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April 5, 2022

State Water Resources Control Board
c/o Scott Frazier
P.O. Box 2000
Sacramento, CA 95812-2000

Sent via email to Bay-Delta@waterboards.ca.gov and Scott.Frazier@waterboards.ca.gov

RE: Objections to and Protest of Temporary Urgency Change Petition Filed by the California Department of Water Resources and U.S. Bureau of Reclamation Regarding Permits and Licenses of the State Water Project and Central Valley Project

Dear Mr. Frazier:

On behalf of the Natural Resources Defense Council, San Francisco Baykeeper, Defenders of Wildlife, Restore the Delta, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Golden State Salmon Association, and the Bay Institute, we are writing to object to, protest, and provide comments on the temporary urgency change petition filed by the Department of Water Resources and U.S. Bureau of Reclamation regarding permits and licenses of the State Water Project ("SWP") and Central Valley Project ("CVP") ("TUCP"). For the fifth time in the past nine years, DWR and Reclamation have 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 2022. We object to and protest the TUCP on the grounds that: (1) granting the petition will unreasonably harm fish and wildlife; (2) granting the petition is contrary to the public interest; and, (3) DWR and Reclamation have failed to exercise due diligence.¹

¹ In addition, the TUCP does not include a petition to change Reclamation's obligation to meet the Vernalis pulse flow standard under D-1641, and Reclamation's planned operations fail to meet this legal obligation, as the State Water Board acknowledged in its March 7, 2022 letter to

The State's failure to plan for droughts, in combination with dry hydrology, has left the State unprepared for the drought. Our Protest can be dismissed if:

- 1) DWR and Reclamation reduce water supply allocations to what is necessary to meet human health and safety and to provide Level 2 refuge water supply as required by section 3406(d)(4) of the 1992 Central Valley Project Improvement Act;
- 2) CVP and SWP water exports in the Delta are limited to what is necessary for human health and safety (and Refuge Level 2 water supply) whenever water quality objectives are not being met, rather than increasing exports as proposed under the TUCP;
- 3) DWR and Reclamation take action to conserve storage in upstream reservoirs, including a prohibition on water transfers that would reduce storage in Shasta Reservoir.

I. Granting the Petition 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, reducing the survival of juvenile salmon migrating through the Delta, increasing the abundance of non-native fish species and submerged aquatic vegetation, and increasing the extinction risk for Delta Smelt and Longfin Smelt. In addition, the TUCP does nothing to increase water storage in Shasta Reservoir or the ability to meet existing water temperature objectives for salmon in the Sacramento River under the Basin Plan.²

The drought operations proposed for 2022 will largely repeat the disasters of 2014, 2015 and 2021. Just as in those years, 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, in order to improve water supply for CVP and SWP contractors. 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:

Reclamation. We specifically object to allowing Reclamation to violate its obligations to meet the Vernalis pulse flow standard for 31 days in April and May, which significantly contributes to the harm to fish and wildlife and results in exports that are more than twice San Joaquin River inflows in April.

² The TUCP itself includes no modeling of CVP and SWP operations, however modeling subsequently provided to the State Water Resources Control Board indicates that the TUCP would not change Shasta storage levels this fall. See Operations Summary for the Temporary Urgency Change Petition developed using the February 1, 2022 Bulletin 120 Forecast, available online at:

https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/docs/2022/202323_TUCP_Ops_Summary.pdf. Earlier modeling performed by the Bureau of Reclamation showed that granting the TUCP would actually result in lower end of September storage in Shasta Reservoir.

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 p. 39. Granting the TUCP will largely repeat the mistakes of the past drought, despite the Board's conclusion that operations during the drought were neither effective nor protective.

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. 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."). The July 2018 Framework 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. This will unreasonably harm fish and wildlife.

