordinated operations of the State Water Project ("SWP") and Central Valley Project ("CVP"). For the third time in the past eight years DWR and Reclamation have proposed to install a physical salinity barrier and filed a TUCP to legalize violations of the minimum water quality objectives established in the 1995 Bay-Delta Water Quality Control Plan, despite the fact the State Water Resources Control Board, other state and federal agencies, and independent scientists have concluded that the existing water objectives fail to protect native fish and wildlife and the Public Trust and despite the fact that the specific water quality objectives under D-1641 are designed for critically dry years like 2021. We object to and protest the TUCP on the grounds that granting the petition will cause

unreasonable impacts to fish and wildlife and is not in the public interest, and because DWR and Reclamation have failed to exercise due diligence.

INTRODUCTION

I. **Granting the TUCP and installing the salinity barrier will cause unreasonable impacts to fish and wildlife.**

As discussed in more detail on the pages that follow, granting the TUCP and installing the salinity barrier will reduce Delta inflows and Delta outflows below even the minimum water quality objectives established in the 1995 Bay-Delta Water Quality Control Plan, which are already inadequate to provide reasonable protection for fish and wildlife. Granting the TUCP is likely to cause significant additional adverse impacts to fish and wildlife this summer including increased harmful algal blooms (in particular, the TUCP grossly misrepresents the conclusions of Lehman et al 2021), increased populations of invasive species and submerged aquatic vegetation, and potential extirpation of Delta Smelt.

The drought operations proposed for 2021 will largely repeat the disaster of 2014 and 2015. Just as in 2014 and 2015, the CVP and SWP are filing TUCPs to waive Delta outflow requirements and install a salinity barrier, which will worsen salinity and water quality for much of the Delta and increase the proliferation of harmful algal blooms, but improve water quality for the CVP and SWP. And just as in 2014 and 2015, Reclamation's operations at Shasta Dam will violate the Central Valley Basin Plan's water temperature objective and are likely to kill more than 50-80% of the endangered winter-run Chinook salmon eggs and the majority of fall run Chinook salmon that spawn in the Sacramento River this year.¹ Yet even as DWR and Reclamation seek the Board's approval to repeat the mistakes of 2014 and 2015, the Board has concluded that drought operations in 2014 and 2015 – including the TUCPs and temperature management under order 90-5 – failed to provide reasonable protection of fish and wildlife:

However, the State Water Board also determines that the status quo of the past two years is not sustainable for fish and wildlife and that changes to the drought planning and response process are needed to ensure that fish and wildlife are not unreasonably impacted in the future and to ensure that various species do not go extinct.

Water Rights Order 2015-0043 (corrected), January 19, 2016, at 39. Granting the TUCP will largely repeat the mistakes of the past drought, despite the Board's conclusion that operations during the drought were not effective nor protective.

¹ Total survival of juvenile salmon will be even lower as they migrate downstream, because of all the sources of mortality that occur after the egg life stage.

II. **Granting the TUCP and installing the salinity barrier is not in the public interest and DWR and Reclamation have failed to exercise due diligence.**

As discussed in more detail on the pages that follow, DWR and Reclamation have wholly failed to plan for drought, and the projects seek to waive their water rights obligations protecting the public interest even though DWR has not reduced its SWP allocation to zero, and DWR and Reclamation are allocating millions of acre feet of water this year (including water allocations to senior contractors in excess of those contractors' claimed water rights).

Decision 1641 already allows DWR and Reclamation to meet far weaker protections for fish and wildlife during critically dry years like 2021 than other water year types. Rather than planning for drought and reducing water allocations to their contractors in order to meet the projects' obligations to the public, pursuant to Water Rights Decision 1641 and Water Rights Order 90-5, once again the CVP and SWP instead seek to waive their obligations to the public in order to maximize the private benefits for their contractors. As the Board recently noted with respect to the projects' numerous violations of Bay-Delta water quality objectives in April:

Although the current violations are exacerbated by the extreme dry conditions, they are in part the result of the overallocation of Project water during dry conditions. Additionally, risk management and operational decisions by the Projects were made that appear to have discounted the need to maintain regulatory compliance. These issues become more apparent when water resources are severely constrained, as they are now.

