

## PROTEST- PETITION

### PETITION FOR CHANGE ON

**APPLICATIONS** 5630, 14443, 14445A, 17512; **PERMITS** 16478, 16479, 16481, 16482  
**OF California Department of Water Resources**

*We, Chris Shutes, Executive Director, California Sportfishing Protection Alliance (CSPA), 1608 Francisco St., Berkeley, CA 94703, [blanccapaloma@msn.com](mailto:blanccapaloma@msn.com), (510) 421-2405; Barbara Vlamis, Executive Director, AquAlliance, P.O. Box 4024, Chico, CA 95927, [barbarav@aqualliance.net](mailto:barbarav@aqualliance.net), (530) 895-9420; and Michael Jackson, counsel to CSPA, and AquAlliance, P.O. Box 207, 429 W. Main St., Quincy, CA 95971, [mjatty@sbcglobal.net](mailto:mjatty@sbcglobal.net), (530) 283-0712; and David Fries, Conservation Chair, San Joaquin Audubon Society, [dfries.audubon@gmail.com](mailto:dfries.audubon@gmail.com), PO Box 7755 Stockton, California 95267, (209) 323-8543 (Protestants) have carefully read the petition requesting changes in water rights of the State Water Project (SWP) submitted to the State Water Resources Control Board on February 22, 2024, by the Department of Water Resources.*

#### **Protest based on ENVIRONMENTAL OR PUBLIC INTEREST:**

- the proposed action will not be within the State Water Resources Control Board's jurisdiction
- not best serve the public interest
- be contrary to law
- have an adverse environmental impact

State facts which support the foregoing allegations

*Attachment A comprises allegations of protest from CSPA, AquAlliance, and San Joaquin Audubon Society regarding environmental and public interest considerations. Attachment B comprises allegations of protest from CSPA regarding injury to prior rights. Attachment C states proposed permit terms in the event that the State Water Resources Control Board grants the Petition.*

Under what conditions may this protest be disregarded and dismissed? (Conditions should be of a nature that the petitioner can address and may include mitigation measures.)

*See Attachment C for proposed permit terms based on environmental and public interest issues.*

**Protest based on INJURY TO PRIOR RIGHTS:**

To the best of my (our) information and belief the proposed change or transfer will result in injury as follows:

*See Attachment B.*

Protestant claims a right to the use of water from the source from which petitioner is diverting, or proposes to divert, which right is based on riparian right:

*See Attachment B.*

List permit or license or statement of diversion and use numbers, which cover your use of water (if adjudicated right, list decree).

*See Attachment B.*

Where is your diversion point located? \_\_1/4 of \_\_\_\_ 1/4 of Section \_\_\_\_\_, T \_\_\_\_, R\_\_\_\_, \_\_\_\_B&M

*Collinsville CA, See Attachment B.*

If new point of diversion is being requested, is your point of diversion downstream from petitioner’s proposed point of diversion?

*Yes. See Attachment B.*

The extent of present and past use of water by protestant or his predecessors in interest is as follows:

*See Attachment B.*

Under what conditions may this protest be disregarded and dismissed?

*See Attachment C.*

**All protests must be signed by the protestant or authorized representative:**

Date: May 13, 2024



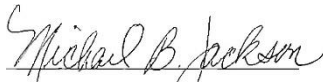
Chris Shutes, Executive Director  
California Sportfishing Protection Alliance



Barbara Vlamis, Executive Director  
AquAlliance



David Fries, Conservation Chair  
San Joaquin Audubon Society



Michael Jackson  
Counsel to California Sportfishing Protection Alliance and AquAlliance

**All protests must be served on the petitioner.** Provide the date served and method of service used:

*This protest was served via e-mail on the parties identified below on May 13, 2024.*

Attn: Delta Conveyance Project Change Petition Staff  
Division of Water Rights  
State Water Resources Control Board  
[DCP-WR-Petition@waterboards.ca.gov](mailto:DCP-WR-Petition@waterboards.ca.gov)

California Department of Water Resources  
c/o David J. Steffenson  
[David.Steffenson@water.ca.gov](mailto:David.Steffenson@water.ca.gov)

**Attachment A:**

**Protest of  
California Sportfishing Protection Alliance, AquAlliance,  
and San Joaquin Audubon Society  
of the Petition for Change of the California Department of Water Resources  
to Add Points of Diversion in the Northern Sacramento – San Joaquin Delta  
For the Proposed Delta Conveyance Project  
(Applications 5630, 14443, 14445A, 17512;  
Permits 16478, 16479, 16481, 16482):  
Environmental and Public Interest Grounds for Protest**

The California Sportfishing Protection Alliance, AquAlliance, and the San Joaquin Audubon Society (hereinafter, CSPA et al. or protestants) hereby protest the petition for change (Petition) of the California Department of Water Resources (DWR) to add points of diversion in the northern Sacramento – San Joaquin Delta for the proposed “Delta Conveyance Project,” otherwise known as the proposed “Delta tunnel.” DWR submitted its Petition on February 23, 2024. The State Water Resources Control Board (State Water Board) issued a notice of DWR’s change petition on February 29, 2024. On April 18, 2024, the State Water Board issued a revised notice for DWR’s Petition that extended the protest deadline to May 13, 2024.

The proposed additional points of diversion<sup>1</sup> for DWR’s State Water Project (SWP) would be contrary to law, would not be in the public interest, would have adverse environmental consequences, and would harm public trust resources.

**I. Introduction**

**A. The Delta tunnel is an obsolete solution founded in the obsolete water policy of trying to supply an insatiable demand for water.**

The proposed Delta tunnel, officially branded as the “Delta Conveyance Project,” is a culmination of antiquated “longstanding” state water policy whose cornerstone is the capture of as much water as possible. This policy does not question the use to which water is put, or the aggregate reasonableness of the state’s water use. Under this policy, more is better.

The statewide systematic application of this policy has led to the gross overallocation and overappropriation of the state’s water resources. As acknowledged in the 2023 Draft Staff Report for the Update of the Bay-Delta Plan,

The total average unimpaired outflow from the Bay-Delta watershed is about 28.5 MAF/yr. The face value, or total volume of water authorized for diversion, of the active consumptive post-1914 appropriative water right records in the Sacramento/Delta

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<sup>1</sup> The added points of diversion would also be points of rediversion. For simplicity, this protest discusses adding “points of diversion” with the understanding, but without repeating, that they are also points of rediversion.

watershed is approximately 159 MAF/yr (Table 2.7-1a), which is over five times the total annual average unimpaired outflow for the entire Bay-Delta watershed. This total face value amount excludes statements of diversion and use (including riparian and pre-1914 appropriative claims), which are not assigned a face value amount but account for many of the water right records in the Sacramento/Delta watershed.<sup>2</sup>

Earlier studies by Grantham and Viers (2014)<sup>3</sup> and Stroshane (2012)<sup>4</sup> reached similar conclusions.

But the clearest evidence of the overallocation and overappropriation of the waters of the Bay-Delta watershed is the crashing river and estuary ecosystems throughout the watershed, and the groundwater depletion and attendant land subsidence across broad swaths of land in the watershed.

Ecosystem collapse is nowhere more evident than in the Delta itself. Native pelagic fish species are hanging on by a thread. Anadromous fish species have high rates of success traversing the Delta only under conditions of abundant unregulated flow. Harmful algal blooms have become commonplace, present if not pervasive in all but the wettest water years.

Now, DWR proposes to deprive the Delta of even more flow. In the name of “reliability,” DWR comingles arguments about the possible catastrophic failure of existing Delta export facilities with a new strategy to feed the insatiable demand of an overallocated water system. Throughout the Petition, there is a fundamental tension and ambiguity: the project purpose is to assure a “reliability” that is never really defined. There is a deliberate blurring of reliable delivery of sustainable water supplies and reliable delivery of overallocated water that is inherently unsustainable and therefore unreliable.

## **B. Reframing old water policies as responses to climate change and other modern problems does not cure the Delta tunnel’s conceptual obsolescence.**

The Petition, and the badly-founded water policy planning documents from the Newsom administration to which the Petition cites, reframe the old as the new. These documents frame the systemic inability of the overallocated Central Valley water system to meet demand as a function of climate change:

The Project is a critical element of a broader State effort to protect the reliability of statewide water supplies from earthquakes and weather-driven climate extremes ... Future conditions associated with climate change, such as more extreme variability and timing of annual precipitation and associated sea level rise are anticipated to further

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<sup>2</sup> State Water Board, Draft Staff Report: Sacramento/Delta Update to the Bay-Delta Plan (Sep. 2023), p. 2-117.

<sup>3</sup> Grantham, T, and Viers, J, 100 years of California's water rights system: patterns, trends and uncertainty (2014). Available at: <https://iopscience.iop.org/article/10.1088/1748-9326/9/8/084012/meta>.

<sup>4</sup> Stroshane, T, Testimony on Water Availability Analysis for Trinity, Sacramento, and San Joaquin River Basins Tributary to the Bay--Delta Estuary (2012). Available at: [https://www.academia.edu/attachments/82211679/download\\_file?s=portfolio](https://www.academia.edu/attachments/82211679/download_file?s=portfolio).

diminish overall water supply and delivery reliability ... climate-resilient water solutions are increasingly integrated around effectively capturing surface water that falls as precipitation.<sup>5</sup>

The branding is new, but the conclusion is the same old song: divert more, capture more.

In many respects, the cited policy documents from the Newsom administration<sup>6</sup> are appropriately seen as the Newsom administration's reverse-engineering of planning documents in order to provide a strategic veneer to its pet water development projects. These administration planning documents consider overallocation of the state's water as incidental and site-specific rather than fundamental and systemic.

The Petition cites to additional previous legislative documents that appear to support DWR's project, at least conceptually. Careful reading of the *statutory* citations, however, shows that the cherry-picked quotes most frequently recommend *analysis* of alternatives to the existing export facilities and their operation or *generically* refer to improved Delta conveyance.

### **C. The Petition and the proposed Delta tunnel violate the Delta Reform Act.**

The Petition cites to an essential requirement of the Delta Reform Act at WC § 85086(c)(2):

Any order approving a change in the point of diversion of the State Water Project or the federal Central Valley Project from the southern Delta to a point on the Sacramento River shall include appropriate Delta flow criteria and shall be informed by the analysis conducted pursuant to this section. The flow criteria shall be subject to modification over time based on a science-based adaptive management program that integrates scientific and monitoring results, including the contribution of habitat and other conservation measures, into ongoing Delta water management.<sup>7</sup>

However, the Petition unlawfully attempts to evade this *explicit* statutory requirement by deflecting "appropriate Delta flow criteria" to a separate regulatory regime: the Bay-Delta Water Quality Control Plan. The Petition explains: "Consideration of this Petition under Water Code section 85086(c)(2) should occur within the existing regulatory framework for the Delta provided by the existing (or legally implementable updated) Bay-Delta Plan and D-1641."<sup>8</sup>

The Petition concludes:

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<sup>5</sup> DWR Change Petition, pdf p. 1. [All page number cites to the petition are stated according to pdf pagination.]

<sup>6</sup> Executive Order N-10-19 (2019), the California Water Resilience Portfolio (2020), and California's Water Supply Strategy, Adapting to a Hotter, Drier Future (2022).

<sup>7</sup> See Petition, p. 23. The "analysis" referred to in WC § 85086(c)(2) is stated in WC § 85086(c)(1): "For the purpose of informing planning decisions for the Delta Plan and the Bay Delta Conservation Plan, the board shall, pursuant to its public trust obligations, develop new flow criteria for the Delta ecosystem necessary to protect public trust resources."

<sup>8</sup> *Id.* "D-1641" refers to amended Water Rights Decision 1641.