Finally, the State Water Resources Control Board has an independent obligation to do more than simply meet the requirements of the federal Endangered Species Act ("ESA") and California Endangered Species Act ("CESA"). The Board has a legal duty to protect fish and wildlife under

the Public Trust doctrine to the extent feasible and to prevent unreasonable impacts to native fish and wildlife (not merely those listed under the ESA or CESA). Mere compliance with the ESA and CESA does not prevent unreasonable impacts to fish and wildlife and does not fulfill the Board's legal obligations, as the Board has previously acknowledged and as we have previously addressed in detail. *See also* NRDC and The Bay Institute, Closing Comments Relating to the Phase 2 Workshops on the Comprehensive (Phase 2) Review and Update to the Bay-Delta Plan, October 12, 2012.³

The Interim Operations Plan recently approved by the federal court does not avoid jeopardizing ESA-listed species, and indeed, the agencies have argued that the Interim Operations Plan does not have to avoid jeopardizing listed species. Because the agencies have not shown that granting the TUCP would avoid jeopardizing species listed under the ESA or CESA, it would be clear error for the Board to conclude that granting the TUCP fulfills the Boards obligations under CESA or Public Trust, regardless of what other agencies have concluded.

With that background, it is clear that granting the TUCP will cause unreasonable impacts to fish and wildlife, including:

A. The TUCP will “appreciably” reduce survival of salmon and steelhead migrating through the Delta:

The TUCP concludes that survival of winter-run Chinook salmon, spring-run Chinook salmon, and fall-run Chinook salmon will all be appreciably reduced as a result of the reduced flows under the TUCP. TUCP at 1-20, 2-20 to 2-21, 2-31 to 2-32, 2-58 to 2-59. This includes a 3-4% absolute reduction in salmon survival through the Delta in the months of April through June (9-10% relative reduction), as shown in Table WR3 from the TUCP that is reproduced below.

Month	Base	TUCP
April	0.38	0.34 (-10%)
May	0.37	0.34 (-9%)
June	0.38	0.35 (-9%)

Note: Percentage difference in parentheses represents TUCP minus base.

See id. at 2-20 to 2-21. The petition also concludes that granting the TUCP will reduce steelhead survival through the Delta from both the Sacramento and San Joaquin Basins; survival of

³ This submission to the State Water Resources Control Board is available online at: https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/comments111312/doug_obegi.pdf. It is hereby incorporated by reference.

Steelhead from the critically important Southern Sierra Diversity Group is expected to decline under the TUCP by 25% versus the base case during April alone. *Id.* at 2-37 to 2-38.⁴

Through-Delta survival rates for juvenile salmon and steelhead are already unsustainable in drier years, yet the TUCP would cause a substantial further reduction in survival of salmon migrating through the Delta this year. Because there was extremely high temperature-dependent mortality of winter-run, spring-run and fall-run salmon over the past year, the few juvenile salmon that have survived will now face even more dire conditions in the Delta. Moreover, because the TUCP does not affect Shasta storage, there are no actual (or even claimed) offsetting benefits to endangered winter-run Chinook salmon, nor to fall run salmon that spawn in the Sacramento River. And because there is no analysis or modeling to support any claims that increased storage in Folsom or Oroville would benefit spring-run or fall-run Chinook salmon or other species from improved temperature control, any such assertions lack a reasoned explanation or evidentiary support.

B. The TUCP will harm Delta Smelt

The petition also concludes that granting the TUCP will harm Delta Smelt, including by reducing prey abundance in the low salinity zone, increased salinity that reduces habitat quality and quantity, and negative effects to recruitment from the reduction in Delta outflow. *Id.* at 1-21, 2-10, 2-39, 2-45. The best available science shows that reducing Delta outflow will harm Delta Smelt, as the petition admits:

Thus, the most recent analysis from Polansky et al. (2021) suggests that the TUCP could result in negative effects to delta smelt, based on higher March through May X2 under the TUCP (~82.3 km) relative to the base case (78.5 km). As previously noted, Polansky et al. (2021: Figure 1b) found that post-larval delta smelt survival was positively related with June–August Delta outflow, indicating a potential negative effect of the TUCP (mean June–August Delta outflow = ~3,800 cfs) relative to baseline (~4,800 cfs).

Id. at 2-45. Granting the TUCP increases the risk of extinction of Delta Smelt.