See April 30, 2021 letter from the State Water Resources Control Board to the Bureau of Reclamation and Department of Water Resources (emphasis added), available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/compliance_monitoring/sacramento_sanjoaquin/docs/2021/20210430_swbltr_bdcompliance.pdf

In light of the Petitioners' gross failure to make changes to drought planning to ensure compliance with water quality objectives, their ongoing failure to reduce discretionary water allocations to their contractors before seeking to waive their obligations to the public, and the unreasonable impacts to fish and wildlife that will result from granting the TUCP and installing the salinity barrier, the State Water Resources Control Board should rescind its conditional approval and deny the TUCP. In lieu of granting the TUCP, the Board should:

- 1) Require DWR to reduce the SWP allocation to zero, and require that the water that is conserved as a result be stored behind Shasta Dam to improve temperature management this year, above whatever is required under Order 90-5 and the Shasta Temperature Management Plan;
- 2) Require Reclamation and DWR to reduce water allocations for their Settlement and Exchange Contractors at least to the amounts they could reasonably claim to be entitled

- to under their claimed water rights, and require this conserved water be used to meet D-1641 water quality objectives and improve upstream reservoir storage beyond what is already required under Order 90-5 and the Shasta Temperature Management Plan;²
- 3) Require Reclamation to plan and prepare a Shasta temperature management plan for 2022 that achieves minimum end of September storage of 1.9 million acre feet of water, including submission of a draft Temperature Management Plan to the State Water Board no later than February 1, 2022 that meets this requirement; and
 - 4) Issue emergency regulations to require the curtailment of water diversions, including diversions by pre-1914 water rights holders, in order to ensure reasonable protection of fish and wildlife pursuant to section 1085.5 of the California Water Code, when minimum water quality objectives under D-1641 are not being met.

Should the Board grant the TUCP, the Board should impose #1-3 above as terms and conditions on the water rights of DWR and Reclamation, should require that DWR and Reclamation account for all of the water that is not released as a result of the TUCP, and ensure that all water that is conserved under the TUCP is added to storage behind Shasta Dam to improve temperature control, above whatever is required under Order 90-5 and the Shasta Temperature Management Plan.³ Failure to deny or substantially modify the TUCP will essentially reward the project operators for gaming the system to maximize unsustainable water deliveries to their contractors in dry years while ensuring that fish and wildlife and other beneficial uses, already in degraded condition, are not protected.

DISCUSSION

I. Granting the TUCP and installing the salinity barrier will cause unreasonable impacts to fish and wildlife

Granting the TUCP and installing the salinity barrier will cause unreasonable impacts to fish and wildlife, including increasing the proliferation of harmful algal blooms, increasing the abundance of non-native fish species and submerged aquatic vegetation, and increasing the extinction risk for Delta Smelt and Longfin Smelt.⁴

² 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%.

³ Condition 4 in the order granting conditional approval of the TUCP requires the petitioners to calculate and maintain an accounting of conserved water, but it does not require that this water be added to storage to improve temperature control under Order 90-5 and the Shasta Temperature Management Plan.

⁴ In addition, we note that while the proposed operations include a water transfer from Sacramento River Settlement Contractors to users south of the Delta, there is no evidence that this transfer provides reasonable protection of fish and wildlife. The Settlement Contractors have indicated that there will be no water for rice decomposition this fall, in part due to the transfer of 150,000 acre feet (or more) of water. That transfer yielded an estimated \$67 million

First, there is no question that the water quality objectives included in the 1995 Bay-Delta Water Quality Control Plan fail to provide reasonable protection for fish and wildlife. For instance, in 2010 the Board concluded that, “The best available science suggests that current flows are insufficient to protect public trust resources.” State Water Resources Control Board, Development of Flow Criteria for the Sacramento-San Joaquin Delta Ecosystem, 2009, at 2. Similarly, in 2018 the Board proposed significant increases in flows into and through the Delta to protect fish and wildlife, finding that, **“Implementation of the current Bay-Delta Plan has failed to protect fish and wildlife that require protection throughout the watershed and throughout the year.”** State Water Resources Control Board, July 2018 Framework for the Sacramento/Delta Update to the Bay-Delta Plan, at 5 (emphasis added), available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/sed/sac_delta_framework_070618%20.pdf; *see, e.g., id.* at 6 (“Though various state and federal agencies have adopted requirements to protect the Bay-Delta ecosystem, the best available science indicates that the existing requirements are insufficient and that a comprehensive regulatory strategy addressing the watershed as a whole is needed.”). That 2018 document summarizes scientific information in the Board’s 2017 scientific basis report, which demonstrates that excessive water diversions are a significant cause of the declines of native fish and wildlife in the Bay-Delta and that increased Delta inflows, increased Delta outflows, and improved cold water habitat requirements are needed.