Even though the Bay Delta Plan has not been fully updated and implemented as informed by the Delta Flow Criteria Report, DWR recognizes that this Project should include appropriate flow criteria to protect fisheries from potential Project impacts. Therefore, flow criteria included in operations of the new intakes, which would be in addition to those requirements in D-1641, would satisfy the appropriate Delta flow criteria to be included in any State Water Board order approving the Petition under section 85086(c)(2) of the Delta Reform Act. This includes flow criteria that will be part of the ITP providing CESA coverage for the Project.<sup>9</sup>

This completes, in less than one page, the unlawful deflection of “*appropriate Delta flow criteria*” as a requirement of any *water right order* adding points of diversion. For Delta flow criteria (“far-field effects of intake operations”),<sup>10</sup> the Petition substitutes *bypass flows past the intakes to the proposed new facilities* (“near-field effects”).<sup>11</sup>

**D. The Petition conflates constraints on the SWP with operations of the SWP, seeking to avoid appropriate permit terms for the SWP should the State Water Board grant the Petition.**

In addition to the unlawful geographic and subject-matter limitation of flow criteria for the proposed project, the Petition dismisses other aspects of changes to the SWP that would likely accompany the operation of the added points of diversion. The Petition states that added points of diversion, “would not result in changes to existing regulations, operational rules, and water supply allocation procedures governing SWP system operations for the existing 36 SWP storage facilities, 21 pumping plants, five hydroelectric power plants, four pumping-generating plants, or approximately 700 miles of canals, tunnels, and pipelines.”<sup>12</sup>

Yet just because the *constraints* on operations would not change does not mean that *operations themselves* would not or could not change. Thus, appropriate permit terms must protect affected resources from such actual or potential changes in operations. Permit terms for “operational rules” that are otherwise discretionary, such as reservoir operations, storage, and management, are the only real assurance that the Petition’s represented future operations would be its actual operations.

The history of the SWP and its federal partner the CVP is a history in which project operation assumes that existing constraints are protective of public trust resources. This history is reproduced on page 24 of the Petition as quoted *supra*: compliance with D-1641 is stated as the appropriate standard against which the Petition should be measured. The Petition stubbornly

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<sup>9</sup> *Id.*, p. 24.

<sup>10</sup> “Far-field” and “near-field” are terms used in the Petition, p. 12.

<sup>11</sup> Moreover, while the Petition argues that the update of the Bay-Delta Plan is the venue for the State Water Board to address “appropriate Delta flow criteria,” DWR is a ringleader of the Voluntary Agreement effort to *usurp and supplant* the Board’s update of the Bay-Delta Plan. This is the regulatory expression of the line from *Through the Looking Glass*: “Jam yesterday and jam tomorrow – but never jam today.”

<sup>12</sup> *Id.*, p. 12.

maintains this assumption regardless of the virtual extinction of Delta smelt, the spiraling decline of multiple runs of salmon and two species of sturgeon, and the general collapse of the Bay-Delta ecosystem since D-1641 became the primary regulatory pillar constraining Delta operations.

DWR's assumption that compliance is protection has a historical and ongoing corollary: that it is appropriate for the SWP to seek to optimize its water supply operations within governing constraints. This includes both technical investigation and management, and also aggressive legal defense of actions taken. This is the history and the culture of DWR, without even considering the now-pervasive meddling of the state's administration in operational and regulatory decisionmaking.<sup>13</sup> As in the parable of the scorpion and the frog, optimizing water supply has become DWR's "nature." It is unreasonable to expect different behavior; it is foolish and unlawful not to establish permit terms to limit it.

The predecessor to the "Delta Conveyance Project," the "California WaterFix," purported to improve conditions for fish in the Delta because it proposed to reduce use of the south Delta pumping facilities of the SWP and CVP. Thus it purported to meet both of the "coequal goals" stated in the Delta Reform Act of 2009: providing a more reliable water supply for California and protecting, restoring, and enhancing the Delta ecosystem (Water Code § 85054). The instant Petition makes no such pretense: it is unabashedly a water supply project.<sup>14</sup>

Compounding the stakes of this singular water supply purpose is the fact that DWR and SWP contractors are among the loudest voices, in an ongoing series of workshops convened by the Delta Stewardship Council, promoting the concept that the long-term maintenance of salinity control in the Delta is unsustainable. Under the existing configuration of Delta export facilities, DWR and its contractors have a vested interest in maintaining year-round Delta salinity control in order to protect the water quality of Delta exports. As an alternative water supply project, the Delta tunnel would change the interest of DWR and Delta exporters. With the Delta tunnel in place, exports could rely at least part of the year exclusively on the Delta tunnel. In such

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<sup>13</sup> Ordering paragraph 3 of Governor Newsom's Executive Order N-3-23 (Feb. 13, 2023), effectively ordering the State Water Board to waive the D-1641 Port Chicago flow requirement in February 2023, and the operation of state agencies as the "state team" in negotiating the scientifically unsupportable Voluntary Agreements as a substitute for the update of the Bay-Delta Water Quality Control Plan, are among the worst recent examples of such meddling.

<sup>14</sup> See Final Environmental Impact Report (FEIR) for the Delta Conveyance Project, Appendix 3E, p. 18:

The Delta Conveyance Project is consistent with the achievement of the coequal goals by increasing operational flexibility to divert water during high-outflow events, thereby making water supply more resilient to the adverse impacts of climate change and associated sea level rise, as well as catastrophic levee failures that may result from seismic events or other causes in a manner that does not significantly impact the achievement of protecting, restoring and enhancing the Delta ecosystem. ***It is important to understand that the Delta Conveyance Project, by itself, does not need to further both of the coequal goals to be consistent with the coequal goals, but does need to avoid conflicts with either goal.*** The Delta Conveyance Project will have a substantial, positive impact on the achievement of the coequal goals in the Delta, but it is only part of a much more comprehensive State effort to achieve the coequal goals. [Emphasis added].



conditions, it would be in the interests of exporters to reduce the amount of water required for salinity control in order to increase the volume of water available for export.

Promises to comply with whatever Delta flow and water quality requirements exist today do not mean that Delta tunnel proponents promise not to try to weaken those requirements if and when the Petition is granted. Indeed, trying to weaken the rules is also part of their history and culture.<sup>15</sup> In this regard, it is important to note the title of section 3.16.7 of the Final Environmental Impact Report for the Delta Conveyance Project, which provides DWR’s proposed flow criteria for the Delta tunnel: “Delta Conveyance Project Preliminary Proposed Operations Criteria.” It is foreseeable that DWR and the State Water Contractors (SWCs) will seek to weaken these “preliminary” criteria, by weakening the criteria as written through “adaptive management” or other vehicle,<sup>16</sup> or by weakening their implementation through “real-time operations,” temporary urgency change petitions in dry years or dry-year sequences, or other.

### **E. Structure of this protest**

This document is structured in sequence according to the following subjects:

- The proposed added points of diversion would enable and incentivize irresponsible and unsustainable use of the state’s water resources.
- The operation of the proposed added points of diversion would harm fish and other aquatic public trust resources.
- Investments in the proposed Delta tunnel would decrease the likelihood of badly needed infrastructure improvements at the SWP’s existing south Delta diversion facilities.
- The operation of the proposed added points of diversion would worsen Delta water quality.
- The construction and operation of the proposed added points of diversion would harm avian and terrestrial species.
- The Delta tunnel would adversely affect Delta groundwater and dependent ecosystems.

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<sup>15</sup> See, e.g., Temporary Urgency Change Petitions for Delta operations that DWR and the Bureau of Reclamation filed in 2014, 2015, 2016, 2021, 2022, and 2023. Catalogued at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/drought/tucp/index.html](https://www.waterboards.ca.gov/waterrights/water_issues/programs/drought/tucp/index.html).

<sup>16</sup> See Final Environmental Impact Report for the Delta Conveyance Project, p. 3-157: “The real-time operation and the proposed criteria would be refined if needed through the adaptive management plan process.”

- The operation of the proposed added points of diversion would adversely affect the Delta’s sense of place.
- The proposed added points of diversion and their operation are a false solution to the impacts of climate change on water supply.
- There would need to be a new petition and added environmental review if the Bureau of Reclamation (Reclamation) became a partner in the proposed Delta tunnel.
- The public interest and protection of the public trust demand the analysis and implementation of broad reasonable alternatives to the proposed Delta tunnel.
- Conclusion. Proposed permit terms are stated in Attachment C to this protest.

Part of this document refers to sections of the Final Environmental Impact Report (FEIR) for the Delta Conveyance Project. This is because in very large part, the Petition refers to the FEIR in order to describe the action that the Petition proposes.<sup>17</sup> This protest refers to the FEIR not in order to make CEQA-related arguments, but simply in recognition that DWR itself has chosen to describe the details of its Petition through reference to its CEQA document.

## **II. The proposed added points of diversion would enable and incentivize irresponsible and unsustainable use of the state’s water resources.**

The Delta tunnel would if constructed and operated increase diversions in order to maintain a level of Delta exports that is founded on shorting public trust resources, as discussed in the introductory section, above. In addition, the Delta tunnel would enable and incentivize additional infrastructure and water extraction activities that would further degrade the Bay-Delta watershed’s aquatic ecosystems and other public trust resources, and groundwater. These activities include construction of Sites Reservoir and likely future additional surface storage, and an increase in water sales (“transfers”) that would have a series of adverse environmental impacts.

Equally serious as these direct environmental impacts would be the conceptual transformation from water as a public trust resource into water as a monetized private commodity.<sup>18</sup> Complete buildout of a Central Valley water market is one of the predictable outcomes of the construction of the Delta tunnel. This would further solidify and expand existing inequities of the availability and distribution of water in California.

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<sup>17</sup> See e.g., Petition, pp. 17-21.

<sup>18</sup> DWR has already heavily promoted this transformation in support of the proposed Voluntary Agreements that would pay water users lavishly to restore relatively small amounts of water to rivers and the Bay-Delta.

**A. The proposed added points of diversion would enable Sites Reservoir and likely future surface storage projects.**

The Delta tunnel would be perfectly suited for shareholders in a Sites Reservoir as a vehicle to ship water from storage north-of-Delta to its shareholders via SWP facilities. As the tunnel FEIR states, “The project can potentially (1) add additional export capacity if current facilities are limited and/or (2) provide additional efficiency in moving water transfers across the Delta by potentially lowering the required carriage water to export the transfer supplies.”

The issue of reliable capacity is substantial. In 2016, Jeffery Kightlinger, then General Manager of Metropolitan Water District, noted:

Sites Reservoir from the MWD perspective looks like a good sound project. The problem is, for us, it’s north of the Delta. And right now we can’t move water through the Delta because we were so restricted in our ability to move water, that it wouldn’t provide any real benefits to anyone south of the Delta. ... I say well, the problem is I don’t know why I would fund it unless I could get some of that water and I can’t actually get the water unless we build a conveyance system.<sup>19</sup>

The reduced water losses to carriage water reduction is also substantial: it could increase the efficiency of water deliveries from Sites by up to 30%.<sup>20</sup> For a project whose ultimate viability may well be cost, a 20-30% increase in output may be the difference in whether Sites Reservoir pencils out.

**B. The proposed added points of diversion would enable and incentivize water transfers and attendant harmful practices.**

The FEIR dismisses the connection between the proposed tunnel and increases in “wheeling” water generally or transfers in particular, stating: “Of note, the proposed project does not include water transfers.”<sup>21</sup> The FEIR superficially concludes: “Therefore, the project is unlikely to increase the amount of water transfers or substantially change Delta water quality because the current capacity is not fully utilized.”<sup>22</sup>

Much of the source of water for transfer from the Sacramento Valley is Sacramento River Settlement Contractors and Feather River Settlement Contractors. So much water is overallocated to these “senior” contractors that they routinely sell water during drier water years as part of their business models. The calculus of transfer is likely to favor increased sales if

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<sup>19</sup> Interview in Maven’s Notebook (Jul 17, 2016). Available at: <https://mavensnotebook.com/2016/07/31/a-conversation-about-water-with-jeffrey-kightlinger/>.