C. The TUCP will harm Longfin Smelt

The petition also finds that granting the TUCP will likely reduce the abundance of Longfin Smelt, which is unsurprising given that the TUCP will reduce Delta outflow during the December to May period. *Id.* at 2-56. While the petition claims the reduction in abundance is “small,” the species has declined in abundance by more than 99% over the past several decades,

⁴ The analysis in the TUCP underestimates the reduction in survival of steelhead because the base case does not include Reclamation’s legal obligation to meet Vernalis pulse flows for 31 days in April and May.

and any further reductions in survival and abundance, even “small” ones, imperil the continued existence of the species.

The TUCP relies on “new methodology” for estimating changes in abundance of Longfin Smelt resulting from changes in outflow. This new methodology is not the best available science and is contrary to the published literature which unequivocally identifies Delta outflow in the months from December through June as the principal driver of Longfin Smelt population growth or decline (e.g., Rosenfield and Baxter 2007; Kimmerer 2004; Kimmerer et al. 2009; Rosenfield 2010; Nobriga and Rosenfield 2016). To our knowledge, this new method has not been subjected to scientific peer-review.

The reasoning described in the TUCP (that natural variation is high relative to the likely change in Longfin Smelt abundance) is without scientific merit and reflects a fundamental misunderstanding of statistical analysis. The reasoning and methodology do not employ paired comparisons – a requirement for conducting valid scientific comparisons between modeled scenarios with multiple factors that impact potential outcomes. Because the outcomes under the TUCP and base case are subject to variation that is unrelated to flows, any valid comparison of the TUCP with the base case must be based solely on differences between those two scenarios – i.e., levels of Delta outflow.

A *valid* statistical comparison assumes that non-flow variation will affect both scenarios equally in any given year. What is relevant to the evaluation of different flow scenarios is the average *difference* and variation in the difference in outcomes between scenarios. The new methodology does not make this relevant comparison or analyze the relevant differences and variation.

Instead, the new methodology described in the TUCP compares the means of two different scenarios as if they were independent of each other. This flawed analysis will find that changes in an environmental driver do not affect a highly variable population, even if (as is true here) the driver of interest is the only variable known to affect that population. Similarly, the new methodology will falsely conclude that real differences between scenarios are less likely to happen when population abundance is low because historical natural variation in abundance becomes large relative to mean abundance as mean abundance declines.

The conclusions presented in the TUCP are erroneous – all the scientific evidence indicates that, by reducing Delta outflow in April-June, the operations proposed under the TUCP will lead to declines in the Longfin Smelt population.

Because the population is already on the verge of extinction, even “small” or “minimal” impacts from the TUCP risk disastrous consequences for Longfin Smelt.

D. The TUCP will benefit invasive species and harm native species

In addition to harming native fish species, TUCP also finds that granting the petition will increase the abundance of several non-native species, including Mississippi Silversides, submerged aquatic vegetation, and the invasive clam *Potamocorbula amurensis*, *Id.* at 1-21, 2-11, 2-60.

E. The TUCP's harmful effects to fish and wildlife are separate from and cumulative with the effects of drought conditions

Finally, the TUCP falsely claims that many of the impacts to fish and wildlife are due to drought. *See id.* at 1-20. There is no question that low river flows and low Delta outflows generally result in increased stress on native fish species. But this ignores that our native species evolved with droughts. What has changed, however, is the unsustainable level of water diversions from the watershed that have dramatically reduced the abundance of many native fish species over time, and which cause adverse effects that are in addition to the effects of drought.

The claim that these adverse effects are largely due to drought is clearly erroneous and is not supported by the evidence, because it ignores: (a) the effects of DWR and Reclamation violating their water rights obligations to meet upstream water temperature objectives and downstream water quality objectives, which is not a function of drought but a function of the State's failure to plan for drought and reduce water allocations sufficient to meet these obligations; and, (b) the effects of water supply allocations to contractors of the CVP and SWP, including Settlement and Exchange Contractors, as discussed *infra*.