While the best available science demonstrates the need to increase Delta inflows and outflows in order to provide reasonable protection for fish and wildlife, the TUCP will decrease Delta inflows, decrease Delta outflows, and worsen salinity intrusion into much of the Delta, at a time when fish and wildlife beneficial uses are already in extremely poor condition. In addition, the TUCP repeatedly references and relies on the Trump Administration’s 2019 biological opinions to justify conclusions that the TUCP will protect fish and wildlife, *see, e.g.,* TUCP at 36 (falsely claiming that the 2019 biological opinion “considered actions such as the 2015 TUCP”), despite the State of California’s litigation challenging those biological opinions as unlawful and “the state’s assessment that operating rules recently proposed by federal agencies are not scientifically adequate and fall short of protecting species and the state’s interests.” California Natural Resources Agency, State Agencies Lay Out Actions to Protect Endangered Species and Meet State Water Needs, November 21, 2019, online at: <https://resources.ca.gov/Newsroom/Page-Content/News-List/State-Agencies-Lay-Out-Actions-to-Protect-Endangered-Species-and-Meet-State-Water-Needs>.

for landowners, based on information presented by the Glenn Colusa Irrigation District to landowners on April 7, 2021 (“Landowners being paid \$450 per AF.”). Maintaining that water in storage in Shasta until the fall and using it for rice decomposition would likely have yielded similar effects on water temperatures and salmon, and less adverse impacts to migratory birds that result from this water transfer. Measures to minimize and mitigate the adverse impacts of these water transfers to birds, giant garter snakes, and other species have not been widely implemented.

Finally, as noted above, the Board has previously concluded that the similar waivers of water quality objectives in 2014 and 2015 failed to provide reasonable protection of fish and wildlife:

However, the State Water Board also determines that the status quo of the past two years is not sustainable for fish and wildlife and that changes to the drought planning and response process are needed to ensure that fish and wildlife are not unreasonably impacted in the future and to ensure that various species do not go extinct.

Water Rights Order 2015-0043 (corrected), January 19, 2016, at 39. Granting the TUCP will result in Delta inflows and outflows that are less than the minimum water quality objectives, which already fail to provide reasonable protection for fish and wildlife, and it will result in significant impacts to fish and wildlife, potentially including extinction. There is nothing reasonable about these impacts to fish and wildlife.

Second, the TUCP admits that hotter water temperatures and reduced flows into and through the Delta during drought conditions will harm fish and wildlife and the Bay-Delta ecosystem, but it improperly attempts to blame these impacts solely on hydrology and meteorology and claims that the incremental adverse impacts of the TUCP are 'small' in comparison. There is no question that natural runoff is low and air temperatures are likely to be warm this year, but the amount of water that flows into and through the Delta is not simply a function of hydrology, but fundamentally is a question of how much water is stored and diverted upstream. Given that existing water quality objectives fail to provide reasonable protection of fish and wildlife and are contributing to several species sliding towards extinction, even small additional adverse impacts cause unreasonable impacts to fish and wildlife.

Moreover, the TUCP fails to adequately consider the long-term adverse impacts that are likely to result from granting the TUCP. Reducing Delta inflows and outflows as proposed in the TUCP are likely cause significant harm to salmon and other native fish and wildlife compared to baseline conditions over the long-term, including:

- Expanding the abundance and distribution of non-native submerged aquatic vegetation, including *Egeria densa* and water primrose. See TUCP at 44. *Egeria* and other submerged aquatic vegetation harm native fish and wildlife by providing habitat for non-native fish species and reducing turbidity and increasing water clarity. Similarly, the TUCP admits that, "USFWS (2019: 215) suggested that extended warm, low flow conditions that resulted from the recent drought may be contributing to the proliferation of submerged aquatic vegetation [of] delta smelt habitat within the Cache Slough Complex." *Id.* at 31. Reducing inflows and increasing residence time as a result of the salinity barrier is likely to increase submerged aquatic vegetation, and these adverse impacts are likely to persist long after the end of the TUCP.