<sup>20</sup> The Sites Authority estimates carriage water losses at an average of 23%. See Sites Authority, Joint Reservoir Committee & Authority Board, Agenda Item 3.2, April 21, 2023, “Reservoir Losses and Available Storage.” Available at: <https://sitesproject.org/wp-content/uploads/2023/04/03-02P-Conveyance-Storage-Loss.pdf>.

<sup>21</sup> FEIS, p. 3-148.

<sup>22</sup> *Id.*

water sellers are compensated for water released for sale by an additional 20%-30% due to lack of loss for carriage water through the Delta.

For example, in 2014, Federal Settlement Contractors in the Sacramento Valley received 75% and State Settlement Contractors received 100% of their allocations. Total maximum proposed north-to-south transfers were 378,733 AF and total maximum proposed north-to-north transfers were 295,924 AF.<sup>23</sup> Reported north-to-south transfers amounted to 198,000 AF.

For the years 2015-2024, Reclamation and San Luis and Delta-Mendota Water Authority (SLDMWA) approved the FEIS/EIR for the 10-Year Water Transfer Program (aka Long-Term Water Transfers) with the ability to transfer up to 600,000 AF per year; however, the FEIS/EIR was vacated in 2018.

For the years 2018-2024, Reclamation and SLDMWA circulated a SDEIS/RDEIR for a 6-Year Water Transfer Program (aka Long-Term Water Transfer Program) that allowed transfer up to 600,000 AF per year.

For the years 2016-2020, Reclamation's *Accelerated Water Transfer and Exchange Program for Sacramento Valley Central Valley Project Contractors – Contract Years 2016-2020* allowed transfer of up to 150,000 acre-feet among Central Valley Project contractors.

For the years 2018-2024, the Western Canal Water District and Richvale Irrigation District Water approved a project that allowed transfer up to 60,000 AF per year to south-of-Delta.

For the years 2018-2023, 5-year Warren Act contracts were approved for CVP water service contractors within the Sacramento Canals Unit to convey groundwater in federal facilities.

Many of the transfers of water from the Sacramento River watershed, including the Feather River watershed, are “groundwater substitution” transfers. Such transfers generally under-account for surface water loss to increased groundwater pumping that accompanies these transfers, particularly on a cumulative or long-term basis. Such transfers often inadequately consider local groundwater conditions and the effects of additional groundwater pumping on local users, particularly small well owners. Many such transfers avoid environmental review. Moreover, some entities are attempting to set up a regulatory framework that may make it easier and more efficient to mine groundwater in the north state, particularly the Tuscan aquifer on the east side of the Sacramento Valley.

Part of the limitation on north-south transfers today stems from the lack of reliability of conveyance to points south-of-Delta. DWR's argument that conveyance capacity is not fully used under current conditions ignores the present difficulty of organizing long-term water sales

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<sup>23</sup> AquAlliance, 2014. *2014 Sacramento Valley Water Transfers*. (Data from: 1) USBR, 2014 EA for *2014 Tehama-Colusa Canal Authority Water Transfers*; 2) USBR and SLDMWA, 2014. EA/Negative Declaration, *2014 San Luis & Delta Mendota Water Authority Transfers*.)

and of ensuring the timing of water sales. It is reasonable to expect that the Delta tunnel would introduce a much more organized and managed water market by providing much greater reliability and flexibility in timing, as well as by reducing losses to carriage water. The long-term “Yuba Accord” water sales of Yuba Water Agency that currently being renewed<sup>24</sup> are a likely model for additional long-term transfer contracts.

The standardization and expansion of water markets in California is not in the public interest. In addition to privatizing a public resource, it would tie up more of an increasingly limited resource. This would rationalize the cost structure and thus increase the cost. This in turn would price out more and more communities from the water market and further exacerbate inequities in the distribution and availability of water.

Protestants have for many years opposed the impacts of water transfers on in-Delta resources. In particular, protestants have objected to the unmitigated impacts of altered hydrodynamics in the Delta due to transfers and to the treatment of each transfer for its incremental rather than considering the cumulative impacts of transfers on fisheries. What is already wrong would be doubly wrong should the magnitude, frequency, and duration of transfers increase. The State Water Board should create new protections for in-Delta public trust resources due to water transfers, not only if it approves the changes in points of diversion and rediversion, but in any case, for example as part of its update of the Bay-Delta Water Quality Control Plan or incident to proceedings to address the need to extend time on the water rights permits for the SWP and CVP.

**C. The added points of diversion would incentivize and reward increased exports of stored SWP water.**

As quoted above, the Petition states that the “proposed additional points of diversion ... would not result in any changes to ... operational rules.”<sup>25</sup> On the other hand, the Petition does not propose constraints that would forbid changes in the operations of the SWP to better take advantage of the opportunities afforded by the Delta tunnel.

The FEIR, and the CalSim modeling that supports it, does not consider possible discretionary changes in operation of Oroville Reservoir or of other north-of-Delta SWP and CVP reservoirs. It considers some changes based on modeling of changed hydrology under climate change.<sup>26</sup> The CalSim modeling presents the assumption that project operators will not make discretionary operational choices. There is no foundation for this assumption. There are no firm reservoir storage requirements in the water right permits, or in Biological Opinions, for SWP reservoirs.

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<sup>24</sup> See Yuba Water Agency, Draft Supplemental Environmental Impact Report for the Extension of the Yuba Accord Long-Term Water Transfer Program (Apr. 2024). Available at: <https://www.yubawater.org/DocumentCenter/View/7150/Yuba-Accord-Extension---Draft-SEIR>.

<sup>25</sup> Petition, p. 12.

<sup>26</sup> FEIR, p. ES-47.

Based on past practice, it is more reasonable to expect that DWR, its operators and especially SWP contractors would look to optimize the entire SWP system to best leverage the opportunities for water supply benefits that the proposed added points of diversion would afford, within a framework of risk tolerance. Given the scope of the project associated with proposed additional points of diversion, the level of risk tolerance that SWP operators and beneficiaries would choose is likely to be, at minimum, variable. DWR and SWP contractors will seek to receive value in acre-feet for their financial outlay for the tunnel and related infrastructure.

This means that DWR and the State Water Contractors would seek to export more stored water from Oroville Reservoir than they would should the Delta tunnel not be approved and built.

During the California WaterFix water rights hearings, SWP chief operator John Leahigh confirmed that DWR can change its carryover storage requirements for Oroville Reservoir administratively, without public announcement.<sup>27</sup> And, indeed, in 2019 DWR did just that. In DWR's [State Water Project Delivery Capability Report for 2019 Technical Addendum](#), DWR explained how it is now operating to an end-of-September carryover storage target of 1.6 million acre-feet in Oroville Reservoir, as opposed to a previous target based on a formula.<sup>28</sup> There was no public announcement or request for public comments in consideration of this change. And as of today, there is nothing that prevents DWR from changing its storage target at Oroville or the caveats under which DWR can go below its target.

The FEIR admits as much: “While no changes are being proposed in operational rules and water supply allocation procedures for the existing SWP/CVP system, operation of the proposed north Delta intakes (as part of a dynamic system) could result in changes in simulated river flows and reservoir storage levels.”<sup>29</sup>

It is arbitrary and capricious to assume that current operational rules, or rules that are embedded in a model but not required by a regulatory requirement, accurately reflect future operations. The cure would be a permit terms that placed requirements (including enforceable numeric carryover storage requirements) on reservoir operations as part of a water rights order. Absent such a permit term in amended SWP permits, there would be no basis to rely on DWR's stated representations of reservoir operations with the Delta tunnel in operation or on the reservoir operations embedded in the operations modeling that supports the FEIR.

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<sup>27</sup> See WaterFix hearing transcript from May 9, 2017, pp. 11-21, esp. p. 21. Available at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/california\\_waterfix/docs/transcripts/20170509\\_transcript.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/california_waterfix/docs/transcripts/20170509_transcript.pdf).

<sup>28</sup> [State Water Project Delivery Capability Report for 2019 Technical Addendum](#), p. 4: “The current Oroville target is based on a static (flat) 1.6 MAF at the end of September. This methodology using a static 1.6 MAF differs from the previous water supply guidelines methodology, which initially used a 1.0 MAF floor and subsequently increased to a 1.3 MAF floor.”

<sup>29</sup> FEIR, p. 5-10.

**III. The operation of the proposed added points of diversion would harm already hemorrhaging Sacramento River and Delta fish populations and other aquatic public trust resources.**

The operation of the proposed added points of diversion would harm fish and other public trust resources in two primary ways: reduction of flow downstream of the points of diversion, and direct impacts of diversion operations.

**A. The Condition of fish populations in the Sacramento River watershed and the Bay-Delta estuary is dire.**

The condition of the populations of wild winter-run, spring-run, and fall-run Chinook salmon, steelhead, and green and white sturgeon in the Sacramento River watershed and the Bay-Delta estuary is dire.

According to the Pacific Fisheries Management Council (PFMC), 2023 escapement of wild Sacramento River fall-run Chinook salmon, once the backbone of California’s ocean salmon fishery, was 6160 fish.<sup>30</sup> Total hatchery and wild fall-run Chinook escapement in the Sacramento River watershed was estimated at 133,638 (adults and 2-year-old “jacks”), despite the complete closure in 2023 of salmon fishing in California.<sup>31</sup> This low return caused the PFMC to close the ocean salmon season in 2024 as well.

Escapement of ESA-listed winter-run Chinook and spring-run Chinook in 2023 was grave.<sup>32</sup> Winter-run escapement was estimated at 2501 adults and jacks, including hatchery returns. Only 106 wild-spawning spring-run Chinook adults were counted in the entire watershed; 1391 returned to the Feather River Fish Hatchery.<sup>33</sup> As a result of the low returns of spring-run in 2023, the California Department of Fish and Wildlife (CDFW) initiated a captive breeding program for spring-run Chinook using part of the wild escapement as broodstock.

The long-term trend for all these runs of Chinook salmon is downward.

Sacramento River steelhead are not as carefully or quickly accounted for as Chinook salmon, in part because the species also exhibits a “resident” or in-river life-history, and in part in the absence of a commercial fishery for the species. However, Sacramento River steelhead are listed under the federal ESA as threatened, and their overall numbers are widely considered to be very low. Harvest of steelhead in the Sacramento Valley watershed is allowed only for limited numbers of hatchery fish.

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<sup>30</sup> Pacific Fisheries Management Council, Amended Review of 2023 Ocean Salmon Fisheries (April 2024). Available at: <https://www.pcouncil.org/documents/2024/02/review-of-2023-ocean-salmon-fisheries.pdf/>, p. 58.

<sup>31</sup> *Id.*

<sup>32</sup> Sacramento Valley Winter-run Chinook salmon are listed as endangered under the federal Endangered Species Act (ESA) and the California Endangered Species Act (CESA). Sacramento River watershed spring-run Chinook salmon are listed as threatened under both ESA and CESA; following the population collapse in 2023, consideration is underway to “up-listing” spring-run to endangered status.

<sup>33</sup> *Id.*, p. 35.



Green sturgeon are listed under the ESA as threatened. Battaile et al. (2023) estimated the number of adult green sturgeon in the Sacramento River system from 2020-2022 as ranging between 742 and 1286 adults.<sup>34</sup> Harvest of green sturgeon in the greater Bay-Delta watershed is prohibited. CSPA, San Francisco Baykeeper and others recently petitioned both the State of California and the US Department of the Interior to list white sturgeon in the Bay-Delta watershed as threatened under CESA and ESA respectively. In a staff report to the California Fish and Game Commission for its October 11-12, 2023 meeting, CDFW estimated that the adult population of white sturgeon in the greater Bay-Delta watershed was about 33,000; the California Fish and Game Commission reduced harvest of white sturgeon for the 2023-2034 season.<sup>35</sup>

Following a series of prolonged legal and regulatory battles from about 2008 to 2020, the California Fish and Game Commission issued a new policy on striped bass in the Bay-Delta watershed that promotes the “vitality” of the recreational fishery but that has eliminated the previous numeric population target of about 1 million for the species.<sup>36</sup> The striped bass population has generally followed the declines in other Bay-Delta fisheries, but has not reached the extremely low levels of other species.