II. Granting the Petition is Contrary to the Public Interest

Granting the TUCP as proposed is contrary to the public interest because: (A) DWR and Reclamation have not reduced water supply allocations to what is necessary for human health and safety before petitioning to waive their obligations to the public under their water rights; (B) Reclamation and DWR would increase Delta exports under the TUCP relative to the base case, and exports are not limited to what is needed for human health and safety (and level 2 water supply allocations to wildlife refuges); and (C) granting the TUCP would increase harmful algal blooms that threaten communities in the Delta.

A. Granting the TUCP is not in the public interest because DWR and Reclamation seek to waive their water rights obligations to the public without reducing water supply allocations to what is necessary to meet human health and safety

First, it is not in the public interest to allow DWR and Reclamation to waive their obligations to the public without first reducing water supply allocations to their contractors, except for allocations necessary to meet human health and safety and level 2 water supply for wildlife refuges as required by federal law. 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 their obligations to the public. Instead, DWR is maintaining a 5% allocation for all State Water Project contractors, *in addition to* water for human health and safety.

In addition, granting the TUCP without first reducing water allocations for DWR's and Reclamation's settlement and exchange contractors would not be in the public interest.⁵ 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 is a waste and unreasonable use of water.

The TUCP provides no information regarding the water supply allocations to DWR and Reclamation's contractors, nor any modeling to evaluate whether reducing allocations to these contractors would enable DWR and Reclamation to meet water quality objectives. By failing to disclose how much water Reclamation and DWR are delivering to their contractors, the petition fails to demonstrate whether granting the TUCP could be in the public interest. Granting the TUCP clearly is not in the public interest, and DWR and Reclamation's request to sacrifice the public's rights in order to continue to deliver unsustainable amounts of water to their contractors must be rejected.

B. Granting the TUCP is not in the public interest because DWR and Reclamation are not limiting exports to what is necessary for human health and safety, but instead would increase exports under the TUCP

Second, it is not in the public interest to allow DWR and Reclamation to increase water exports from the Delta, far exceeding what is necessary for human health and safety and level 2 water supply for wildlife refuges.

The petition claims that,

The public interest is best served by maintaining, for as long into the year as possible, storage to support minimum exports and water quality necessary for the protection of critical water supplies and species protections. The requested changes are in the public interest by preserving water supplies to meet minimum

⁵ 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.

health and safety supplies, by increasing the duration and likelihood of maintaining minimal Delta salinity control, and by reducing the risk of cold water pool depletions which would further impact sensitive aquatic species.

Id. at 1-21. This statement is demonstrably false; the water diversions that are facilitated by the TUCP are not limited to those necessary for human health and safety, and the TUCP is not limited to “minimum exports.”

As noted *supra*, there is no minimum exports required under D-1641, and the CVP and SWP routinely pump less than 1,500 cfs to meet water quality standards. The petition shows that Delta exports would be less than 1,500 cfs absent the TUCP, and that exports would increase in April, May and June if the TUCP is granted relative to the base case. TUCP at 2-8 (Table Model1).

Second, the 1,500 cfs export rate far exceeds what is necessary to meet human health and safety and water supplies for wildlife refuges.⁶ During the prior drought in 2014-2015, DWR and Reclamation had identified approximately 400 cfs as the minimum Delta export pumping needed for human health and safety. *See* DWR and Reclamation, Updated Report to SWRCB on Export Amounts to Maintain Health and Safety During Drought, April 8, 2014.⁷ The Board itself has admitted that the 1,500 cfs export rate is intended to support water deliveries to agricultural contractors and is not limited to human health and safety. *See, e.g.*, State Water Resources Control Board, Order Approving TUCP, February 3, 2015, at 16; State Water Resources Control Board, March 18, 2014 Order Modifying TUCP Order, at 7 (striking human health and safety as the justification for the 1,500 cfs export limit). Indeed, it is common knowledge that exports of 1,500 cfs are primarily intended to make water deliveries to the San Joaquin River Exchange Contractors (with some deliveries for wildlife refuges), as Reclamation admitted in 2019. *See* Reclamation, 2019 Final Biological Assessment, at 4-55 (“In order to meet health and safety needs, critical refuge supplies, **and obligations to senior water rights holders**, the combined CVP and SWP export rates at Jones Pumping Plant and Banks Pumping Plant will not be required to drop below 1,500 cfs.” (emphasis added)).⁸