- Expanding the abundance and distribution of *Potamocorbula amurensis*. *Id.* at 6 (“Less Delta outflow under drought conditions would move the salinity field upstream, allowing the invasive clam *Potamocorbula amurensis* to move further upstream and thereby expand its range and overall grazing rate if salinity remains high enough for several months.”). The TUCP admits that granting the petition could increase X2 by 2 kilometers, which could expand the range of *Potamocorbula*. *Id.* at 32. Grazing by *Potamocorbula* adversely affects the food web in the Delta, and expanded populations of *Potamocorbula* is likely to cause adverse impacts to the ecosystem food web that supports Delta Smelt, salmon, and other species, that are likely to persist long after the end of the TUCP.
- Increasing the abundance of non-native species like Largemouth Bass, Bluegill, and Mississippi Silversides, which are likely predators and/or competitors with native fish species like Delta Smelt and salmon. *Id.* at 43-44. Scientific studies have found that the extremely low outflows during droughts – which are a function of both hydrology and excessive water diversions – have facilitated invasions by non-native species that persist today, adversely affecting native species. *See* Winder et al 2011. *Synergies between climate anomalies and hydrological modifications facilitate estuarine biotic invasions*. *Ecology Letters* (2011), doi: 10.1111/j.1461-0248.2011.01635.
- Reducing the abundance of *Pseudodiaptomus forbesi* and other zooplankton that are important parts of the food chain for Delta Smelt, Longfin Smelt, and other species. *Id.* at 5-6. The TUCP admits that the abundance of *Pseudodiaptomus forbesi* is positively correlated with July–September Delta outflow, so lower outflow will likely result in lower abundance of this important prey species. *See also* 2019 FWS BiOp at 116.
- Threatening the existence of Delta Smelt. As the TUCP admits, the best available science shows that survival of post-larval Delta Smelt through the summer months is positively related to June-August Delta outflow, with lower survival at lower Delta outflow. TUCP at 32 (citing Polansky et al 2020). Granting the TUCP will shift X2 upstream of the requirements of the 2019 biological opinion, and it is likely to reduce survival of Delta Smelt through the summer. Given the extremely low abundance of Delta Smelt, granting the TUCP may cause extirpation of the species.
- Threatening the existence of Longfin Smelt. Reductions in Delta outflow resulting from the proposed TUCP will negatively harm Longfin Smelt by reducing productivity and increasing mortality associated with entrainment at the state and federal water project export facilities. Both of these effects will push this population even closer to extirpation. The San Francisco Estuary’s Longfin Smelt population is listed as a threatened species by the state and as a candidate for listing under the federal Endangered Species Act. The abundance index for this distinct population reached record lows during the 2012-2016 drought, partially as a result of the waiver of Delta outflow objectives in 2014 and 2015. *See* SWRCB, April 6, 2015 Temporary Urgency Change Order at 17-19. Following a rebound during very wet conditions in water year 2017, the population has resumed its decline; the 2021 index for this population

(28) was the fifth lowest ever recorded. Both abundance and productivity (juveniles per adult) increase with increased Delta outflows during the winter and spring, through the month of June. See SWRCB 2017. Final Scientific Basis Report in Support of New and Modified Requirements for Inflows from the Sacramento River and its Tributaries and Eastside Tributaries to the Delta, Delta Outflows, Cold Water Habitat, and Interior Delta Flows at 3-55 to 3-56.⁵ Delta outflows through June are also negatively correlated with entrainment in water project export facilities. *Id.* at 3-57 to 3-60; see SWRCB, February 3, 2015 Temporary Urgency Change Order at 10. Entrainment of Longfin Smelt has already been substantial and relatively continuous throughout the spring of 2021.⁶

- Increasing the abundance and distribution of harmful algal blooms. Harmful algal blooms, which emit powerful toxins into the water, are increasingly common in the southern Delta and represent a threat to human health as well as to fish and wildlife populations. Recent research indicates that HAB toxins can become aerosolized, see Plaas, H. and H.W. Paerl. 2021. *Toxic Cyanobacteria: A Growing Threat to Water and Air Quality. Environ. Sci. Technol.* 2021, 55, 44–64), creating another vector for public health impacts in river-front communities. Toxins from harmful algal blooms are also transported in water beyond the Delta into the Bay food web. See Peacock et al. 2018. Blurred lines: Multiple freshwater and marine algal toxins at the land-sea interface of San Francisco Bay, California. *Harmful Algae* 73: 138–147. The TUCP asserts that reducing Delta outflow and installing the salinity barrier will likely only have “small” impacts in terms of contributing to the expansion of harmful algal blooms, falsely claiming that *Lehman et al. 2020* concludes that water temperatures were the primary driver of harmful algal blooms. See TUCP at 6 (“Reduced Delta inflow and increased residence time may contribute to the general drought-related increase in intensity of *Microcystis* harmful algal blooms (Lehman et al. 2018). The extent to which the TUCP’s changed operations from baseline conditions would affect harmful algal blooms is uncertain but likely small given that water temperature is the main driver of bloom intensity (Lehman et al. 2020a).” These statements regarding the conclusions of *Lehman et al. 2020* are completely false. Instead, *Lehman et al. 2020* concluded that even small changes in the location of X2 will dramatically increase the abundance and distribution of harmful algal blooms because there was a “strong correlation of *Microcystis* abundance with the X2 index

⁵ Similarly, the California Department of Fish and Wildlife’s Incidental Take Permit for the State Water Project relies on a modified analysis by Kimmerer that relates Delta outflow (X2) between the months of February to June with the abundance of longfin smelt. Reductions in Delta outflow during the February to June period, including the reduction in outflow under the TUCP, would reduce the abundance of Longfin Smelt, per the methodology used in the incidental take permit. See California Department of Fish and Wildlife, Incidental Take Permit, Attachment 7, at 75.