Delta smelt, endemic only to the Delta and once its most prolific species, have become virtually extinct in the Delta. This native species is listed as endangered under both ESA and CESA. The 2023 Fall Midwater Trawl Survey conducted by CDFW detected zero Delta smelt in 2018-2023, consistent with the findings of other 2023 surveys.<sup>37</sup>

Longfin smelt showed a slight rebound in the 2023 Fall Midwater Trawl Survey, particularly compared to 2015 and 2016, when the total fall index for longfin smelt dropped to

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<sup>34</sup> See Battaile et al., Estimating spawning Green Sturgeon (*Acipenser medirostris* Ayres, 1854) abundance using side scan sonar and N-mixture models (2023). Available at: <https://datadryad.org/stash/dataset/doi:10.7291/D1738V>.

<sup>35</sup> See CDFW Staff Summary for October 11-12, 2023 meeting of the California Fish and Game Commission.

Available at:

<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://nrm.dfg.ca.gov/FileHandler.ashx%3FDocumentID%3D216457&ved=2ahUKEwj7-vfPxPeFAxXvEjQIHeTkDIYQFnoECCoQAQ&usg=AOvVaw2nPLZzBs4YBUbnbqTzYqe>.

<sup>36</sup> See California Fish and Game Commission, “Striped Bass Policy” (February 21, 2020). Available at:

<https://fgc.ca.gov/About/Policies/Fisheries#StripedBass>.

<sup>37</sup> See E. Chappell, CDFW, 2023 Fall Midwater Trawl September-December Delta Smelt and Longfin Smelt Abundance and Distribution Summary (Dec. 21, 2023), p. 2:

No Delta Smelt were collected at any stations from September through December. The 2023 September-December index (0) is tied with 2016 and 2018-2022 as the lowest index in FMWT history. An absence of Delta Smelt catch in the FMWT is consistent among other surveys in the estuary. For example, the Enhanced Delta Smelt Monitoring (EDSM) survey of the U.S. Fish and Wildlife Service (USFWS) caught only 6 Delta Smelt among 16 sampling weeks (between September 4 and December 19) comprised of 2054 tows (USFWS 2023).

The 2023 CDFW Fall Midwater Trawl Memorandum is available at:

<https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://nrm.dfg.ca.gov/FileHandler.ashx%3FDocumentID%3D218436&ved=2ahUKEwj65ZvWzveFAxX6AjQIHS0KAaQQFnoECA4QAQ&usg=AOvVa2VcObi9j-csIo05i2UuuVu>.



single digits.<sup>38</sup> However, appropriate context for the 2023 total index for longfin smelt of 464 is the total index for 1967, the first year of the Fall Midwater Trawl Survey and the year the SWP first came on line, when the total index for longfin smelt was 81,737.<sup>39</sup> Longfin smelt are listed under CESA as threatened, and the U.S. Fish and Wildlife Service (FWS) announced on April 26, 2024 that it would decide whether to list longfin smelt under the federal ESA as endangered.<sup>40</sup>

**B. Reduced flow downstream of the added points of diversion would harm salmon, steelhead, sturgeon, and striped bass.**

The positive relationship between flow and successful outmigration of juvenile salmon through the Delta has been known for forty years. In 1987, U.S. Fish and Wildlife (USFWS) biologist Martin Kjelson testified at the Bay-Delta flow hearings, submitting a report entitled “Report – Needs of Chinook Salmon in the Sacramento San Joaquin Estuary.”<sup>41</sup> Kjelson reported that for salmon smolts passing Chipps Island, “Maximum survival was reached at flows of about 30,000 cfs at Rio Vista.”<sup>42</sup>

Perry et al. (2018) used acoustic tracking data to show a positive relationship between increasing flow and survival of juvenile salmon outmigrating through the Delta up to a flow of 35,000 cfs measured at Freeport.<sup>43</sup>

The proposed December through June bypass flow criteria for the Delta tunnel as proposed in the FEIR (Table 3-14 and Table 3-15) sets a series of flow thresholds within which allowed diversions increase.<sup>44</sup> Flows are measured at Freeport, minus the value of the diverted flow. The increments would begin and 5000 cfs or less, under which no diversions would ever be allowed, and generally set 20,000 cfs as the top threshold flow value or fulcrum above which allowed diversions can increase according to a percentage formula in the months of December through June.<sup>45</sup>

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<sup>38</sup> Historical Fall Midwater Trawl Indices are given at: <https://apps.wildlife.ca.gov/FMWT>.

<sup>39</sup> *Id.*

<sup>40</sup> See Politico, Feds to finalize ESA decision for longfin smelt (Apr. 26, 2024). Available at: <https://www.eenews.net/articles/feds-to-finalize-esa-decision-for-longfin-smelt/>

<sup>41</sup> Submitted as Exhibit USFWS-31 to hearings at the State Water Board, September 21-23, 1987. Re-submitted by CSPA at the 2010 Delta Flow Criteria hearings. Available at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/deltaflow/docs/exhibits/pcffa/pcffa\\_exh6.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/pcffa/pcffa_exh6.pdf).

<sup>42</sup> *Id.*, p. 36.

<sup>43</sup> Perry, R. W., Pope, A. C., Romine, J. G., Brandes, P. L., Burau, J. R., Blake, A. R., ... & Michel, C. J. 2018. Flow-mediated effects on travel time, routing, and survival of juvenile Chinook salmon in a spatially complex, tidally forced river delta. *Canadian Journal of Fisheries and Aquatic Sciences*, 75(11), 1886-1901.

<sup>44</sup> The FEIR describes it thus: “From December through June, three levels (Levels 1, 2, and 3) of bypass flow requirements are proposed, with Level 1 being the most restrictive and Level 3 being the least restrictive of the diversions at the proposed intakes. If high Sacramento River inflows occur for long durations, the bypass flow requirement can transition from Level 1 to Levels 2 and 3.” FEIR, p. 3-143.

<sup>45</sup> See FEIR, pp. 3-150 to 3-154.

Depending on the frequency of previous exceedances of the 20,000 cfs flow value in December through June within any given water year, the FEIR proposes scaling back the restrictions on allowed diversions by scaling back threshold flow ranges within which certain increments of diversion are allowed.<sup>46</sup> Coincident with increasing frequency of high flows would be diminishing flow requirements for each identified flow increment.

In addition, the FEIR proposes “pulse protection” limiting diversions to the Delta tunnel to “low level pumping” during the first flow pulse past the new points of diversion in December or later.<sup>47</sup> If there were a qualifying flow pulse or pulses in October or November, the first such flow pulse would cause the application of pulse protection for that event as well, in addition to the pulse protection requirement for the first qualifying flow pulse in December or later.<sup>48</sup>

The FEIR bases the pulse protection requirement on del Rosario et al. (2013), which found that a large portion of juvenile winter-run Chinook salmon in any given year migrate downstream into the Delta on the first major rain event that causes a large flow increase in the Sacramento River.<sup>49</sup> Del Rosario et al. identified the threshold flow value as about 14,125 cfs measured at Wilkins Slough.<sup>50</sup> Considering the likely runoff from the Feather, Yuba, and American rivers during such events, it is reasonable to assume that a threshold value at Freeport would be equal to or greater than 20,000 cfs. Under the criteria proposed in Table 3-15, DWR would limit Delta tunnel diversions during pulse protection events to 6% of the flow measured at Freeport.<sup>51</sup>

The general net result of the FEIR’s proposed flow criteria would be increasing allowed levels of diversion and lessening protection over the course of the wet season in each water year. Bypass flow requirements would hit a rock bottom of 5000 cfs from July through September, and have a small step-up to 7000 cfs in October and November, subject to the pulse protection requirement for one incident in October or November, discussed above. The July through November flows (except possibly during one pulse protection event) would allow diversion of all flow above the stated minimum bypass flow requirement.

The diminishing level of flow requirements over each season means that each successive run of salmon is less protected from Delta tunnel diversions than the run that preceded it. The Sacramento River watershed has four distinct runs of Chinook salmon: winter-run, spring-run,

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<sup>46</sup> “The Level 1 bypass requirement would apply until the occurrence of 15 total days of bypass flows above 20,000 cfs. Following that, the Level 2 bypass flow requirement would apply. Level 2 would govern the allowable diversions until the occurrence of 30 total days of bypass flows above 20,000 cfs. At this point, the Level 3 bypass flow requirement would apply.” FEIR, p. 3-143.

<sup>47</sup> A flow pulse for the purposes of required “pulse protection” is defined at the top of FEIR Table 3-15, p. 3-152. “Low level pumping” is defined as 6% of the flow at Freeport, up to 900 cfs. but never taking the flow downstream of the tunnel intakes below 5000 cfs. See FEIR, p. 3-144. Note, however, that the 5000 cfs minimum is the “3-day tidally averaged flow,” not the instantaneous flow. See FEIR, p. 3-142 and discussion below.

<sup>48</sup> *Id.*

<sup>49</sup> *Id.*, p. 3-142.

<sup>50</sup> Del Rosario, R., et al. (2013), Migration Patterns of Juvenile Winter-run-sized Chinook Salmon (*Oncorhynchus tshawytscha*) through the Sacramento–San Joaquin Delta.

<sup>51</sup> FEIR Table 3-15, p. 3-152.

fall-run, and late-fall-run, which migrate to the ocean each water year in that order (with late-fall-run juveniles outmigrating in the fall through late spring of the water year subsequent to that in which spawning occurred). Winter-run, widely considered the most vulnerable Sacramento watershed run, as well as some late-fall-run outmigrants, would benefit most from pulse protection and the most restrictive flow (“Level 1”) requirements during their mostly early-season outmigration into the Delta in November through February. Spring-run, which largely enter the Delta in March through May, would be next less likely to face the least restrictive (“Level 3”) flow requirements. Fall-run Chinook entering the Delta in March through early June would be most likely to face the least restrictive Level 3 requirements. Thus the juvenile outmigrants of the largest run of salmon (fall-run), the most important run for the recreational and commercial salmon fisheries, would generally have the least protection from Delta tunnel diversions.

Juvenile Central Valley steelhead migrate into the Delta from December through May, with the peak believed to be in March. Sacramento Valley steelhead outmigrants would likely face a range of bypass flows, often less than the most restrictive.

In his seminal reference book *Inland Fishes of California*, Peter Moyle states that white sturgeon do not reproduce every year, and that white sturgeon tend to increase spawning activity in years with abundant flow.<sup>52</sup> Moyle also notes that white sturgeon tend to spawn in the Sacramento River between Knights Landing (RM 145) and Colusa (RM 231), and that spawning takes place from late February through early June.<sup>53</sup>

Green sturgeon generally spawn later in the season in April and May, and move farther upstream to spawn than white sturgeon. Moyle noted in 2002 that green sturgeon were present at times as far upstream as Red Bluff.<sup>54</sup> Despite the partial blockage of sturgeon by the old Red Bluff Diversion Dam, juvenile green sturgeon were detected in rotary screw traps at that Dam in most years from 2002-2012.<sup>55</sup> Detection began in May, and in some cases continued into August. Since the 2013 dismantling of the Red Bluff Diversion Dam, upstream passage of green sturgeon has become much less difficult; juveniles continue to be captured in rotary screw traps at Red Bluff.<sup>56</sup>

White sturgeon and green sturgeon juveniles migrating downstream are highly likely to face the least restrictive bypass flow requirements (Level 3) in May and June. Many downstream migrants will face July or August bypass flow requirements of only 5000 cfs.

The State Water Board’s 2017 Scientific Basis Report, relying heavily on a study by Martin Gingras of CDFW, set a flow threshold of 37,000 cfs Delta outflow for sturgeon, stating:

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<sup>52</sup> Peter Moyle, *Inland Fishes of California* (2002), p. 108.