The Board has found that the vast majority of the Delta water exports in 2021 went to agricultural contractors for agricultural uses, not for human health and safety by municipal contractors. *See* Water Rights Order 2022-0095 at 39 (95 percent of CVP exports were for

⁶ Pursuant to condition 2 of Water Rights Order 2022-0095, by April 1, 2022, Reclamation and DWR are obligated to provide an explanation of the minimum Delta export rates for human health and safety and wildlife refuge needs. Unfortunately, this information was not available to the public as of April 1, 2022.

⁷ This document is available online at https://www.waterboards.ca.gov/drought/docs/tucp/031814order_urgchg_swcv/20140408_dwrusbr_to_swrcb_updated_minhs.pdf. It is hereby incorporated by reference.

⁸ This document is available online at: <https://www.usbr.gov/mp/bdo/docs/ba-chapter-4-proposed-action.pdf>. It is hereby incorporated by reference.

agricultural use by exchange and settlement contractors, 4 percent for municipal and industrial uses, and 1 percent for refuge water supply; 32 percent of SWP exports for agricultural contractors). The Board also concluded that “exports of 1,200 cfs are higher than is required to meet reported minimum health and safety deliveries.” *Id.* at 40. Moreover, the Order erroneously equates all water deliveries for municipal and industrial uses with human health and safety, *see id.*, when in fact the Board has adopted regulations explicitly rejecting this approach. *See* Cal. Code Regs., tit. 23, § 871.1.

When water quality requirements are waived, it is an unreasonable use of water and not in the public interest to allow CVP and SWP exports from the Delta to exceed what is necessary for human health and safety and refuge water supply.

C. Granting the TUCP is not in the public interest because it contributes to harmful algal blooms and degraded water quality that threaten Delta communities

Third, granting the TUCP is not in the public interest because the reduced flows are likely to exacerbate and contribute to harmful algal blooms in the Delta that threaten human health and safety. 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. 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 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 harmful algal blooms is closely linked to water residence time (i.e., flow rates). Berg and Sutula 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 are likely to 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.

Once again, the TUCP falsely claims that the petition would have “small” effects on HABs, misrepresenting the findings of Lehman et al 2020. TUCP at 2-12 to 2-13. Yet as the TUCP admits, “Delta outflow is a significant predictor of *Microcystis* occurrence, and a large bloom that occurred in Franks Tract in 2021 may have been exacerbated by the emergency drought barrier (Hartman et al. 2021).” *Id.* at 2-13. Moreover, the report submitted by DWR to the State Water Board in 2021 concludes that the reduced outflow under the TUCP in 2021 significantly increased the likelihood of observing *Microcystis* in the South and Central Delta:

The binomial regression of the monthly probability of *Microcystis* presence versus monthly average Delta Outflow found a significant negative relationship between log-transformed flow and *Microcystis* (estimate = -0.959, St. Error = 0.08, z-value = -11.3, $p < 0.0001$, r-squared 0.068). Higher outflow was associated with lower probability of observing *Microcystis*, and there may be a threshold of flow above which *Microcystis* is not observed (Figure 7). The TUCP reduced the monthly average Delta Outflow by approximately 750 CFS, from 4000 to 3236 in June and 3328 in July (CDEC station DTO). Applying the regression, this equated to a change in probability of detecting *Microcystis* from 56.6% without the TUCP to 69.9% in June and 67.6% in July with the TUCP. Actual values for percent of observations with *Microcystis* present were 53% in June and 86% in July.