⁶ See U.S. Bureau of Reclamation, Delta Smelt and Splittail Salvage Data, available online at: <https://www.usbr.gov/mp/cvo/vungvari/dsmeltsplit0321.pdf> (March), <https://www.usbr.gov/mp/cvo/vungvari/dsmeltsplit0421.pdf> (April), <https://www.usbr.gov/mp/cvo/vungvari/dsmeltsplit0521.pdf> (May), and <https://www.usbr.gov/mp/cvo/vungvari/dsmeltsplitdly.pdf> (June). These documents are incorporated by reference.

and water temperature,” with their model finding that outflow and water temperatures explained 58-78% of the variation in bloom surface. Most notably, the paper concludes that,

Importantly, relatively small changes in the location of the X2 index may be important. A shift of the X2 index by only 3 km was associated with a factor of 3 increase in the percent abundance of subsurface Microcystis cells in the cyanobacterial community between the extreme drought years 2014 and 2015 (Lehman et al., 2018). Similarly, the increase in the X2 index from 71 km in July to between 75 and 76 km in August and September may have facilitated retention of cells in the central Delta during the peak of the bloom in 2017.

Lehman et al. 2020 (emphasis added). This finding is consistent with other research from the Bay-Delta, which has found that the frequency of these blooms is closely linked to water residence time (i.e., flow rates). Berg M and Sutula M. 2015. Factors affecting the growth of cyanobacteria with special emphasis on the Sacramento-San Joaquin Delta. Southern California Coastal Water Research Project, Technical Report 869 August. There is no question that even small changes that shift X2 upstream as proposed in the TUCP is likely to very substantially increase the expansion of harmful algal blooms that will harm fish and wildlife and Delta communities this summer. Equally important, harmful algal blooms have persisted in the Delta since the last drought, indicating that the TUCP is likely to cause adverse impacts that persist long after the end of the TUCP.

The best available science demonstrates that granting the TUCP and installing the salinity barrier is likely to cause unreasonable impacts to fish and wildlife, and the Board should rescind its conditional approval and deny the TUCP.

II. Granting the TUCP and installing the salinity barrier is not in the public interest and DWR and Reclamation have failed to exercise due diligence

Granting the TUCP is not in the public interest, and DWR and Reclamation have failed to exercise due diligence, because: (a) DWR and Reclamation have wholly failed to plan for drought; (b) DWR seeks to waive its water rights obligations to the public even though it has not reduced its SWP allocation to zero; (c) DWR and Reclamation are allocating millions of acre feet of water this year, including water allocations to senior contractors that are in excess of water available under those contractors' claimed water rights; and (d) granting the TUCP will harm communities in the Delta, including by increasing the proliferation of harmful algal blooms that threaten human health and safety.

(a) Granting the TUCP is not in the public interest, and DWR and Reclamation have failed to exercise due diligence, because they have wholly failed to plan for drought

Droughts are a fact of life in California, and the science is clear that climate change is increasing the frequency and magnitude of droughts. After the last drought, the Board emphasized that

“changes to the drought planning and response process are needed to ensure that fish and wildlife are not unreasonably impacted in the future and to ensure that various species do not go extinct.” Water Rights Order 2015-0043 (emphasis added). But instead of planning for drought, the CVP and SWP have wholly failed to plan for meeting water quality objectives under D-1641 and Water Rights Order 90-5 during drought conditions, as the Board recently acknowledged in its April 30, 2021 letter to DWR and Reclamation. Instead, ever since the Board granted TUCPs in 2014 and 2015, Reclamation and DWR’s “plan” for droughts appears to be using TUCPs in future droughts to waive the rules while allocating ever more water to their contractors. If the conditional approval of the TUCP is not rescinded, 2021 will be the third year out of the past eight when the CVP and SWP install a salinity barrier and violate Bay-Delta water quality objectives pursuant to a TUCP order.⁷