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*, p. 111.

<sup>55</sup> Poytress et al. (2014), *Compendium Report of Red Bluff Diversion Dam Rotary Trap Juvenile Anadromous Fish Production Indices for Years 2002-2012*, available at:

[Compendium Report of Red Bluff Diversion ...](#)

<sup>56</sup> T. Cannon, pers. comm.

“Average Delta outflows of less than 30,000 cfs had a small probability of producing strong year classes and outflows of 37,000 cfs or larger between March and July were associated with a 50 percent probability of producing a good year class.”<sup>57</sup>

Striped bass are also relatively late spawners, with spawning peaking in May and early June, though spawning generally occurs later in wet water years.<sup>58</sup> Juveniles move downstream relatively soon after eggs are released, often rearing in Suisun Bay. Like sturgeon, they are likely to face the least restrictive May or June bypass flow requirements, and may at times pass the Delta tunnel intakes when the very weak July or August bypass flow requirements of only 5000 cfs are in effect.

The conceptual basis of the graduated flow stepdown in FEIR Table 3-15 is founded on the faulty premise that a best-bang-for-the-most-fish measure is sufficient protection, ignoring the outsized significance of adverse effects on species when the populations of those species are in severely depressed condition. This basis also ignores the importance of life history diversity in outmigration timing, as emphasized in recent papers by Anna Sturrock and others.<sup>59</sup>

A more appropriate methodology would be to disallow diversions that reduce flows below identified key thresholds and also to disallow diversions that would occur following known mortality thresholds for these species. It is also important to extend the season of protective flow requirements to correspond with important and diverse lifestages of salmon, steelhead, sturgeon, and striped bass.

### **C. Reduced flow downstream of the added points of diversion would harm longfin smelt and Delta smelt.**

The added point of diversion would substantially reduce inflow to the Bay-Delta estuary in the key winter and spring months, by capturing up to 6000 cfs of otherwise uncaptured flow. Reis et al. (2019)<sup>60</sup> describe the controlling factors of actual Delta outflow from 2010-2018. Reis et al. found that, “Taken together, [Additional Uncaptured Outflow] and those outflows needed to maintain the [Hydraulic Salinity Barrier] accounted for the vast majority of actual Delta outflow.”<sup>61</sup> Uncaptured inflow, far more than D-1641 requirements, is what sustains the

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<sup>57</sup> State Water Board (2017), 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 (Scientific Basis Report), p. 3-64. Available at: [https://www.waterboards.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/docs/2022/201710-bdphaseII-sciencereport.pdf](https://www.waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/2022/201710-bdphaseII-sciencereport.pdf).

<sup>58</sup> Moyle, *op. cit.*, p. 366.

<sup>59</sup> See, e.g., Sturrock et al., Unnatural selection of salmon life histories in a modified riverscape (2019), available at: [https://www.researchgate.net/publication/337690243\\_Unnatural\\_selection\\_of\\_salmon\\_life\\_histories\\_in\\_a\\_modified\\_riverscape/link/5def62031a6fdcc2837008c9c/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmXPY2F0aW9uIiwicGFnZSI6InB1YmXPY2F0aW9uIn19](https://www.researchgate.net/publication/337690243_Unnatural_selection_of_salmon_life_histories_in_a_modified_riverscape/link/5def62031a6fdcc2837008c9c/download?tp=eyJjb250ZXh0Ijp7ImZpcnN0UGFnZSI6InB1YmXPY2F0aW9uIiwicGFnZSI6InB1YmXPY2F0aW9uIn19).

<sup>60</sup> Gregory J. Reis, Jeanette K. Howard, and Jonathan A. Rosenfield, Clarifying Effects of Environmental Protections on Freshwater Flows to—and Water Exports from—the San Francisco Bay Estuary, San Francisco Estuary Institute and Watershed Science, March 2019, <https://escholarship.org/uc/item/8mh3r97j>.

<sup>61</sup> *Id.*, p. 17.

Delta’s pelagic fisheries to the degree these fisheries are sustained at all. The Delta tunnel would adversely affect pelagic fish in the Delta, precisely by reducing otherwise uncaptured Delta inflow and outflow.

The abundance of Delta smelt has diminished dramatically since the Pelagic Organism Decline of the early 2000s, and more particularly since the implementation of weakened Delta salinity standards under Temporary Urgency Change Orders for Delta operations in 2014 and 2015. Since the almost total crash of the Delta smelt population in 2014 and 2015, critical flow thresholds for Delta smelt have become virtually impossible to define based on recent data. As a general matter, Delta smelt survival improves with the location of the low salinity zone in Suisun Bay rather than in the Delta. This both provides increased volume of habitat with suitable salinity, greater access to food, less likelihood of entrainment at the south Delta export facilities, and cooler water temperatures toward the end of spring.

The State Water Board’s 2017 Scientific Basis Report developed in support of the update of the Bay-Delta Plan described the importance of flow for longfin smelt:

The population abundance of longfin smelt in fall is positively correlated to Delta outflow or X2 as its proxy during the previous winter and spring (Jassby et al. 1995; Rosenfield and Baxter 2007; Kimmerer 2002b; Thomson et al. 2010; Maunder et al. 2015; Stevens and Miller 1983; Nobriga and Rosenfield 2016). Statistically, the strongest relationship is with outflow between January and June.<sup>62</sup>

The Scientific Basis Report found: “The flows in the State Water Board analyses associated with a 50 percent probability of positive population growth was 42,800 cfs between January and June, respectively.”<sup>63</sup>

CDFW’s 2020 Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta (ITP) identified a slightly higher threshold for the protection of longfin smelt, as well as Delta smelt, in the months of April and May. The ITP requires limitations on April and May Delta export operations until Delta outflow exceeds 44,500 cfs.<sup>64</sup>

**D. The addition to the SWP of points of diversion on the Sacramento River for Delta exports requires appropriate *Delta* flow criteria.**

In addition to specific bypass flow requirements any revised permits for the SWP to add the Delta tunnel points of diversion, more general downstream diversion requirements will also apply, such as those in the then-current CDFW’s incidental take permit (ITP) issued to the projects under CESA, NMFS’s and USFWS’s biological opinions, and the extant Bay-Delta

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<sup>62</sup> Scientific Basis Report, p. 3-55.

<sup>63</sup> *Id.*, p. 3-56.

<sup>64</sup> CDFW (2020), Incidental Take Permit for Long-Term Operation of the State Water Project in the Sacramento-San Joaquin Delta (2081-2019-066-00), p. 103. Available at: [Incidental Take Permit for Long-term SWP Operations](#).

Water Quality Control Plan. But there is no assurance that those would remain in effect or would not be weakened, both in terms of the requirements themselves and of their application, particularly in dry year sequences. Moreover, as discussed above, these more general requirements would not fulfill the requirements of WC § 85086(c)(2) in the Delta Reform Act that any order adding points of diversion to the SWP on the Sacramento River must include “appropriate Delta flow criteria.”

**E. The diversion operations of the proposed intakes would directly harm salmon, steelhead, sturgeon, and striped bass.**

All wild salmon, steelhead, sturgeon, and striped bass that spawn in the greater Sacramento River watershed must pass the proposed points of diversion twice in order to complete their life cycles: outmigrating as juveniles, and migrating upstream to spawn. Hatchery salmon and steelhead from the Sacramento River watershed must pass the proposed points of diversion at least once, in order to spawn; juvenile hatchery salmon and steelhead must either pass or be trucked around the proposed points of diversion.

The FEIR describes the proposed measurement of bypass flows at the points of diversion as follows: “Bypass flow is the 3-day tidally averaged flow remaining in the Sacramento River immediately downstream of the proposed north Delta intakes computed as flow measured at Freeport minus the diversion rate.”<sup>65</sup> The FEIR also describes instantaneous requirements for approach velocity as no more than .2 ft/sec and for sweeping velocity of at least .4 ft/sec, the latter “informed by real-time flow and river stage/cross-sectional area data downstream of the proposed screened intake facility.”<sup>66</sup>

Since the sweeping velocity requires downstream flow, and since the proposed points of diversion would be within the tidal zone of the Delta, some time periods within each day may feature inadequate sweeping velocities to allow diversions. Generally, this this would depend on the strength of the tides on that day and on the incoming flow volume at the point of diversion.

The FEIR proposes real-time calculation of whether the required velocities can be met with any pending rate of diversion, “informed by real-time flow and river stage/cross-sectional area data downstream of the proposed screened intake facility.”<sup>67</sup> This explanation is opaque; it is unclear how DWR would put this into practice and how DWR and the State Water Board would manage compliance and enforcement. It is particularly unclear how DWR would account for the likely reduced velocities toward the edge of the river where the intake screens would be located. This is complicated by the fact that DSM2 is a one-dimensional model that would not capture this nuance.

Since there would be some times during many days when there were excessive approach velocities and/or inadequate sweeping velocities to allow diversions, there would also need to be times during those days when there were rates of diversion greater than, perhaps double, the 3-

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<sup>65</sup> FEIR, p. 3-142.

<sup>66</sup> *Id.*

<sup>67</sup> *Id.*

day tidally averaged flow, simply to meet the allowed rate of diversion over the 3-day period. This would create an on-and-off cycling effect at the intakes that could cause juvenile fish migrating downstream to delay migration in the vicinity of the intakes. Such delays could expose fish in the area to increased rates of predation and/or increase the likelihood of impingement or entrainment of larvae. This would likely be most acute during minimum pumping during July-September, when the actual diversion during times of intra-daily pumping would be double that of the specified diversion allowed and when the instantaneous required bypass flow during the increased rate of diversion would fall below the required 3-day average bypass flow level.

Juvenile sturgeon are notoriously weak swimmers. Juvenile white sturgeon in particular drift rapidly downstream after birth and would often pass the proposed points of diversion as larvae.<sup>68</sup> Their small size and weak swimming ability would make them particularly susceptible to impingement on the intake screens for the Delta tunnel. Juvenile striped bass also drift downstream as larvae, and may enter the diversion zone at very small sizes. Since these species are relatively late spawners, they are likely to pass the intakes during Level 3 diversion requirements or even in July, when a straight 5000 cfs bypass flow would be in effect.

The progressively weakening Level 1 – Level 2 – Level 3 bypass scheme proposed for the tunnel intakes, as described above regarding “far-field” effect, would also have progressively weakening protections for “near-field” effects over the course of each water year. Such effects would likely include increased entrainment or impingement at intake screens, or increased predation in the vicinity of the intakes.

Further harm to fish could come from increased residence time, or cycling back and forth in direction, of the flow in the Sacramento River near the mouths of the Delta Cross Channel and Georgiana Slough. This would increase the likelihood of the entry of fish into those channels and resulting direction into the central Delta, where they would be more vulnerable to predation generally and to the effects of the south Delta pumps.

**F. Any permit issued for the Delta tunnel should require the appropriate Delta flow requirements and bypass flow requirements stated below.**

In summary, the bypass flows proposed in the Petition to add points of diversion for the proposed Delta tunnel are inadequate to protect salmon, steelhead, sturgeon, striped bass, Delta smelt, and longfin smelt in the Bay-Delta estuary. If it grants the petition, the State Water Board should require as part of its order appropriate Delta flow criteria and disallow diversions into the proposed Delta tunnel when the flow thresholds for Delta inflow and outflow identified in the dismissal terms below are not met or exceeded. Any water rights order should also require bypass flow requirements consistent with those in the requested permit terms stated in Attachment C to this protest.

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<sup>68</sup> Moyle, *op. cit.*, p. 108.

**IV. Massive investments in the proposed Delta tunnel would decrease the likelihood of badly needed infrastructure improvements at the SWP’s existing south Delta diversion facilities.**

The existing SWP diversion facilities in the south Delta are fish killers on an enormous scale. There are no screens on the intake to Clifton Court Forebay. Clifton Court Forebay is full of large predatory fish, such as striped bass and other bass. Small fish that enter Clifton Court Forebay generally survive only if they are “salvaged” at DWR’s salvage facility before they are eaten.