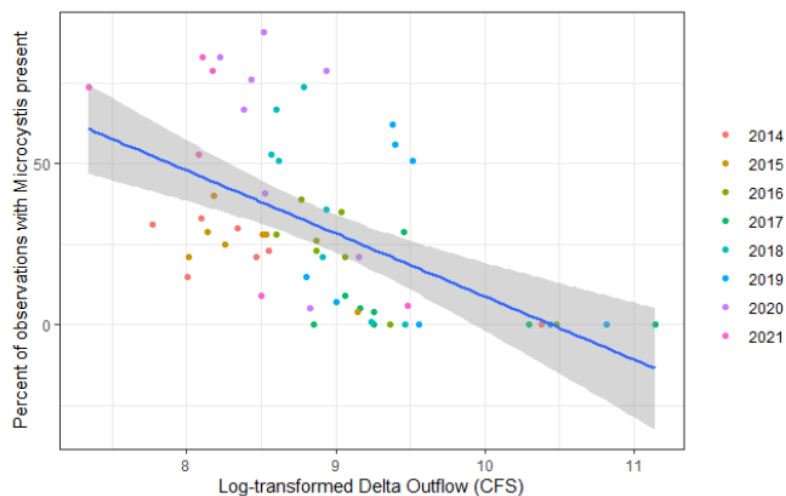


Figure 7
Percent of visual index values with *Microcystis* present in the Central and South Delta versus log-transformed Delta Outflow.

Hartman et al 2021 at 2-14, available online at:

https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/docs/2021/202

[11215_cond8-report.pdf](#). That report concludes that both visual index and microscopy data found a significant relationship between monthly Delta outflow and *Microcystis* observations, which is consistent with prior research. *Id.* at 2-34.

The growing frequency and magnitude of harmful algal blooms threatens public health in Delta communities, and it is unreasonable and not in the public interest to approve a TUCP that will increase these harmful effects.

III. DWR and Reclamation Have Failed to Exercise Due Diligence

Finally, there is no question that DWR and Reclamation have failed to exercise due diligence. The Water Code imposes a mandatory duty on the Board to find the petitioner's need for change is not urgent if the Board determines that "the petitioner has not exercised due diligence either (1) in petitioning for a change pursuant to provisions of this division other than this article, or (2) in pursuing that petition for change." Cal. Water Code § 1435(c); *see* Order 2022-0095 at 43-44. There is no evidence that DWR and Reclamation have petitioned the Board at any time since 2016 to change these requirements other than via TUCPs, and DWR and Reclamation have sought delays to the Board's completion of the updated Bay-Delta Water Quality Control Plan and implementation of those standards through pursuit of voluntary agreements and other means. The petition wholly fails to discuss the legal standard for due diligence, to provide any competent evidence about DWR and Reclamations purported diligence, and fails to provide a reasoned explanation regarding water supply allocations for CVP and SWP contractors. TUCP at 1-22.

IV. Conclusion

Granting the TUCP as proposed would cause unreasonable impacts to fish and wildlife, is not in the public interest, and should not be granted because DWR and Reclamation have failed to exercise due diligence. Instead of granting the TUCP as proposed, the Board should impose the following conditions on any approval:

- 1) DWR and Reclamation reduce water supply allocations to what is necessary to meet human health and safety and to provide Level 2 refuge water supply as required by section 3406(d)(4) of the 1992 Central Valley Project Improvement Act;
- 2) CVP and SWP water exports in the Delta are limited to what is necessary for human health and safety (and Refuge Level 2 water supply) whenever water quality objectives are not being met, rather than increasing exports as proposed under the TUCP;
- 3) DWR and Reclamation take action to conserve storage in upstream reservoirs, including a prohibition on water transfers that would reduce storage in Shasta Reservoir.

NRDC et al objections to and protest of TUCP
April 5, 2022

Thank you for consideration of our views.

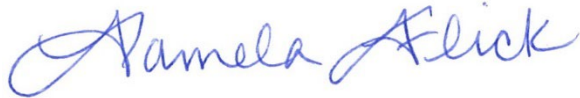
Sincerely,



Doug Obegi
Natural Resources Defense Council



Jon Rosenfield, Ph.D.
San Francisco Baykeeper



Pamela Flick
Defenders of Wildlife



Barbara Barrigan-Parrilla
Restore the Delta



Mike Conroy
Pacific Coast Federation of Fishermen's
Associations and Institute for Fisheries Resources



John McManus
Golden State Salmon Association



Gary Bobker
The Bay Institute

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