For instance, in the 2016 Final EIS/EIR for the California WaterFix Project, DWR and Reclamation’s modeling showed carryover storage in upstream reservoirs dropping to dead pool conditions, such that the CVP and SWP could not meet water quality objectives and maintain upstream storage. *See, e.g.,* Bay-Delta Conservation Plan/California WaterFix Final EIS/EIR, Comments and Responses to Comments, at 1-272, 1-351. As a result, the Final EIS/EIR admitted that drought contingency plans that include installation of salinity barriers, TUCPs that weaken or waive minimum Delta water quality objectives, and violation of requirements of the biological opinions like those approved in 2014 and 2015 are “reasonably foreseeable to occur in future droughts.” *See id.* at 11-4149. Yet the Final EIS/EIR did not analyze the environmental impacts of such reasonably foreseeable drought waivers, nor did it include any measures to ensure that water quality objectives will be achieved in future droughts.

Similarly, DWR and Reclamation’s CalSim modeling that was used in the 2020 Final EIS on the long term operations of the CVP and SWP and the 2019 final biological opinions issued by NMFS and FWS drained Oroville to unrealistically low levels, below the minimum power pool, in 8 of the 12 critically dry years analyzed in the model. *See* email from Derek Hilts to Doug Obegi dated March 29, 2019. For instance, storage in Oroville at the end of September was reduced below 800 TAF in 1924, 1929, 1931, 1933, 1934, 1977 (to 138.7TAF), 1988, and 1992. *Id.* Yet once again, DWR and Reclamation refused to identify how they would operate the CVP and SWP to actually meet water quality objectives during drought conditions or analyze the environmental impacts of waiving water quality objectives, violating the terms of the biological opinions, and/or installing salinity barriers in future droughts. Instead, they deferred to the future the development of a “drought toolkit” that has still not been publicly released.

In 2020, DWR’s Draft EIR regarding operations of the State Water Project again drained Oroville to unrealistically low levels and admitted that operations were unlikely to be

⁷ In addition to the TUCPs filed by DWR and Reclamation and approved in part or in full by the Board in 2014, 2015, 2016, and 2021, Reclamation also violated the Vernalis water quality objective in D-1641 in 2018 and 2020.

implemented as modeled, but failed to change operations to meet water quality objectives or analyze the effects of drought waivers like those proposed in 2014 and 2015:

Under extreme hydrologic and operating conditions where not enough water supply exists to meet all requirements, CalSim II uses a series of operating rules to reach a solution, to allow continuation of the simulation. These operating rules are recognized to be a simplified version of the very complex decision processes that CVP and SWP operators use in actual extreme conditions. Therefore, model results and potential changes under these extreme conditions should be evaluated on a comparative basis between alternatives and are an approximation of extreme operating conditions. For example, CalSim II model results show simulated occurrences of extremely low storage conditions at CVP and SWP reservoirs during critical drought periods, when storage is at dead-pool levels, at or below the elevation of the lowest level outlet. Simulated occurrences of reservoir storage conditions at dead-pool levels may occur coincidentally with simulated impacts that are determined to be potentially significant. **When reservoir storage is at dead-pool levels, instances may occur in which flow conditions fall short of minimum flow criteria, salinity conditions may exceed salinity standards, diversion conditions may fall short of allocated diversion amounts, and operating agreements may not be met.**

DWR, Draft Environmental Impact Report for Long-Term Operations of the California State Water Project at 4-5 (emphasis added). NRDC and others specifically commented that DWR needed to analyze the additional adverse effects of reasonably foreseeable waivers of water quality objectives and other measures like those proposed in 2014 and 2015, but DWR refused, claiming that it was “**speculative**” to evaluate the environmental impacts from the installation of salinity barriers or TUCPs like those in 2014 and 2015. *See* Final EIR at II.1.24-1 (emphasis added). Once again, DWR refused to analyze the environmental impacts of drought waivers and refused to identify how they would operate the SWP to meet water quality objectives in future droughts.

D-1641 imposes water rights conditions that require DWR and Reclamation to meet water quality objectives in the 1995 Water Quality Control Plan in all water year types, and these water quality objectives already require far less flow and provide far less protection for fish and wildlife in critically dry years. DWR and Reclamation’s “plan” for operations during droughts appears to be nothing more than declaring an emergency and filing TUCPs to waive their obligations to the public so that they can violate water quality objectives that were specifically designed for critically dry years, without ever analyzing the devastating impacts to fish and wildlife during drought conditions from failing to meet even these inadequate water quality objectives. By failing to plan for drought conditions, DWR and Reclamation have failed to demonstrate due diligence and their failure to plan for drought demonstrates that granting the TUCP would not be in the public interest.