DWR cycles the pumps at the Banks pumping units during the day, such that there are periods of time within each day when the flow toward the pumps in Old River and Middle River is greater than the daily average. This increases the entrainment of small fish into Clifton Court Forebay and, in some cases, past the fish screens and into the California Aqueduct.

The State Water Board should require, as conditions of the water rights that the Petition seeks to modify, that DWR improve the mitigation of the SWP’s existing impacts at its south Delta infrastructure. The State Water Board should require DWR to install fish screens at the intake to Clifton Court Forebay. The State Water Board should also order DWR to cease or reduce its daily cycling of the pumps at the Banks diversion facility (“big gulp”) in order to reduce the intra-daily velocities in Old and Middle rivers and thus reduce entrainment of small fish towards and into Clifton Court Forebay.

**V. The operation of new points of diversion would worsen Delta water quality.**

On the broadest level, operation of the proposed new points of diversion would reduce Delta inflow and thus worsen Delta water quality by increasing residence time of water in the Delta. Operation of the tunnel would also diminish Delta water quality by reducing the proportion of relatively good quality water from the Sacramento River watershed in relation to the poorer quality water from the San Joaquin River watershed.

Operation of the Delta tunnel would allow DWR a new control point in the Delta, allowing the SWP to “skate closer to the edge of compliance” in operations to maintain Delta water quality in general and salinity in particular.

Operation of the Delta tunnel would reduce flow into the Delta, thus allowing increased salinity intrusion from Suisun Bay into the Delta.

Operation of the tunnel would also increase Delta water temperature in warmer months by reducing the amount of relatively cold or cool Sacramento River water entering the Delta and the proportion of relatively cool Sacramento River water in relation to relatively warmer water sourced in the San Joaquin River.

Operation of the tunnel would increase the ratio of Delta inflow from the San Joaquin River as compared to the Sacramento River.



Operation of the tunnel would reduce Delta inflow and through-flow and increase residence time, thus increasing the frequency and severity of harmful algal blooms in the Delta.

These effects would be relatively greatest in the dry months of July through November. These are the months during which the Petition proposes to have minimal bypass flow requirements for the proposed new intakes (5000 cfs bypass July-September and 7000 cfs bypass October-November). However, many of these effects would also occur during times of greater Delta inflow.

**A. Operation of the Delta tunnel would allow DWR a new control point in the Delta, allowing the SWP to “skate closer to the edge of compliance” in operations to maintain Delta water quality, particularly salinity.**

As discussed above, operation of the Delta tunnel would decrease Delta inflow due to loss of carriage water required for water transfers or other movement to points south-of-Delta of non-SWP water sourced north-of-Delta. The FEIR describes this as follows:

Use of the proposed north Delta intakes, particularly in July through December, can be used to reduce carriage water requirements—which are necessary to move exports through the south Delta when D-1641 salinity requirements are controlling. The resulting carriage water savings can then be exported or retained in upstream reservoirs, since the water no longer needs to be released. In the CalSim 3 model, increasing exports is always prioritized; however, these savings would remain in storage when sufficient export capacity does not exist.<sup>69</sup>

However, there is an additional major reason that operation of the Delta tunnel would cause Delta inflow downstream of Hood to decrease. This reason is the addition of a new control point for the SWP at the new north Delta point of diversion where the Sacramento River’s enters the Delta.

The addition of an SWP control point at the north Delta intake would allow SWP operators to much more reliably “skate on the edge of compliance” when salinity requirements are controlling in the Delta.<sup>70</sup> The effect of leaving less buffer by over-releasing water to avoid a regulatory violation is cumulatively considerable. This element is buried in the catch-all term “real-time operations.” At any given moment, and certainly on a daily basis, SWP operators would be able to turn a dial at the entry to the Delta, whereas under existing conditions the dials are at reservoirs 1-6 days upstream. SWP operators would be able to export or release water to meet Delta salinity requirements real-time, in a single action. Their results would be nearly instantaneous. They would be able to adjust over the course of a day.

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<sup>69</sup> FEIR, p. 5-26.

<sup>70</sup> Term used in the 2010 Delta Flow Criteria workshops.

As in the FEIR, the Petition frames the water quality effects of the proposed change in operation simply in terms of the frequency with which DWR and Reclamation would be in compliance with water quality standards on a yes or no basis.<sup>71</sup> This standard in the FEIR is an inadequate substitute for an antidegradation analysis.

The new on-site control point would likely push operators to release more stored water from both SWP and CVP reservoirs than without the Delta tunnel in operation, because less water will fail to either meet a regulatory or water supply purpose (an operator would consider such water to be ‘wasted’).<sup>72</sup> This is an additional reason that it is reasonably foreseeable that SWP operators will use this capability to export more water.

Skating on the edge of compliance by careful exercise of the Delta tunnel control point would generally mean that salinity intrusion into the Delta would be greater at times when Delta salinity requirements are controlling Delta operations.

After August 15 of each year, when there are no D-1641 salinity requirements, D-1641 flow requirements for Rio Vista, or Fall X2 requirements for Above Normal and Wet years per the USFWS BiOp, control Delta operations. In either case, control at the north Delta points of diversion would reduce a buffer needed to assure compliance, thus also allowing increased salinity intrusion into the Delta.

The FEIS frankly admits: “on a long-term average basis, modeled monthly average EC levels are up to about 8% relative to existing conditions.”<sup>73</sup> The greatest increase would be in September.

In September, median monthly average EC increased from 569 µmhos/cm to 780 µmhos/cm, an increase of 37% ... Thus, there would be measurable degradation to EC at Threemile Slough, and there would be substantial increases in EC levels in certain years in September. ... The greatest monthly average EC increase in September (154 µmhos/cm) would occur in below normal years, and would be a 24% increase above existing conditions.<sup>74</sup>

Reductions in flow below the proposed new diversion points would reduce salinity variability and encourage the spread of various undesirable invasive species. For example, operation of the proposed Delta tunnel would act as a habitat expansion program for the overbite clam *Potamocorbula amurensis*.

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<sup>71</sup> See, e.g., Petition, p. 22 (“The Project would not cause additional exceedance of applicable Electrical Conductivity (EC) ... water quality criteria/objectives by frequency, magnitude, and geographic extent that would result in adverse effects on any beneficial uses ...”).

<sup>72</sup> Because DWR would be more tightly responding to salinity compliance using the Delta tunnel, the CVP will benefit as well. Tighter salinity control, though performed by DWR, will provide more CVP stored water for export, and the increased efficiency will incentivize more CVP exports.

<sup>73</sup> FEIS, p. 9-93. (Internal citations to supporting tables omitted.)

<sup>74</sup> *Id.*

Should the State Water Board grant a change in point of diversion for a multi-billion-dollar project, it would be unlikely to have the political will or ability to subsequently adopt more stringent water quality standards that would turn the project into a wasted and stranded asset.

**B. Operation of the Delta tunnel would increase Delta water temperature in warmer months.**

Diversions through the Delta tunnel, particularly in the hot summer months, would increase water temperatures in the Delta. Proposed bypass flows for July-September are 5000 cfs. Relatively little cool water from the Sacramento River would enter the Delta under such flow requirements. In addition, a greater proportion of relatively warmer water from the San Joaquin River would enter the Delta, further increasing Delta water temperatures.

Any remnant Delta smelt in the Delta would be subject to warmer temperature; under existing conditions, summer temperatures in the Delta are often at or close to lethal levels for Delta smelt. Warm water temperatures in the Delta would delay the upstream migration of fall-run Chinook salmon, reducing life-history diversity. Warm temperatures in the Delta would subject adult fall-run salmon to stressful thermal conditions, reducing fitness and fecundity.

**C. Operation of the Delta tunnel would increase the ratio of Delta inflow from the San Joaquin River as compared to the Sacramento River, increasing pollution of the Delta by toxic elements, pesticides, and fertilizer by-products.**

The San Joaquin River drains the west side of the San Joaquin Valley, which is plagued by large deposits of selenium, boron, and other toxic chemicals. Reduction of relatively clean Delta inflow from the Sacramento River would increase the relative concentration of these elements in the Delta.

The San Joaquin River also carries large amounts of agricultural runoff from the San Joaquin Valley. Reduced inflow from the Sacramento River would reduce mixing in the Delta, and leave greater proportions of pesticide and fertilizer by-products (nitrates and phosphorus) in the south and central Delta, which would otherwise be freshened in part by water from the Sacramento River. In addition to the direct effects of such contaminants on people and aquatic biota, the increased fertilizer chemical would likely contribute to higher levels of invasive aquatic weeds such as hyacinth and *egeria densa*, reducing dissolved oxygen and increasing obstacles for boating and other recreational activities. These effects would also directly threaten the large subsistence fishing and recreational community in the Delta whose health depends upon healthy fish and water quality.

Diversion of approximately 2.5 MAF of relatively good quality Sacramento River water around the estuary would reduce assimilative capacity, increase the concentration of existing constituents, and increase residence time for those constituents to act on and bioaccumulate in the environment. For example, bioaccumulating constituents like selenium and methyl-mercury, or legacy pollutants like DDT and dioxin, would have more opportunity to work their way up the

food chain. These adverse impacts would be enhanced in a tidal environment where pollutants tend to move back and forth with the tides.

**D. Operation of the Delta tunnel would increase the frequency and severity of harmful algal blooms in the Delta.**

Lehman et al. (2020) have shown that incremental increases in salinity, specifically at Threemile Slough (as discussed *supra*), greatly increase the likelihood of harmful algal blooms (HABs) in the Delta. “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).”<sup>75</sup>

Thus, at precisely the location the FEIR identifies as showing increased salinity on average and especially in September, the operation of the Delta tunnel would be likely to cause increased HAB outbreaks.

More generally, greater proportions of nutrients in the Delta from the San Joaquin River, higher water temperatures, generally lower levels of dissolved oxygen, and increased residence time of water in the Delta would promote more frequent and more severe outbreaks of HABs.

**VI. The construction and operation of the proposed added points of diversion would harm avian and terrestrial species.**

The operation of the proposed added points of diversion would harm avian and terrestrial species resources in two primary ways: construction impacts and reduction of flow downstream of the points of diversion.

**A. Construction of the Delta tunnel would harm protected avian species.**

The FEIR states that construction activities may cause direct kill and/or disrupt breeding success of foraging and nesting habitat of the fully-protected California black rail and the white-shoulder kite, and species of concern including the Swainson’s hawk, lesser and greater sandhill crane, loggerhead shrike, and song sparrows.

The FEIR states: “The construction of all the project alternatives would result in impacts on modeled habitat for California black rail and the potential for the disruption of normal behaviors, and injury, and mortality during construction. The loss of modeled habitat would primarily occur as a result of levee improvements and new roads and road improvements.”<sup>76</sup>

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<sup>75</sup> Lehman, P., T. Kurobe, and S. Teh. 2020. Impact of extreme wet and dry years on the persistence of *Microcystis* harmful algal blooms in San Francisco Estuary, p. 8. Quaternary International. DOI: <https://doi.org/10.1016/j.quaint.2019.12.003>.

<sup>76</sup> FEIR p. 13-257.

Mitigation efforts would be impeded by the lack of suitable mitigation sites.<sup>77</sup> Some proposed mitigation sites are in close proximity to highly trafficked freeways that would likely result in high mortality rates for avian species using those sites. Other potential mitigation sites are in areas that are highly impacted by existing agriculture, flooding, and subsidence.

**B. The use of tunnel boring machines during construction would cause ground-borne vibration that would harm avian and terrestrial species.**

It is well known that many animal species are highly sensitive to ground vibrations and could be easily disturbed by tunnel boring machines. Snakes and amphibian creatures (frogs and salamanders) are especially sensitive to ground vibrations.<sup>78</sup> The law states that nesting avian species must be avoided by a distance of 200 to 500 feet, depending on the species. However, the law does not state that the distance is only in a horizontal direction.