(b) Granting the TUCP is not in the public interest because DWR seeks to waive its water rights obligations to the public even though it has not reduced its SWP allocation to zero.

The Board should rescind its conditional approval and should not grant the TUCP unless and until DWR reduces its State Water Project allocation to zero, as it is not in the public interest to allow DWR to waive its water rights obligations to the public without first reducing discretionary water supply allocations to its contractors (with exceptions for true health and safety needs).⁸ In particular, the Board should require that the 200,000 acre feet of water that is conserved by cutting the allocation to zero be stored behind Shasta Dam, substantially improving temperature management for salmon this year.

D-1641 requires exports to be reduced to zero in order to meet water quality objectives, as DWR and Reclamation do not have a right to divert, store and/or deliver water unless they comply with the terms and conditions of their water rights, including these obligations to the public. Reclamation has reduced water supply allocations to their agricultural water service contractors north and south of the Delta to zero and has reduced their allocations to M&I contractors to 25% or health and safety levels. Yet DWR still has not reduced discretionary allocations to SWP Table A contractors to zero. Moreover, nearly half (47%) of the SWP allocation would be delivered to the Metropolitan Water District of Southern California, which has record amounts of water in storage this year. *See* Metropolitan Water District of Southern California, Water Surplus and Drought Management Update Presentation, Water Planning and Stewardship Committee, Feb. 8, 2021, at 19, available online at https://mwdh2o.granicus.com/MetaViewer.php?view_id=12&clip_id=8742&meta_id=233238. Given the fact that the TUCP seeks to violate water rights obligations to the public, the Board should require DWR to reduce the SWP allocation to zero (with exceptions to meet true health and safety needs).

Reducing this allocation to zero could conserve approximately 210,000 acre feet of water. As explained in NRDC's May 21, 2021 email to the State Water Resources Control Board, reducing this allocation – even if the water to support the SWP allocation is already in San Luis Reservoir – could help to meet other obligations and thereby reduce reservoir releases and increase storage in Shasta Dam beyond what is in the Shasta Temperature Management Plan. For instance, given the large debt under the Coordinated Operating Agreement owed by the SWP to the CVP this year, this water could be used in lieu of releases from Shasta Reservoir to support the CVP

⁸ Minimum exports of 1,500 cfs does not appear to be necessary for human and health and safety, nor for maintaining the operations of the CVP and SWP. First, during the last drought DWR estimated that human health and safety needs were significantly less than 1,500 cfs, and several of the TUCPs limited Delta pumping to what was necessary for health and safety, up to a maximum of 1,500 cfs. Second, the projects have and can consistently operate at 1,100 cfs, for instance with 800 cfs of CVP pumping and 300 cfs of SWP pumping. Finally, the TUCP (page 83 of the pdf) itself indicates that combined CVP/SWP pumping will be a monthly average of 1,200 cfs.

allocation or in lieu of releasing water from Shasta to support water transfers from Sacramento River Settlement Contractors. Moreover, to the extent that this water is already stored in San Luis, it could result in more than 210,000 acre feet of increased reservoir storage this year by avoiding carriage losses through the Delta. That should enable Reclamation to achieve 1.47 million acre feet of storage in Shasta at the end of September, which is the same end of September storage level as the least environmentally destructive Shasta temperature operations that have been modeled by NMFS this year.

(c) Granting the TUCP is not in the public interest because DWR and Reclamation are continuing to deliver millions of acre feet of water, including water allocations to senior contractors in excess of the water available under those contractors' claimed water rights.

The inequity of California's water rights system is brought into stark relief this year. Millions of acre feet of water is being allocated to settlement and exchange contractors who claim senior water rights (largely corporate agribusinesses), while allocations to municipal and industrial contractors (which serve residents in cities such as San Jose) are cut to health and safety levels, and protections for the environment are cut below the minimum water quality objectives for a critically dry year in the 1995 Water Quality Control Plan and D-1641 – which already are inadequate to protect fish and wildlife. But the Board has ample authority, under the reasonable use and Public Trust doctrines, to begin to address this inequity.

Granting the TUCP without first reducing water allocations for DWR's and Reclamation's settlement and exchange contractors to the amounts of water they could reasonably claim to be entitled to under their claimed water rights would not be in the public interest.⁹ 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, 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.

⁹ 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.

“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 Court of Appeal concluded in this case 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.

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. It is not in the public interest to grant the TUCP – allowing the CVP and SWP to violate their water rights obligations to the public – without first requiring DWR and Reclamation to reduce these contract allocations at a minimum to the amounts of water that they could reasonably claim under their water rights.

(1) DWR's 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 and/or increase Delta outflow, potentially making it unnecessary to install the salinity barrier and grant the TUCP.

(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 schedule¹⁰ 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:

¹⁰ 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.

Month	Estimated diversions this year (cfs)	Estimated Diversions this year (Acre Feet)	Sacramento River at Bend Bridge Unimpaired Runoff (DWR, b120, 90% forecast as of May 1, 2021)	Percent of unimpaired runoff diverted
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%
August	3,250	199,835	155,000	129%

Month	Estimated diversions under 75% contract	Estimated Diversions this year (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.¹¹ Reclamation's table states that "Delivery data is based on District turn-out readings and may

¹¹ The Bureau of Reclamation's water delivery tables for each year going back to 1985 are available online at: <https://www.usbr.gov/mp/cvo/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.

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
Average	1,439,355

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.¹² 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

¹² 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.

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 in light of the fact that 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.

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

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.

(d) Granting the TUCP and installing the salinity barrier is not in the public interest because it is likely to significantly increase the proliferation of harmful algal blooms, threatening the health and safety of communities in the Delta

Finally, granting the TUCP and installing the salinity barrier is likely to cause significant adverse impacts to communities in the Delta by degrading water quality. As documented above, granting the TUCP and installing the salinity barrier is likely to significantly increase the proliferation of harmful algal blooms in the Delta, with Lehman et al 2020 finding that shifting X2 3 km upstream resulted in a three-fold (300%) increase in the proliferation of harmful algal blooms. Granting the TUCP and installing the salinity barrier will shift X2 upstream by 2 km and significantly increase residence time in certain portions of the Delta, which is therefore very likely to substantially increase the proliferation of harmful algal blooms.

Harmful algal blooms are a threat to human health and safety for residents in Stockton and other communities in the Delta. Dr. Peggy Lehman with DWR warned at a December 2020 meeting

of the Delta Independent Science Board that the cyanobacteria in harmful algal blooms can aerosolize, threatening human health and safety even without touching or drinking the water. See Plaas and Pearl 2021; Maven's Notebook, Delta ISB: Harmful Algal Blooms in the Delta (and Elsewhere), April 14, 2021, available online at:

<https://mavensnotebook.com/2021/04/14/delta-isb-harmful-algal-blooms-in-the-delta-and-elsewhere/>. According to that summary of the meeting, Dr. Lehman told the ISB and public:

People in this estuary could not even go out on the water with their boats. And we now know that there's even an aerosol component to microcystis. It is dangerous for people to be in the Delta. And this is a huge recreational area and huge fishing area, so it's a problem.

Id. Increasing the extent of harmful algal blooms that threaten human health and safety is plainly not in the public interest.

In addition, the TUCP shows, and the experiences in 2014 and 2015 demonstrate, that granting the TUCP and installing the salinity barrier will maintain water quality for export but doing so will worsen salinity intrusion in other parts of the Delta. See, e.g., TUCP at 33-36.

Because the operations proposed in the TUCP and installing the salinity barrier is likely to substantially increase the proliferation of harmful algal blooms, threatening the health and safety of residents in Stockton, Discovery Bay, and other communities in the Delta, granting the TUCP is not in the public interest.

III. Conclusion

Granting the TUCP will cause unreasonable impacts to fish and wildlife and is not in the public interest. DWR and Reclamation have wholly failed to exercise due diligence by failing to prepare for drought conditions, and instead they seek to waive their commitments to the public: the terms and conditions of their water rights, which are the fundamental prerequisite to DWR and Reclamation's legal authority to store and divert water for their contractors. DWR and Reclamation have petitioned the Board to waive minimum Delta water quality objectives and install a salinity barrier in the Delta for the third time in the past eight years – threatening human health and safety for Delta communities from increased proliferation of harmful algal blooms, threatening the extinction of Delta Smelt, and causing other unreasonable impacts to fish and wildlife including increasing the abundance of non-native species and submerged aquatic vegetation – without first reducing their water allocations to contractors. Granting the TUCP as proposed by DWR and Reclamation would constitute an unreasonable use of water under the state constitution, causes unreasonable impacts to fish and wildlife, and fails to protect the Public Trust.

*NRDC et al's objections to, protest, and comments on Temporary Urgency Change Petition
June 4, 2021*

For all of the foregoing reasons, we object to and protest the TUCP, and urge the Board to instead take the actions identified on pages 3-4 of this letter.

Sincerely,



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Natural Resources Defense Council



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Defenders of Wildlife



Jon Rosenfield, Ph.D.
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