Vertical direction must also be considered. Vertically, the tunnel boring machines would be operating at a distance less than the 200-foot avoidance distance required by law. Thus, the project construction activities would need to stop any time a nesting bird, such as a listed black rail, was flushed from its nest, or a terrestrial animal, such as a giant garter snake, was forced from protective habitat by vibrations caused by tunnel boring machines working below.

**C. Reduced flow downstream of the added points of diversion would increase the occurrence of harmful algal blooms (HABs), harming avian and terrestrial species.**

A primary concern for rejecting the proposed added points of diversion is loss of flows within the Bay-Delta. Among the most important contributing factors to HABs are the increasing concentration of nitrogen and phosphate salts that enter the Bay-Delta from agricultural runoff in the San Joaquin Valley, long residence time, and high water temperatures caused by a combination of water operations and climate change. The operation of the Delta tunnel would worsen these conditions and thus increase the likelihood of HABs in the Delta. *See* discussion of HABs, above.

HABs affect the entire food web of the species living in the Bay-Delta, from fish, to birds, to mammals. Avian and terrestrial species exposure to HAB toxins, whether acutely or chronically, increases the organism's susceptibility to disease. Avian and terrestrial species may die because of exposure to HABs or have impaired feeding and immune function. Exposed avian and terrestrial species may also suffer from impaired growth and reproductive capabilities.

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<sup>77</sup> See FEIR, pp. 13-380, -387, and -454.

<sup>78</sup> 5. Mason, M. J., & Narins, P. M. (2002). Seismic sensitivity in the desert golden mole (*Eremitalpa granti*): A review. *Journal of Comparative Psychology*, 116(2), 158–163.

## **VII. The Delta tunnel would adversely affect Delta groundwater and dependent ecosystems.**

The construction of the proposed Delta tunnel would create a 45-mile-long impermeable barrier across the shallow aquifer systems at the eastern edge of the Delta. This could cause a number of environmental impacts, including the interruption of east to west flow along the path of the tunnel and likely salinity increases in the groundwater west of the tunnel.

The tunnel would likely cause some disruption of horizontal and vertical flows within the shallow aquifers and could alter the quantity and quality of groundwater flow. The results of the disruption would vary from disconnecting the aquifer system to reorienting the flow directions. Groundwater could be forced to flow upward or downward, possibly resulting in impacts to agriculture or near surface structures. The north-south oriented edge of the tunnel barrier may redirect groundwater into adjacent aquifers or into river channels, possibly increasing seepage in levees.

Changes in the shallow groundwater could impact aquatic habitat and groundwater dependent ecosystems such as riparian vegetation, plants, and wetlands, and thereby impact the wildlife that depends on these habitats. Changes in groundwater flow direction and quantity could impact areas by raising groundwater levels, and seepage pressure, or by lowering groundwater levels by redirecting up-gradient sources of water. All of these impacts may occur at the same time, but at different locations.

Disconnection with the source of the groundwater could reduce water levels or heads in the aquifers, causing an increase in vertical groundwater flow between aquifers that aren't disrupted by the tunnel barrier. A downward increase in vertical flow east of the tunnel barrier may cause increased seepage from shallow aquifers or surface water bodies. An upward increase in vertical flow could result in poorer quality deeper groundwater flowing upward into shallower aquifers, causing a decrease in shallow aquifer water quality. The tunnel barrier may cause a further deepening in the depth of the north-south groundwater depression west of the tunnel due to a lack of groundwater to supply the pumping wells.

Conveyance of water using the proposed Delta tunnel could lower the surface water elevation in the Delta, which in turn would reduce the amount of seepage into the Delta groundwater system and/or change the quality of the seepage water.

## **VIII. The construction and operation of the Delta tunnel would adversely affect the Delta's sense of place.**

Notwithstanding the relocation of the pathway of the proposed Delta tunnel to the east and the proposed primary access off of Interstate 5, the construction of the Delta tunnel and the associated actions will change the character of the Delta forever.

The SWP, together with the CVP, has severely degraded the Delta ecosystem by depriving the Delta of flow and by worsening Delta water quality. The SWP has played a

substantial role in destroying recreational fisheries in the Delta and the majority of the associated businesses and economic engines that once supported the Delta. Further degrading the Delta ecosystem and worsening Delta water quality by constructing the proposed Delta tunnel would further reduce the viability of the Delta's fishing and recreation economy, and further eliminate landmarks and the physical memory of the Delta's former vibrant fishing, boating, and other recreational economies and institutions.

**IX. The operation of the Delta tunnel is falsely proposed as a means to mitigate the impacts of climate change on water supply.**

The analysis of climate change deployed in support of the proposed Delta tunnel is selective, and the messaging about the relation of the proposed tunnel to climate change is largely conceptual. The analysis does not consider recent trends in science that suggest increased repeated recurrence of sequential dry years and associated reductions in runoff. It also does not adequately consider the long-term prognosis for the ability of the proposed added points of diversion to appreciably improve on the existing south Delta intakes, in terms of fresh water reliability under conditions of climate change and sea level rise.

The model output in support of the Petition does not adequately capture such likely future changes in hydrology. The FEIR did not evaluate an adequate range of dry scenarios as exist today in an already changed climate or that will exist in the future as climate change continues.

Among current trends in climate science are analyses that suggest that headwaters are drying. Perennial streams are becoming intermittent. Evapotranspiration is increasing at an alarming rate, effectively becoming a new large water user in the Bay-Delta watershed.

Reductions in uncaptured flow at the proposed added points of diversion, and reduced water available for storage in Lake Oroville, would reduce opportunities for responsible use of the added points of diversion and increase demand for irresponsible future use.

It is not in the public interest to build new conveyance or surface storage to attempt to sustain existing levels of water use that were already unsustainable without accelerating climate change. The public interest demands bringing California's water use within the limits of what California's changing hydrology can reliably provide.

**X. Any change in the Petition or project that would include use of the Delta tunnel by the Bureau of Reclamation and the CVP would require a new petition or petitions with a new project description, additional environmental review under NEPA and CEQA, and the opportunity to propose permit terms specific to the CVP and the waters it affects.**

The FEIR, and DWR's public messaging, attempts to leave open the possibility that the Bureau of Reclamation and the CVP might join as partners in the proposed Delta tunnel. Addition of the CVP to the Delta tunnel project would require substantial added environmental review. It would also require a new petition from the proponents. Further, it would require the

State Water Board to issue a new notice of a water rights petition or petitions, to provide the opportunity for an entire suite of additional permit conditions and operating rules.

Should it grant the Petition for the SWP only, the State Water Board should condition the SWP permits in question to prevent the subversion of the water rights process through use of transfers through the Delta tunnel by the CVP and/or its contractors.

**XI. The public interest and protection of the public trust demand the analysis and implementation of broad reasonable alternatives to the proposed Delta tunnel.**

Marx Arax, in his 2019 book *“The Dreamt Land, Chasing Water and Dust Across California,”* describes in extensive detail how overdraft of groundwater in the southern San Joaquin Valley precipitated the construction of the CVP,<sup>79</sup> aptly titling one of his chapters “Steal Us a River.” Mr. Arax describes how the CVP ran the San Joaquin River dry in order to maintain the citrus orchards of the east side of Fresno, Tulare, and Kern counties that had pumped the life out of their aquifers. He describes how the CVP also diverted water from the Sacramento River at the Delta to re-supply the diverters who had previously diverted from the lower San Joaquin.

The paradigm has repeated itself several times over. The CVP dammed the Trinity River to divert water to the west side of the San Joaquin Valley. The SWP tapped the Feather River to supply southern California and more of the southern and western San Joaquin Valley.

Mr. Arax further describes how the agricultural industry in the southern San Joaquin Valley has used new surface water supplies over the last eighty years. New surface water did not become a drought reserve or a source to bring groundwater back to sustainable levels. It became instead a new source of water for new acreage and for conversion of acreage to tree crops with a hard demand. This led to greater, not less, overdraft of the depleted aquifers whose replenishment was the ostensible purpose of new surface supplies in the first place.

The proposed Delta tunnel is one modern inheritor of the business model of maximizing surface diversions in order to sustain agriculture founded on overtapped aquifers. The overallocation of water sources south of the Delta, primarily to San Joaquin Valley agriculture, has severely reduced short-term alternative sources of supply for the urban economies of southern California.

The state of California desperately needs to confront this overallocation and develop a sustainable long-term solution. The Delta tunnel project and its cousin the Sites Reservoir project, in contrast and opposition to such a reckoning, seek to squeeze out the last major sources of unregulated surface water in the Central Valley, and perhaps to mine the aquifers of the Sacramento Valley for export as well.

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<sup>79</sup> Mark Arax, *The Dreamt Land: Chasing Water and Dust Across California*, Alfred A. Knopf, New York, 2019.



The exorbitant costs of the Delta tunnel make the program feasible only if it funded by taxpayer money, thus making the public finance the further degradation of public trust resources and what in some cases is likely to be the final demise of such resources.

Reasonable alternatives to the Delta tunnel exist.

In the Delta, reasonable alternatives include substantial levee improvements, which can be achieved at a fraction of the cost of the proposed Delta tunnel. They also include modern fish protection in and near the existing SWP and CVP export facilities, including state of the art fish screens at the entrance to Clifton Court Forebay and changes in intra-daily pumping operations to reduce the instantaneous velocities of reverse flows in Old River and Middle River. They also include effective fish screening infrastructure at the heads of the Delta Cross Channel and Georgiana Slough.

Compatibility of Delta export operations with protection of the Bay-Delta ecosystem and the public trust resources that depend on it is ultimately dependent on reduction of the annual volume of Delta exports. This in turn is dependent on the reduction of the excess demand for water south of the Delta, as discussed above and below. Alternative or back-up water supplies for California south of the Delta must be sourced in substantial part south of the Delta.

Reduction of demand for water south of the Delta is a long-term and complex project that is an absolute necessity to maintain water supply reliability for those parts of the state that are south of the Delta. As discussed above, an essential part of establishing water supply reliability is to define it as an achievable goal: reliability consistent with the state's hydrology. This must include responsible and planned land retirement and development of alternative economic opportunities for affected regions and their people. Development of alternative means to achieve water supply reliability begins with reduction of the existing unreasonable and unsustainable uses of water in the southern two thirds of California.

In conducting its public trust and public interest analyses of the proposed Delta tunnel, the State Water Board must not limit itself to evaluation of the options narrowly presented by DWR's Petition and FEIR. DWR has asked the State Water Board to consider the breadth and reach of the SWP on the benefit side of the proposed Delta tunnel. The State Water Board must also consider the breadth and reach of the SWP in defining California water allocation and water policy, and the financial and policy costs of implementing a massive supply-side project to quench an existing insatiable thirst.

## **XII. Conclusion**

The State Water Board should deny the Petition. In the event that the State Water Board grants the Petition, it should include permit terms consistent with those stated in Attachment 3.

## Attachment B: Protest Based On Injury to Prior Rights

To the best of our information and belief the proposed change or transfer will result in injury as follows:

*The California Sportfishing Protection Alliance (CSPA) owns 14.53 acres of riparian land in Collinsville, California in the western Delta near the junction of the Sacramento and San Joaquin Rivers (see below). In considering how best to utilize our property, CSPA has considered a number of potential projects including, among others: a tidal and upland mitigation bank, a demonstration habitat project focused on plants and other species historically present in the area, and a recreational area including fishing access.*

*The present degraded quality water adjacent to our land and the prospect of further degradation have delayed our decision on how best to use our property. CSPA has been patiently waiting for the State Water Resources Control Board to complete the long-delayed update to the Bay-Delta Water Quality Control Plan before making a final decision on how to make best use of the property. The proposed north Delta diversion project would reduce outflow and further degrade water quality adjacent to our property and restrict our ability put our property to the best use.*

Protestant claims a right to use of water from the source from which petitioner is diverting, or proposes to divert, which right is based on (identify type of right protestant claims, such as permit, license, pre-1941 or riparian right):

*CSPA has a riparian water right.*

List permit or license or statement of diversion and use numbers, which cover your use of water (if adjudicated right, list decree).

NA


Where is your permit located? \_\_\_1/4 of \_\_\_1/4 of Section\_\_\_, T\_\_\_, R\_\_\_, \_\_\_B&M

*See aerial photograph and associated property tax statements below.*



If new point of diversion is being requested, is your point diversion downstream from petitioner's proposed point of diversion?

*CSPA's property is downstream of the petitioner's proposed point of diversion.*




 <b>CHARLES LOMELI TAX COLLECTOR</b> 675 TEXAS STREET, SUITE 1900 FAIRFIELD, CA 94533-6337 PHONE 707-784-7485 E-MAIL: TTCCC@SOLANOCOUNTY.COM		<b>SOLANO COUNTY 2015-2016</b> <b>SECURED PROPERTY TAX STATEMENT</b> FOR THE FISCAL YEAR JULY 1, 2015 TO JUNE 30, 2016	
ASSESSMENT NUMBER <b>0090-170-070-01</b> ORIGINAL		ASSESSED VALUE	
PROPERTY ADDRESS / DESCRIPTION 1084 COLLINSVILLE ROAD UNINCORPORATED 5.00 ACRES		LAND IMPROVEMENTS 10,741 PERSONAL PROPERTY 0 MINERALS 0	GROSS TOTAL ▶ 10,741 HOMEOWNER'S EXEMPTION 0 OTHER EXEMPTIONS 0 NET TOTAL ▶ 10,741
MAIL TO: SCU0929E 2000017521 2494/3		* If a mortgage company is responsible for paying your taxes, please contact them.	
CALIF SPORT FSHNG PRO ALLIANCE 1248 E OAK AV #D WOODLAND, CA 95776			
TAX RATE AREA	CORTAC AGENCY		
060050	*M 764		

 <b>CHARLES LOMELI TAX COLLECTOR</b> 675 TEXAS STREET, SUITE 1900 FAIRFIELD, CA 94533-6337 PHONE 707-784-7485 E-MAIL: TTCCC@SOLANOCOUNTY.COM		<b>SOLANO COUNTY 2015-2016</b> <b>SECURED PROPERTY TAX STATEMENT</b> FOR THE FISCAL YEAR JULY 1, 2015 TO JUNE 30, 2016	
ASSESSMENT NUMBER <b>0090-160-070-01</b> ORIGINAL		ASSESSED VALUE	
PROPERTY ADDRESS / DESCRIPTION 6.00 ACRES		LAND IMPROVEMENTS 10,741 PERSONAL PROPERTY 0 MINERALS 0	GROSS TOTAL ▶ 10,741 HOMEOWNER'S EXEMPTION 0 OTHER EXEMPTIONS 0 NET TOTAL ▶ 10,741
MAIL TO: SCU0929E 2000017519 2494/1		* If a mortgage company is responsible for paying your taxes, please contact them.	
 CALIF SPORT FSHNG PRO ALLIANCE 1248 E OAK AV #D WOODLAND CA 95776-4103			
TAX RATE AREA	CORTAC AGENCY		
060050	*M 764		

 <b>CHARLES LOMELI TAX COLLECTOR</b> 675 TEXAS STREET, SUITE 1900 FAIRFIELD, CA 94533-6337 PHONE 707-784-7485 E-MAIL: TTCCC@SOLANOCOUNTY.COM		<b>SOLANO COUNTY 2015-2016</b> <b>SECURED PROPERTY TAX STATEMENT</b> FOR THE FISCAL YEAR JULY 1, 2015 TO JUNE 30, 2016	
ASSESSMENT NUMBER <b>0090-160-080-01</b> ORIGINAL		ASSESSED VALUE	
PROPERTY ADDRESS / DESCRIPTION 3.53 ACRES		LAND IMPROVEMENTS 6,444 PERSONAL PROPERTY 0 MINERALS 0	GROSS TOTAL ▶ 6,444 HOMEOWNER'S EXEMPTION 0 OTHER EXEMPTIONS 0 NET TOTAL ▶ 6,444
MAIL TO: SCU0929E 2000017520 2494/2		* If a mortgage company is responsible for paying your taxes, please contact them.	
CALIF SPORT FSHNG PRO ALLIANCE 1248 E OAK AV #D WOODLAND, CA 95776			
TAX RATE AREA	CORTAC AGENCY		
060087	*M 764		

CSPA et al. Protest, DWR Petition for Change, Delta Tunnel, May 13, 2024, Att. B

The extent of present and past use of water by protestant of his predecessors in interest is as follows:

Source

- a. Approximate date first use made: *Uncertain*
- b. Amount used (list units): *Uncertain*
- c. Diversion Season: *Uncertain*
- d. Purpose(s) of use: *Historically uncertain. CSPA intends to use its riparian rights for economic, environmental, educational, scientific, recreational and community purposes.*

Under what conditions may this protest be disregarded and dismissed?

*This protest may be resolved upon the withdrawal of the Petition. In the event that the State Water Board adds the requested points of diversion, the amended permits must include the permit terms described in Attachment C of this protest.*

**Attachment C:**

**Proposed Permit Terms  
Delta Conveyance Project  
CSPA *et al.*  
May 13, 2024**

<b>No.</b>	<b>Title or Subject</b>	<b>Requirement</b>	<b>Compliance Point</b>	<b>Season or Frequency</b>	<b>Comments</b>
1	Fish screen approach velocity and sweeping velocity	.2 ft/sec max approach velocity  .4 ft/sec or greater sweeping velocity	North Delta Diversion (NDD)	Velocities should apply always, on an instantaneous basis	Reduce mortality, reverse flows at NDD, entrainment and impingement.
2	Bypass criteria past NDD	Low level pumping NDD diversions whenever bypass flows are less than 35,000 cfs	Immediately downstream of NDD	October–June	Avoid reverse flows at NDD; protect all species from entrainment, impingement, predation; 35,000 cfs identified as threshold in Perry et al.
3	Bypass criteria past NDD	Low level pumping NDD diversions whenever bypass flows are less than 7000 cfs. Step-up in NDD diversions from 7000 cfs to unlimited diversions above 15,000 cfs; but no increases in NDD pumping in Wet and AN years when water temperatures at Freeport are at or above 68°.	Immediately downstream of NDD	July-September	

4	Salinity	Restrict NDD and South Delta Diversions (SDD) to minimum diversions (1500 cfs total) when EC > .50 (average daily) Include salinity requirement as a measure to protect fish and wildlife in addition to agriculture.	Both Emmaton and Jersey Point	Extend to year round. This would cover operations during temporary urgency changes for Delta operations; if not adopted, a permit should forbid NDD diversions when TUCPs are in effect.	Maintain LSZ in Suisun Bay to provide habitat for smelt; avoid entrainment at SDD.  Should explicitly be a fish and wildlife standard, not only an ag standard as in D-1641.
5	Combined NDD and SDD export limitations	6000 cfs 9000 cfs		June July	Reinstate D-1485 requirements whose elimination devastated Delta smelt and striped bass
6	Joint Points Of Diversion (JPOD)	CVP should not be permitted to exercise JPOD at the NDD.	NDD	Always	CVP is not a partner in the NDD facilities.  JPOD should not become a permanent transfer workaround past water rights.
7	Carryover storage	1.6 MAF storage; operate to meet at least 1.6 MAF at end of December Both figures at 90% exceedance, with following year delivery penalty sufficient to deter failure.	Oroville Reservoir	End of September, end of December	Numeric, firm permit terms required for current voluntary “target”

8	Carryover storage	If Bureau of Reclamation becomes a partner in NDD, there should be carryover requirements for CVP reservoirs north of Delta	Shasta Reservoir Folsom Reservoir Trinity Reservoir	End of September	To be determined through additional NEPA/CEQA and evidentiary process
9	Delta outflow	Low-level pumping when Delta outflow is less than 65% of unimpaired flow for the watershed, or when Delta outflow is less than 42,800 cfs		January through March, June	Based on the Board's 2010 flow criteria and 2023 Staff Report for Bay-Delta Plan update, 2017 Scientific Basis Report analysis for longfin smelt.
	Delta outflow	Low-level pumping when Delta outflow is less than 65% of unimpaired flow for the watershed, or when Delta outflow is less than 44,500 cfs		April-May	Based on the Board's 2010 flow criteria and 2023 Staff Report for Bay-Delta Plan update, 2020 ITP requirement for longfin smelt.
	Delta outflow	10,000 cfs in Wet, AN years. 7,000 cfs in BN, Dry and CD yrs.		July through November	The Board should adopt all these criteria as part of "appropriate Delta flow criteria."
10	Adaptive management	Decisions and changes to permit terms, and evaluation of success of adaptive management		Hearing when changes are proposed.	SWRCB must have approval of changes in permit terms or ITP, and exercise that approval in a public hearing.

		<p>subject to review by SWRCB in public hearing.</p> <p>Affected stakeholders must be engaged in technical and policy decisions at public meetings.</p>			
11	Real-time decision making	Affected stakeholders need to be engaged in regular technical and policy decisions at public meetings.			Operators and fish agencies need technically competent, funded oversight.
12	Lower Feather River water temperatures	Low-level pumping whenever water temperature exceeds 65°F at mouth of Yuba River; 68°F at mouth of Feather River		May-June	Spring-run migration flows of adequate temperature for upstream migration
13	Entrainment of fish into the central Delta	Effective fish screening infrastructure at the heads of the Delta Cross Channel and Georgiana Slough		Always	Reduce entrainment and intra-daily effect of reverse flows exacerbated by operations of the Delta tunnel
14	Clifton Court ops	Constant rate of diversion into Clifton Court Forebay instead of “big gulp” on high tides	Entrance to Clifton Court Forebay	Always	Reduce entrainment and intra-daily effect of reverse flows



15	State of the art fish screens at intake to Clifton Court Forebay			Operating within 7 years from date Petition is granted	Existing salvage facilities kill countless fish
16	Gaging and reporting	Hourly reporting of diversions and flow at and past NDD and into Clifton Court		NDD and SDD	
17	Biological monitoring and reporting	Fish entrained, impinged or salvaged at NDD and SDD  Predatory fish at NDD		Daily  At least monthly surveys of predatory fish near intakes	The public should have the ability to evaluate in real-time the efficacy of real-time operations in preventing entrainment of salvageable fish at SWP and CVP facilities
18	Preference for south Delta diversions	First 3000 cfs combined SWP and CVP export preferentially diverted at south Delta facilities		June-October	Maintain Delta water quality and Delta inflow in summer and early fall.
19	Transfers through NDD and SDD facilities	Defined limitations, founded on comprehensive, publicly disclosed scientific evidence. Any allowed transfers must demonstrate no harm to surface water, groundwater users, terrestrial habitat and dependent species.			Before more water transfers may occur from north of the Delta, there must be publicly disclosed and easily accessible data and mapping, updated annually and announced, demonstrating historical (1967 forward), current, and project-specific: a) streamflow losses; b) groundwater depletion and

		Prohibition on transfers through Delta tunnel by CVP or by CVP contractors.			subsidence; and c) changes in groundwater-dependent ecosystems.
20	D-1641 Export-Inflow (E/I) ratio	E/I ratio should count inflow directly upstream of NDD as part of inflow for purposes of determining E/I ratio			Preserves existing protection for fish and water quality.
21	Tribal Beneficial Uses	<p>A stay on processing the Petition until after the State Water Resources Control Board completes designation of Tribal Beneficial Uses.</p> <p>A stay on processing the Petition until a survey of Tribal Cultural Resource Locations is completed.</p>			Permittees must explicitly recognize and fulfill obligations to protect Tribes.